

Public consultation on the draft scientific opinion on the welfare of calves

European Food Safety Authority (EFSA)

Abstract

The European Food Safety Authority (EFSA) launched in Autumn 2022 a public consultation to receive input from the scientific community and all interested parties on the draft Scientific Opinion on the Welfare of Calves. The public consultation was open from 29 September to 4 November 2022 and a total of 177 comments were received via the EFSA website. The AHAW Panel wishes to thank all the interested parties, including anonymous contributors, from nine different countries, that provided comments. For transparency, all the comments were published in the EFSA web page as received shortly after the closure of the consultation. This report presents the answers to the comments received and notes explaining how the information provided was incorporated in the scientific opinion, when relevant. The AHAW Panel adopted the final scientific opinion on 22 February 2023.

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1. Introduction

In line with EFSA policy on openness and transparency, and to receive comments from the scientific community and stakeholders, EFSA consulted interested parties through a public consultation on the draft scientific opinion on the welfare of calves. The document made available for public consultation¹ included two of the terms of reference of the mandate received by the EC: the welfare of calves reared for white veal (in particular, effects of restriction of space, fibre as well as iron and group size) and welfare aspects of cow-calf separation. This public consultation gave stakeholders the opportunity to provide any relevant evidence relevance not yet included in the scientific assessment, and feedback on the methods, results, conclusions, and recommendations.

This Annex provides a summary of the comments received and how they were considered by EFSA for the finalization and publication of the updated scientific opinion.

2. Screening and evaluation of the comments received

A total of 177 unique comments were submitted by the interested parties via the EFSA website, most (175 out of 177) in an anonymised form. Comments were received from nine countries (Table 1) from the following affiliation categories: Academia/Research institutes, EFSA registered stakeholders, Individuals in their private capacity, Industry (small or medium enterprise), Industry (Multinational), NGO's, Public Authority in EU Member State, and Other. Among the 177 comments received, 24 were empty or "test". The full list of comments, including their annexes, is available at <https://open.efsa.europa.eu/consultations/a0c7U000001ScyTQAS?foodDomains=Animal%20Welfare&maximumDate=&minimumDate=&search=&status=Closed>.

The received comments are listed in Table 2, with the answers provided by EFSA. Appendix A to this Annex present an explanatory text for the public consultation, made available at the EFSA website upon the opening of the public consultation.

¹ Document made available for Public Consultation is available at <https://connect.efsa.europa.eu/RM/s/publicconsultation2/a017U0000011hmT/pc0273>



Table 1: Number of comments received by country by means of the electronic form on the EFSA website.

Country	Number of comments (see Appendix B)
<i>BE</i>	33
<i>DE</i>	9
<i>FR</i>	57
<i>IE</i>	2
<i>IT</i>	3
<i>PT</i>	24
<i>NE</i>	35
<i>SP</i>	8
<i>UK</i>	6
TOTAL	177

BE: Belgium; DE: Germany; ES: Spain; FR: France; IE: Ireland; IT: Italy; IR: Ireland; NL: the Netherlands; PT: Portugal; UK: United Kingdom

Comments received were summarised and answers provided in Table 2. Each answered comment is followed by a statement in case this comment led to changes in the document. In case there has been changes made due to the comment this has been indicated in the statement: "Changes to the Scientific Opinion based on this comment: minor". In case the topic of the comment was added to the scientific opinion in a part that was not published for open consultation, the changes to the Scientific Opinion based on this comment can be "none" or "minor", depending on how much of the original opinion (published for public consultation) was amended.

When the comment included several points (i.e. more than two), the main points were numbered to make it easier to refer to each specific point in the answer. The most relevant points in each comment (i.e. comments on aspects directly linked with outcomes of the assessment) were answered.

For the sake of keeping this Annex short, the attachments to the comments were not here replicated. The full list of comments and attached files to the comments is publicly available at: <https://open.efsa.europa.eu/consultations/a0c7U000001ScyTQAS?foodDomains=Animal%20Welfare&maximumDate=&minimumDate=&search=&status=Closed>.



Appendix A – Explanatory text for the public consultation on the draft Scientific Opinion on the welfare of calves

This text was made available at the EFSA website upon the opening of the public consultation.

EFSA's Panel on Animal Health and Welfare (AHAW) has launched an open consultation on the draft scientific opinion on the welfare of calves.

Please note that comments will not be considered if they:

- are submitted after the closing date of the consultation
- are presented in any form other than what is provided for in the instructions and template
- are not related to the contents of the document
- contain complaints against institutions, personal accusations, irrelevant or offensive statements or material
- are related to policy or risk management aspects, which are out of the scope of EFSA's activity.
- Comments will be assessed in line with the criteria above and taken into consideration if found to be relevant.

Copyright-cleared contributions

Persons or organizations participating in a Public Consultation of EFSA are responsible for ensuring that they hold all the rights necessary for their submissions and consequent publication by EFSA. Comments should inter alia be copyright cleared taking into account EFSA's transparency policy and practice to publish all submissions. In case the submission reproduces third-party content in the form of charts, graphs or images, the required prior permissions of the right holder(s) should have been obtained by the PC respondent.

Publication of contributions

Contributions will be published and may be re-used by EFSA in a different context. It should be noted that contributions submitted by individuals in a personal capacity will be published as such, indicating the author's first and family name, unless a substantial justification for protection is provided by the respondent. Contributions submitted on behalf of an organisation are also made publicly available and attributed to the organization in question.



Appendix B – Full list of comments with reply by means of the electronic form on the EFSA website

Table 2. Comments and replies to the comments received.

Number	Section title	Comment and changes to the Scientific opinion based on the comment
1	Introduction to the draft for Public Consultation	Test Changes to the Scientific opinion based on this comment: None.
2	Background and Terms of Reference as provided by the requestor	Test Changes to the Scientific opinion based on this comment: None.
3	Background and Terms of Reference as provided by the requestor	Debería ser ilegal transportar animales, y más aún, bebés Answer: EFSA focuses on the scientific assessment of animal welfare and ethical considerations of aspects are outside of EFSA's remit. Changes to the Scientific opinion based on this comment: None.
4	Introduction to the draft for Public Consultation	No es necesario que los humanos coman animales. This comment included an attachment. For the full list of comments including attachments please refer to this file . Answer: See answer to comment #3. Changes to the Scientific opinion based on this comment: None.
5	References	1. Papers not cited but relevant to social housing: 3.1.2 Risks of individual housing Papers not cited but relevant to social housing, with their main conclusions: Lindner, E.E., Gingerich, K.N. and Miller-Cushon, E.K., 2021. Effects of early social contact on dairy calf response to initial social grouping and regrouping. Journal of Dairy Science,104(9), pp.10090-10099. https://doi.org/10.3168/jds.2021-20435 Main conclusion: Results suggest that early life social contact before social grouping in the first weeks of life may not greatly affect activity within the pen or active social interactions following the transition to group housing. However, persistent differences in duration of social lying suggests that early life social contact may influence overall comfort toward other calves following social grouping. Lindner, E.E., Gingerich, K.N., Burke, K.C., Doyle, S.B. and Miller-Cushon, E.K., 2022. Effects of social housing on dairy calf social bonding. Animals,12(7), p.821. https://doi.org/10.3390/ani12070821 Main conclusion: Calves housed in pairs preferred to be near their pen-mate but spent more time near other calves regardless of their familiarity, compared to individually housed calves. In contrast, individually housed calves showed no preference between a calf housed within visual contact and a calf housed elsewhere in the barn. Doyle, S.B., Lindner, E.E., Gingerich, K.N. and Miller-Cushon, E.K., 2022. Development of human-directed behavior in dairy calves reared individually or in pairs. Journal of Dairy Science, 105(10), pp.8387-8400. https://doi.org/10.3168/jds.2022-21921 Main conclusion: In human approach tests carried out preweaning in the home pen, individually housed calves had shorter latencies to contact and spent more time in contact with the human (80.5 vs. 41.1 s (±9.9)) than pair housed calves, with similar responses between repeated tests. In the arena approach test, individually housed calves spent more time oriented toward the human (134.6 vs. 81.3 s (±16.5)), whereas pair-housed calves were more likely to perform pen-directed non-nutritive oral behavior (60 vs. 40% of calves), suggesting differences in interest directed toward the human compared with the novel environment.



		<p>Cushon, E.K., 2022. Development of human-directed behavior in dairy calves reared individually or in pairs. <i>Journal of Dairy Science</i>, 105(10), pp.8387-8400. https://doi.org/10.3168/jds.2022-21921</p> <p>Webb, L.E., Marcato, F., Bokkers, E.A.M., Verwer, C., Wolthuis-Fillerup, M., Hoorweg, F., van den Brand, H., and van Reenen, C.G. 2021. Impact of dam rearing on veal calves. Proceedings of the VIII Virtual UFAW Animal Welfare Conference, 29th - 30th June 2021, poster 114.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for providing additional references on this topic; some of them had already been considered by the working group. The additional references align with the results of the assessment and were added to the text.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
6	Risks of individual housing	<p>There is little/no discussion of whether pair/group housing improves resilience during transport of calves to market and subsequent sale to veal farms. For individually housed calves this will be their first experience of being mixed, so any data on this would be highly relevant.</p> <p>Also, is there any evidence of impact (e.g. on respiratory disorders) of transporting calves to market during the immunological gap at 3-7 weeks of life (lines 347 vs 451)?</p> <p>Some papers are not cited but relevant to social housing; these are listed in the file uploaded in References with their main conclusions.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: There is limited published data on resilience effects of pair housing during transport. For a discussion of factors affecting welfare of calves during transport, please refer to the EFSA scientific opinion on the “Welfare of cattle during transport” (2022). Thank you for the papers; these were considered by the working group - the publications by Lindner were now referred to (the Doyle paper refers to human-directed behaviour and was not found relevant).</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
7	Risks of insufficient space	<ol style="list-style-type: none"> 1. Only locomotory play is considered in this analysis. It would have been interesting to also consider the effect of enrichment – or highlighting the lack of studies in this area – as provision of appropriate enrichment may encourage higher levels of play than simply space by itself. 2. Line 784 - The description of this experiment omits to mention what the difference is between part time and full-time calves, a treatment effect that is subsequently discussed. This needs to be added for clarity. 3. Line 815- Are there any data on different floor types having increased levels of injury (during play) associated with them? 4. Line 881 - Is this because the smaller space allowance has the effect of increasing the number of calves that are kept in the same area, which in turn raises the risk of respiratory diseases? It is an important point as – if this is the case –the beneficial effect of group housing may be less than that stated. <p>Answer: Thank you for your comment. Regarding point 1), enrichment was added as a source of uncertainty on the estimated levels of play because there are no published studies on this. On point 2), the definition of full-time and part-time calves used were added to the text. On point 3), no data on the impact of different floor types on injury is known to the EFSA experts. On point 4), the relationship between group size and respiratory disease is discussed in detail in the Specific Scenario section.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>



8	Risks of fibre restriction	<p>For the raising of veal calves, emphasis has been put on age at grouping and group size, space allowance, as well as nutrition, with special focus on haemoglobin levels and fibre. It was particularly striking how different the optimal levels of space and fibre were from those currently provided (Figures 5, 6, and 8). We suggest that the distinction between individual and group housed calves needs to be made clearer in the recommendations (lines 925-950). Also, why is it 'should be' in line 936, but the weaker 'could be' in line 945?</p> <p>Answer: Thank you for your comment. We have harmonised the wording ("should be" in both instances) in the recommendations and made clearer the distinction between individual and grouped housed calves in the recommendations.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
9	Risks of limited cow-calf bond	<ol style="list-style-type: none"> 1. Line 1575 – A negative impact of the cow-calf bond that is not considered is that individually reared calves are more likely to make contact with stockpersons, whereas dam-reared calves or socially reared calves are more difficult to approach (Webb et al., 2021) and slower to make contact (Doyle et al., 2022). This may make the husbandry of the latter more problematic. Webb, L.E., Marcato, F., Bokkers, E.A.M., Verwer, C., Wolthuis-Fillerup, M., Hoorweg, F., den Brand, H., and van Reenen, C.G. 2021. Impact of dam rearing on veal calves. Proceedings of the VIII Virtual UFAW Animal Welfare Conference, 29th - 30th June 2021, poster 114. Doyle, S.B., Lindner, E.E., Gingerich, K.N. and Miller-Cushon, E.K., 2022. Development of human-directed behavior in dairy calves reared individually or in pairs. Journal of Dairy Science, 105(10), pp.8387-8400. https://doi.org/10.3168/jds.2022-21921 2. Line 1647 – Whilst the report concentrates on the welfare of the calf, studies have shown that early removal of the calf (before bonding) has less impact on the welfare of the dam, than removal after bonding (e.g. Weary and Chua 2020, Flower and Weary 2001 – both cited in references). Calf separation is something that a dam will have to experience more than once in her life and given the recommendation of the report that 'calves should have contact with the dam during the whole pre-weaning period', we suggest to at least mention the impact on the welfare of the dam (both positive and negative) to fully justify this recommendation. Ideally, dam welfare should be discussed in full to ensure that improvement in the welfare of one individual (the calf) is not outweighed by the detrimental effects on the welfare of another (the dam). One may query that if full contact during the whole weaning period is not possible, may immediate removal of the calf be a better solution for total animal welfare for the cow-calf pair? <p>Answer: Thank you for your comment and for the references provided. The reference from Webb et al., 2021 has now been added; Doyle et al., 2022 was considered not relevant because it focused on the human-directed behaviour. A mention to the fact that individually reared calves are more likely to make contact with stockpersons has now been added to the text. On point 2), the scientific opinion includes a note explaining that the assessment was carried out from the calf's perspective, as this was the animal category the mandate mostly focused on. Regarding the recommendations on the length of contact between cow and calf, it was considered that separating cow and calf immediately after birth disregards the positive contact for both. This is discussed in detail in the scientific opinion.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>



10	Introduction to the draft for Public Consultation	<p>The draft of the EFSA Animal Health and Welfare (AHAW) panel's Scientific opinion on the protection of calves is a well-documented and comprehensive review of the animal welfare implications of raising dairy calves for veal production and the consequences of minimal calf-dam contact. The references are manifold and up-to-date, and the structure of the report makes it easy to read. We have highlighted a few areas where questions remain, and where the final Opinion could be strengthened.</p> <p>Answer: Thank you for your comment.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
11	Assessment	<p>Under 398-403 regarding to Group housing in large groups: "In the Netherlands this system is often used to rear calves for production of white veal and also to rear calves for rose veal. Veal calves are, following the baby box phase or immediately after arrival at the veal farm, released into large group pens holding 40 to 70 calves". However, as far as we know in the Netherlands it is much more common to keep calves up to 8 weeks of age individually in solitary boxes. After that calves are usually kept in groups of 8-10. This is confirmed in a large study commissioned by the government in 2021. See Annex "Scenariostudie kalverketen" (page 47, last paragraph)</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. 'Often used' may be misleading; compared to other countries it is more often used but the most common system is still the baby boxes followed by small groups. The phrase was reworded.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
12	Risks of individual housing	<p>Regarding the advice in points 728 and 730 we recommend omitting 'if possible' and 'as much as possible'. In both cases it already follows from 'should be' that it's a recommendation.</p> <p>Answer: The wording "if possible" is used because a calf of a similar age from the same farm may not always be present - that will depend on other factors such as the gestation timings and herd size. Regarding keeping groups stable, other factors related with disease and mortality may play a role and full group stability may not be possible.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
13	Risks of insufficient space	<p>Regarding 3.1.3.4 (891-897) As far as we are concerned, the question in this opinion is not to look at how realistic it is to make the necessary changes, but to indicate what is needed for the welfare of the animals on the basis of current science. Regarding 910-912: "From the EKE it is concluded that a calf housed in group pens (4-7 animals) at current minimum legislated space allowance (i.e. 1.8 m² per animal) is expected to carry out 9% of the full extent of play behaviour." 9% is shockingly little. It really is very necessary that this is addressed by EFSA. Regarding the conclusions in 3.1.3.5 "To allow the full extent of locomotor play behaviour, the working group recommends that individually housed calves should be provided with a space allowance of at least 29.5 m². From the point of view of animal welfare, such large space allowances would be highly desirable. " We are very happy to see EFSA include this very necessary and logical recommendation. We sincerely hope to see this recommendation in the final draft of the report! As said before, regarding this consideration "If such large areas are currently not considered feasible, the current minimum space allowance (i.e. 1.5 m² per animal) should be doubled to avoid the aversive welfare consequence of general behavioural restriction." Why would EFSA suggest this (extreme) compromise. It undoes the importance of the first advice. It seems as if the committee does not take its own advice seriously. Why not just give</p>

		<p>the scientific opinion without negotiating with feasibility. The question is what space is needed for the welfare of calves. And that has been answered with 29,5 m2.</p> <p>Answer: Thank you for your comment. The SO provides recommendations on what would be preferable from a welfare perspective; to answer a question from the mandate requestor, the impact on welfare of other options was also described.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
14	Risks of iron restriction	<p>Regarding the first point (1134) under 3.1.4.4.: Excellent recommendations! Even though this is still not the natural level of Hb for a calf (that could be recommended as well, without having to prove deteriorated welfare below a certain point?). Still, it would be very good if the minimum level of Hb was elevated by law!</p> <p>Regarding the third point (1139) Should the amount of forage not also be included in the recommendations? Research done by Webb (see uploaded files) shows that calves own preferred intake differs greatly from what they are fed within the current system.</p> <p>This comment included attachments. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. Recommended levels of roughage were provided in the fibre section and mentioned in the iron section too. Research from Webb was considered in this section.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
15	Risks of fibre restriction	<p>Research done by Webb (see uploaded files) shows that calves own preferred intake differs greatly from what they are currently being fed. And indeed, that hay is preferable to straw.</p> <p>Answer: Thank you for your comment. Research by Webb was considered in the scientific opinion; the amounts and type of roughage are provided in the recommendations section.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
16	Risks of limited cow-calf bond	<ol style="list-style-type: none"> 1. Regarding point 1615 we feel that it would be questionable to recommend separation at 3 weeks without sufficient evidence, as this is a very young age, at which calves are still very vulnerable, to be separated from the mother. As is stated by EFSA it is unclear at which point between 3 to 6 weeks the response starts to decline. 2. Regarding point 1634 we would like to emphasize that the lack of evidence on the impact on the dam's welfare, does not mean there is no impact of early separation, just that there is apparently not enough scientific research into the matter. 3. Regarding 3.2.2.9. the first point under 1644 we feel that the recommendation of 1-2 days does not follow from the scientific evidence that EFSA has collected in this report. Again, we would like to point out that the question in this opinion is not to look at how realistic it is to make the necessary changes, but to indicate what is needed for the welfare of the animals on the basis of current science. Therefore a 6-week minimum should be recommended. This also goes for the recommendation under 1650. Should EFSA not aim to make the necessary feasible, instead of recommending simple what is feasible within the current system? <p>Answer: Thank you for your comment. As noted in your comment, currently there is limited evidence available and research on this topic is ongoing. This lack of evidence is clearly reflected in the recommendations on cow-calf contact. Regarding point 2): this is to provide a better understanding of the impact on welfare of possible legislative options to the risk manager, as requested by the mandate requestor to EFSA. On point 3), a more prolonged contact between calf and cow in the future is</p>

		<p>recommended, but, as mentioned in the conclusions, there is a need for research to understand how to implement such contact in practice and in large scale.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
17	Introduction to the draft for Public Consultation	<p>In your report, you indicate that the scientific opinions that served as the basis for previous animal welfare regulations are outdated (line 106), and that the Commission requires a new, more up-to-date opinion. However, certain scientific elements of the old legislation are nevertheless valid, and it seems incoherent to start everything from the beginning. It would be relevant to analyze the real shortcomings in terms of well-being on farms before the implementation of new production rules.</p> <p>Answer: Thank you for your comment. EFSA provided the scientific assessment in the areas that were requested in the mandate, to inform possible legislative options by the legislator (which may take as a reference previous legislation or not).</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
18	Interpretation of the Terms of Reference	<p>The mandate of the European Commission (line 83) is related to 3 scenarios, but only 2 are proposed for contribution. The measurements collected in the slaughterhouse to monitor the level of well-being in operation (line 150) are therefore not offered for public consultation. However, the FNB wishes to insist on the fact that monitoring at the slaughterhouse is not a valid solution for analyzing welfare in farming. As the animal is transported between the farm and the slaughterhouse, its state of welfare may vary, without the breeder being responsible for it.</p> <p>Answer: Thank you for your comment. It was not possible to include this scenario for public consultation due to time constraints; the section on ABMs to be assessed in the slaughterhouse is now part of the published scientific opinion. It is noted that the indicators in Specific scenario 2 were selected in view of being representative of welfare on farm.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
19	Background	<p>You indicate that the calves raised for “white” meat come from dairy farming (line 331). However, this is not always the case: these calves can also come from suckler farms. In France, some suckler breeders (breeder-fatteners) fatten their own suckler calves.</p> <p>As mentioned in your report, the individual housing of calves after arrival at the farm allows a simplified check of the state of health of the animals, but also limits the spread of diseases (line 348). These are essential points for beef calf farms, as calves are particularly sensitive to respiratory diseases and diarrhea problems. The baby box thus makes it possible to target the sick animal and to intervene quickly.</p> <p>Answer: Thank you for your comment. It is considered that keeping calves in small groups would still allow health and feeding monitoring and have the welfare benefits of contact with other calves (on development of social behaviour, for instance). A reference to the fact that some calves reared for veal originate from suckler breeders has now been added to the text.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
20	Risks of individual housing	<p>The report concludes the risk analysis on individual housing by indicating that it is detrimental for welfare but positive for animal health (line 565). However, as indicated in this same report, scientific publications diverge on the ideal age for rearing calves in a collective pen (line 506, 535 and 540), the grouping even possibly detrimental for certain aspects of animal well-being (line 520) if done too soon. Thus, the FNB proposes an intermediate solution, where the grouping would preferably take place at 6 weeks (intermediate response on certain animal welfare criteria as explained on line 487).</p>



		<p>The FNB would also like to draw EFSA's attention to the recommended maximum group size of 7 animals (line 727). This figure of 7 animals per pen is not necessarily adapted to the current breeding of veal calves in collective pen, in particular in automatic milk distribution system. Adaptation costs could therefore be very high, requiring a long time and some funding.</p> <p>Answer: Thank you for your comment. The evidence from the scientific literature and from expert opinion led to the conclusion that they should be grouped earlier than what is stated in the comment. Regarding the second part of the comment, it is not in the remit of EFSA to analyze/comment on feasibility and adaptation costs.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
21	Risks of insufficient space	<p>The lack of exact data on the possible activities between 1.8 and 4m² (line 908) does not allow, according to the FNB, to determine that the minimum space must be 3 m² (line 948). In addition, doubling the space as proposed (collectively, the minimum space being increased to 6m² individually) would have a significant cost for the breeder of veal calves, reducing his production mathematically by at least 2 (or 4 respectively). The impact on the environment with the concreting of additional spaces and the pressure on land would also be particularly unfavorable. In addition, the recommended space of 20 or 30 m² per animal (lines 901 and 913) is unthinkable in a fattening farm and would simply put an end to all calf production in Europe.</p> <p>Answer: Thank you for your comment. Information on other activities was considered additional information only; there was substantial evidence for a linear relationship regarding play behaviour. EFSA's remit is a scientific assessment of the effects of housing conditions to the welfare of the animals. Other considerations (economic, environmental) are not considered to keep the scientific assessment of welfare effects independent; such considerations are under the remit of the risk managers/legislators.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
22	Risks of iron restriction	<p>Pending an effective and non-invasive method for measuring anemia (line 1142), increase the hemoglobin level to 5.6 mmol/L instead of 4.5 per simple precaution (line 1134) is not understandable. However, technical recommendations to limit anemia would be useful at farm level.</p> <p>The type of feed requested (hay - line 1139) can be problematic: calf farmers do not produce hay, and in times of drought as we experienced this year, it can there may be shortages, limiting availability for veal calves. It is therefore essential to leave some flexibility to breeders.</p> <p>Answer: Thank you for your comment. There is evidence on the effects of welfare of levels of haemoglobin between 4.5 and 5.6 mmol/L on physical effort and weight gain as referred in the conclusions of this section. The recommended level does not depend on the method for measuring it, also considering that under current practices routine sampling is done anyway. Recommendations to prevent anaemia on farm are provided by recommending the amount of fibre to be provided to calves. In relation to your comment regarding the administration of hay to prevent anaemia, in the recommendations it is said that hay is preferable due to its high iron content. Flexibility is given by saying that is the preferred option, but not the only one recommended.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>

23	Risks of fibre restriction	<p>As indicated in part 3.1.4.4, if some breeders already give 1 kg of fibrous feed per calf, it is not always possible to give anything other than straw, especially in times of drought. Once again, the need for flexibility is in order</p> <p>Answer: Thank you for your comment. Flexibility is given by saying that it is the preferred option, but not the only one recommended. It is mentioned, however, that straw is less suitable due to its coarse nature.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
24	Specific Scenario - The welfare of dairy calves and the risks associated with limited cow-calf bond	<p>For calf fattening, it is essential that the calf be accustomed as soon as possible to feeding by lowering its head and not by raising it towards its mother's udder, because if it is not accustomed from the first day there is then a very high risk of undernutrition, which has a strong impact on animal well-being.</p> <p>Answer: Thank you for your comment. From a welfare perspective, it would be preferable that the calf adopts the physiological drinking position to avoid milk flowing to the forestomachs.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
25	Risks of individual housing	<ol style="list-style-type: none"> 1. Conclusions sound very reasonable. Single keeping and separation of the dam within the first 24 hours is the worst for the calf and also not good for the dam. Will there be research on beneficial effects of mother-bonded rearing on the dam? 2. The risk for respiratory disease was evaluated on connection with group size. Would it be interesting to also take into account other factors that can also influence the incidence of resp. diseases, such as the frequency of prophylactic or metaphylactic use of antibiotics given before or during or after the separation of their mother and after mixing with other calves, e.g. in assembly centers, and last but not least after arrival of the calves on the veal farm? Feeding management and colostrum management and thus building up active immune defense also plays an important role. It would therefore be interesting to also compare the metaphylactic use of antibiotics during the whole time in a typical scenario: separation of the calf within the first 24 hours of life from its mother, single keeping in baby boxes, transport with 14-21 days of life to an assembly center, mixing with other calves, being transported to the veal farm and on the other hand compare it to an alternative scenario: mother-bonded rearing with the dam for at least 12 weeks with ad lib access to grass and hay, no mixing with other calves but the ones that are in the fixed group of mother dams and calves already. The calves stay on the farm at least the first 12 weeks of their life. The metaphylactic use of antibiotics for the calves will possibly be lower than in the conventional scenario. This aspect (high metaphylactic use of antibiotics) could also be mentioned in terms of risks of individual housing. <p>Answer: Thank you for your comment. On point 1), further research into these aspects is recommended in the text. On point 2), the effects on calf's health were considered by the working group. The working group is not aware of any papers looking at the effect of potential bias introduced by metaphylactic treatments (prophylactic treatment no longer allowed in the EU according to Reg 06/2019). Antimicrobial usage should be reduced. The scientific opinion includes a small section on the effects of the dam, where it is stated there is not extensive evidence in the literature on the welfare effects of separation on the cow.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
26	Risks of insufficient space	<p>We appreciate the clear statement of the working group on the minimum space allowance of 20 sqm to allow the full extent of locomotor play behaviour when kept in small groups. The conclusions sound reasonable.</p> <p>In our view a recommendation for a structure for functional areas with minimum space for locomotion and lying area per animal would be necessary. The aspect of flooring is also important for the use of available space. If the floor is fully slatted,</p>



		<p>space cannot be as much used as if flooring is anti-slip with good grip, such as on a pasture. Also, when there is more time spent lying due to too little space in single pens, it would be interesting to also know about the welfare consequences of this fact: possibly there are more skin lesions, swollen joints, respiratory diseases due to high ammonia levels due to concrete and slatted flooring, negative welfare consequences on muscle- and other physiological developments and/or negative welfare consequences on cardiovascular system, etc. The statement that the space increases with a higher number of animals is only true if one assumes a restrictive minimum space per animal. The approach should actually be that one does not start from the minimum area, but from the optimal area. As a conclusion, we think that 3 sqm per animal is not sufficient, as mentioned in the report only 15 % of the locomotor play behaviour can be fulfilled, therefore minimum space per animal should be more in direction of the optimal space (20 sqm per animal).</p> <p>Answer: Thank you for your comment. The effects of flooring were discussed in the system used to rear calves in groups in pens with fully or partially slatted floors – but limited evidence is available on floor effects on calves. A mention to functional areas within a pen was added to the text.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
27	Risks of fibre restriction	<p>It seems to be very good to choose ability to ruminate as key indicator to assess welfare consequences when fibre is restricted. In addition, it would be helpful to explain some physiological consequences that fibre restriction and thus, reduced rumination can result in, such as a higher risk for ruminal acidosis, etc. We think it would be necessary to mention in the recommendation (as done in the conclusion) that solely maize silage as starter feed to calves is not advisable. The data for the minimum NDF content of the feeds (AHAW Panel recommendations) seem very low to us, especially for the older calves. From our point of view, these data should be scientifically checked again and, if necessary, corrected upwards. Furthermore, we consider it necessary that roughage is defined (list of possible feedstuffs that meet the requirements).</p> <p>Answer: Thank you for your comment. The physiological consequences of low fibre are described in the section on gastro-enteric disorders of veal calves. Long roughage does not include maize silage; it is said it should not be straw (due to its coarse nature). The rest of the recommendation is defined by the chopping length. There is a scientific basis for the amounts recommended for older calves, and there is a limited maximum amount of dry matter intake that can be ingested by a calf (2-4% of body weight).</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
28	Risks of iron restriction	<p>Conclusions sounds very reasonable. Are there studies comparing iron supply when mother-bonded rearing, access to pasture (feeding on grass) and feeding on hay in winter is practiced and conventional farming in single stalls on fully slatted floors and feeding on milk replacer with very little fibre? Are there differences in the amount of iron in the blood when comparing a calf reared with its dam on a pasture (ad lib. access to gras) to a calf reared with its dam in the stable (with hay only)?</p> <p>Answer: Thank you for your comment. The working group is not aware of studies directly comparing the aspects studied; however, the blood results of animals reared under conditions in different studies are available and can be evaluated.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
29	Risks of limited cow-calf bond	<p>Conclusions sounds very reasonable. It would be interesting to know if the use of antibiotics in calves can be reduced to almost zero by mother-bonded rearing. Also, the fact on welfare consequences when weaning takes place too early and too abrupt? It would be interesting to get information about the positive mental welfare consequences (mental state) that mother-calf bonding has and the effect of social, locomotive, exploring, feeding behaviour and the consequences for the health status</p>



		<p>of the dams and the calves. Also, the weaning methods would be interesting to be compared: abrupt weaning compared to a gradual step-by-step weaning process (weaning from suckling first, but allowing the contact to the mother still), and in a second step weaning the calf from social bonding to its mother. Possible references to add: https://www.fibl.org/fileadmin/documents/shop/1575-kaelberaufzucht.pdf https://www.thuenen.de/de/themenfelder/nutztierhaltung-und-aquakultur/kuhgebundene-kaelberaufzucht</p> <p>Answer: Thank you for your comment. As stated in the text, the evidence currently available on welfare aspects of cow-calf contact is relatively limited and further research is needed. The available evidence on weaning methods is summarized in the text.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
30	Provision of quantitative criteria for prevention of welfare consequences – Specific Scenarios	<p>We very much like the idea of the assessment model: interpolation of the ABM between a highly exposed population of animals and a non-exposed population.</p> <p>Answer: Thank you for your comment.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
31	Uncertainty assessment	<p>We like the uncertainty assessment model!</p> <p>Answer: Thank you for your comment.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
32	Background	<p>The fact that there is no statistics on the production of white veal in the EU leads to the conclusion that this should be changed. There are no numbers of dairy calves “produced” in the EU. There are no numbers on the used housing systems, feeding regimes, and mortality rates (particularly concerning the first week of life). There are also no numbers on the management practices used, such as weaning age, mother bonded rearing systems, single keeping, or pair/group systems. Also, data is missing on the transports of calves, also in respect to the different housing systems. If there was an increase in mother-bonded rearing systems, the number of transports of unweaned calves could be reduced accordingly. Statistics would be more than needed.</p> <p>Answer: Thank you for your comment. The lack of data in some areas is highlighted in the scientific opinion.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
33	Introduction to the draft for Public Consultation	<p>137 – 141 It is stated that current legislation requires calves to be kept in groups after the age of eight weeks and that EFSA will explore scientific information that supports the feasibility of further increasing the period of time during which calves can be kept in groups in a way that improves their overall welfare conditions. Author wants to underline that nowadays the common practice in the veal sector is that calves are kept in individual pens up to four (4) or five (5) weeks of age. This system is being used for animal health reasons: it allows calves to make the transition from the birth farm to the husbandry in a tranquil manner, prevents the spread of infections and helps the farmer in these first weeks to better manage the individual animals (f.e. with the feeding, keeping track of the health status, etc.). These welfare conditions should not be forgotten by EFSA when reconsidering the options for keeping calves in groups.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p>



		<p>Answer: Thank you for your comment. The wording of the sentence has been refined to clarify that the number that is mentioned was the age of the calves and not the total amount of weeks that calves stay in individual housing.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
34	Interpretation of the Terms of Reference	<ol style="list-style-type: none"> 1. 153 – 165 This Scientific Opinion (hereafter SO) is very one dimensional. Concerns about the climate, emissions, animal health, public health and food safety are not addressed as is the economic impact not considered. 2. 171 - 184 Scenario 1 lists 'four major factors potentially leading to welfare issues', the exposure variables. To what extent these factors are (still) present in European veal sector (and the variation between countries) seems not taken into account throughout the Scientific Opinion. 3. According to the Guidance on Risks Assessment for Animal Welfare (EFSA Journal 2012;10(1):2513), a formal risk assessment should consist of a) exposure assessment, b) consequence characterization, followed by c) risk characterization. Occurrence / prevalence of exposure should be part of a) the exposure assessment. To determine impact of exposure, it is necessary to have insights in risk and prevalence. Both are not well-determined. Same Guidance document states that 'risk assessment should not be carried out unless the welfare problem is clearly specified and formulated. 4. Identifying welfare consequences for the specific situations in the mandate using the WHO Five Freedoms may provide a more complete and unbiased assessment of each exposure variable. <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. On point 1), EFSA's remit is a scientific assessment of the effects of housing conditions to the welfare of the animals. Other considerations (food safety, environment) are not considered to keep the scientific assessment of welfare effects independent; such considerations are under the remit of the risk managers/ legislators. Regarding point 2), EFSA addressed the aspects mentioned in the mandate. With regards to point 3), a qualitative assessment was carried out to estimate risks of welfare consequences in each husbandry system. In relation to point 4), please note that the list of welfare consequences that were the basis of the welfare assessment take into account the five freedoms mentioned in the WHO framework.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
35	Provision of quantitative criteria for prevention of welfare consequences – Specific Scenarios	<ol style="list-style-type: none"> 1. 208-298 EFSA refers to a method of risk assessment for animal welfare that is based on a similar approach as chemical and microbial risk assessment. Problem formulation, including factor identification, is a prerequisite of the process and is equivalent to hazard identification, which considers whether the factors as described in the SO have the potential to improve or impair directly or indirectly the animal welfare in the target population. In addition, the model used assumes a linear relationship between exposure and animal-based measurements, this is most likely not correct. Quantitative risk models should only be used in case hazards for welfare are well-defined and based on systematically reviewed scientific evidence, which is and will not be the case in the near future. 2. In the used methodology the F2F EKE approach is used where two (2) populations (the exposed and the non-exposed) are being compared. For example: the individual housing is being compared to the outdoor grazing with almost unlimited space. The advice that follows from this extreme opposite's comparison is not substantiated since there is no comparison in a population with the current situation being compared to the advised situation. This makes that the model has a lot of assumptions in itself even more than EFSA is stating in 230 – 245. Above that, the expression of the ABM are the unexposed conditions of the natural situation an animal population may experience, but all negative effects of an environment in the



		<p>wild are not included but will undoubtedly be negative for the welfare of the animals. The model uses a simple interpolation framework. The question is whether this is justified, certainly at the end "unexposed condition" little data will be known and more exponential relationships are probably more realistic.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. Regarding point 1), the type of relationship (i.e. linear, non-linear) between the exposed and non-exposed populations was discussed with the EFSA experts and it was considered that the linear relationship was a fair assumption in this case. Data from the literature did not seem to contradict this assumption. We agree that the fact that only a single ABM is considered in the model (without, in this case, identifying possible negative effects) is a limitation of the method, but the current framework did not allow to integrate different exposures nor to estimate the effect of a single exposure on different ABMs, to estimate a final welfare state. It is (as all models) a simplification, but it allowed a structured approach to welfare assessment that could translate into a quantitative assessment, which was not possible with previous welfare risk assessment frameworks. This model may be expanded in the future. On point 2) (i.e. comparison with an unexposed population), it is not correct that the behaviour observed in the wild was taken as reference; rather an assessment of the behaviour expected when a calf is provided with an unlimited amount of space - a positive impact on ability to demonstrate locomotor play behaviour has been reported in the scientific literature. No negative aspects for welfare resulting from a large space allowance were identified; but if that was the case, that would have been mentioned and considered in the assessment (as it was done in the case of assessment of group size, for instance).</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
36	Uncertainty assessment	<p>301 - 316 The used model is a kind of elicitation with its own uncertainties and on top of that EFSA works with credibility ranges from that elicitation. And this model is applied within a specific group of researchers who are educated in a specific framework. It's based on assumptions and probably biased. It is stated that a group discussion found place for consensus. It must be discussed whether a small group of only seven (7) researchers is enough for a valuable expert discussion and eventually a scientific opinion. Throughout the SO it is stated there is little or no data. Research should be done to collect/gather data. Expert opinions and modelling without data is science of the poor. A lot seems to be based on assumptions. This undermines the value of the SO. EFSA should be straightforward about this.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. All models are based on assumptions and the used model is no exception. The communication of sources of uncertainty and credibility ranges allow to communicate transparently reasons for variation of the estimated value, and the intervals under which the values can fall on, respectively. The assumptions of the model were laid out to communicate situations in which the model may apply, or not, and potential limitations of the method. This was considered to improve transparency of the method, rather than biasing the results as mentioned. Expert knowledge is used by EFSA when evidence gaps exist, as described in the EFSA Guidance for Expert Knowledge Elicitation.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
37	Specific Scenario - The welfare of dairy calves and the risks associated	<p>Seasonal calving pasture based-systems of production have been ignored as part of this review. These compact calving systems require unique technical proficiency and associated infrastructure/facilities to manage large numbers of cows calving within a relatively short period. For example, in Ireland average 6-week calving rate is increasing annually and is currently almost 70%, with a target of 90%. As the Irish system revolves around calving cows to coincide with grass growth integrating CCC</p>



with limited cow-calf bond	<p>systems into existing systems would dramatically increase workload. Work completed by Teagasc, (Sinnott et al., submitted) shows that in pasture-based systems full-time CCC systems increase labor demand (Table 1; attached file), mainly due to division of cows and calves for milking after grazing. This has repercussions for the 'One Welfare' concept, not only due to the increased workload due to animal separation but also health and safety risks for the farmer, associated with division of animals which share a strong bond. Pasture-based production is seen as promoting higher welfare as cows can express their natural grazing behaviour; turn out to pasture directly post-calving is one of the key factors underpinning its success. But our research shows higher levels of morbidity and compromised welfare (Sinnott et al., submitted; Figure 1), where CCC calves graze from 4 days old. Our research also indicated more abnormal behaviors in calves which had part-time access (17 hours access by night) to their dam than calves with no contact. Before any recommendations regarding CCC are made we (Teagasc) feel it is incumbent that all systems, including pasture-based systems, and the implications on both cow and calf welfare are fully considered. For example, variable and inclement weather conditions have little effect on the cow but such conditions may not be suitable for young calves. We believe more research needs to be undertaken before any recommendations are made.</p> <p>Table 1. Mean labor input per calf per day (\pm SEM; hh:mm:ss) related to daily tasks associated with rearing calves in no (NC-I), full-time (FT-O) and part-time contact systems (PT-I).</p> <table border="1"> <thead> <tr> <th>(hh:mm:ss)</th> <th>NC-I</th> <th>FT-O</th> <th>PT-I</th> <th>SEM</th> <th>P-value</th> </tr> </thead> <tbody> <tr> <td colspan="6"><i>per calf/day</i></td> </tr> <tr> <td>Total Labour</td> <td>00:00:38^a</td> <td>00:01:29^b</td> <td>00:00:49^a</td> <td>00:00:05</td> <td>0.00</td> </tr> <tr> <td>Fill Hopper</td> <td>00:00:06</td> <td>NA</td> <td>NA</td> <td>00:00:01</td> <td>NA</td> </tr> <tr> <td>Feed Inspection</td> <td>00:00:04</td> <td>NA</td> <td>NA</td> <td>00:00:01</td> <td>NA</td> </tr> <tr> <td>Cleaning pen/equipment</td> <td>00:00:22</td> <td>NA</td> <td>NA</td> <td>00:00:02</td> <td>NA</td> </tr> <tr> <td>Separation</td> <td>NA</td> <td>00:00:11</td> <td>00:00:09</td> <td>00:00:02</td> <td>0.44</td> </tr> <tr> <td>Movement (calf and or cow)</td> <td>NA</td> <td>00:00:52^a</td> <td>00:00:31^b</td> <td>00:00:04</td> <td>0.00</td> </tr> <tr> <td>Reunite</td> <td>NA</td> <td>00:00:15^a</td> <td>00:00:02^b</td> <td>00:00:02</td> <td>0.00</td> </tr> <tr> <td>Health Inspection</td> <td>00:00:06^a</td> <td>00:00:11^b</td> <td>00:00:07^a</td> <td>00:00:01</td> <td>0.00</td> </tr> </tbody> </table> <p>^{ab} means within a row with a different superscript differ (P < 0.05)</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. The assessment focused on most common cow-calf systems, which keep cows and calves indoors (or with easy access to barns) over the first weeks. These are the systems in which most research has been carried out; and only published, peer-reviewed papers were considered in the assessment. The section discussed factors strictly linked with cow and calf to assess the risks of limited cow-calf bond. Considerations on other welfare consequences that may arise from the environment where the calf is placed (e.g. cold stress) were not discussed in this section. Also, aspects related with labour, economic or social factors were out of scope of the assessment, which dealt specifically with animal welfare. A note to the existence of other husbandry systems (seasonal calving, pasture-based) to keep calves over the first weeks of life was added in the section of the scientific opinion describing most common housing systems in the EU.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>	(hh:mm:ss)	NC-I	FT-O	PT-I	SEM	P-value	<i>per calf/day</i>						Total Labour	00:00:38 ^a	00:01:29 ^b	00:00:49 ^a	00:00:05	0.00	Fill Hopper	00:00:06	NA	NA	00:00:01	NA	Feed Inspection	00:00:04	NA	NA	00:00:01	NA	Cleaning pen/equipment	00:00:22	NA	NA	00:00:02	NA	Separation	NA	00:00:11	00:00:09	00:00:02	0.44	Movement (calf and or cow)	NA	00:00:52 ^a	00:00:31 ^b	00:00:04	0.00	Reunite	NA	00:00:15 ^a	00:00:02 ^b	00:00:02	0.00	Health Inspection	00:00:06 ^a	00:00:11 ^b	00:00:07 ^a	00:00:01	0.00
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38

Risks of limited cow-calf bond

1. L 1379: It is premature to make recommendations on CCC systems when the effect on the cow is not yet fully understood. Recommendations should only be made when effects on both cow and calf are fully investigated; implementing changes now, which may be changed in time, has long term implications, particularly where farm facilities are altered
2. L 1410: Automated calf feeders can deliver a calf's daily requirement over a number of feeds (5+). Irish survey data shows >95% of farmers are using artificial teats
3. L 1415 & 1624: In Irish artificial rearing experiments very low levels of abnormal behaviors, including cross suckling, are observed. Cross suckling should not be used as one of the main reasons to implement CCC systems as its occurrence in modern management systems, feeding at least 6 liters/day, is minimal
4. L 1426: Feeding level effect needs to be separated from the system effect. Further research needs to compare CCC to artificially reared calves receiving similar milk volumes to CCC calves before definite conclusions are drawn
5. L 1596 & 1647: Effects on the cow need to be fully quantified before any recommendations. Irish data (McPherson et al.; Table 2) shows that following an 8-week period of CCC milk yield is reduced; further analysis is ongoing to quantify if stress, due to weaning, was a contributory factor to this reduction
6. Table 20: Benefits of CCC include increased weight gain but it is necessary to ascertain if offering higher volumes of milk in artificial systems has the same effect or if bonding and remaining with the cow is having an additive effect
7. L 1604: not all studies have showed higher resilience to disease, this is system dependent
8. L 1644: no clear evidence in the review to suggest cows and calves should remain together for 1–2 days; not clear where this conclusion came from, not supported by the data
9. L 1650: Successful foster cows are dependent on cow docility and acceptance of the calf, there is a risk of calf injury and reduced welfare

This comment included an attachment. For the full list of comments including attachments please refer to this [file](#).

Answer: Thank you for your comment. On points 1 and 5, please note that the focus of this scientific opinion is on calf (and not cow) welfare. In addition, the lack of evidence currently available on the effects of cow welfare is made clear in the conclusions and recommendations of the scientific opinion. On point 2), the benefits of automatic milk feeding systems have been described in the opinion. On point 3), cross suckling has been used as an animal-based measure of relevance for the assessment of cow-calf separation, but other indicators of welfare were considered too. No published data on occurrence of cross-suckling in the type of artificial rearing systems mentioned in the comment (high milk allowance, high number of milk meals) was available, to our knowledge. On point 4), we agree there is limited data on this topic, and this is mentioned in the document, but please note other effects beyond milk intake were assessed for the evaluation of risks of limited cow-calf bond. On point 6), as pointed out in the opinion, even high levels of milk feeding in artificial rearing systems do not ensure the same level of welfare e.g. regarding the development of abnormal oral behaviour. On point 7), the sentence was edited to make it more specific to the results reported in the studies (e.g. positive effects of cow-calf contact on diarrhoea prevalence). On point 8), the rationale and evidence behind the conclusion are provided in the document. On point 9), possible negative effects foster cow systems are mentioned in the opinion.

Changes to the Scientific opinion based on this comment: None.

<p>39</p>	<p>Risks of individual housing</p>	<ol style="list-style-type: none"> 1. L551, this paragraph is quite brief, compared to the previous paragraphs on the social behaviour and feeding behaviour. Since one of the main reasons for individual housing is the health of the calves, a more elaborate paragraph on this topic would be expected and with more details on studies comparing the health of group housed calves compared to individual housed calves. How many of the animals got sick in group housing compared to individual (is this a large difference or small) etc. I see this is mentioned in a later paragraph, maybe mention this in the text here. 2. L587 The fact is missed that under commercial practices the calves are transported to the veal farm at the age of 2-5 weeks, so social housing in pairs or small groups within one week of age is not relevant to the current situation on veal farms in Europe. What does this current practice mean to the social housing of veal calves? 3. L696 this is the first time cross-sucking is mentioned. Is there literature available? <p>Answer: Thank you for your comment. On point 1), the paragraph on effects of individual or group housing on gastro-enteric disorders was expanded. With regards to point 2), grouping practices in veal farming systems will also be affected by grouping prior to the arrival of the farm and these are hence described; specific recommendations for grouping in veal farms are also provided. On point 3), cross-sucking is mentioned when discussing effects of inability to perform sucking behaviour in the main section (not made available for public consultation due to lack of time).</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
<p>40</p>	<p>Risks of insufficient space</p>	<ol style="list-style-type: none"> 1. L764 You focus here on individual housing, but before you advice to house them in pairs and only group housing at the veal farm. This seems a bit contradictory, so mention your recommendation here as well. 2. L814, Types of floor, in the study of Heeres-van der Tol et al. (2017) veal calves at the age of 10 weeks showed more play behaviour on a rubber coated slatted floor than on a wooden slatted floor. This study is however in Dutch and not a peer-reviewed study. 3. L927 We consider this conclusion/advice as too premature and/or too bold. Though it is based on the methodology, which we support, there are no studies between 3.7m2 and 29.5m2 and on slatted floors. Besides this there are too many other constraining factors on play behaviour besides space. Type of floor might be an important factor too. Most studies were on straw bedding or a solid floor, while veal calves are housed on slatted floors. Those data gaps should be mentioned. From 1.5m2 per animal to 29.5m2 is a big step, and we would like to see some more substantiation, if this is not there yet, more research might be needed and this could be mentioned. 4. L940 See comment on L927. <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. On point 1), the fact that group housing was compared to individual housing in this section was to reflect current veal housing practices in the EU (which do not reflect the recommendations of the previous section). On point 2), in relation to play behaviour levels depending on flooring types, we agree that this may affect levels of play, and this is the reason why "types of floors" were added as a source of uncertainty in Table 8 (Sources of uncertainty around EKE estimates on the relationship between space allowance and time spent in play behaviour). Data gaps on flooring are made clear in the same table. Thank you for the suggested paper; however only peer-reviewed studies are considered by the EFSA experts for scientific soundness. On point 3) and 4), regarding the requested substantiation of the other effects on behaviour of additional space, further effects on welfare observed at different space allowances are provided. Lack of data in the literature for spaces between 6 and 28 m² is made clear in the same table.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>



41	Risks of iron restriction	<p>L1083-1085 Hb should be a minimum of 4.5 mmol/L on average on herd level according to the legislation. So, this means lower is allowed for some animals as long as the average is above 4.5 mmol/L in the herd.</p> <p>L1131 Meat color is correlated to Hb level. There are studies on the use of a colorimeter to assess meat color at the slaughterhouse. See the studies of Hulsegge et al., 2001, Vandoni & Sgoifo Rossi, 2009 and Horcada et al., 2013). Based on these studies, it can be concluded that determining the Hb levels based on meat color measured with a colorimeter does not provide an accurate reflection but does provide an indication. There indirectly non-invasive methods available post-mortem. These are also already commercially used in the Netherlands.</p> <p>This comment included attachments. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. We have now clarified in the text that the legislated value is an average value in the sampled animals at the herd-level. Regarding your point about meat colour, thank you for the suggested studies. The use of colorimeter is discussed in more detail in Specific Scenario 2 on the use of animal-based measures at slaughter to monitor the welfare of animals on farm and the study of Vandoni and Sgoifo Rossi, 2009 was mentioned in that section. We have added the study of Hulsegge et al., 2001 to the review. The study of Horcada et al., 2013 was not added because it is based on a 15 point-scale not commonly used in the EU veal producing countries.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
42	References	<p>The following articles are added for consideration by the EFSA working group:</p> <ul style="list-style-type: none"> - Doré, E. et al., 2012. Risk factors associates with transmission of Mycobacterium avium subsp. Paratuberculosis to calves within dairy herd: a systematic review. J Vet Intern Med 2012;26:32–45. - Fanelli, A. et al., 2020. Paratuberculosis at European scale: an overview from 2010 to 2017. Vet Ital. 2020 Apr 24;56(1). - Lidfors, L.M., 1996. Behavioural effects of separating the dairy calf immediately or 4 days post-partum. Applied Animal Behaviour Science 49, p. 269-283. - Reipurth, M., et al., 2020. The effect of age when group housed and other management factors on playing and non-nutritive sucking behaviour in dairy calves: a cross sectional observational study. Acta Vet Scand. (2020) 62:63. - Rosenberger, K, et al., 2017. The effect of milk allowance on behavior and weight gains in dairy calves. J. Dairy Sci. 100:504–512. <p>This comment included attachments. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. The publications were consulted; the papers of Reipurth et al., 2020 and Rosenberger et al., 2017 were added to the description of the welfare consequences on inability to perform sucking behaviour and inability to perform play behaviour. Doré et al., 2012 results confirm the importance of hygiene, which is a point made in the scientific opinion; Fanelli and Tizzani (2020) report epidemic situation of the disease but no risk factors nor welfare aspects are mentioned.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
43	Risks of limited cow-calf bond	<p>1. Nutreco welcomes the further study of welfare of calves by EFSA and has taken notice of the findings of EFSA, based on available literature. In our response we have focused on Scenario 3 being the welfare of dairy calves</p>



		<p>and the risks associated with limited dam-calf bond. In general, we appreciate the work done and take note of the findings of the experts. To further strengthen the opinion, we have a number of comments resp. additions:</p> <ol style="list-style-type: none"> 2. Line 1353-1357 (page 48): The report cites the conclusions of Beaver et al. (2019) that the efficacy of immediate separation on the prevention of Johne's disease (<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i> – MAP) was not sufficiently proven from literature. We bring under the attention another systematic review by Bové et al. (2012) that presents as most significant infection route for calves the contact with faeces of infected adult cows. Besides, the immediate neonatal environment also significantly accounted for several infection increasing factors, like contamination of udders with manure, group-housing of periparturient cows, and presence of more than one cow in the maternity pen. Considering this all, it then seems obvious that the practice of keeping calves together with the dam instead of immediate separation would increase the risk of MAP infection in MAP positive herds, something which, in our view, cannot be (fully) counteracted with hygiene or cleanliness measures during prolonged dam-calf contact. Also, as was already noted by Beaver et al. (2021), early separation is widely promoted in MAP prevention schemes. In the light of MAP being enzootic in more than half the European countries (Fanelli et al, 2020) and severe adverse effects on animal welfare of this disease, we recommend to further review studies on MAP transfer from dam to calf, focusing more on mechanistic infection transfer models instead of field surveys as the latter may harbour many confounding factors in the dataset; we would also recommend to involve MAP experts for this purpose, also because the research teams behind the Beaver article do not seem to have specific expertise on this. 3. Line 1380-1381 (page 50) suggests little information on the response of cows on separation from its calf. We found evidence in Lidfors (1996) that separation at 4 days of life gives more cow vocalization than when calves are separated just after birth (Figure 2a; T group at 96 h vs. S group at 0 h). This may imply that, like for the calf (line 1443-1446, page 51), also for the dam the establishment of a bond with its calf in the first days postpartum aggravates her reaction to separation at a later stage. 4. Line 1500 (page 53) and further: On cross sucking (or abnormal oral behaviour, AOB) we present two additional studies not considered thus far, that highlight factors that could reduce AOB, being allocation of milk by an (artificial) teat and ad libitum administration of milk instead of restricted supply (Rosenberger et al., 2017; Reipurth et al., 2020). EFSA is invited to check whether these studies shed new light on their findings thus far. 5. Line 1597-1599 (Table 20, pages 59-63) highlights the positive effects of early separation (no contact, or separation during first hours of life) on disease prevention. As the absence of disease is a positive welfare indicator, we suggest to add this relevant finding to the conclusions section. Also, the panel is invited to evaluate the related wording in the first conclusion (lines 1602-1605, page 64) which only seems to focus on health benefits associated with late separation. 6. Line 1597-1599 (Table 20, pages 59-63). The table cites more developed social behaviour at delayed dam-calf separation (at least 4 days; 7 days; at least 2 weeks). However, in the paragraph on isolation stress (lines 1430-1442, page 51) a less uniform picture is given by EFSA on the need for calf – dam contact for development of social behaviour, with studies of Krohn et al. (1999) and Duve et al. (2012) showing that contact with other calves would be as good as contact with the dam (articles available at EFSA). 7. - Line 1615-1618 (page 64): We propose that the wording of this conclusion is slightly modified to better reflect the scientific fact that early separation (so, before establishment of a dam-calf bond) is associated with a relatively low level of separation stress. The way it is now phrased seems to direct the reader to the benefits of (very) late separation only. 8. Line 1644-1651 (page 64); as the ideal situation according to the panel is to have the calf the whole pre-weaning period with the dam (recommendation 2) or a foster cow (recommendation 3), the first recommendation needs to
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		<p>be read as a temporary compromise that is not really desirable. Indeed, based on the scientific evaluation of dam-calf separation, we conclude that separation later than at birth only aggravates the welfare situation of the calf (and dam?) due to the established dam-calf bond and due to increased potential disease transmission from dam to calf, which effect could then only be counteracted by delaying the separation until a very late moment. It could then be considered that there are two distinct systems each with its own merits, being the conventional system with immediate separation (with possibly calf group housing afterwards) and a CCC-like system with very much prolonged dam-calf contact; anything in between may not necessarily improve the welfare of the calf, especially on the important aspect of dam-calf separation stress. It may then be more effective for EFSA, also in the light of relative inertness of different production systems to change from one system to the other, to not promote a gradual increase of the dam-calf contact period but rather to depict the conditions under which the conventional system of immediate separation could still be acceptable from welfare point of view, until a potential move to a CCC-like system (if acceptable from MAP prevention viewpoint). One may think of the need for interaction with other calves, hygienic conditions to prevent scouring, optimal feeding practices to reduce AOB frequency, etc.</p> <p>Bibliography: Doré, E. et al., 2012. Risk factors associates with transmission of Mycobacterium avium subsp. Paratuberculosis to calves within dairy herd: a systematic review. J Vet Intern Med 2012;26:32–45.; Fanelli, A. et al., 2020. Paratuberculosis at European scale: an overview from 2010 to 2017. Vet Ital. 2020 Apr 24;56(1).; Lidfors, L.M., 1996. Behavioural effects of separating the dairy calf immediately or 4 days postpartum. Applied Animal Behaviour Science 49, p. 269-283.; Reipurth, M., et al., 2020. The effect of age when group housed and other management factors on playing and non-nutritive sucking behaviour in dairy calves: a cross sectional observational study. Acta Vet Scand. (2020) 62:63.; Rosenberger, K, et al., 2017. The effect of milk allowance on behavior and weight gains in dairy calves. J. Dairy Sci. 100:504–512</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. On point 2, we could not find the publication by Bové et al. (2012) mentioned in the text; we assume this was due to a spelling mistake and that Dove et al., 2012 was meant. Please see answer comment #42 for an answer regarding the publications of Reipurth et al., 2020 and Rosenberger et al., 2017. The risk of transmission of MAP through cow-calf contact has been more emphasized in the final version. On points 3) and 6), some of the references mentioned had already been considered by the working group (e.g. Lidfors (1996)). It is noted that the studies of Krohn et al. (1999) and Duve et al. (2012) do not directly compare contact with other calves and contact with the dam, so it is not possible to say that contact with calves is as good as contact with the dam. On points 7) and 8), the conclusions reflect the assessment carried out; it is considered that the current phrasing correctly reflects the outcomes of the assessment, and no adjustments are needed.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
44	Background and Terms of Reference as provided by the requestor	<p>Relating to lines 147-149: It is not clear why the mandate only considers male dairy calves raised for white veal? Dairy calves of both sexes are housed individually, regardless of their destination (beef, veal or milking cow). Therefore, the exposure variables of individual housing and insufficient space are also relevant to calves destined for beef (male or female) or milking (female).</p> <p>Answer: While the mandate only refers to male dairy calves, it was indeed considered that there would be no effect of sex on the aspects discussed and the welfare outcomes would be similar. Hence the recommendations apply to both male and female calves; this is made clear in the interpretation of the terms of reference.</p>

		<p>Calves from suckler herds (beef) were considered outside of the scope of the mandate.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
45	Interpretation of the Terms of Reference	<p>Relating to Lines 157 - 160: It is not clear why the mandate only considers male dairy calves raised for white veal? Dairy calves of both sexes are housed individually, regardless of their destination (beef, veal or milking cow). Therefore, the exposure variables of individual housing and insufficient space are also relevant to calves destined for beef (male or female) or milking (female).</p> <p>Answer: Thank you for your comment. Please see answer to comment #44.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
46	Description of husbandry systems	<p>Relating to lines 191: The housing systems for all calves in the dairy industry, regardless of their sex or destination, should be considered as part of the Scientific Opinion</p> <p>Answer: Thank you for your comment. The most common husbandry systems used to rear dairy calves are described in the scientific opinion. These sections were not made available for public consultation due to time constraints, but they are now published in the final document.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
47	Provision of quantitative criteria for prevention of welfare consequences – Specific Scenarios	<p>Relating to the interpolation model, Lines 231 – 245: Worth bearing in mind that a 'reference / control' population of cows, (eg outdoor farmed on wide pasture), may still have altered ABMs due to other variables than the one being considered (eg space allowance). For example, a very free ranging herd may be negatively impacted by something such as sub-clinical disease, or extreme climatic conditions, or human presence, which could reduce levels of play below what would 'normally' be seen. This would give an abnormal control value. Whilst this cannot be detected in all situations, it should be kept in mind when considering the values seen.</p> <p>Answer: It was an assumption of the model that average environmental conditions would apply to the "unexposed" populations, this is, no extreme or abnormal conditions (such as presence of subclinical disease in the whole population, or extreme weather conditions) were assumed. This is now clarified in the text.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
48	Risks of individual housing	<ol style="list-style-type: none"> 1. Relating to Lines 593 – 598: There is evidence that calves will choose to interact with other calves, when separated from the cow, for example, dairy calves that have been separated from the dam will begin interacting with other calves, when given the opportunity, as early as 2 d after birth. L.R. Duve, M.B. Jensen. Social behavior of young dairy calves housed with limited or full social contact with a peer. J. Dairy Sci., 95 (2012), pp. 5936-5945. 2. Relating to lines 591 – 597: Compassion in World Farming encourages producers to implement higher welfare for calves through it's Good Calf Award and Commendation. Several producers and retailers have implemented or committed to implementing higher welfare systems for calves, including some of the biggest supermarket retailers in the UK. One of the criteria for an award or commendation is the group (or at a minimum, pair) housing of calves from birth. You can see the award winners here: https://www.compassioninfoodbusiness.com/award-winners/search/?org=&sector=&country=&award=Good+Calf+Award and here: https://www.compassioninfoodbusiness.com/award-winners/search/?org=&sector=&country=&award=Good+Calf+Commendation; 3. Relating to Lines 587 - 599: We greatly support EFSA's recommendation that calves are group-housed earlier than 8 weeks. However, recommending that



they are grouped within 1 week could risk them either being isolated completely for 7 days, or, kept with the mother for 7 days and forming a greater bond thus increasing the distress for both after separation. Given that many producers are successfully keeping calves in groups from day 0, and that complete social isolation for any period is a significant welfare issue for calves, we urge that EFSA recommends that calves should be group or pair housed from birth. We would be happy to facilitate engagement between EFSA and producers that are successfully group housing from birth. Of course, transitioning to leaving the calf with the cow for the full pre-weaning period should take precedence, but will understandably take longer to implement. Until complete cow-with-calf is in place, the pairing / grouping of calves at day 0 would appear to be a good compromise for the welfare of both. Relating to the conclusions at Line 591:

The review by Costa et al (2016) concluded: 'that there is strong and consistent evidence of behavioral and developmental harm associated with individual housing in dairy calves, that social housing improves intakes and weight gains, and that health risks associated with grouping can be mitigated with appropriate management.'

This comment included attachments. For the full list of comments including attachments please refer to this [file](#).

Answer: Thank you for your comment and for the suggested publication. On point 1), this paper had already been considered by the EFSA experts in their review when discussing social rearing of calves in the development of social behaviour. On points 2) and 3) thanks for the information provided; as explained in the text, the sensitive immune status of the calf in the first days of life was taken into account when considering group housing from birth. Under natural conditions, a calf will only seek contact with the herd after several days. In addition, very early group housing may not always be possible because the establishment of pairs or group requires several calves to be born. For these reasons, it was recommended in the scientific opinion that calves are kept with the dam for one day and are grouped with other calves within one week.

Changes to the Scientific opinion based on this comment: None

<p>49</p>	<p>Risks of insufficient space</p>	<p>Relating to Lines 936 – 939 We greatly support the increase in minimum space allowance for calves, however, 16% of the full extent of locomotory play behaviour is still a very small amount, and still represents a very large degree of restriction of a natural and important behaviour. Therefore, we strongly urge that a greater increase in minimum space allowance is recommended by EFSA, in order to give a less restrictive outcome. It is clear that 29.5 m2 will not be adopted into legislation, but there should be a new minimum requirement that will enable a greater display of locomotor play (and other locomotor behaviour) than 16%. This is especially important in individually-housed calves as their welfare is negatively impaired through social isolation.</p> <p>Relating to Lines 944 – 950: We greatly support the increase in minimum space allowance for calves, however, 15% of the full extent of locomotory play behaviour is still a very small amount, and still represents a very large degree of restriction of a natural and important behaviour. Therefore, we strongly urge that a greater increase in minimum space allowance is recommended by EFSA, in order to give a less restrictive outcome. It is clear that 20 m2 will not be adopted into legislation, but there should be a new minimum requirement that will enable a greater display of locomotor play (and other locomotor behaviour) than 15%.</p> <p>Answer: Thank you for your comment. The scientific opinion presents the results of the assessment carried out by EFSA, which summarizes what levels of space would be preferable from the point of view of the animal. Effects on welfare of smaller space allowances were also assessed following a request from the legislator.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
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<p>50</p>	<p>Risks of limited cow-calf bond</p>	<ol style="list-style-type: none"> 1. Relating to Line 1612: The Ethical Dairy Farm in Scotland transitioned from traditional separation of cow and calf to a cow-with-calf model in 2012. Several years of research and experience have accumulated, including on ways to eventually separate calves from cows. They have trialed many methods and found large variation in the amount of stress caused. We respectfully request that EFSA would contact them for sharing of this, if not done so already. Website: https://www.theethicaldairy.co.uk/ Email address: hello@theethicaldairy.co.uk 2. 1644 – 1645: There may be risk of increasing the bond between cow and calf by leaving them for 1-2 days and then causing increased distress (especially for the cow) by separating. Until prolonged cow-calf systems are in place (keeping the calf with the cow throughout the whole pre-weaning period) it may be better to separate the calf at birth, and place it immediately with another / other calves on day 0. 3. 1647 – 1653: Likewise, when transitioning to leaving the calf with cow, it may be preferable to move from separation at birth, directly to a much longer period – in order to avoid the problem of increased separation stress. The Ethical Dairy Farm in Scotland (see above comment) is a good contact to approach for more information on this. <p>Answer: Thank you for your comment and for the materials provided on point 1). On points 2 and 3), as mentioned in the scientific opinion, the bond between calf and cow is fully formed only after four days. The trade-offs for cow and calf were considered when proving recommendations for length of contact (such as higher calf vitality when contact is allowed for at least some hours after birth). It is not recommended in the scientific opinion to immediately separate the cow and the calf after birth.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
<p>51</p>	<p>Interpretation of the Terms of Reference</p>	<ol style="list-style-type: none"> 1. Pg. 6, 154. In current legislation calves must be kept in groups after the age of eight weeks. The common practice however is that calves are not kept in individual pens for such a long period. Normally calves stay in a pen to a maximum of 5 weeks of age. This prevents the spread of infections and it makes it possible to optimise the health care for the animals by the farmer. So its for the benefit of the calves. 2. Pg. 6, 162 Although EFSA's mission is clear, namely, to provide scientific advice on the welfare of calves in veal farming, it is important to emphasize that many more aspects are important to keep calves in a good way. It is important to consider all these aspects in an integral way when discussing calves keeping. So not only the welfare of the calves, but also food safety, animal health, human health, emissions to the environment, working conditions and economic feasibility. These aspects are not included in the EFSA report. <p>Answer: Thank you for your comment. Regarding the 1) comment, the wording of the sentence has been refined to clarify that the number that is mentioned was the age of the calves and not the total amount of weeks that calves stay in individual housing. On point 2), as mentioned, EFSA's remit is a scientific assessment of the effects of housing conditions to the welfare of the animals. Other considerations (economic, environmental) are not taken into account to keep the scientific assessment of welfare effects independent; such considerations are under the remit of the risk managers/ legislators.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
<p>52</p>	<p>Provision of quantitative criteria for prevention of welfare consequences</p>	<p>Pg. 7, 223 The idea of the assessment model is the interpolation of the ABM (Animal Based Measures) between a highly exposed population of animals and a non-exposed population. The model assumes a linear relationship between exposure and measurements on animals. This is most likely not correct. The expression of the ABM is the unexposed conditions of the natural situation that an animal population may</p>

	– Specific Scenarios	<p>experience. It is remarkable that not the negative effects of living in the wild have been included but will undoubtedly be negative for the welfare of the animals.</p> <p>Answer: See comment #35 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
53	Uncertainty assessment	<p>Pg.10, 307 The used model is applied within a specific group of researchers who are educated in a specific framework. In our opinion, EFSA should rely on hard data based on scientific research and not on the opinion of a limited group of experts.</p> <p>Answer: The used model also takes into consideration the existing data based on scientific research. Expert opinion was used to fill data gaps; experts were selected to cover different areas of calf welfare research.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
54	Background	<ol style="list-style-type: none"> 1. Pg. 11, 325 EFSA is referring to a report dated 2012 when stating that young calves are fed with a predominantly liquid, milk replacer diet. This data is outdated. The diet of calves has changed considerably since then, with much more roughage in the diet. Also, the iron intake has considerably increased by this. 2. Pg. 11, 334 In the Netherlands it is now customary to keep calves in individual pens until the age of 4 or 5 weeks and not until 8 weeks 3. Pg. 12, 360 – 368 It is described here that calves have no contact with other calves during the period of individual housing. That is not correct. It is also not correct that calves do not receive solid feed during this period. All calves are fed solid feeds. 4. Pg. 13, 387 It is stated that calves with a haemoglobin lower than 4.5 mmol/L are given iron via injection. This is correct; however, many more calves receive extra iron on top of the standard iron supply via feed/ration. <p>Answer: Regarding points 1) and 2), the sentences have now been reworded for clarity. On point 3), the section on individual housing was also refined to explain that calves in individual pens may have contact but may not have “head-to-head” contact with another calf.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
55	Risks of individual housing	<p>Pg. 25, 723 EFSA recommends keeping calves in pairs or small groups (2-7 animals) within the first week of life. It seems that the advantages of temporary individual housing of calves have not been sufficiently taken into account here. Temporary individual housing of calves promotes animal health and makes it possible for veal farmers to pay more attention to the individual animal.</p> <p>Answer: Thank you for your comment. Please refer to comment #48 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
56	Risks of insufficient space	<p>Pg. 34, 924 – 951 EFSA states that more space is needed per calf. A space of 3 m2 per animal instead of 1.8 m2 would be necessary for the calves to spend more time in a relaxed lying position and for more general activity. Calves are group animals that often lie together because of their social and natural behaviour. More space does not mean that this space is necessary. More space can also lead to more fighting behavior with a negative impact on the welfare of the animals. This point does not seem to have been taken into account.</p> <p>Answer: Thank you for your comment. Aggressive behaviors are usually not observed in calves; these behaviors are more common in adult animals as dominance relationships develop only at a later age. Young calves do have playing needs, and hence the suggested space allowance.</p>



Changes to the Scientific opinion based on this comment: None.		
57	Risks of iron restriction	<p>Pg. 36, 1006 EFSA states that it is likely that many calves in the white meat sector have low hemoglobin levels, but no public data are available. EFSA refers to a study with 107 calves in 2014. However, this cannot be called representative.</p> <p>Pg. 41, 1134 EFSA makes recommendations on hemoglobin levels and states that measures should be taken to avoid Hb values below 5.6 mmol/L in veal calves. In 992 – 993, however, it is stated that on the basis of research there is no clear agreement about the limit value at which anaemia occurs. The reason why this cut-off value was chosen is therefore not clear.</p> <p>Answer: Thank you for your comment. The recommendations are provided based on the data and scientific evidence available.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
58	Introduction to the draft for Public Consultation	<p>Pg.3, 64 There are approximately 1600 farms in the Netherlands for the production of veal. An important economic sector that values calves that are not needed for milk production on dairy farms. Dutch veal farmers work with quality systems that control and safeguard all kinds of aspects of farming through checks. This also applies to various animal health and animal welfare matters. Quality is continuously monitored through monitoring programmes. The knowledge and expertise of the veal farmers is of a high level. It is clear that the socio-economic consequences of some of the described extreme animal welfare demands are enormous. When these become reality, it will effectively mean the end of white veal production in the EU. The end of a sustainable industry, in which many people work and earn their income.</p> <p>Answer: Thank you for your comment. EFSA remit is a scientific assessment of the effects of housing conditions to the welfare of the animals. Other considerations (economic, social, environmental) are not taken into account to keep science independent. Such considerations should be taken into account by the risk managers/legislators.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
59	Specific Scenario - The welfare of dairy calves and the risks associated with limited cow-calf bond	<p>Le rapport de l'EFSA recommande une séparation précoce de la mère et du veau, de l'ordre de 1 à 2 jours, afin d'éviter la création d'un lien trop important. Mais le rapport souligne de loger le veau juste après cette séparation, collectivement avec un autre veau, voire souhaite à l'avenir maintenir le lien mère-veau jusque après le sevrage, ou d'y adjoindre une "vache nourricière". Outre une relative incohérence du rapport sur ce point, il convient de souligner qu'une telle gestion est impossible en élevage et le logement d'un si jeune veau avec d'autres veaux est très risqué sur le plan sanitaire. Point qui doit être pris en considération par l'EFSA. Il est à souligner que les logements individuels des veaux se limitent qu'au 15 premiers jours et les jeunes veaux peuvent aussi voir les autres veaux.</p> <p>Answer: Thank you for your comment. EFSA focuses on the scientific assessment of welfare aspects and provides recommendations on what would be preferable from the point of view of welfare. The welfare consequences from individual housing of veal calves were identified in the scientific opinion.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
60	Risks of limited cow-calf bond	<p>Comme indiqué précédemment, la séparation précoce est celle qui limite le plus le stress chez le veau et la mère. Conserver ce lien jusqu'au sevrage comme l'espère l'EFSA n'a pas d'intérêt au regard du stress déjà limité par la séparation précoce.</p> <p>Answer: Effects of early separation are discussed in the scientific opinion. No scientific evidence or mention to scientific articles was provided in the comment so no further clarifications are provided.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>

61	Risks of individual housing	<p>Le rapport EFSA semble rejeter le logement individuel des veaux, préférant y adjoindre toujours un autre veau. Dans les élevages naisseurs, le logement individuel est limité jusqu'à 14 jours où les veaux mâles sont ensuite vendus et partent en élevage d'engraissement où ils seront regroupé avec d'autres veaux. Y adjoindre un autre veau dès la séparation précoce avec la mère, comporte un risque sérieux sur le plan sanitaire, que l'EFSA ne semble pas prendre en considération.</p> <p>Answer: The effects of early separation and lack of contact with other calves on welfare during the first weeks are discussed in the document.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
62	Risks of insufficient space	<p>L'estimation de l'espace nécessaire au veau afin d'exprimer un comportement de jeu (29,5 m²) est excessive. Fort heureusement, l'EFSA considère qu'au regard des réalités de l'élevage, il convient de doubler la surface réglementaire à hauteur de 3 m².</p> <p>Answer: No scientific arguments provided in the comment. EFSA's remit is a scientific assessment of animal welfare, and economic considerations are not taken into account.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
63	Methodologies	<p>The proposed methodology compares 2 populations that evolve in completely extreme environments: open air different from buildings. the negative aspects related to the outdoors should then also be evaluated which is not the case</p> <p>Answer: Thank you for your comment; please refer to comment #35 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
64	Background and Terms of Reference as provided by the requestor	<p>1.1.2 137-141: the calves are in individual boxes for animal health reasons in order to avoid the transmission of diseases including respiratory illnesses and allow better monitoring after leaving the farm</p> <p>Answer: Thank you for your comment. Please refer to comment #48 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
65	Interpretation of the Terms of Reference	<p>153-165 This scientific opinion does not take into account all societal issues and all animal welfare criteria: animal health, food safety, public health, environmental impact, and economic constraints.</p> <p>Answer: This mandate focuses on the scientific assessment of animal welfare. Animal health considerations were taken into account as it is considered that good health is a component of welfare. Public health, food safety, environmental and economic constraints are outside the mandate's scope.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
66	Provision of quantitative criteria for prevention of welfare consequences – Specific Scenarios	<p>208-298 The proposed methodology compares 2 populations that evolve in completely extreme environments: open air different from buildings. the negative aspects related to the outdoors should then also be evaluated which is not the case.</p> <p>Answer: Same comment as #63. Please refer to that comment for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>

67	Uncertainty assessment	<p>anglaisarabeespagnolfrançaisitalien——Afficher toutes les langues the proposals of the opinion are drawn up on the basis of little scientific data on the various subjects</p> <p>Answer: All scientific evidence known to the authors was considered which is reflected in the long list of references presented in the bibliography section of the document.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
68	Risks of insufficient space	<p>901: the increase in surface area will have a significant economic but also environmental impact: more energy requirements, etc. 944-950: The proposed surface would promote play. In our experience, the calf is more focused on food than. 924-951: Note that the more space the calf has, the more conflict situations in the group can increase.</p> <p>Answer: Thank you for your comment. Regarding the first and third part of the comment, please refer to answers to comments #65 and #56 respectively. Regarding the second part of the comment, the strong motivation for locomotor play behaviour shown by calves is explained in the document.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
69	Risks of iron restriction	<ol style="list-style-type: none"> 1. 1006-1011: there are few data regarding the prevalence of anemia in white calves. 2. 1037-1039: solid food intake is not limited 3. 1134-1144: the thresholds responsible for anemia are not scientifically established. hay is not sufficient for an iron deficient calf because the absorption coefficient is low. iron injection is rarely used. it is used for anemic animals mainly on leaving the dairy farm. the iron contribution is done by the fibrous food or drinkable <p>Answer: Thank you for your comment. Indeed, it is mentioned in the scientific opinion that there is limited data on the prevalence of anaemia in calves. On point 2), "roughage" is mentioned in the text and not solid feed. Regarding the third part of your comment, hay is not the only iron source recommended in the scientific opinion.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
70	Risks of fibre restriction	<p>The calf is a mammal. He needs fibre to ruminate but he needs milk because he is young. Scientific studies have shown that even when giving hay ad libitum, the rumination time never exceeds 30%</p> <p>Answer: Thank you for your comment. The estimates of rumination time depending on fibre intake were drawn based on scientific evidence and expert knowledge.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
71	Background	<ol style="list-style-type: none"> 1. 325-330: the diet data taken into account dates from 2012 and therefore refers to a diet with a majority of milk. Today, food has changed a lot with 60% muesli and straw against 40% dairy products. Thus the white calf has evolved in recent years. 2. 334: the calves are today in individual boxes for 4 to 5 weeks and not 6 to 8 weeks. 3. 362: In our experience, individual penned animals can make contact with other calves on the front or back of the pen. 4. 374-376: We must also talk about rubber floors because a lot of new buildings in France are built with rubber floor 5. 398: there is less and less of this system in France. <p>Answer: Thank you for your comment. Regarding the points 1-3, these sentences have been reworded to adjust to description of the current practice. On point 4), rubber floors are mentioned in the description of welfare consequences, as a way to</p>



		<p>prevent restriction of movement. On point 5), the sentence on the prevalence of large group housing was also adjusted to mention that it only occurs in a small proportion of farms.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
72	Risks of individual housing	<ol style="list-style-type: none"> 1. 466 : study in France is currently being carried out by the interprofession to assess the impact of the types of housing on the animal. According to the first results, more abnormal behavior is observed when the animals are in groups at the start of rearing. 2. 722-732 : Years of experience show that grouping calves too quickly increases the risk of infection and causes more mortality. 3. 725 : Years of experience show that grouping calves too quickly increases the risk of infection and causes more mortality. <p>Answer: Thank you for your comment. On points 1-3, please note that the scientific opinion provides recommendations with regards to age at grouping but with a limit to the group size, to maximize positive effects of grouping and minimize negative effects of grouping with regards to exposure to infectious agents. A requirement for daily observation of animals is part of current legislation and should allow to identify diseased animals.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
73	Introduction to the draft for Public Consultation	<p>Veal production represents an important economic sector that values calves that are not needed for milk production on dairy farms. Dairy farmers in the EU usually work with quality systems that control and safeguard all kinds of aspects of farming through checks. This also applies to various animal health and animal welfare matters. Quality is continuously verified through monitoring programs. The knowledge and expertise of the veal farmers are of a high level. The socio-economic consequences of some of the described extreme animal welfare demands are enormous. When these become reality, it will effectively mean the end of white veal production in the EU. The end of a sustainable industry, in which many people work and earn their income.</p> <p>Answer: Thank you for your comment. Please refer to comment #65 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
74	Background and Terms of Reference as provided by the requestor	<p>EFSA put forward 3 scenarios presented in the mandate in lines 83 and 150, but only two are presented in the report. The measures required in the slaughterhouse to monitor the level of welfare in operation are therefore not proposed for public consultation. However, we wish to insist on the fact that monitoring at the slaughterhouse is not a valid solution for analyzing welfare in farming, an animal being transported between the farm and the slaughterhouse, its state of welfare may vary, without the breeder is responsible for it.</p> <p>Line 138: the common practice however is that calves are not kept in individual pens for such a long period. Normally calves stay in a pen for a maximum of 5 weeks of age. This prevents the spread of infections, and it makes it possible to optimize the health care for the animals of the farmer. So, this is for the benefit of the calves.</p> <p>Answer: The assessment of ABMs collected in slaughterhouses to monitor the level of on farm welfare of male dairy calves raised for producing "white veal meal" is now included in the published Scientific Opinion on the welfare of calves. It was not possible to include this Scenario for public consultation because of time constraints. Limitations of the use of ABMs at the slaughterhouse to reflect on-farm welfare, including the possibility that welfare impairments may arise during transport, are discussed and taken into account when selecting appropriate ABMs. As regards the second point, this sentence has now been reworded to adjust to the description of the current practice.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>

75	Interpretation of the Terms of Reference	<p>Line 162: Although EFSA's mission is clear, namely, to provide scientific advice on the welfare of calves in veal farming, it is important to emphasize that many more aspects are important to keep calves in a good way. It is important to consider all these aspects in an integral way when discussing calf keeping. So not only the welfare of the calves but also food safety, animal health, human health, emissions to the environment, working conditions and economic feasibility. These aspects are not included in the EFSA report.</p> <p>Answer: Thank you for your comment. Please see answer to comment #65 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
76	Provision of quantitative criteria for prevention of welfare consequences – Specific Scenarios	<p>Line 223: The idea of the assessment model is the interpolation of the ABM (Animal Based Measures) between a highly exposed population of animals and a non-exposed population. The model assumes a linear relationship between exposure and measurements on animals. This is most likely not correct. The expression of the ABM is the unexposed conditions of the natural situation that an animal population may experience. It is remarkable that not the negative effects of living in the wild have been included but will undoubtedly be negative for the welfare of the animals.</p> <p>Answer: Thank you for your comment; please see comment #35 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
77	Uncertainty assessment	<p>Line 307: The used model is applied within a specific group of researchers who are educated in a specific framework. EFSA should rely on hard data based on scientific research and not on the opinion of a limited group of experts.</p> <p>Answer: Thank you for your comment; please see comment #53 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
78	Background	<ol style="list-style-type: none"> 1. Line 325: EFSA is referring to a report dated 2012 when stating that young calves are fed with a predominantly liquid, milk replacer diet. This data is outdated. The diet of calves has changed considerably since then, with much more roughage in the diet. Also, the iron intake has considerably increased by this. 2. On line 331, it is indicated that veal calves are presented from dairy farms. It is indicated that calves raised for "white" meat are dairy-raised (line 331). This is not always the case: these calves can also come from suckler farms. In some Member States, some suckler breeders (breeder-fatteners) fatten their own suckler calves. 3. Line 334: In some Member States it is now customary to keep calves in individual pens until the age of 4 or 5 weeks and not until 8 weeks. On line 348 it is specified that the baby box allows a simpler health check and limits the transmission of diseases. As mentioned in the report, the individual housing of calves after arrival on the farm allows a simplified verification of the health status of the animals but also limits the spread of diseases (line 348). These are essential points for veal calf farms, as calves are particularly susceptible to respiratory diseases and care problems. The baby box thus makes it possible to target the sick animal and to intervene quickly. 4. Lines 360 to 368: It is described here that calves have no contact with other calves during the period of individual housing. That is not correct. It is also not correct that calves do not receive solid feed during this period. All calves are fed solid feeds. 5. Line 387: It is stated that calves with hemoglobin lower than 4.5 mmol/L are given iron via injection. This is correct; however, many more calves receive extra iron on top of the standard iron supply via feed/ration. <p>Answer: Thank you for your comment. Regarding the first point, this sentence has now been reworded taking the more recent changes in feeding practices into account.</p>



		<p>Regarding the second point, a mention to calves from other origins (e.g. beef farms) has been added. Regarding the third point, the benefits of group housing in small groups over the first weeks for calf welfare are explained in the document. With regards to point 4), the wording has been revised to specify that "head-to-head" contact is not always possible towards the end phase.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
79	Risks of individual housing	<p>The report concludes the risk analysis on the individual habitat stating that it is detrimental to welfare but positive for animal health (line 565). However, as indicated in this same report, the divergent scientific publications on the ideal age for rearing calves in a group case (lines 506, 535, and 540), grouping can even be an issue for certain aspects of animal welfare (line 520) if done too soon. In France, for instance, there is an intermediate solution, where the regrouping takes place preferentially at 6 weeks (intermediate response on certain animal welfare criteria set out as line 487). Line 723: EFSA recommends keeping calves in pairs or small groups (2-7 animals) within the first week of life. It seems that the advantages of temporary individual housing of calves have not been sufficiently considered here. Temporary individual housing of calves promotes animal health and makes it possible for veal farmers to pay more attention to the individual animal. We would like to draw EFSA's attention to the recommended maximum animal group size of 7 (line 727). This figure of 7 animals per pen is not suited to the current breeding of veal calves in collective pens, in an automatic milk distribution system. Adaptation costs could therefore be very high, requiring a long time and some funding.</p> <p>Answer: Thank you for your comment. Regarding the first comment, please note that EFSA's remit is a scientific assessment of the effects of housing conditions to the welfare of the animals. Other aspects (e.g. economic) are not considered to keep the scientific assessment of welfare effects independent; such considerations are under the remit of the risk managers/ legislators.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
80	Risks of insufficient space	<p>The lack of exact data on the possible activities between 1.8 and 4m² (line 908) does not allow you or us to determine that the minimum space must be 3 m² (line 948). In addition, this doubling of space needed (collectively, the minimum space is increased to 6m² individually) would have a significant cost for the breeder of veal calves, reducing his production mathematically by 2 (or 4 respectively). The impact on the environment with the concreting of additional spaces and the pressure on land would also be particularly unfavourable. In addition, the recommended space of 20 or 30 m² per animal (lines 901 and 913) is unthinkable in a fattening farm and would simply put an end to all calf production in Europe.</p> <p>Line 924 to 951: EFSA states that more space is needed per calf. A space of 3 m² per animal instead of 1.8 m² would be necessary for the calves to spend more time in a relaxed lying position and for more general activity. Calves are group animals that often lie together because of their social and natural behaviour. More space does not mean that this space is necessary. More space can also lead to more fighting behavior with a negative impact on the welfare of the animals. This point does not seem to have been considered.</p> <p>Answer: Thank you for your comment. Regarding the first point, please note that EFSA's remit is a scientific assessment of the effects of housing conditions to the welfare of the animals. Other considerations (e.g. environmental) are not taken into account to keep the scientific assessment of welfare effects independent; such considerations are under the remit of the risk managers/ legislators. With regards to the second point, please refer to comment #57 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>



81	Risks of iron restriction	<p>Line 1006: EFSA states that it is likely that many calves in the white meat sector have low hemoglobin levels, but no public data are available. EFSA refers to a study with 107 calves in 2014. However, this cannot be considered representative. In line 1134 EFSA makes recommendations on hemoglobin levels and states that measures should be taken to avoid hemoglobin values below 5.6 mmol/L in veal calves. In 992 – 993, however, it is stated that based on research there is no clear agreement about the limit value at which anaemia occurs. The reason this cut-off value was chosen is therefore not clear. Pending an effective and non-invasive method for measuring anaemia (line 1142), the increase in the hemoglobin level to 5.6 mmol/L instead of 4.5 as a simple precaution (line 1134) is not understandable. However, technical recommendations to limit anaemia would be useful at the farm level. The type of feed requested (hay -line 1139) can be problematic: calf farmers do not produce hay, and in times of drought as we have experienced this year, there can be shortages, limiting availability for veal calves. It is therefore essential to leave some flexibility to breeders.</p> <p>Answer: Thank you for your comment. The recommendations on haemoglobin are provided based on the scientific evidence available. With regards to hay, the recommendation states “hay is preferred” to take into account that hay availability can be an issue.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
82	Risks of fibre restriction	<p>As mentioned in section 3.1.4.4, if some breeders already give 1 kg of fibrous feed per calf, it is not always possible to give something other than straw, especially in times of drought. Once again, the need for flexibility is in order.</p> <p>Answer: Thank you for your comment. With regards to hay, the recommendation states “hay is preferred” to take into account that hay availability can be an issue.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
83	Specific Scenario - The welfare of dairy calves and the risks associated with limited cow-calf bond	<p>For calf fattening, it is essential that the calf is accustomed as soon as possible to feeding by lowering its head and not by raising it towards its mother's udder, because if it is not accustomed to this on the first day there is then a very high risk of undernutrition, which has a strong impact on animal well-being.</p> <p>Answer: Thank you for your comment. In the scientific opinion, teat buckets are recommended, because these allow calves to keep the physiological head position when drinking milk (without lowering the head).</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
84	Introduction to the draft for Public Consultation	<p>A problem to consider is the high mortality of calves destined for white meat production and the finding of antibiotic-resistant bacteria (E.coli) in slaughtered calves. In Italy, the Lombardia Region has launched the first surveys on the assessment of the health status of calves in dairy farms, noting a calf mortality rate of between 3% and 11% in the birth-weaning period. In addition, about 20% of calves in the first 3 months of life receive at least one antimicrobial treatment. In the light of these data, the local veterinary services will carry out the following activities: verification of the hygiene of the birth and housing environments, including compliance with thermal comfort in conditions of heat and cold stress and verification of the foods administered to the calves, in particular to any waste milk due to compliance with suspension times or mastitis.</p> <p>Unfortunately, the use of waste milk is a common practice among farmers, who, for reasons of cost, do not always resort to pasteurization or milk replacer. The method of administration of the food / milk must also support the physiology of the calf: the bucket with the teat is an optimal solution as it encourages correct sucking and the production of the quantity of saliva necessary to obtain the good health of the calf, a greater weight gain and a reduction in cross-sucking phenomena. In addition, the stimulation of the closure of the esophageal canal, namely the formation of the tunnel that connects the esophagus directly to the abomasum and prevents milk from</p>



		<p>entering the rumen causing digestive disorders, is closely linked to the act of sucking. Finally, it would be useful to periodically submit a checklist / questionnaire to the farmer to help him verify the correct management of the stable and make any improvements.</p> <p>Answer: Thank you for your comment. A mention to the importance of the physiological position of the head and to the practice of use of waste milk use to feed calves are provided in the text.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
85	Background and Terms of Reference as provided by the requestor	<p>As for the scope of application, to show that scenario 1 focused on the production of white meat would not be a reference in Spain since practically no white veal is produced in this country. In fact, the production system is quite different from the one detailed in the document, in terms of facilities, feeding, and handling, so we consider that most of the risks described are very low or practically non-existent under Spanish conditions. Analyzing the document, however, there are doubts as to the age of the animals to which it refers.</p> <p>In line 120 it is stated that the document deals with animals up to six months, which is equivalent to about 24 weeks, however, later animals up to one year are mentioned (line 337). We consider it essential to define more precisely the age range of the animals. Thus, although in line 340 they refer to 24% of white meat carcasses produced in Spain, it indicates that according to official data (https://www.mapa.gob.es/es/ganaderia/temas/produccion-y-mercados-cattlemen/informcharacterizacionsectorvacunodecarne_datos2021_tcm30-553721.pdf), the distribution of heads slaughtered in 2021 is as follows: 34% correspond to young cattle aged 8-12 months, 31% to males over a year old, followed by heifers with the 18%, holidays with 14% and calves with 3%.</p> <p>This comment included attachments. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. We agree that the text on the age range was not consistent; and that mentioning EUROSTAT figures, which included white veal and non-white veal calves and differed in the definition of calf from the definition used in the scientific opinion, was confusing. Those paragraphs were deleted to keep the text focused on white veal.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
86	Risks of individual housing	<p>According to the experience of Spanish farmers specialized in raising suckling calves with optimal results, lowering the age of group housing too much could have fatal consequences on mortality and health, and consequently, on the welfare of the animals. It is important to emphasize that accommodation in large groups could also cause an increase in the need for medication and antibiotics, which would go against the Farm to Fork strategy itself. In order not to put the animal's health or welfare at risk, a compromise could be reached to house the animals in groups of two individuals, but always after 30 days of age. In addition, we consider it important to take into account the environmental conditions of temperature and humidity when establishing the optimal density of the pens. In any case, we emphasize that there is an excessive degree of uncertainty, as repeatedly shown by the experts themselves, to make such high-profile recommendations for farms and industry. Regarding the conclusion related to stress (678), it is important to clarify that fear and stress behaviors can be improved with proper handling of the animals that allows their desensitization and habituation to novelties and other stimuli.</p> <p>Answer: Thank you for your comment. The scientific opinion does not recommend large groups, but rather small ones. Preventive measures for handling stress are provided in the main body of the document. Temperature and humidity recommendations were not asked in the mandate; these were provided in a previous EFSA scientific opinion (EFSA AHAW Panel, 2012. EFSA Panel on Animal Health and Welfare. Scientific Opinion on the welfare of cattle kept for beef production and the</p>

		<p>welfare in intensive calf farming systems. EFSA Journal, 10:2669-2671. doi: 10.2903/j.efsa.2012.2669).</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
87	Risks of insufficient space	<p>The included studies that provide evidence are insufficient and it seems very daring those recommendations can be made based on so little scientific evidence. We believe that it could be of interest to study the effect of environmental enrichment for these animals.</p> <p>Answer: Thank you for your comment. Regarding the effect of the potential effects of enrichment on play, we agree it would be interesting to have more data on this but there is a very limited number studies on this topic. Measures to prevent the inability to perform exploratory or foraging behaviour are provided in the document and include provision of physical enrichment, e.g., mechanical or stationary brushes.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
88	Risks of iron restriction	<p>This type of incident does not occur in Spain, since the ration is adjusted according to the needs of the animal. (https://oa.upm.es/41909/)</p> <p>This comment includes an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. This scenario was indeed specific to white veal husbandry systems; it is specified in the text that this type of system occurs mostly in The Netherlands, Belgium, France and Italy. The text on figures of veal production in the different MSs was changed to avoid confusion; the figures now refer specifically to white veal production.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
89	Risks of fibre restriction	<p>The suggested interval (from 2 weeks to 6 months) is too wide. From the Spanish experience and information, the contribution of forage is not recommended until 35-45 days: previous contribution makes no sense since calves at that age behave functionally as monogastric. In addition, the pens often have straw, which could be used for rumination behaviour if necessary.</p> <p>Answer: Thank you for your comment; please see answer to comment #88. Studies have shown that calves start ingesting forage from 1st week onwards (Downey et al., 2022). Veal calf pens are usually not littered.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
90	Background	<ol style="list-style-type: none"> 325-326: The type of production mentioned does not exist in Spain. In addition, the standard diet provided to animals that have the proposed weeks (in any case, less than one year), is not restricted in iron (https://oa.upm.es/41909/). 336: The data provided referring to white veal production in Spain are incorrect ((https://www.mapa.gob.es/es/ganaderia/temas/produccion-y-mercados-ganaderos/informecaracterizacionsectorvacunodecarne_datos2021_tcm30-553721.pdf). 364 -365: Slatted flooring is practically non-existent in Spain in any type of fattening facility for bovines. In fact, straw bedding is generally used. <p>This comment included attachments. For the full list of comments including attachments please refer to this file.</p>



Answer: Thank you for your comment; on points 1), 2) and 3), this scenario was indeed specific to white veal husbandry systems which do not occur in Spain. The introductory text now makes this clearer.

Changes to the Scientific opinion based on this comment: Minor.

91	Assessment	<p>This response brings together the opinions of French practising veterinarians, members of the SNGTV (Société Nationale des Groupements Techniques Vétérinaires) and involved in the beef calf, dairy and suckler production sectors.</p> <ol style="list-style-type: none"> 1. Lines 348 à 350 (page 11): The major interest of the baby box lies in the improved control and sanitary monitoring in the start-up phase. Monitoring is individual and easier / instantaneous for the breeder 2. L 361 à 364 (p 12): Since the introduction of the latest BEA standard (2007), all veal calves monitored by SNGTV-affiliated practitioners have had physical and visual contact with at least one other calf, either through the babybox or when they are in a larger group (DAL farms) 3. L 386 à 387 (p 13): The first blood test (carried out in the second week of fattening) allows the individual status of the calf to be determined (reflection of the farm of origin, breeder). It is the only animal sector to monitor haemoglobin status throughout the fattening phase 4. L 392 à 394 (p 14): In farms monitored by SNGTV-affiliated practitioners, no reallocation every 2 weeks, maximum 1 to 3 times during the entire fattening period 5. L 455 à 550 (p 15,16 et 17): The studies cited in the references are, for the most part, carried out on dairy cow-calf farms, so they have nothing to do with veal calf fattening systems. In my opinion, this topic should be compared with the practices of cow-calf producers (see cow-calf separation) 6. L 566 à 567 (p 17): Is health (management of diseases with morbidity/mortality impact, control of treatments, including antibiotics: antibiotic resistance issue) not a "priority"? The issue of managing antibiotic resistance is a priority that must be maintained, and practices that result in an increase in morbidity and mortality (as observed in the absence of babyboxes in the veal calf sector) should also be avoided in terms of BEA 7. L 602 (p19): Why take only respiratory disorders? The digestive system is not covered, as it is the predominant disorder in young dairy calves in the calf rearing facility. Neonatal diarrhea before the arrival of veal calves on the farm is a serious pathology, which can lead to the death of the calf if it is not correctly treated, and which has a negative impact on the BEA 8. L 687 à 695 (p24): SNGTV practitioners working in the veal calf sector have not observed any significant difference in the occurrence of respiratory disorders between large groups (Automatic Milk Dispenser - AMD) and small pen systems. On the other hand, the contagiousness and speed of diffusion between animals are indeed different 9. L 944 à 950 (p34): We regret that only play behaviour (running) was taken into account, whereas rest (lying down, lying down) is also an indicator of well-being. The definition of play behaviour varies according to the studies, including trotting or not, running, kicking, head movements, etc. The increase in surface area may seem more interesting to position in the finishing phase when the animals are larger. This will inevitably lead to major constraints in adapting buildings, with a reduction in density, and therefore in the number of animals present in the same building, which will weaken the economic equilibrium of farms and breeders 10. L 992 (p 36): There are no precise or recent studies dating from the European regulations that can be extrapolated to today's veal production concerning the threshold below which a calf is considered anemic. There is clearly a lack of references that does not allow us to conclude that a threshold of 5.6 mmol significantly improves animal welfare and health compared to a calf at 4.5 mmol 11. L 1086 à 1088 (p 40): Veterinary medicine in its daily activity requires the handling of animals and the performance of examinations. The argument seems excessive to me
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		<p>12. L 1320 à 1326 (p 47 et 48): These systems are beginning to be developed (calves are left in permanent freedom with the cows), but the building needs to be specifically designed so that the calves can lie down in good conditions (spaces dedicated specifically to calves). The human-animal relationship can be degraded if the farmer does not dedicate specific time to handling the calves. The notion of a group of 7 animals is not respected at all</p> <p>13. L 1333 à 1340 (p 48): This system is beginning to appear, but only for male calves, thus reducing the farmer's workload, and requires a specific layout of the buildings</p> <p>14. L 1346 à 1350 (page 48): The early separation of cow and calf is mainly a health and organizational issue for farmers, as is the individual housing of newborn calves. Dairy herds are less rigorous than suckler herds in implementing prevention plans (vaccinations and deworming)</p> <p>15. Lines 1430 à 1433 (page 51): Depending on the size of the farm and the number of calvings, batching with a contemporary calf is not always feasible. More and more farmers are keeping individual kennels, but they are close to each other: if they are in a cubicle, side by side, or opposite each other; physical contact between animals is not always possible. All of these changes require changes in husbandry practices, building modifications, investments and personnel.</p> <p>16. Some of the bibliographical references are old and do not reflect current farming systems (both dairy and fattening) and some refer to non-European farming systems. The bibliography on veal calf rearing is rather meagre, with many dairy references that cannot always be transposed to veal calf rearing.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. Please note that the scientific opinion is based on a scientific assessment of welfare aspects and that economic aspects are not considered because they are outside EFSA's remit. Regarding the frequency of regrouping on point 4), the text was adjusted to also include farms that regroup less frequently. With regards to the use of scientific literature from dairy calves (point 5), this is because the knowledge from dairy calves' welfare can be translated to veal calves (same behavioural needs), and because there are only limited scientific publications specific to veal calves. On point 6), the recommendations on group size took into consideration minimization of disease prevalence (small groups recommended). With regards to point 7), gastro enteric disorders on this age range do not have primarily an infectious cause; respiratory disease is more linked with contact with other animals and was hence assessed in more detail. On point 9), the definition of play considered is well-defined in the document; play behaviour was considered because research has shown that calves are intrinsically motivated to play and this behaviour is associated with positive affective states, as mentioned in the scientific opinion. Data on the relationship between space allowance and resting in a relaxed lying position were also considered. Regarding point 10), the evidence considered is presented and indicates welfare effects of haemoglobin concentration in the range of 4.5 – 5.3 mmol/L; haemoglobin concentration observed in non-anaemic calves were also considered to provide recommendations. On point 12), calves in such systems can still be exposed to group stress. With regards to point 16), we agree that grouping with a same-age calf may not always be possible due to different birth dates and that is this was not translated into a recommendation.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
92	References	<p>Some of the bibliographical references are old and do not reflect current farming systems (both dairy and fattening) and some refer to non-European farming systems. The bibliography on veal calf rearing is rather meagre, with many dairy references that cannot always be transposed to veal calf rearing.</p> <p>Answer: Thank you for your comment. Scientific literature from dairy calves is used because the knowledge from dairy calves' welfare can be translated to veal calves (same behavioural needs – same species, breed and similar age range), and because there are only limited scientific publications available specific to veal calves.</p>



Changes to the Scientific opinion based on this comment: None.		
93	Background	<p>1344 - In France, milk from diseased and medicated cows is discarded. It is not given to calves. The French good practices charter integrates this recommendation.</p> <p>1346 - The recommendations outlined here lead to mother-bonded calf rearing system (« veaux sous la mère »), which is very different from dairy systems. Mother-bonded calf rearing system are niche market in France.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment; on the first point, the text was edited to note that this is not a common practice in all Member States.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
94	Risks of limited cow-calf bond	<ol style="list-style-type: none"> 1. The evolution of practices as proposed in this paragraph questions the future of French dairy farms: cost of those new systems and return on investment, working time for the farmer and acceptability of those practices for the farmer, sanitary consequences... Is the consumer willing to pay? Extensive works and studies tailored to French breeding systems and providing answers on these topics remain essential. 2. 1375 - We support the importance of having scientific knowledge about both cow and calf in CCC systems, as welfare of one cannot be achieved without welfare of the other. Also it is crucial to integrate the human/animal relationship into this study, which refers to one of the fundamental freedoms. 3. 1428 - In artificial rearing, farmers ensure that the calves are well fed. The French good practices charter integrates these recommendations. 4. 1432 - Having calves of the same age implies group calving and depends on the organization of each farm. This system could not be extended to all dairy farms in France as the dairy industry encourages linear production to satisfy consumer needs. 5. 1443 - Regarding animal health, Beaver et al. (2019) analyzed the entirety of available articles and concluded that an early separation has no positive effect on cow and calf health, but neither do they mention a later separation having a positive effect, aside from hypothesis regarding mastitis. "The evidence extracted from the included journal articles does not support a recommendation of early dairy cow-calf separation on the basis of calf or cow health. Specifically, the body of literature on calf immunity, mortality, scours, and pneumonia does not indicate that early separation is advantageous. Moreover, there is an absence of literature to suggest that immediate dam-calf separation confers benefits toward mitigating Johne's disease. With respect to cow health, this review indicates that suckling is protective against mastitis." 6. 1597 - It is mentioned for a 3-week separation "fewer disease prevalence", which contradicts the elements mentioned in 3.2.1.1 7. 1606 - Regarding behaviour, Meagher et al. (2019) concluded: "In summary, extended cow-calf contact aggravates the acute distress responses and reduces the amount of saleable milk while the calves are suckling, but it can have positive effects on behaviors relevant to welfare in the longer term and benefit calf growth. The strength of these conclusions is limited, however, given that relatively few studies address most of these effects and that experimental design including timing of contact and observations are often inconsistent across studies. Few studies presented indicators of long-term welfare effects other than abnormal and social behavior of the calves." 8. 1644 - Grazing access (in France, 90% of dairy cows graze), milking process, livestock housing will all need to be reorganized (which necessitates investing). Farmers' workload will increase. Furthermore, in the presence of their calves, some cows may exhibit more aggressive behavior towards the farmer, and cause accidents. Building a relationship between the farmer and



the calf (who could become their cow in the future) could prove more difficult. This practice can lead to udder infection in the case of incomplete milking. This causes the cow pain and stress. And, if the mother isn't well, the calf isn't well too. In French farming systems, this practice will impact the farmer's income: increased working time, decreased quantity of saleable milk, decreased fat content, increased investments... All discussions show the need to imagine new ways of designing and adapting buildings and new herd management practices in order to allow contact between cow and calf. Complimentary research and a global system analysis are needed before developing this practice.

9. 1650 - Not all dairy farms are able to put in place this practice. First, calvings need to be grouped at different times in the year in order to have calves of similar age, so as to avoid fighting and competition for feed (milk, forage) among calves of different ages. This practice will impact the breeder's income: increased working time, feeding and maintenance of the nursing cows, increased investments towards building adaptation and access to grazing, ...

This comment included an attachment. For the full list of comments including attachments please refer to this [file](#).

Answer: Thank you for your comment. Regarding points 1), 8) and 9), please see answer to comment #65. As for point 2), the importance of a good animal-human relationship in cow-calf-contact is noted in the relevant section; regarding to the point on cow welfare, it is mentioned in the scientific opinion that research on this is currently ongoing, but results were not yet available to make conclusions on these aspects. On point 4), we agree that despite the welfare benefits of this practice, grouping of calves of the same age may not always be possible due to different birth dates, and this is why this aspect was not translated into a recommendation. With regards to point 6), we do not understand this comment because the only sentence that refers to disease is regarding Johne's disease and Salmonellosis; we do not see the relationship with the lower diarrhoea prevalence mentioned. Regarding point 7), we are addressing the abnormal and social behaviour aspects in terms of long-term welfare effects, and we are not claiming other effects beyond the ones described by Meagher et al., 2019.

Changes to the Scientific opinion based on this comment: None.

95	Assessment	<p>This response brings together the opinions of French practicing veterinarians, members of the SNGTV (Société Nationale des Groupements Techniques Vétérinaires) and involved in the beef calf, dairy and suckler production sectors. All our remarks and comments are developed in the attached file.</p> <p>Answer: There was no file attached to this comment.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
96	References	<p>Some of the bibliographical references are old and do not reflect current farming systems (both dairy and fattening) and some refer to non-European farming systems. The bibliography on veal calf rearing is rather meagre, with many dairy references that cannot always be transposed to veal calf rearing.</p> <p>Answer: To the authors' knowledge, there is a limited number of published scientific studies on veal calves. All the evidence identified was considered and no additional studies are mentioned in the comment.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>



97	Background	<ol style="list-style-type: none"> Lines 348 à 350 (page 11) The major interest of the baby box lies in the improved control and sanitary monitoring in the start-up phase. Monitoring is individual and easier / instantaneous for the breeder L 361 à 364 (p 12) Since the introduction of the latest BEA standard (2007), all veal calves monitored by SNGTV-affiliated practitioners have had physical and visual contact with at least one other calf, either through the babybox or when they are in a larger group (DAL farms) L 386 à 387 (p 13) The first blood test (carried out in the second week of fattening) allows the individual status of the calf to be determined (reflection of the farm of origin, breeder). It is the only animal sector to monitor haemoglobin status throughout the fattening phase <p>Answer: Thank you for your comment. The points made are reflected in the scientific opinion; and the welfare implications of such practices described.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
98	Risks of individual housing	<ol style="list-style-type: none"> L 392 à 394 (p 14) In farms monitored by SNGTV-affiliated practitioners, no reallocation every 2 weeks, maximum 1 to 3 times during the entire fattening period L 455 à 550 (p 15,16 et 17) The studies cited in the references are, for the most part, carried out on dairy cow-calf farms, so they have nothing to do with veal calf fattening systems. In my opinion, this topic should be compared with the practices of cow-calf producers (see cow-calf separation) L 566 à 567 (p 17) Is health (management of diseases with morbidity/mortality impact, control of treatments, including antibiotics: antibiotic resistance issue) not a "priority"? The issue of managing antibiotic resistance is a priority that must be maintained, and practices that result in an increase in morbidity and mortality (as observed in the absence of babyboxes in the veal calf sector) should also be avoided in terms of BEA L 602 (p19) Why take only respiratory disorders? The digestive system is not covered, as it is the predominant disorder in young dairy calves in the calf rearing facility. Neonatal diarrhoea before the arrival of veal calves on the farm is a serious pathology, which can lead to the death of the calf if it is not correctly treated, and which has a negative impact on the BEA L 687 à 695 (p24) SNGTV practitioners working in the veal calf sector have not observed any significant difference in the occurrence of respiratory disorders between large groups (Automatic Milk Dispenser - AMD) and small pen systems. On the other hand, the contagiousness and speed of diffusion between animals are indeed different <p>Answer: Thank you for your comment. Regarding points 1) and 3) see answer to comment #91. On point 2), see comment #92.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
99	Risks of insufficient space	<ol style="list-style-type: none"> L 944 à 950 (p34) We regret that only play behaviour (running) was taken into account, whereas rest (lying down, lying down) is also an indicator of well-being. The definition of play behaviour varies according to the studies, including trotting or not, running, kicking, head movements, etc. The increase in surface area may seem more interesting to position in the finishing phase when the animals are larger. This will inevitably lead to major constraints in adapting buildings, with a reduction in density, and therefore in the number of animals present in the same building, which will weaken the economic equilibrium of farms and breeders L 992 (p 36) There are no precise or recent studies dating from the European regulations that can be extrapolated to today's veal production concerning the threshold below which a calf is considered anemic. There is clearly a lack of references that does not allow us to conclude that a threshold of 5.6 mmol significantly improves animal welfare and health compared to a calf at 4.5 mmol



		<p>3. L 1086 à 1088 (p 40) Veterinary medicine in its daily activity requires the handling of animals and the performance of examinations. The argument seems excessive to me</p> <p>Answer: Thank you for your comment. On point 1), other behaviours have also been taken into account and locomotor play was clearly defined in the scientific opinion. Regarding the point made on animal size and space needed, when animals get older/larger, play will rather decrease; therefore, a large space allowance is also important in the early stages. Regarding economic considerations, please note this is out of the scope of EFSA, which focuses on the scientific assessment of welfare. On point 2), the evidence on this point is summarized in the scientific opinion. On point 3), haemoglobin sampling does not involve only handling of animals but also puncturing of the skin which is an invasive procedure.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
100	Background	<p>1. L 1320 à 1326 (p 47 et 48) These systems are beginning to be developed (calves are left in permanent freedom with the cows), but the building needs to be specifically designed so that the calves can lie down in good conditions (spaces dedicated specifically to calves). The human-animal relationship can be degraded if the farmer does not dedicate specific time to handling the calves. The notion of a group of 7 animals is not respected at all</p> <p>2. L 1333 à 1340 (p 48) This system is beginning to appear, but only for male calves, thus reducing the farmer's workload, and requires a specific layout of the buildings</p> <p>3. L 1346 à 1350 (page 48) The early separation of cow and calf is mainly a health and organisational issue for farmers, as is the individual housing of newborn calves. Dairy herds are less rigorous than suckler herds in implementing prevention plans (vaccinations and deworming)</p> <p>Answer: Thank you for your comment. We note your comment, but no specific answers are required to the points made.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
101	Risks of limited cow-calf bond	<p>Lines 1430 à 1433 (page 51): Depending on the size of the farm and the number of calvings, batching with a contemporary calf is not always feasible. More and more farmers are keeping individual kennels, but they are close to each other: if they are in a cubicle, side by side, or opposite each other; physical contact between animals is not always possible. All of these changes require changes in husbandry practices, building modifications, investments and personnel.</p> <p>Answer: Thank you for your comment. One of the limitations of individual housing, as highlighted in the comment, are the lack of full contact with peers. EFSA provides the outcome of the scientific assessment and makes recommendations of what would be preferable from the animal perspective; economic considerations are not taken into account to keep science independent.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
102	Assessment	<p>Kälberhaltung in Einzeliglus ist kein Risiko für die Kälber sondern eine Chance. 5 Gründe für Kälberhaltung in Einzeliglus für die ersten Lebenswochen</p> <p>1. Bessere Gewöhnung an den Menschen und an die Betreuungs- und Aufzuchtperson. Kein wild werden der Tiere. Bessere Tier-Mensch Beziehung. Schutz des Menschen bei der Fütterung des einzelnen Tieres ohne Bedrängung durch andere Kälber in der Gruppe.</p> <p>2. Schwache Kälber werden nicht von den Starken verdrängt und so besser geschützt. Sie können so mehr Nahrung aufnehmen, besser wachsen und haben so einen besseren Start ins Leben.</p> <p>3. Hygiene: noch nicht abgeheilte Nabel bei neugeborenen Kälbern haben Zeit ohne Infektion abzuheilen. In der Gruppenhaltung besteht die Gefahr des Ansaugens durch</p>



		<p>andere Kälber wozu es zur Infektion kommt. Die Infektion des Nabels schwächt das Kalb und zieht Medikamenteneinsatz nach sich.</p> <p>4. Nach den wenigen Wochen der Einzelhaltung verbringt das Kalb, Jungtier und päter Kuh, den Rest seines Lebens in der Gruppenhaltung. Ein guter Start ins Leben sorgt für stabile, robuste, gesunde und lebensfrohe Rinder!</p> <p>5. Die Bäuerinnen und Bauern brauchen Wahlfreiheit, welches System auf ihrem Betrieb am besten passt. Es gibt keine pauschale Lösung die für alle passt.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. The negative consequences for welfare of individual housing are detailed in the document. The recommendation is to keep calves in small groups so they can benefit from the advantages of social housing without a significant risk of exposure to pathogens.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
103	Background	<p>1344 - In France, milk from diseased and medicated cows is discarded. It is not given to calves. The French good practices charter integrates this recommendation. 1346 - The recommendations outlined here lead to mother-bonded calf rearing system (« veaux sous la mère »), which is very different from dairy systems. Mother-bonded calf rearing system are niche market in France.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Same comment as #93. Please refer to that comment for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
104	Risks of limited cow-calf bond	<p>The evolution of practices as proposed in this paragraph questions the future of French dairy farms: cost of those new systems and return on investment, working time for the farmer and acceptability of those practices for the farmer, sanitary consequences... Is the consumer willing to pay ? Extensive works and studies tailored to French breeding systems and providing answers on these topics remain essential</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. Please refer to comment #21 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
105	Description of husbandry systems	<ol style="list-style-type: none"> Page 7, rule 216: For the underlying assumptions of the model the expression of the ABM under unexposed conditions reflects the natural situation [...] which is considered the optimum in terms of animal welfare. The question is whether this really represents optimum of animal welfare for these domesticated animals. The evaluation and adaptations from domestic animals during thousands of years have made them very different compared to the wild species. It is questionable if giving a domestic animal unlimited space if it is better for their animal welfare. The Dutch Council on Animal Affairs uses the 'Five Domains Model' of David J. Mellor (2016). In this model, the animal's behavioural options (Domain 4) form the link between satisfying basic needs (Domains 1 to 3) and the animal's mental state (Domain 5), or the way in which the animal experiences its own situation. For a complete overview of welfare all these domains should be considered instead of focusing only on behavior. Attached the RDA Advisory Report on Humane Livestock Farming from the Dutch Council on Animal Affairs. Page 8, rule 235: Although the underlying assumptions of the model used includes health disorders the impact on calf (and cow) health is missing in



		<p>the scientific opinion of the welfare of dairy calves and the risks associated with limited cow-calf bond. There is an impact on the health of cows and calves which must be taken into account in this scientific review. For example research done by Wenker et al Effect of Type of Cow-Calf Contact on Health, Blood Parameters, and Performance of Dairy Cows and Calves</p> <p>This comment included attachments. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. With regards to the point 1), it is not correct that the behaviour observed in the wild was taken as reference; rather an assessment of the behaviour expected when a calf is provided with an unlimited amount of space; a positive impact on ability to demonstrate locomotor play behaviour has been reported in the scientific literature. Regarding point 2), the framework based on the definition of welfare consequences potentially affecting calves covers the five domains. In the specific scenario's sections, depending on the exposure variables, behaviour may be the best outcome measure (but we also clarify the association with affective states). Regarding point 3), we have considered the paper, but the only difference found between no-contact and full contact calves referred to ocular discharge; other indicators of respiratory (e.g. fever, cough) or gastro-enteric disorders showed no differences.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
106	Background	<ol style="list-style-type: none"> Page 48, rule 1348: Colostrum intake is only mentioned in the listing of motivation of early cow-calf separation. The intake of colostrum in CCC systems is not discussed while this is essential for acquiring maternal antibodies (page 15, rule 448). It is known that in CCC systems a significant proportion of calves had not taken up colostrum on their own within 4-6-8 hours after birth. According to: Lidfors, L.M., 1996. Behavioural effects of separating the dairy calf immediately or 4 days post-partum. Applied Animal Behaviour Science, 49(3), pp.269–283. Illmann, G. & Spinka, M., 1993. Maternal behaviour of dairy heifers and sucking of their newborn calves in group housing. Applied Animal Behaviour Science, 36(2-3), pp.91–98 Metz, J.H.M., 1984. Regulation of sucking behaviour of calves. In G. van P. en K. Z. Unshelm, ed. Proc. Int. Congr. Appl. Ethol. Kiel, pp. 70–73. It is relevant to include the colostrum intake in CCC systems as an important part of the welfare of dairy calves. Page 48, rule 1344: The source of this assumption is missing. Page 48, rule 1346-1351: Research in the Netherlands in 2016 on early separation of cow-calf shows that health of calf (96%) and cow (86%) are the main reasons for early separation. Hopster et al. Early separation of dairy cow and calf. Implications for behaviour and health in the light of common practice. pp. 40-41 The impact on calf mortality should be included in the scientific overview as well. At this moment practical guides for CCC systems are not available due to the lack of knowledge about best practices without negative consequences on calf/cow health. There are practical examples of CCC with good results on cow mortality but also with negative results. Because of a slight but steady increase of calf mortality between 2009-2017 the Dutch dairy sector decided to act and supported the development of several data-driven tools to reduces calf mortality. These tools were implemented from 2018 on. The tools informed farmer <p>This comment included attachments. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment and for the references provided. Regarding point 1), that issue is discussed in when describing gastro-enteric disorders in CCC. Recommendations for colostrum intake are also provided in the scientific opinion. The references provided were consulted; Lidfors (1996) was already part of the text; Metz et al., 1984 is an old proceeding (more recent data available) and Illmann and Spinka,</p>



		<p>1993 was considered not very relevant because calves were observed only for 6 hours after birth which does not allow to draw conclusions on the lack of bonding. On point 2), references have now been added to note the source of the assumption. With regards to the third point, the publication mentioned is not peer-reviewed and hence not considered in the assessment. On point 3), the reference mentioned is not a peer-reviewed publication. Point 4) seems incomplete; but we agree that currently there is a need for research practical strategies to implement CCC systems, and this is noted in the conclusions of that section.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
107	Risks of limited cow-calf bond	<ol style="list-style-type: none"> 1. Page 50, rule 1380-1381 and Page 53, rules 1497-1499: There is recent research on the impact of CCC on the dam: Wenker et al also included the impact on cow health and behavior in her research. 2. Page 51, rule 1429: The actual development in practice is that calves are getting more ad libitum access to milk. 3. Page 51, rule 1430-1431: In the Netherlands it is therefore prescribed by law that the panels of individual pens are made so that the calves can see and touch each other. 4. Page 52, rule 1466-1490: There is recent research on methods of separation and the impact on the cow and calf on stress, health, performance. See Wenker et al Comparing gradual debonding strategies after prolonged cow-calf contact: Stress responses, performance, and health of dairy cow and calf 5. Page 53, rule 1497-1499: There is research available in scientific literature on the consequences of maternal separation to the dam: See Wenker et al Comparing gradual debonding strategies after prolonged cow-calf contact: Stress responses, performance, and health of dairy cow and calf 6. Page 64, rule 1602-6142: Although the underlying assumptions of the model used includes health disorders the impact on calf (and cow) health is missing in the scientific opinion of the welfare of dairy calves and the risks associated with limited cow-calf bond. There is an impact on the health of cows and calves which must be taken into account in this scientific review. For example, research done by Wenker et al Effect of Type of Cow-Calf Contact on Health, Blood Parameters, and Performance of Dairy Cows and Calves 7. Page 64, rule 1602-6142: Colostrum intake is only mentioned in the listing of motivation of early cow-calf separation. But the intake of colostrum in CCC systems is not discussed while this is essential for acquiring maternal antibodies (page 15, rule 448). It is known that in CCC systems a significant proportion of calves had not taken up colostrum on their own within 4-6-8 hours after birth. According to Li <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment and for the information provided. On points 1), 4), 5) and 6) we have considered the studies of Wenker et al., 2022 and added references to the text. On points 3), this sentence was edited to refer specifically to the fact that head-to-head contact is not always possible in that type of housing. On point 7), the impact of colostrum intake is discussed in the scientific opinion.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
108	Background	<p>1344 - In France, milk from diseased and medicated cows is discarded. It is not given to calves. The French good practices charter integrates this recommendation. 1346 - The recommendations outlined here lead to mother-bonded calf rearing system (« veaux sous la mère »), which is very different from dairy systems. Mother-bonded calf rearing system are niche market in France.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Same comment as #93. Please refer to that comment for an answer.</p>



Changes to the Scientific opinion based on this comment: None.		
109	Risks of limited cow-calf bond	<p>The evolution of practices as proposed in this paragraph questions the future of French dairy farms : cost of those new systems and return on investment, working time for the farmer and acceptability of those practices for the farmer, sanitary consequences... Is the consumer willing to pay ? Extensive works and studies tailored to French breeding systems and providing answers on these topics remain essential.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Same comment as #104. Please refer to that comment for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
110	Provision of quantitative criteria for prevention of welfare consequences – Specific Scenarios	<p>201: The present draft opinion does not address the scenario 2. We would like to see a consultation on this scenario before the final opinion is published.</p> <p>Answer: Thank you for your comment. It was not possible to include this scenario for public consultation due to time constraints. This section is now part of the published scientific opinion.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
111	Risks of fibre restriction	<ol style="list-style-type: none"> 1. Page 43 – Line 1215: Unexposed population: calves have unlimited access to pasture and receive only mother's milk. We are in a situation where the quantity of milk available is obviously limiting and pushes the calves to compensate for the lack of mother's milk by an increased consumption of fibres. 2. In a system where milk is not limiting, fibre consumption is spontaneously much lower because calves prioritize milk consumption by preference, consumption of such quantities of fibre would not be possible. The simulation proposed here largely overestimates fibre consumption. 3. Page 44 – Line 1227: IDELE in its RenouVeau program considers that the 30% threshold is excessive and the right figure should be around 20%. 4. Page 46 – Lines 1273 – 1295: This paragraph gives quite a single view on NDF and a maximum rumination time that is needed for a good state of welfare. Solid feed intake depends on the amount of calf milk replacer (CMR) consumed. In this review the foundation seems to be completely weaned calves. CMR intake partly replaces solid feed intake, as energy and protein demand is provided via the CMR. Work of Laura Webb shows (thesis page 37, figure 2.1) that when hay offered ad libitum, calves consumed 1000 g DM/ day.¹ With 60% NDF, this is only 600 g NDF/ calf/ day. So this is much lower than the 1.6 kg of NDF in the model of figure 9 at page 46 of the farm to fork strategy. Figure 4.1 at page 71 in the thesis of L. Webb shows the calves' preference. An important conclusion is that calves do prefer to continue to consume CMR all their lives. So one can argue the welfare effects of weaning calves. Another conclusion is that the NDF intake is clearly lower than the NDF intake model of figure 9. Calves prefer CMR and concentrate over other feed. Hay intake lower than 1000 g/calf/day at 6 months of age. The statement "detrimental effects of straw" is not well supported by the literature. In the Netherlands, all white veal calves are fed with a part of wheat straw in the diet. There is indeed a hypothesis of abomasal damage and a role of abrasive fibres, but this is not clear and surely not proven. Using current levels of straw actually helps to prevent acidification. Important with the prevention of ulcers is not only the structure of the given straw but even more so the lack thereof leads to a greater risk of rumen acidosis. 5. Page 47 – Lines 1297-1306: Such quantities to be distributed suggest that the weaning of veal calves would be the final objective. The objective of veal calves fattening is not to achieve early or premature weaning. The specificity



		<p>of the veal calves fattening sector is to offer calves a feed historically based on milk, which is the most suitable feed for these young animals, and also in parallel fibrous feed in increasing quantities according to age. Such a high fibre consumption goes well beyond the physiological need of the species. This would require restricting access of calves to milk, which would be against nature and against their preference. The problem of insufficient fibre distribution corresponded to a reality that dates back to the years before 2000. Since the 2000s, the quantities of fibre distributed have increased in compliance with the regulations. But beyond that, what is interesting to note in the field practices is that the integrators and breeders have spontaneously increased the quantities of fibres distributed to go well beyond what the regulations impose. They have indeed integrated the advantages in terms of well-being and technique that fibre brings. Wanting to impose quantities of fibres to be distributed does not seem necessary because it is already a widespread practice in the field.</p> <p>1 Webb, L. Food for Ruminant. Developing novel feeding strategies to improve the welfare of veal calves.2014.</p> <ol style="list-style-type: none"> 6. Page 47 – Lines 1302 - 1305: This is a huge amount that does not match the amount of fibre consumed when milk is not limiting. 7. Page 47 – Lines 1306-1308: The lesions evoked on the abomasum are astonishing, questioning and deserve to be confirmed by more specific studies. <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment and for the information provided. Regarding point 1), the wording in the scientific opinion was changed from “continuous access” to “unlimited access” to make that point clearer. On point 2) we have considered in the assessment data from studies where milk was nearly <i>ad libitum</i>. The current feeding practice with rather high solid feed consumption shows that there is a high potential for intake in such animals. On point 5), the publications that resulted from the thesis of Laura Webb rather than the thesis itself were used because preference is given to use peer-reviewed papers in the assessment; these were used as a basis for the assessment on the estimates of fibre requirements. Regarding the origins of abomasal lesions, it is indeed said in the scientific opinion that their etiology is not fully understood but that fibre amounts and types may play a role. On point 5), the amounts of fibre recommended take into account the natural and gradual process weaning that would occur if a calf had unlimited access to fibre.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
112	Interpretation of the Terms of Reference	<ol style="list-style-type: none"> 1. Page 5 - lines 137 – 141 It is stated that current legislation requires calves to be kept in groups after the age of eight weeks and that EFSA will explore scientific information that supports the feasibility of further increasing the period of time during which calves can be kept in groups in a way that improves their overall welfare conditions. FEFAC wants to underline that nowadays the common practice in the veal sector is that calves are kept in individual pens less than 8 weeks (up to four (4) or five (5) weeks of age in The Netherlands, slightly more in France). This system is being used for animal health reasons: it allows calves to make the transition from the birth farm to the husbandry in a smooth manner, prevents the spread of infections and helps the farmer in these first weeks to better manage the individual animals (e.g. with the feeding, keeping track of the health status, etc.). These welfare conditions should not be overlooked by EFSA when reconsidering the options for keeping calves in groups. 2. 154 – 161: The consultation concerns only scenarios 1 and 3 and not scenario 2. We do believe it would be beneficial to EFSA to consult stakeholders also on scenario 2. 3. 171 - 184: Scenario 1 lists ‘four major factors potentially leading to welfare issues’, the exposure variables. To what extent these factors are (still) present in European veal sector (and the variation between countries) seems not taken into account throughout the Scientific Opinion. According to the



		<p>Guidance on Risks Assessment for Animal Welfare (EFSA Journal 2012;10(1):2513), a formal risk assessment should consist of a) exposure assessment, b) consequence characterisation, followed by c) risk characterisation. Occurrence / prevalence of exposure should be part of the exposure assessment. To determine impact of exposure, it is necessary to have insights in risk and prevalence. Both are not well-determined. Same Guidance document states that 'risk assessment should not be carried out unless the welfare problem is clearly specified and formulated'. Identifying welfare consequences for the specific situations in the mandate using the WHO Five Freedoms may provide a more complete and relevant assessment of each exposure variable.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. On points 1 and 2), see comment #33. On point 3), on the selection of factors to be assessed, these were part of the mandate received by EFSA and could not be changed. On the point on welfare consequences, these cover (and go beyond) the 5-freedom framework mentioned.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
<p>113</p>	<p>Provision of quantitative criteria for prevention of welfare consequences – Specific Scenario</p>	<p>Page 7 – Lines 208-298: EFSA refers to a method of risk assessment for animal welfare that is based on a similar approach as chemical and microbial risk assessment. Problem formulation, including factor identification, is a prerequisite of the process and is equivalent to hazard identification, which considers whether the factors as described in the draft Scientific Opinion have the potential to improve or impair directly or indirectly the animal welfare in the target population. In addition, the model used assumes a linear relationship between exposure and animal-based measurements, which is most likely not correct. Quantitative risk models should only be used in case hazards for welfare are well-defined and based on systematically reviewed scientific evidence, which is unlikely to be the case in the near future. In the used methodology, the F2F EKE approach is used where two (2) populations (the exposed and the non-exposed) are being compared. For example: the individual housing is being compared to the outdoor grazing with almost unlimited space. The advice that follows from this extreme opposite comparison is not substantiated since there is no comparison in a population with the current situation being compared to the advised situation. This involves that the model is based on a lot of assumptions and even more than what is stated in lines 230 – 245. Beyond that, the expression of the ABM are the unexposed conditions of the natural situation an animal population may experience, but all negative effects of an environment in the wild are not included but will undoubtedly be negative for the welfare of the animals. The model uses a simple interpolation framework. The question is whether this is justified: certainly, at the end "unexposed condition", little data will be known and more exponential relationships are probably more realistic.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Same comment as #35; please refer to that comment for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
<p>114</p>	<p>Uncertainty assessment</p>	<p>The used model is a kind of elicitation with its own uncertainties and on top of that EFSA works with credibility ranges from that elicitation. And this model is applied within a specific group of researchers who are educated in a specific framework. It is based on assumptions and therefore potentially biased. Throughout the Scientific Opinion it is stated there is little or no data. Research should be done to collect/gather data. Expert opinions and modelling without data is not robust science. A lot seems to be based on assumptions. This undermines the value of the Scientific Opinion.</p>



Answer: Thank you for your comment. The used model also takes into consideration the existing data based on scientific research, and all the references used are listed in the bibliography list of the scientific opinion. Expert opinion was used to fill data gaps when evidence was not available. The procedure follows a structured and reproducible method.

Changes to the Scientific opinion based on this comment: None.

115	Background	<ol style="list-style-type: none"> 1. Page 11 – Lines 325 -330: EFSA is referring to a report dated from 2012 when stating that young calves are fed with a predominantly liquid, milk replacer diet. In the last decade the diet of calves has changed dramatically. A Holstein calf consumes 235 to 275 kg of calf milk replacer, 180 to 325 kg of fibre rich concentrate and 13 to 35 kg of chopped straw according to integrators operating in the Netherlands, France and Italy. In France a heavy cross calf consumes on average 277 kg of calf milk replacer, 104 kg of fibre rich concentrate and 8 kg of chopped straw. Also the iron intake has considerably increased by this. In many European countries roughage is available ad-libitum or in increasing quantities. The ‘white veal’ of the past is so to say not the ‘white veal’ of nowadays. Slaughterhouses can validate this by the SEUROP measurements of the color of the veal carcasses. The statement gives thus no worthy insight into the common practice of today. 2. Page 11 – Line 334: Although it was common practice a decade ago to keep calves in individual pens during the first six (6) – eight (8) weeks, today calves are kept in individual pens up to four (4) or five (5) weeks of age, in Netherlands, slightly more in France. Page 11 – Lines 347-350: See previous comment. 3. Page 12 – Lines 360 – 368: In this sentences, EFSA describes the housing system. It states that about 20% of the calves are positioned in the back. This is not always the case since every husbandry has a different outline – so there are several options and modifications possible. The statement that towards the end of the phase, when calves are larger, these calves positioned in the back have no contact with other calves’ snouts is incorrect. Calves do have contact, also when positioned in the back. See figure 2 where at the right side two calves are being positioned in the back. The calves have every possibility to have contact with several other calves. The covering of slats with rubber will be mandatory in Germany in 2023. In the Netherlands veal farmers are stimulated to use rubber floors in the case of new construction of stables. The statement that calves housed individually receive no solid feed is incorrect. All veal calves are fed solid feed, this is current practice and mandatory by law. 4. Page 13 – Lines 370 – 373: See previous comments on ages / individual housing. 5. Page 13 – Lines 374 – 376: Rubber floors are not mentioned. It is stated that no enrichment is provided. Enrichment however may be present, such as a ball hanging from a chain from the ceiling, fixed brushes on the walls, and some form of dry teats to suck/chew on (see also the contradiction with lines 408 – 409). The enrichment of the feed menu with short-fibred straw stimulates species-own behaviour such as ruminating and prevents tongue twisting. 6. Page 13 – Line 387: Calves are checked for iron at several stages of fattening. The purpose of these checks is to prevent any risk of anaemia, a risk present by definition in veal calves because they are young animals, and mammals whose diet is mainly composed of milk: a highly digestible food but weakly concentrated in iron. The calves are checked in particular on arrival and iron supplementation is performed well above 4.5 mmol / L to correct any deficiencies. However, the priority route of iron administration is dietary iron, which is used to supplement all the calves in the batch in general. Injectable iron is used specifically to raise the haemoglobin level of the lowest calves, for which the average intake via food or oral supplementation would not be sufficient. In The Netherlands, it is current practice to provide iron to calves with haemoglobin levels below 6 mmol/l.
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		<ol style="list-style-type: none"> 7. Page 14 – Line 395: In the phrase (..) indication veal are working on reducing this practice (..) it looks like the word 'integrators' or 'farmers' is missing. 8. Page 14 – Lines 395 – 396: "In the Netherlands, calves unable to grow on the milk replacer are grouped in the same pen, fed only solid feed and later sold as rose veal." This is true; however it is a rare situation. 9. Page 14 – Lines 399 – 416: Automatic milk feeding is not often used in the Netherlands. It is only a small proportion (< 5% of the total capacity in white veal production). For rose veal production it is not used, maybe only exceptionally. "The calves are typically housed on slatted floors made of wood or concrete, though rubber flooring on top of wooden or concrete slats is used on some farms, possibly even more common in this system compared with the smaller pens described above." EFSA is explaining here that because of the extra control and sucking enabled by the automated milk dispensers, calves are thought to be less likely to not be able to grow on the milk within this system. This is incorrect. <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment and for the information provided. On point 1), see answer to comment #78; for point 2) see comment #51, for point 3) see comment #78; on point 7), this has been corrected. On point 9), we have amended the sentence to clarify that in the Netherlands this system is not frequently used.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
116	Risks of individual housing	<ol style="list-style-type: none"> 1. Page 14 – Lines 427 – 435: Basing this assessment on literature review and expert views does not seem sufficient to draw conclusions. Concrete field trials are needed to confirm the hypotheses from the literature. 2. Page 15 – Lines 449 – 453: EFSA describes that approximately between two (2) and three (3) weeks of age the passive immunity starts to fade and the calf's active immunity is not yet fully developed by then. EFSA states that the immunological gap phase (approximately 3 – 7 weeks of life) puts a higher risk of acquiring infectious diseases. Not considered but maybe an interesting element to further discuss is whether vaccination is useful to significantly shorten the immunity gap.1 3. Page 17 – Lines 544 - 546: It is important to remember that veal calves are not intended to be weaned early. They are and remain pre-ruminants and will not become adult weaned ruminants given the age at slaughter. They are young animals, aged from 2 to 30 weeks, they are mammals for which the most suitable food and in quantity is milk, the young calf is physiologically designed to digest milk and it is this food in its young age which is the most adapted to allow him the best development. The fibrous food meets a physiological need of the species which increases with age and its distribution allows the progressive establishment of rumination which will be the only digestion mechanism preserved in adulthood. 4. Page 17 – Line 546: "Calves fed with large quantities of milk do not eat much solid food". If their preference is for milk, it seems against nature to force them to consume fibre early, and in large quantities. In the natural environment, the calf mainly consumes the mother's milk at first, then increases its consumption of fibrous food gradually, as the mother's milk production decreases until it stops, and the calf weans completely. It is indeed the reduction in milk consumption constrained by the drop in milk production of the mother which pushes the calf to compensate for this deficit by increasing its consumption of fibrous food and not a growing spontaneous attraction for fibre which pushes the calf to forsake his mother's milk. 5. Page 18 – Lines 579 – 581: EFSA is shortly referring to colostrum management here. The first weeks of life are a critical period in the development of the newborn calf as it is very susceptible to various pathogens. It has been widely accepted that a calf should have a serum IgG concentration of at least ten (10) mg/mL between 24 and 48 hours after birth.2 This is still a challenge in calf rearing but optimal on-farm colostrum



- management is essential to ensure adequate transfer of passive immunity and provide best start for calves, also when transferred into the veal sector.
6. Page 19 – Lines 592-599: We can only confirm the data gap. The experience of integrators is that early grouping upon arrival in the fattening barn represents a much higher risk of disease, contagion, mortality, with consequences on the health of calves in the long term. The "start-up" phase over the first 4 weeks is a crucial phase for the health of the calves. Individual boxes during this phase guarantee better monitoring by the breeder and a limited risk of disease transmission. They also allow the expression of social behaviors at an interesting level. They allow a good compromise between health and social behaviors. Other studies: IDELE BoxaVeau (still not finalised) demonstrates a strong increase in negative social behavior (particularly crosssucking) in early grouping situations which may persist throughout the fattening period.
 7. Page 22 – Line 624 (table): There is no group size category between 7 and 12 animals. A more precise study would be needed here.
 8. Page 22 – Lines 628 - 631: This section is presented as summarizing results of studies, whereas there is only 1 concerning veal calves. This is not sufficient to draw conclusions. On the other hand, the study by Leruste H. (2014) quoted in the draft scientific opinion found that calves without a babybox had an increased risk of tongue rolling.
 9. Page 22 – Lines 632 -648: No reference study compares the prevalence of respiratory disorders in a group of 2 individuals with other groupings.
 10. Page 23 – Lines 657 – 658: The estimate of the prevalence in calves housed in groups of 2-3 appears not to be robust and not very credible.
 11. Page 23 – Line 661: No data for group sizes between 7 and 12. The threshold for increased respiratory disorders is clearly between 7 and 12, but we do not have the data: additional studies are needed to decide. All the more necessary since a good number of new calf buildings in recent years have created pens of size of 7 to 12 calves.
 12. Page 25 – Lines 723-725: Regarding the first recommendation, additional recommendation should be to perform studies on prevalence of respiratory disorders in a group of 2 individuals. The DAL system which represents 10% of production in France seems condemned by this recommendation and at the same time table 6 (L214) recognizes the absence of data. The recommendation should be deleted. It should be noted that the DAL are farming systems that provide other elements of well-being, in particular the straw litter which is used in a significant proportion in these farms.
 13. Page 25 – Line 726: Regarding recommendation 2, what needs to be questioned is whether the benefits and the rationale for keeping veal calves only a short period of individual (open) housing after arrival is being enough considered. Only a short period of one (1) or two (2) weeks after arrival could probably benefit the animal health of calves as well reduce the experience of negative welfare consequences as well. Years of experience show that placing calves after arrival at the veal farm too quickly in groups lead to increased infection pressure, a higher mortality rate - hence worse animal health and an increase in the use of antibiotics, which is a problem to be taken into greater consideration. The benefit/disadvantage balance has not been studied enough.
 14. Page 25 – Line 727: Regarding recommendation 3, it is stated that veal calves should be housed in groups of maximum seven (7) animals. In the report the reasons and arguments are only described for calves aged less than eight (8) weeks. The advice concerns however the whole life cycle of a veal calf. It can be argued that calves older than eight (8) weeks can be kept in larger groups since the risk of (respiratory) disease is decreasing. The total space per calf will be larger, which is beneficial for the calf, e.g. the performing play behavior.
 15. Page 25 – Line 730: Regarding recommendation 5, in the field, major re-allotments are limited. Re-allotments of only a few animals are carried out for technical reasons and social behaviour in order to prevent the dominant ones from preventing the most fragile from feeding.
 16. Page 25 – Line 731: Regarding recommendation 6, aspects such as ventilation, pen air volume and calf immune competence should be well



managed. We would have expected EFSA to issue specific recommendations on these parameters.

This comment included an attachment. For the full list of comments including attachments please refer to this [file](#).

Answer: Thank you for your comment. On point 1), all scientific evidence that is available was considered including experimental studies. The lack of data from field trials on veal calves is noted in the opinion; research on this area has been scarce, or not published. On point 2) regarding vaccination of young calves, this is a complex topic that would require a detailed assessment. On point 3), the feeding and fibre amounts of fibre recommended take into account the natural and gradual weaning process that would occur if a calf had unlimited access to fibre. On point 5), colostrum requirements are discussed in the text. On point 6), only published and peer-reviewed studies are considered in the scientific assessment. On points 7-12), please note that all available scientific evidence was considered, and experts were consulted when field data was unavailable. A certainty range was provided for each estimate, and sources of uncertainty identified. We have added a sentence to the text stressing the lack of data on risk of respiratory disease in calves kept in group sizes between 7 and 12 animals. On point 13), the sentence was reworded to express that regrouping events can be limited. On point 14), we agree that the conclusions were unclear regarding the age group they referred to and detail on this has now been added. On point 15), recommendations on colostrum administration are given and previous recommendations on air quality mentioned, although there are limited recent studies on this.

Changes to the Scientific opinion based on this comment: Minor.

<p>117</p>	<p>Risks of insufficient space</p>	<ol style="list-style-type: none"> 1. Page 26 – Lines 770 – 805: EFSA is explaining here the use of two studies (Waiblinger et al., 2020 and Baily-Caumette et al., 2021). Although these studies are quite interesting it unfortunately gives no insight into the situation in the veal sector. Both studies focus on the dairy sector and also with a situation completely different than the current situation in this dairy sector [f.e. straw-bedded pens and no calf – cow separation] let alone the veal sector. Author is asking how these data can be used to give proper scientifically secured indications for risks of insufficient space in the veal sector. 2. Page 30 – Lines 822- 824: The latest animal welfare audits on veal calves in standard pens with 1.8 m2 carried out in France seems to show playing times greater than 6 minutes and 38 seconds. Up-to-date studies are needed. The IDELE in France works a lot on the subject and should be consulted. 3. Page 32 – Line 887: The Calvo-Lorenzo study should not be taken as a reference because it was performed on 4-day-old dairy calves during transport. This does not correspond to EU practices (as a reminder, transport of young calves is permitted as from 14 days, and on average practice is 21 days). Scientific data are clearly insufficient here to make a decision: beyond 1.8m2 per calf, there is a single bibliographic source and the EKE estimates concern larger available surfaces. 4. Page 32 – Lines 888 - 889: Calves with more room can also express domination or even fighting behaviour. This has not been taken into account. The Calderon-Amor study was conducted in Chile, a country that is not part of the EU and does not comply with EU regulations. The author notes that 50% of the calves in the study received no or poor-quality colostrum. It seems risky to interpret the cause of an increased probability of respiratory diseases as a consequence of the lack of space when the study mixes many parameters and variables including the absence of colostrum intake. The study should not be kept as a reference in the table. 5. Page 33 – Line 892: Locomotor play does not seem to us sufficient or not the most relevant to assess animal welfare. According to the experience of the integrators, the calf gets its welfare mainly in feeding and not in playing. Other criteria should be taken into account as an indicator of welfare such as the time spent feeding, lying down, at rest, time spent ruminating. This
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choice of the locomotor play criterion is very simplistic, it is an error of prioritization which puts into question the whole approach and the recommendations which result from it.

6. Page 34 – Lines 931 - 935: The recommendation 2 as fallback to recommendation 1 lacks argumentation.
7. Page 34 – Lines 944 – 950: EFSA is here giving recommendations on space allowance e.g. the space allowance of three (3) m² per animal instead of 1.8 m² to increase time spent lying in a relaxed posture and calves to show increased general activity. Calves/cattle are group animals that often lie together due to social and natural behavior. More space therefore does not mean that this space is used by/necessary is for animals. More space allowance can also lead to more opportunity to fight with a negative impact on the welfare. This adverse effect is not considered. The EKE estimates calculated that a calf less than 6 months old plays at maximum in full expression of its behaviour only 6 minutes and 38 seconds per day. The proposal of 3m² available would allow him to express 1 minute of locomotor play per day. It seems unreasonable to propose costly and permanent arrangements for 1 minute per day of locomotor play. It would be more reasonable to recommend new studies to imagine new solutions to increase welfare expressions.

This comment included an attachment. For the full list of comments including attachments please refer to this [file](#).

Answer: Thank you for your comment. On point 1) with regards to the use of scientific literature from dairy calves, this is because the knowledge from dairy calves' welfare can be translated to veal calves (same behavioural needs), and because there are only limited scientific publications specific to veal calves. On point 2), the play behaviour type that was considered was locomotor play, and it is considered that the opportunities to show this behaviour are very limited in individual pens. On point 3), calves in the mentioned study were followed between the age of 2 weeks and 6 months and data were collected for several weeks. Hence it was considered that the findings regarding the space effects were relevant for the purposes of the assessment. On point 4), indeed the study took place outside the EU, but in the EU failure of immune passive transfer is still common and the effects were considered relevant. On point 5), other behaviours related with resting and rumination behaviour were indeed considered in the scientific opinion.

Changes to the Scientific opinion based on this comment: None.

118

Risks of iron restriction

1. Page 35 – Lines 969;977: This is incorrect: calves on the dairy farm often have low haemoglobin levels. The veal calf sector is committed to provide iron to the young dairy calves that arrive at the veal calf fattening place.
2. Page 36 – Lines 1006 – 1011: EFSA is stating that it is likely that many calves reared in the white veal sector in Europe have low haemoglobin levels however there is no publicly available data. EFSA also refers to a research conducted with 107 calves in 2014. This cannot be regarded as representative. Since this statement cannot be scientifically validated this paragraph should be removed from the opinion. It is also in contradiction with the statement made in lines 1115 – 1116: "There is very little accessible data on the prevalence of anaemia in the white veal farming sector."
3. Page 37 – Lines 1037 – 1039: "The limited intake of roughage provided to calves is associated with anaemia in calves reared for white veal (..)." This statement is incorrect (See comments for lines 325 -330 and 387).
4. Page 34 – Lines 1083-1085: Haemoglobin controls are carried out not just up to the minimum level of 4.5 mmol/l but well beyond.
5. Page 40 – Lines 1090 -1091: The ocular mucosa technique is far too imprecise. The carcass color is an a posteriori indication which does not allow calves to be corrected in the barn.
6. Page 41 – Lines 1112 - 1114: There is not enough data to determine the haemoglobin value that would characterize an "anaemic" status.
7. Page 41 – Lines 1117-1118: This sentence is worded in such a way as if anaemia would be an objective in the production of veal calves. This is



- incorrect, in particular because anaemia is associated with significant declines in growth and the objective of this production is to achieve a good livestock performance.
8. Page 41 – Lines 1119 – 1120: This is not correct: the current minimum value at 4.5 mmol /L seems well positioned: the main negative physiological consequences are reported for Hb levels <4.5 mmol /L. Above 4.5 mmol / L, there are results which show that there are no consequences.
 9. Page 41 – Lines 1123-1124: This is based on a single result and is therefore scientifically weak.
 10. Page 41 – Line 1125: This can only be confirmed.
 11. Page 41 – Lines 1134 – 1144: EFSA is giving recommendations on haemoglobin levels, stating that measures should be implemented to avoid Hb levels under 5.6 mmol/L in veal calves. In lines 992 – 993, it is mentioned that after a review of studies there is no clear agreement on the cut-off under which a calf is considered anemic. The rationale to choose for this specific cut-off number is not clear. The precautionary principle is mentioned as basis for this recommendation. The EU general food law provides that, when the available supporting information and data are not sufficiently complete to enable a comprehensive risk assessment to be made, decision makers or risk managers may take measures or other actions based on the precautionary principle while seeking more complete scientific and other data. It is not the EFSA mandate to invoke the precautionary principle and substitute to the risk manager. The mandate of EFSA should be to report what the science says and, in the present case, science is not sufficient. In addition, measures taken on the basis of the precautionary principle have to comply with the principles of non-discrimination and proportionality and should be provisional until the time when more comprehensive information concerning the risk can be gathered and analysed. In the present case, the recommendation to set at 5.6 mmol/l the minimum haemoglobin level would have tremendous and disproportionate technical, economic, human and social consequences and would be irreversible.
 12. Page 41 – Lines 1136-1138: Such study must be performed in a research centre as it is too complex to be studied in traditional barns.
 13. Page 41 – Line 1139: The feed the young calf prefers is milk. The calf, like any young mammal, is physiologically designed to feed on the mother's milk or, failing that, on replacement milk. It is his favourite feed. Imposing on him an early consumption and in large quantities of fodder would be to the detriment of the consumption of milk and therefore against nature. A diet rich in fodder is the diet suitable for older cattle: young bulls for example.
 14. Page 41 – Lines 1140-1141: EFSA recommends also – from an animal welfare perspective – that the provision of highly bioavailable concentration of iron through diet should be preferred to correction via injections. It must be reminded that, in the field, the majority of iron intakes comes from milk, fibrous diets and oral nutritional supplements. Iron injections represent the minority part of the intakes and are reserved specifically only for the calves with the lowest haemoglobins, therefore the most at risk of anaemia and are not carried out systematically on all the calves of the batch. Injection remains however the most effective solution for a quick correction for calves that are too low in haemoglobin, especially the youngest who do not yet consume enough fibre.

This comment included an attachment. For the full list of comments including attachments please refer to this [file](#).

Answer: Thank you for your comment. On point 1) a physiological variation in haemoglobin, with low values in the first days/weeks of life occurs and is reported in the scientific opinion. On point 2), the lack of available data on haemoglobin concentration in veal calves is made clear in the scientific opinion; a recommendation is done to include public access to these data. On point 5), the shortcomings and advantages of each ABM for the purposes of monitoring are discussed in the text. On point 7), this sentence has been reworded. On point 8), the additional welfare effects observed in calves at intermediate levels is presented in the text. On points 9) and

		<p>10), the scientific evidence available and data gaps are clearly explained. On point 13), recommendations are on available fibre to be provided to calves to promote adequate levels of rumination. On point 14), exactly because of low levels of haemoglobin mentioned in the comment due to low intake of fibre, a higher intake of fibre compared to what is not legislated is recommended in the document.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
119	Background	<ol style="list-style-type: none"> 1. General comment In France, calves all arrive the same day in fattening farm ("all in"). In practice, it means that in an average farm of 350 calves, calves are coming from 325 dairy farms. In this condition, the main objective or fatteners is to limit the sanitary risk and the stress of the animals. (source: Enquête bâtiment veau de boucherie, INTERBEV, 2020) 2. line 361 It is not correct to write that calves have no contact with others. First, there is a huge diversity of layout in fattening farms. Second, in the aforementioned case, calves can have tactile and visual contact with their congeners either in front (above the buckets) or through the bars. 3. line 370 In France, 41% of calves are reared in group pens holding 6 to 10 calves (two third in recent building) equipped with common trough (65% of calves) or bucket and headlocks (23% of calves). 12% of calves are reared in pen of more than 10 calves. (source : Enquête bâtiment veau de boucherie, INTERBEV, 2020). 4. line 394 This statement should be amended. In practice, between 8 and 28 weeks of age, competition between calves does not seem to be a concern as it could be observed in older bull or with automatic feeding system in large group. By regrouping of calves, farmers pay also attention to the welfare of the weakest calves. <p>Line 398-399 See comment above</p> <p>Answer: Thank you for your comment and for the information provided. On point 1), the different origins of calves is noted in the scientific opinion. On point 2), from a welfare point of view it is important to avoid individual housing of calves as this has implications for the development of social behaviour and other aspects, as explained in the scientific opinion. Disease risk should be minimized by keeping calves in small groups and by closely inspecting calves on a daily basis. On point 3), what was meant is that head-to-head contact is not always possibly in individual housing; this has now been clarified in the document. Regarding your third comment, the sentence has been amended to refer to the fact that generally the group size is 5-7 but there are instances where up to 10 animals are grouped. Regarding the point about regrouping, scientific evidence has shown a link between more regrouping and higher competition. On point 4, the text was amended to reflect that point.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
120	Risks of individual housing	<ol style="list-style-type: none"> 1. General comment: Cross-sucking and abnormal oral behaviour are considered as major welfare concern in section 3.2.2 of the opinion and as a consequence of limited cow-calf bond. In the present section, there is not any discussion about these behaviours and the effect of housing on the risk of impaired calves welfare. In our opinion, this should be discussed here also. Example of recent publication: Pempek J.A, Eastridge M.L, Swartzwelder S.S, Daniels K.M, Yohe T.T, 2016. Housing system may affect behavior and growth performance of Jersey heifer calves, Journal of Dairy Science, Volume 99, Issue 1. 2. Line 500-513: When considering the impact of housing on feeding behaviour, it should be beared in mind that white veal calves are milk fed. Therefore, the impact on weaning behaviour (Bolt et al., 2017) may be not relevant in this context (even if it is meaningful from a general point of view). 3. Line 514-522: In France, automatic milk feeding is in use for approx 12 % of the white veal calves and as mentioned line 402-409, this is the case of calves after their arrival in fattening unit or bay-box phase but not in the first



- days of life. (source: Enquête bâtiment veau de boucherie, INTERBEV, 2020).
4. Line 557-563: Due to the common practice in dairy farms, calves arriving at fattening are usually individuals coming from as much as farms than calves. For example, in a recent study carried out in our experimental facilities, 220 calves came from 204 different dairy farms. Moreover, to limit the risk of poor health and welfare, the "all in all out" principle is applying to this unit as in commercial farm. In group housing, it should be noticed that, to avoid competition at the trough, in some cases calves are blocked during feeding. This can be a source of stress not mentioned in the efsa opinion. "3.1.2.4 At what age should calves be grouped to maximise positive effects of social housing and minimise negative effects related with occurrence of disease?"
 5. Line 573-574 Comments in the table: Bolt et al. (2017) Female dairy calves reared on straw bedding. On the contrary of Costa et al. (see below), no difference in feed intake. The impact on weaning behaviour is not relevant for white veal calves
 6. Meagher et al. (2015) Dairy bull calves Individually housed with no visual contact (not allowed by the EU Directive) According to the authors, there was not any significant difference between early paired (6d) and late paired (6 w) calves The conclusion reported in the opinion is not fully relevant in this section
 7. Costa et al. (2015) Dairy male calves reared on sawdust bedding (not in used in white veal calves) Individually reared calves with no visual contact with other calves (not allowed by the EU Directive) According to the article, it seems that morbidity was higher (but not really analysed in the paper) in calves paired house which may be a negative effect of paired housing It should also be noticed that TMR intake did not differ between groups
 8. Duve and Jensen (2012) The authors conclude that there was only minor difference between calves pair housed at birth compared to calves pair housed at 3 weeks of age. The conclusion reported in the opinion is not fully relevant in this section.
 9. Lines 587-590: This conclusion is not fully supported by the results reported in table 3 (see comment above). Based on table 3, there is only one study that shows positive difference between early and late pair housing (Bolt and al. 2017) while one study shows negative effect on health (Svenson and Linberg, 2006). Furthermore, this conclusion seems to be in contradiction with the highlighted risk of poor welfare of calves mentioned in large group (Lines 514-522) and the knowledge gap reported lines 533-535. Regarding concentrate intake, it is written line 535 "calves should be socially housed at some point between 2 and 6 weeks of age" as studies reported from lines 523-543 did not support the effect of age except Costa et al.(2015). At last, there isn't any analysis of the effect of the heterogeneity in age when calves are group housed. In practice, it may be an important factor that can impaired the welfare of calves. 3.1.2.5 At what group size should calves be grouped to maximise positive effects of social housing and minimise negative effects related with exposure to disease?
 10. Comments: General Comment: In this section, Abdelfattah et al. (2013) is the only study dedicated to white veal calves.
 11. Line 632: In this study, the author also mentioned that "nasal discharge scores were similar ($P > 0.05$) among group sizes during mo 1, 2, and 3, but calves in groups of 2 and 4 had more ($P < 0.05$) nasal discharge than calves in groups of 8 in the 4th month." and finally "The percentage of calves which were treated with antibiotics throughout the experiment was 62.5, 66.7, and 61.5 for groups of 2, 4, and 8, respectively". It is therefore quite difficult to conclude on the basis of this study. Furthermore, in this study, calves were grouped at 44 days which is not representative of the general case in fattening farms (21 days)
 12. Line 723-725: Not fully supported by scientific evidence - See comment of Line 587 Furthermore, it should be taken into consideration that foster cow can also mitigate the effect of the lack of contact between dam and calves (see specific scenario 3 of the efsa opinion).
 13. Line 727: The study of Abdelfattah et al. (2013) suggests that group size (2 to 8) has no effect on welfare of calves taken into account the play

behaviour which is considered as the major consequence in the next part of the opinion (“If increased play and social contact and decreased aggression are considered as primary indicators of welfare, group size did not alter calf welfare”). The limit of 7 animals seems therefore arbitrary and not fully supported by the literature used in this efsa opinion.

14. Line 728-729: This seems unrealistic - See general comment of the background.
15. Line 730: But farmers have to take care of the weakest calves – see comment of line 394.
16. Line 731: We agree but this is not discussed and analysed in the report

This comment included an attachment. For the full list of comments including attachments please refer to this [file](#).

Answer: Thank you for your comment. Regarding point 1), the scientific opinion includes a detailed description of cross-sucking behaviour in Scenario 3. Regarding points 2) and 5) about weaning not being relevant for white veal calves, it is considered that such behaviour is still relevant from a general point of view; a higher intake with social housing was observed. Bolt et al., 2017 reported a higher intake with social housing also during pre-weaning. On point 4), group stress has not been identified as a highly relevant welfare consequence in that system; it was considered that blocking calves fed with troughs is not such a common practice. On point 6), in Meagher et al., 2015, there were significant differences between individual housing and early pairing. On point 7), a mention to the fact that there were no differences in TMR intake between calves paired at 6 days and 6 weeks was added to the document. We do not agree with point 9); the conclusion is a balanced statement and the recommendation does not mention large groups. On point 10), the lack of studies in veal calves in the literature is noted in the document. On point 11), it is correct that measures such as nasal discharge showed no differences depending on group size, in contrast to coughing. This could be a matter of low statistical power of the study. Coughing was considered by the working group a more sensitive ABM of respiratory disorders than nasal discharge. In addition, please note that the conclusions of the assessment were not reached based on this study only. On point 15), the sentence says “as much as possible” to account for such situations. On point 16), we agree this is not discussed in detail, but a previous EFSA scientific opinion on the welfare of beef, from 2012, discusses these aspects.

Changes to the Scientific opinion based on this comment: Minor.

<p>121</p>	<p>Risks of insufficient space</p>	<ol style="list-style-type: none"> 1. General Comment: The focus on only one behaviour to analyse the welfare of calves in this section can be discussed. As an example, Boissy et al (2007) suggest to take into account others behaviours “Behaviours that have been suggested as possible indicators of positive emotions include, for example, play, grooming, and exploration”. Most of the studies listed in Appendix B are dealing with dairy calves reared on straw bedding in groups of 1, 4 or approx 20 (which is different of the recommendation of 7 calves per group). In spite of the large table in appendix, only 9 studies were taken into account. Some study eg Waiblinger et al. (2020) have been carried out in some specific objective (eg cow-calf contact) that is not representative of the white veal calves housing condition. Definition of play behaviour may differ from a study to another. The risk of the effect of incomplete “play behaviour” on the welfare of calves due to insufficient space available is not discussed. The effect of the interaction between group size and space allowance is reduced to individual versus small group (4-7). This need to be taken into account as a limit of the knowledge. As mentionned by Waiblinger et al. (2020), the shape of the pen and the space available can influence the play behaviour. This is reported as a source of uncertainty and need to be into account in recommendations. 2. Line 742: In this study, it is also mentionned that the difference was observed only at the youngest age (5 w versus 7and 9 w) and that the motivation was increased only for calves with 1.5m² available space versus
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		<p>2.2, 3 and 4m². Therefore, the sentence may be amended to consider the age of the animals at least.</p> <ol style="list-style-type: none"> 3. Line 863: This statement is in contradiction with Jensen and Kyhn (2020) - see above. 4. Line 870: Contradictory results have been obtained in other studies which are not reported in efsa opinion For instance, Tapki et al. (2006) and Færevik et al. (2008) found no difference in lying times between calves reared at space allowances ranging from 1.5 to 4.0 m²/calf and 0.75 to 1.75 m²/calf, respectively. They conclude " Further research is needed to investigate the optimum space requirements for rearing group-housed dairy calves." <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. On point 1), we do not agree with the comment. We do explain why play behaviour was selected and we do also take other behaviour into account when interpreting the findings. When assessing welfare, we are focusing on the behavioural needs of calves as such, and not only under specific conditions of veal farming. A well-defined definition of play behaviour has been used to avoid bias induced by differences in definitions and sources of uncertainty have been taken into account. On point 2) the sentence refers to motivation to play and this was similar for animals aged 5 and 10 weeks; hence no changes applied. On point 3), no changes done, as the mentioned sentence was to why the animals do not need more space beyond what is recommended as they grow (and not the opposite). On point 4), Faerevik is taken into account. Tapki et al. 2006 looked at calves housed individually but here we deal with group housed animals.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
122	Risks of iron restriction	<ol style="list-style-type: none"> 1. Line 1051 and 1058: In this study, the concentration of Hb is below the legal threshold. Furthermore, since 1984, the feeding plan of veal calves has deeply changed and laboratory techniques have been optimised. Therefore, it seems difficult to extrapolate these results to actual situation. 2. Line 1045-1049: In this study, it was the effect of the iron intake that has been investigated. The level of Hb is a result measured in parallel with the effect on immune function and others variables. The main effect was observed at 10 weeks of age only when the level of Hb was below the minimum value of legislation. Currently, milk replacer given to calves the first 8 weeks of fattening period (=11 weeks of age) has a minimum of 50mg/kg + iron by the solid feed. 3. Line 1060 Lindt and Blum, 1994: The same remark could apply to Lindt and Blum (1994). The reduced growth performance and other changes including reduced Hb concentration (lower than the minimum legal) were induced by iron deprivation. According to these authors, concentration in iron of milk replacer was the explicative factor. 4. Line 1065 Lindt and Blum (1993): The iron intake or injection are again the factors investigated. 5. Line 1054-1056 Prodanovic et al. (2019): This study is carried out on calves in the neonatal period and not on veal calves. Neonatal diarrhoea is not comparable with adaptation diarrhoea that we can encounter in veal calves. This reference is therefore obsolete for the rearing of veal calves. 6. Line 1071 Table 12: We can question the reporting in table 12 where it seems that the level of Hb is the factor of variation. In most studies quoted in the report, the iron intake was the factor investigated and the Hb level was the result along with other traits. In all studies, the concentration of Hb is always condiered in comparison between treatments. As it is, the table 12 tend to introduce a direct relation between the concentration of haemoglobin and the other biological effect which can be a missinterpretation of the different studies. 7. Line 1079-1082: Taken into account the results of Prevedello et al.(2009) (Line 977), the bioavailability of the different minerals should be also considered before recommending a specific raw material or feedstuff.

8. Line 1115-1116: Agree. This should be addressed.
9. Line 1117-1118: Most studies carried out before the EU legislation which stipulate a minimum quantity of solid feed in calves's feeding plan. Today, certain feeding plan are compose of 300 kg of solid feed.
10. Line 1119-1120: This is not justified clearly by the report. The certainty should be revised.
11. Line 1121-1122: According to te studies, concentration in iron of milk replacer was the explicative factor. The level of Hb is a result measured in parallel with the effect on immune function and others variables.
12. Line 1134-1135: This is not coherent with the conclusion and the highlight of knowledge gap. There is no study reported with level of Hb 4.5 vs 5.6. Further research is needed.
13. Line 1139: Hay is cited as the recommended feedstuff but may be extremely variable in terms of quality and composition.
14. Line 1140-1141: Iron supplementation via the milk replacer is commonly applied in commercial farms.

This comment included an attachment. For the full list of comments including attachments please refer to this [file](#).

Answer: Thank you for your comment. On point 1), it is correct that the haemoglobin concentration in those studies were beyond the minimum current legislated value; this value is mentioned above in the text. The literature review covered studies looking at different values of haemoglobin concentration, including those below the current legislated value, for completeness and to answer the mandate request. On points 2), your considerations are in line with what is described in the text, but a sentence was added to make clear that the studies provided calves with different feeding regimes and that that had an effect on haemoglobin concentration. On points 3 and 4), a mention to the relationship between limited iron intake and iron-deficiency anaemia are provided above in the text; the iron concentration of each feeding treatment is given, and it is also explained that the assessment focused primarily on blood indicators of iron provision, such as haemoglobin (Hb), as they more closely relate to welfare state, rather than iron content in feedstuff. On point 5), this sentence has now been amended to include a reference to neonatal calves and more detail on the effects observed. On point 6), the reason for looking at Hb levels rather than iron intake is explained above in the text; on point 7) and 13), we have edited the sentence to clarify that amounts of roughage such as hay with a higher availability of iron than in more lignified feed components like straw should be preferred to ensure a high iron intake. On point 10), the certainty of the statement is high, and no changes were done. On point 11), the sentence says "associated"; it is not said it was the (only) explanatory factor. On point 12), a study looking at the effects of intermediate levels of Hb (5.3 mmol/L compared to 7.76 and 8.6 mmol/L) (Lindt and Blum 1993) is cited.

Changes to the Scientific opinion based on this comment: Minor.

123	Risks of fibre restriction	<ol style="list-style-type: none"> 1. Line 1227: Regarding the calf behavior fed ad libitum with roughage, a project is underway in France funded by the Ministry of Agriculture ("RENOUVEAU", 2020-2023 https://idele.fr/renouveau/), relating to new models of calf production. In this project, calves are reared with nurse cows on pasture for 5 to 6 months, suckling the cows and grazing. In this unrestricted context, the rumination time of the calves was recorded at mid-fattening by direct observations (scan sampling every 5 minutes, in the diurnal phase, from 6 a.m. to 9 p.m.). In this context, calves ruminate 18.4% of their time. Similarly in this program, a trial was carried out on the fattening of Prim Holstein calves on straw litter with the supply of rehydrated milk, rationed solid food and straw ad lib (in long strands distributed to the hay rack). The calves consumed an average of 18.9 kg of straw per calf over the entire 25 weeks of fattening. Rumination times were measured by scan sampling (every 5 minutes during the daytime phase from 6 a.m. to 8 p.m.). These calves spent 12.5% of their time ruminating after 4 weeks of fattening, 14.8% after 12 weeks of fattening and 17.1% after 24 weeks of fattening. These different results suggest that the 30% rumination time is
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		<p>not fully relevant in veal calves, particularly in semi natural conditions. Idele will be pleased to share these results with efsa experts.</p> <ol style="list-style-type: none"> 2. Line 1230 and line 1290: During the program "RENOUVEAU", an experiment was carried out in 2021 to investigate the quantities of NDF ingested by calves in unrestricted conditions. This trial involved 40 male Prim Holstein calves aged 25 days on arrival and weighing 53 kg. These calves were fattened for 168 days with a ration based on rehydrated milk, a fibre-free concentrate, composed of flattened cereals (barley and grain maize) and protein crops (lupin and fava beans) (88.2% DM and on crude: 1.02 UFV, 47.0% starch, 14.4% crude protein, 12.8% NDF), roughage (straw cut to 3 cm for 20 calves at 90.1% DM and 80.2% NDF, and natural long-strand hay at 89.5% DM and 62.1% NDF for the other 20 calves). All feedstuff were distributed ad libitum. Feed intake were measured individually using the AMS for milk and automatic weighing troughs for concentrates and fodder. The 40 calves were housed in the same pen with sawdust as bedding. Hay intake for the 20 calves that were given this roughage was on average 31.1 kg DM (± 9.8) per calf over the entire 168 days of fattening (and 187 kg DM of concentrate) against 16.9 kg DM (± 8.0) per calf for those having access to straw (and 172 kg DM of concentrates). Consequently, calves fattened for 168 days (i.e. 193 days of age), with milk, concentrates and having roughage ad lib ate only 46.5 kg of NDF with hay or 38.5 kg with straw. Ruminations were noted by a spot sampling method centered on the rumination phase of the calves (between 11 a.m. and 4 p.m., a period which represents 70% of the ruminations of the calves in the diurnal phase). 36 observations were spread over the 168 days of fattening and no significant difference was observed between the 2 groups of calves: 21.5% of the calves were ruminating for the "hay group" and 19.4% for the calves of the "straw group". The abomasums were not observed at the slaughterhouse. In conclusion, 166 kg of NDF between 2 and 25 week for veal calve seems to be unrealistic. 3. Line 1261: The formulae is the same as the one of line 1236. Is that correct? 4. Line 1273-1277 and Line 1297-1305: Conclusion and recommendations should be amended according to recent research and seem unrealistic. 5. Line 1281: There are limited scientific evidence to support this conclusion and the effect of the different roughage on abomasal lesions seems to be multifactorial (line 1168-1169). It should be noticed that the hay composition and quality can be far more variable than straw. Consequently, the conclusion and the recommendation line 1306-1308 should be amended. <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. On points 1) and 2); no citations to the study mentioned are provided so EFSA cannot consult the referred data. Please note that only published and peer-reviewed studies are considered in the scientific assessment. Regarding the point that the studies considered did not focus on veal calves, it was considered that calves have same behavioural needs despite of production purpose. On point 3), thank you, this has been amended. On points 4 and 5), the conclusions result from the outcome of the assessment and no changes were carried out.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
124	Risks of limited cow-calf bond	<ol style="list-style-type: none"> 1. General comment: The conclusions underline the significant lack of data regarding the different consequences of an early or late separation, the practical management of CCC system, the optimum age at separation, etc but in the same time efsa is recommended a prolonged (foster)cow-calf contact to be implemented in farm. We expected first a recommendation on further research to better investigate the impact on welfare of cow and calf welfare. As mentioned by Meagher et al., 2019) in their conclusion "In summary, extended cow-calf contact aggravates the acute distress responses and reduces the amount of saleable milk while the calves are suckling, but it can have positive effects on behaviors relevant to welfare in the longer term and benefit calf growth. The strength of these conclusions is



limited, however, given that relatively few studies address most of these effects and that experimental design including timing of contact and observations are often inconsistent across studies. Few studies presented indicators of long-term welfare effects other than abnormal and social behavior of the calves.”

2. Emphasis is placed on managing late separation to limit calf stress which is a major negative welfare consequence of CCC system. On the other hand, there is little mention of the means of preventing cross-sucking which is considered as the major negative welfare consequence of early separation. As mentioned previously in our comment, this behaviour occurs mainly in group housing and this was not addressed also in the relevant section of this report. There is consequently a sort of inconsistency between these two sections. At last, there are still some questions regarding the effect of early or late separations on the health of cow and calf.
3. Line 1613-1614 This conclusion is contradictory to the sentence line 1490
4. Line 1646 This conclusion should be amended taken into account the risk of cross-sucking (line 1514-1527)

Answer: Thank you for your comment. On point 1), the data gaps in the assessment are clearly outlined in the conclusions. On point 2) and 4), means for prevention of cross-sucking are provided earlier in the text. Regarding point 3) it is considered that the sentences are not contradictory, so no changes applied.

Changes to the Scientific opinion based on this comment: None.

125	Background	<ol style="list-style-type: none"> 1. 1. 362: incorrect all calves, including those at the back can have contact, muzzle touch, and sight with calves from other stalls. 2. 368: incorrect all calves receive solid feed: it is a regulatory obligation: Decision 1997/182/EC 387: calves are checked for iron at several stages of fattening. The purpose of these checks is to prevent any risk of anemia, a risk present by definition in veal calves because they are young animals, and mammals whose diet for the young is mainly composed of milk: a highly digestible food but weakly concentrated in iron. The calves are checked in particular on arrival and iron supplementation is performed well above 4.5 mmol / L to correct any deficiencies. Many calves are recharged with iron as soon as they arrive at the fattening barn to correct an early deficiency. There are two routes of iron administration: - dietary iron used as a priority, which is used to supplement all the calves in the batch in general, - injectable iron which is used specifically to raise the hemoglobin level of the lowest calves, for which the average intake via food or oral supplementation would not be sufficient. <p>Answer: Thank you for your comment. On points 1), and 2) please refer to comment #78 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
126	Risks of individual housing	<ol style="list-style-type: none"> 1. 427: it is very embarrassing that Efsa limits itself to a simple bibliographical study. There is a lack of concrete field trials to verify the hypotheses and taken from the literature. 2. 544: it is important to remember that veal calves are not intended to be weaned early. the young calf is physiologically designed to digest milk and it is this food in its young age which is the most adapted to allow him the best development. They are and remain pre-ruminants and will not become adult weaned ruminants given the age at slaughter. They are young animals, aged from 2 to 30 weeks, they are mammals for which the most suitable food and in quantity is milk, the young calf is physiologically designed to digest milk and it is this food in its young age which is the most adapted to allow him the best development. The fibrous food meets a physiological need of the species which increases with age and its distribution allows the progressive establishment of rumination which will be the only digestion mechanism preserved in adulthood.



3. 548: If their preference is for milk, it seems against nature to want to force them to consume it early, and in large quantities of fibre. It is indeed the reduction in milk consumption constrained by the drop in milk production of the mother which pushes the calf to compensate for this deficit by increasing its consumption of fibrous food and not a growing spontaneous attraction for fibre which pushes the calf to forsake his mother's milk. "Calves fed with large quantities of milk do not eat much solid food". If their preference is for milk, it seems against nature to want to force them to consume it early, and in large quantities of fibre. In the natural environment, the calf mainly consumes the mother's milk at first, then increases its consumption of fibrous food gradually, as the mother's milk production decreases until it stops and the calf wean completely.
4. 593: You recognize a lack of biblio data and we agree. Our experience as an integrator allows us to say that early batching upon arrival in the fattening barn represents a much higher risk of disease, contagion, mortality, with consequences on the health of calves in the long term. The "start-up" phase over the first 4 weeks is a crucial phase for the health of the calves. Individual boxes during this phase guarantee better monitoring by the breeder and a limited risk of disease transmission. They also allow the expression of social behaviors at an interesting level. They allow a good compromise between health and social behaviors. Other studies: IDELE BoxaVeau (unpublished ongoing study) demonstrate a strong increase in negative social behavior (particularly cross-sucking) in early batching situations which may persist throughout the fattening period.
5. L624 there is no data on the pen category of 7 to 12 animals. It would take a precise study and not just the EKE simulation to set a precise threshold.
6. L629 Only 1 study on veal calves. This is not enough for the EKE. On the other hand, the study by Leruste H. (2014) cited in the draft found that calves without a babybox had an increased risk of tongue rolling.
7. L632 No cited study compares the prevalence of respiratory disorders in a group of 2 individuals compared to other modalities.
8. L657 The estimate of the prevalence in calves housed in groups of 2-3 appears not to be robust and not very credible.
9. L661: no data for group sizes between 7 and 12. The threshold for increased respiratory disorders is clearly between 7 and 12, but we do not have the data: additional studies are needed to decide. All the more necessary since a good number of new calf buildings in recent years have created pens of size 7 to 12 calves.
10. L687 It would be prudent not to conclude for the group of 2 individuals modality. Beyond 1.8m² per calf, there is a single bibliographic source and the EKE estimate which have studied larger available surfaces: insufficient scientific data to make a decision. High stakes of this criterion surface available/animal because enormous consequences on the costs of building and production costs.
11. L723 It is more relevant to recommend a study to study the prevalence of respiratory disorders in a group of 2 individuals.
12. L725 The DAL system which represents 10% of production in France seems condemned by this recommendation and at the same time table 6 (L214) recognizes the absence of data. The recommendation should be deleted. It should be noted that the DAL are farming systems that provide other elements of well-being, in particular the straw litter which is used in a significant proportion in these farms.
13. L726 the non-use of babyboxes and the associated increase in health issues may greatly increase the use of antibiotics, which is a problem to be taken into greater consideration. The benefit/disadvantage balance has not been studied enough.
14. L730 In the field, major re-allotments are limited. Re-allotments of only a few animals are carried out for technical reasons and social behavior in order to prevent the dominant ones from preventing the most fragile from feeding.

This comment included an attachment. For the full list of comments including attachments please refer to this [file](#).



		<p>Answer: Thank you for your comment. On points 1), 2) and 3), see answer to comment #116. On point 4), only published and peer-reviewed studies were considered in the scientific assessment. On points 5-11), all scientific data available was considered, data gaps identified and expert knowledge used to fill these; credible ranges of the estimates are transparently given. On point 12), please note that this is a general description of white veal systems and that variations/types (e.g. DAL system) specific to only some MSs could not be described in detail in the document. On point 13) and 14), please see comment #116.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
127	Risks of fibre restriction	<ol style="list-style-type: none"> 1. 1215: population not exposed: calves have unlimited access to pasture and receive only mother's milk. We are in a situation where the quantity of milk available is obviously limiting and pushes the calves to compensate for the lack of mother's milk by an increased consumption of fibres. In a system where milk is not limiting, fibre consumption is spontaneously much lower because calves prioritize milk consumption by preference, consumption of such quantities of fibre would not be possible. The simulation proposed here largely overestimates fibre consumption. 2. 1227 IDELE in its RenouVeau program (unpublished ongoing study) considers that the 30% threshold is excessive and should be around 20%. 3. 1273: the simulation places calves on a milk-limiting diet and overestimates the amount of fibre consumed spontaneously. 4. 1297. Such quantities to be distributed suggest that the weaning of veal calves would be the final objective. The objective of our production is not to achieve early or premature weaning. Our specificity is to offer calves a feed historically based on milk, which is the most suitable feed for these young animals, and also in parallel fibrous feed in increasing quantities according to age. 5. 1297 to 1306: To objectify such a high fibre consumption goes well beyond the physiological need of the species. This would require restricting milking calves, which would be against nature and against their preference. The problem of insufficient fibre distribution corresponded to a reality that dates back to the years before 2000. Since the 2000s, the quantities of fibre distributed have increased in compliance with the regulations. But beyond that, what is interesting to note in the field practices is that the integrators and breeders have spontaneously increased the quantities of fibres distributed to go well beyond what the regulations impose, they have indeed integrated the advantages in terms of well-being and technique that fibre brings. Wanting to impose quantities of fibres to be distributed does not seem necessary because it is already a widespread practice in the field. 6. 1302: this is a huge amount that does not match the amount of fibre consumed when milk is not limiting. 7. 1308 The lesions evoked on the abomasum are astonishing, questioning and deserve to be dug by further specific studies. <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: On point 1), see comment #111. On point 2), only published and peer-reviewed studies were considered in the scientific assessment. On points 3-6), experimental data was considered as a basis for estimation of the estimates of fibre requirements from a welfare point of view to allow for adequate rumination times, which are not achieved when only a limited amount of forage is provided to calves. On point 7), recommendations for further research and data collection are provided in the document.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>

<p>128</p> <p>Risks of iron restriction</p>	<ol style="list-style-type: none"> 1. 969 Incorrect: calves from the breeder often have low hemoglobin levels. The veal calf sector is committed to reloading the young dairy calves that arrive in the veal calf workshops. 2. 1083-1085: Not only that. Hemoglobin controls are carried out to recharge the calves possibly well above the regulatory minimum. 3. 1087: The ocular mucosa technique is far too imprecise. The carcass color is an a posteriori indication which does not allow calves to be corrected in the barn. 4. 1112: No, we don't have enough data to determine the hemoglobin value that would characterize an "anemic" state. 5. 1115: No, anemia is not an objective in the production of veal calves, in particular because it is associated with significant declines in growth and the objective of this production is to achieve a good level of growth. 6. 1119: No, the current minimum value at 4.5 mmol /L seems well positioned: the main negative physiological consequences are reported for Hb levels <4.5 mmol /L. Above 4.5 mmol / L there are rather results which show that there are no consequences. 1122-1123: 1 single test result: scientifically weak. 1125: you confirm it. L1134 It is a precautionary principle which is not supported scientifically. This is based on too little scientific evidence as you say yourself in 1125. It is inconceivable to consider fundamentally reforming a production system with enormous technical, economic, human and social consequences from simple doubts or assumptions . It is not a scientific approach. There is no scientific demonstration to question the regulatory limit of 4.5 mmol / L. EFSA 's opinion should recommend benefit-harm analysis studies on going from 4.5 to 5.6 mmol /l. 7. 1136-1138: this subject of study must be treated in an experimental station, it is too complex to be studied in traditional barns. 8. 1139: the food preferred by the young calf is milk. The calf, like any young mammal, is physiologically designed to feed on the mother's milk or, failing that, on replacement milk. It is his favorite food. Wanting to impose on him an early consumption and in large quantities of fodder would be to the detriment of the consumption of milk and therefore against nature. A diet rich in fodder is the diet suitable for older cattle: young bulls for example. 9. 1140-1141: In the field, the majority of iron intakes are contained in milk and fibrous diets and oral nutritional supplements. Iron injections represent the minority part of the intakes and are reserved specifically only for the calves with the lowest hemoglobins, therefore the most at risk of anemia and are not carried out systematically on all the calves of the batch. It is the most effective solution for quickly recharging calves that are too low in hemoglobin, especially the youngest who do not yet consume enough fibre to recharge even if it is hay. 10. 1134-1143: the end of "white" veal: meat that meets specific consumer expectations, see the Renouveau (unpublished ongoing study) de l' Idele study (funded by Casdar). Meat that is part of the French and European culinary and gastronomic heritage (Dumont B. (coord) et al., 2016, Roles, impacts and services from livestock farming in Europe. Synthesis of collective scientific expertise, INRA (France), p69). What will become of young male dairy calves? The French veal sector is an exceptional model in this area. Should we reproduce the New Zealand example? <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Same as #118. Please refer to that comment for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>	<ol style="list-style-type: none"> 1. 969 Incorrect: calves from the breeder often have low hemoglobin levels. The veal calf sector is committed to reloading the young dairy calves that arrive in the veal calf workshops. 2. 1083-1085: Not only that. Hemoglobin controls are carried out to recharge the calves possibly well above the regulatory minimum. 3. 1087: The ocular mucosa technique is far too imprecise. 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Synthesis of collective scientific expertise, INRA (France), p69). What will become of young male dairy calves? The French veal sector is an exceptional model in this area. Should we reproduce the New Zealand example? <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Same as #118. Please refer to that comment for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
<p>129</p> <p>Risks of insufficient space</p>	<ol style="list-style-type: none"> 1. L822 the latest animal welfare audits on veal calves in standard pens with 1.8 m2 carried out in France seem to show playing times greater than 6 minutes and 38 seconds. Up-to-date studies are needed. The IDELE in France works a lot on the subject and should be consulted. 2. L887 the Calvo-Lorenzo study used 4-day-old dairy calves during transport. This does not correspond to EU practices (as a reminder 14 days and on 	<ol style="list-style-type: none"> 1. L822 the latest animal welfare audits on veal calves in standard pens with 1.8 m2 carried out in France seem to show playing times greater than 6 minutes and 38 seconds. Up-to-date studies are needed. The IDELE in France works a lot on the subject and should be consulted. 2. L887 the Calvo-Lorenzo study used 4-day-old dairy calves during transport. This does not correspond to EU practices (as a reminder 14 days and on



		<p>average in the field 21 days). The study is not to be kept. Beyond 1.8m² per calf, there is a single bibliographic source and the EKE estimate which have studied larger available surfaces: insufficient scientific data to make a decision. High stakes of this criterion surface available/animal because enormous consequences on the costs of building and production costs.</p> <ol style="list-style-type: none"> 3. L880 the Calderon-Amor study was conducted in Chile, a country that is not part of the EU and does not comply with EU regulations. The author notes that 50% of the calves in the study received no or poor quality colostrum. It seems risky to interpret the cause of the increased probability of respiratory diseases as a consequence of the lack of space when the study mixes many parameters and variables including the absence of colostrum intake. The sentence should be deleted. 4. L888 Calves with more room can also express domination or even fighting behavior. This has not been taken into account. 5. L889 the Calderon-Amor study was conducted in Chile, a country that is not part of the EU and does not comply with EU regulations. The author notes that 50% of the calves in the study received no or poor quality colostrum. It seems risky to interpret the cause of the increased probability of respiratory diseases as a consequence of the lack of space when the study mixes many parameters and variables including the absence of colostrum intake. The study should not be kept as a reference in the table. 6. L892 Musculoskeletal play does not seem to us sufficient or not the most relevant to assess animal welfare. According to the experience of the integrators, the calf seeks its well-being very mainly in food and not in play. Other criteria should be taken into account as an indicator of well-being such as the time spent feeding, lying down, at rest, time spent ruminating. This choice of the locomotor game criterion is very simplistic, it is an error of prioritization which calls into question the whole approach and the recommendations which result from it. 7. L924 theoretical recommendations without taking into account the economic impacts for the sector, the profitability of breeders and the acceptability of the sale price of veal to consumers. The surfaces requested are as much concreted agricultural land and energy consumed. 8. L928 The EKE estimate calculated that a calf less than 6 months old plays at maximum in full expression of its behavior only 6 minutes and 38 seconds per day. The proposal of 3m² available would allow him to express 1 minute of locomotive play per day. It seems unreasonable to propose costly and permanent arrangements for 1 minute per day of locomotor activity. It would be more reasonable to recommend new studies to imagine new solutions to increase well-being behaviors. 9. L948: going to 3m² per calf would call into question the profitability of production, its sustainability. What about food sovereignty? <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: On points 1-6 and 8, see comment #117. On points 7) and 9), please note that EFSA's remit is a scientific assessment of the effects of housing conditions to the welfare of the animals. Other considerations (economic, environmental) are not taken into account to keep the scientific assessment of welfare effects independent; such considerations are under the remit of the risk managers/ legislators.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
130	Introduction to the draft for Public Consultation	<p>no comments</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
131	Methodologies	<p>no comments</p> <p>Changes to the Scientific opinion based on this comment: None.</p>

132	Assessment	no comments Changes to the Scientific opinion based on this comment: None.
133	References	no comments Changes to the Scientific opinion based on this comment: None.
134	Abbreviations	no comments Changes to the Scientific opinion based on this comment: None.
135	Appendices	no comments Changes to the Scientific opinion based on this comment: None.
136	Appendix A	no comments Changes to the Scientific opinion based on this comment: None.
	Appendix B	no comments Changes to the Scientific opinion based on this comment: None.
137	Specific Scenario - The welfare of dairy calves and the risks associated with limited cow-calf bond	It is important to assess the implications on welfare when limiting the cow-calf bond Answer: Thank you for your comment. The implications of welfare consequences of limited cow-calf bond to calves and to cows were assessed. Changes to the Scientific opinion based on this comment: None.
138	Appendix C	no comments Changes to the Scientific opinion based on this comment: None.
139	Risks of limited cow-calf bond	It is important assess the risks and how they interfere in cow and calf welfare as well as the implications on animal husbandry, cattle management and the implications on milk production for the dairy industry. On the recommendations on cow-calf contact, it's understandable that increasing the number of days on cow-calf contact but it does interfere on management of the daily tasks as well as animal space allowances in indoor husbandry. It is not practical or easy implement, either indoor or extensive milk production to have foster cows to prolong the contact. We do agree that further research is needed to better understand better strategies and how to implement measures in such contact in a larger scale. scale and to identify the best options in practice Answer: Thank you for your comment. The need for further research to understand how to implement such contact in a larger scale is indeed highlighted in the recommendations. Changes to the Scientific opinion based on this comment: None.
140	Background and Terms of Reference as provided by the requestor	no comments Changes to the Scientific opinion based on this comment: None.
141	Interpretation of the Terms of Reference	no comments Changes to the Scientific opinion based on this comment: None.

142	Description of husbandry systems	no comments Changes to the Scientific opinion based on this comment: None.
143	Provision of quantitative criteria for prevention of welfare consequences – Specific Scenarios	no comments Changes to the Scientific opinion based on this comment: None.
144	Uncertainty assessment	no comments Changes to the Scientific opinion based on this comment: None.
145	Specific Scenario - The welfare of male dairy calves raised for producing “white” veal meat and the risks associated with individual housing, insufficient space and feed restriction (such as deprivation of iron and fibres)	no comments Changes to the Scientific opinion based on this comment: None.
146	Background	no comments Changes to the Scientific opinion based on this comment: None.
147	Risks of individual housing	no comments Changes to the Scientific opinion based on this comment: None.
148	Risks of insufficient space	no comments Changes to the Scientific opinion based on this comment: None.
149	Risks of iron restriction	no comments Changes to the Scientific opinion based on this comment: None.
150	Risks of fibre restriction	no comments Changes to the Scientific opinion based on this comment: None.
151	Appendix D	no comments Changes to the Scientific opinion based on this comment: None.



152	Background	no comments Changes to the Scientific opinion based on this comment: None.
154	Introduction to the draft for Public Consultation	The present draft opinion does not address this scenario 2. We would like to see a consultation on this scenario before the final opinion is published. Answer: Thank you for your comment. Please see answer to comment #110. Changes to the Scientific opinion based on this comment: None.
155	Background	<ol style="list-style-type: none"> 1. Background - 3.1.1.1. White veal calf production in the EU and most common housing systems: 331-335: It is important to point out that white veal is a very distinct product from beef. This sector makes it possible to add value to more than 60% of the males from the French dairy sector, and thus to avoid these animals being considered as economic non-values at certain periods (calving peaks in particular). Ensure the veal calf sector continues to exist is therefore necessary for the circularity and sustainability of the dairy sector. In addition, the following details should be added to the description of the production system, which are particularly important for understanding the health problems encountered in this production: In France, most veal calf fatteners operate on an "all-empty-all-full" basis, i.e. all calves are put into the fattening building on the same day. This practice avoids the regular introduction of new microbes. It also avoids stressing the animals with each new entry. Furthermore, the average size of veal calf farms in France is 350 places (source: Veal calf building survey, INTERBEV, 2020). However, this study shows that this average farm is filled by 350 calves from an average of 325 different farms (more than 90% of the calves come from a dairy breeding farm) (Idele, 2022). This finding highlights the difficulty of controlling the transmission of germs from calf to calf on the fattening farm. 2. Individual Housing: 360-361: This is not true. Firstly, not all buildings are equipped in the same way. Some buildings are equipped in such a way that 100% of the baby boxes (and therefore of the calves) are side by side. Furthermore, in the above-mentioned case, the calves all have the opportunity to have contact with each other either from the front (over the buckets) or through the bars. Group housing in small groups with milk feeding with bucket/trough 3. 370: In France, 41% of calves are fattened in pens of 6 to 10 calves (and 2/3 in recent buildings) and 12% in pens of more than 10 calves (source: Veal calf building survey, INTERBEV, 2020). 4. 393 : In France, calves re-lotting is rather done 2 to 3 times during the fattening period and not every week (or 2 weeks). 5. 387: Calves are checked for iron at several stages of fattening. The aim of these controls is to prevent any risk of anaemia, a risk that is present by definition in veal calves because they are young animals, and a mammal whose diet as a youngster is mainly composed of milk: a highly digestible food but with a low iron concentration. The calves are monitored from the moment of arrival and iron supplementation is carried out well above 4.5 mmol/L to correct any deficiencies. The IDELE HEMOVEAU study shows in particular that many calves are recharged with iron as soon as they arrive at the fattening barn to correct an early deficiency. There are two ways of administering iron: - dietary iron used as a priority, which is used to supplement all calves in the batch in a general way, - injectable iron, which is used specifically to raise the haemoglobin level of the lowest calves, for which average intakes via feed or oral supplementation would not be sufficient. 6. 394: The primary objective of calves re-lotting is to allow calves that drink less quickly to have easier access to feed. This practice is directly related to animal welfare. <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p>



		<p>Answer: Thank you for your comment and for the information provided. On point 1), please note that EFSA's remit is a scientific assessment of the effects of housing conditions to the welfare of the animals. Economic and financial aspects are not assessed to keep the scientific assessment of welfare effects independent. On point 2), please see answer to comment #78 on this; and on 4) the sentence was reworded to express that regrouping events can be limited. On point 3), thank you for the information; the smaller frequency of large-group housing is now better reflected in the text. On point 5), no bibliographic details to the IDELE HEMOVEAU study was provided so the results of this study could not be consulted.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
156	Risks of individual housing	<ol style="list-style-type: none"> 1. Is group housing of young calves beneficial compared to individual housing? - 566: The negative impacts of group housing on the health of calves should not be neglected. The calf sector has invested heavily in the eco-antibio plans, with significant progress made (for example: in France, -47% of antibiotic use between 2013 and 2018 in French veal farms according to the longterm observatory of antibiotic use - IDELE, ANSES-ANMV). The issue of antibiotic resistance is particularly important for the veal industry. We cannot allow ourselves to favour practices that would undermine the progress made in this area. 2. Conclusions on individual and group housing - 681: the data presented in this chapter do not address the behaviours mentioned (exploratory, play, movement restrictions, resting problems, ...). It seems to us inappropriate to conclude on data that are not addressed by EFSA in the opinion. 3. 687: The negative impacts of group housing on the health of calves should not be neglected. The calf sector has invested heavily in the eco-antibio plans, with significant progress made (for example: in France, -47% of antibiotic use between 2013 and 2018 in French veal farms according to the longterm observatory of antibiotic use - IDELE, ANSES-ANMV). The issue of antibiotic resistance is particularly important for the veal industry. We cannot allow ourselves to favour practices that would undermine the progress made in this area. 4. 693: The description of the F2F EKE model for the impact of group size emphasises that group rearing with automatic milk delivery is not widespread in Europe. Few, if any, data were found in the literature for groups of more than 7 animals. We are then surprised by the level of certainty and the lack of nuance in this conclusion given the paucity of literature on the subject. 5. Recommendations on individual housing - 725: The lack of available data on calf rearing systems in groups larger than 7 individuals does not allow such a recommendation to be made. 6. 727: This recommendation directly calls into question the model of group rearing of calves with automatic milk dispensers, which represents 12% of French farms, and which nevertheless offers certain benefits with regard to BEA: the presence of teats to meet the need for suckling, the possibility of a greater number of feedings per day, and a pen size that allows the calves to move freely at different speeds <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: On point 1), while the risk of antimicrobial resistance was not assessed in the scientific opinion because it was out of the scope of the mandate, a group size that is not associated with a substantial increase in disease prevalence was recommended. On point 2), these results reflect the assessment carried out in the first part of the document "general ToRS" regarding the risks of individual housing. On point 3), see answer to comment #91. On points 4) and 5), all the available data was considered, data gaps transparently identified and certainty ranges for each estimate provided.</p>



Changes to the Scientific opinion based on this comment: None.

157	Risks of insufficient space	<ol style="list-style-type: none"> 1. 3.1.3. Risks of insufficient space - 3.1.3.2. Welfare consequences of restricted space allowance - 3.1.3.2.2. Sources of uncertainty in the estimates - 815: The F2F EKE analysis relies on an animal-based indicator: locomotor play behaviour. However, the table of uncertainties indicates that the definition of play behaviour and more specifically of locomotor play behaviour, which is used as an ABM in the following, is not consensual. This seems to be an important methodological bias in the proposed analysis. 2. 890: In contrast to the other conclusions presented in this draft scientific opinion, for none of the conclusions presented in this section, EFSA does specify the degree of certainty. 3. 891-893: To rely only on play behaviour is a simplistic way of describing the welfare of calves in large or small spaces. It is often assumed and demanded that for good welfare, farm animals must have "freedom to express their natural behaviour". This requirement is problematic for at least two reasons. Firstly, natural behaviour is difficult to delineate because of its variability and flexibility. Secondly, some behaviours, that are clearly natural, are in fact detrimental to the welfare of animals. Many factors contribute to animal welfare, which cannot be characterised only on the basis of play behaviour. 4. Recommendations on space allowance - 936: A fourfold increase of the minimum space allowance per animal would lead to 16% of the full extent of locomotor play behaviour expressed by the calf in the situation you describe as a reference (i.e. 6 minutes and 38 seconds over 24 hours). In concrete terms, this recommendation amounts to asking the calf industry to multiply by 4 the surface area available per animal to allow calves to play for 1 minute and 4 seconds per day. Such a measure would be disproportionate to the expected impact. Furthermore, you indicate in lines 858-860 that locomotor play behaviour is well documented in calves up to the age of 3 months, but that beyond this age the calf's interest in this activity decreases to a level that is not known. The recommendation is therefore not valid beyond the age of 3 months. Finally, we would point out that a fourfold increase of the minimum space allowance per animal will increase the floor space of the rearing buildings by the same amount, i.e. by 66%, which would pose a significant problem in terms of the environment. At €1700 per place, such an increase in surface area per calf represents an additional cost of more than one billion euros. In our opinion, such a recommendation is likely to call into question the sustainability of the veal calf industry, which remains the main source of value for males from the dairy industry. 5. 945: The recommendation of 3m² is based on a single available study (Faervik et al, 2008). Furthermore, based on the F2F EKE analysis proposed by EFSA, 3m² per animal would allow calves to express locomotor play behaviour for 1 minute per day for half of the duration of fattening (since the calf's appetite for locomotor play behaviour is only known up to 3 months of age and then decreases to unknown levels, it is not possible to conclude that this is of major benefit to animal welfare). 6. 949-950: 3m² per animal should provide a higher overall activity according to this recommendation. However, in line 908, EFSA states that there is no activity data for areas between 1.8 and 4m². <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. On point 1), a well-defined definition of play behaviour has been used to avoid bias induced by differences in definitions and sources of uncertainty have been taken into account. On point 2), thanks for noticing, certainty levels have been added. On point 3), other behaviours such as lying and resting behaviours were also considered. On point 4), the reasoning and evidence behind the</p>
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		<p>space allowance requirements for calves between the age range investigated is provided in section 4.16.2.3.2. On point 6), we have edited the sentence to ensure consistency between the two phrases and to clarify that despite of lack of data, an increase in general activity' is expected based on behavioural patterns.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
158	Risks of iron restriction	<ol style="list-style-type: none"> 3.1.4.1. Assessment scope and assumptions - 970: According to a recent online survey of 2592 consumers conducted as part of the RENOUVEAU project in 2021, colour remains an important criterion for choosing veal for 62% of them. In addition to meeting consumer expectations, the light colour of veal clearly distinguishes it from beef and explains the price difference (+1.78€ / kg according to KANTAR September 2022). The production of red meat (young cattle and beef) concerns only 21% of males from the French dairy herd, compared to 63% for veal production. There are various reasons for this low share of the market: the economic model (insufficient sales prices vs. production costs), the saturation of the European red meat market, and the technical feasibility of fattening male dairy cattle beyond 12 months. The "light pink" colour of veal therefore remains a key element in the sustainability of the European veal industry, but also a determining factor in the circularity of the dairy production economy. 992: The sources of uncertainty in the model are great because there is a real lack of data. EFSA mentions on line 992: "A review of studies looking at haemoglobin concentration indicated that there is no clear agreement on the cut-off under which a calf is considered anaemic (Table 11). There are indeed no accurate or recent studies dating after the EU regulation that can be extrapolated to today's veal calf production regarding the threshold below which a calf is considered anaemic. There is clearly a lack of references that does not allow today to arbitrate that a threshold of 5.6 mmol provides significantly better animal welfare and health status than a calf at 4.5 mmol. More precise studies to acquire references on the current system of veal calf production are therefore necessary. 3.1.4.2. Welfare consequences of low haemoglobin levels - 3.1.4.2.4. Measures to prevent low haemoglobin levels - 1085: Iron replenishment in fattening plants is also done through collective drinkable replenishment with the addition of iron to the milk replacer during the preparation of the milk. Iron replenishment is therefore not exclusively carried out by injection. Recommendations on haemoglobin levels - 1139: However, EFSA states in lines 955-957 that a high iron content feed does not always result in high iron availability for the calf. <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. On point 1), please note that economic and marketing considerations are outside EFSA's remit. On point 2), studies reporting negative welfare effects are reported up to values of 5.3 mmol/L as noted in the document. On point 3), the provision of milk replacer with added iron to calves is noted in the text.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
159	Background	<p>1344 - In France, milk from diseased and medicated cows is discarded. It is not given to calves. The French good practices charter integrates this recommendation.</p> <p>1346 - The recommendations outlined here lead to mother-bonded calf rearing system (« veaux sous la mère »), which is very different from dairy systems. Mother-bonded calf rearing system are niche market in France.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Same comment as #108. Please refer to that comment for an answer.</p>



		<p>Changes to the Scientific opinion based on this comment: None.</p>
<p>160</p>	<p>Risks of limited cow-calf bond</p>	<p>The evolution of practices as proposed in this paragraph questions the future of French dairy farms : cost of those new systems and return on investment, working time for the farmer and acceptability of those practices for the farmer, sanitary consequences... Is the consumer willing to pay ? Extensive works and studies tailored to French breeding systems and providing answers on these topics remain essential.</p> <p>1375 - We support the importance of having scientific knowledge about both cow and calf in CCC systems, as welfare of one cannot be achieved without welfare of the other. Also it is crucial to integrate the human/animal relationship into this study, which refers to one of the fundamental freedoms.</p> <p>1428 - In artificial rearing, farmers ensure that the calves are well fed. The French good practices charter integrates these recommendations.</p> <p>1432 - Having calves of the same age implies group calving and depends on the organisation of each farm. This system could not be extended to all dairy farms in France as the dairy industry encourages linear production to satisfy consumer needs.</p> <p>1443 - Regarding animal health, Beaver et al. (2019) analysed the entirety of available articles and concluded that an early separation has no positive effect on cow and calf health, but neither do they mention a later separation having a positive effect, aside from hypothesis regarding mastitis. "The evidence extracted from the included journal articles does not support a recommendation of early dairy cow-calf separation on the basis of calf or cow health. Specifically, the body of literature on calf immunity, mortality, scours, and pneumonia does not indicate that early separation is advantageous.</p> <p>Moreover, there is an absence of literature to suggest that immediate dam-calf separation confers benefits toward mitigating Johne's disease. With respect to cow health, this review indicates that suckling is protective against mastitis."</p> <p>1597 - It is mentioned for a 3-week separation "fewer disease prevalence", which contradicts the elements mentioned in 3.2.1.1.</p> <p>1606 - Regarding behaviour, Meagher et al. (2019) concluded: "In summary, extended cow-calf contact aggravates the acute distress responses and reduces the amount of saleable milk while the calves are suckling, but it can have positive effects on behaviors relevant to welfare in the longer term and benefit calf growth. The strength of these conclusions is limited, however, given that relatively few studies address most of these effects and that experimental design including timing of contact and observations are often inconsistent across studies. Few studies presented indicators of long-term welfare effects other than abnormal and social behavior of the calves."</p> <p>1644 - Grazing access (in France, 90% of dairy cows graze), milking process, livestock housing will all need to be reorganised (which necessitates investing). Farmers' workload will increase. Furthermore, in the presence of their calves, some cows may exhibit more aggressive behaviour towards the farmer, and cause accidents. Building a relationship between the farmer and the calf (who could become their cow in the future) could prove more difficult. This practice can lead to udder infection in the case of incomplete milking. This causes the cow pain and stress. And, if the mother isn't well, the calf isn't well too. In French farming systems, this practice will impact the farmer's income : increased working time, decreased quantity of saleable milk, decreased fat content, increased investments... All discussions show the need to imagine new ways of designing and adapting buildings and new herd management practices in order to allow contact between cow and calf. Complimentary research and a global system analysis are needed before developing this practice.</p> <p>1650 - Not all dairy farms are able to put in place this practice. First, calvings need to be grouped at different times in the year in order to have calves of similar age, so as to avoid fighting and competition for feed (milk, forage) among calves of different ages. This practice will impact the breeder's income: increased working time, feeding and maintenance of the nursing cows, increased investments towards building adaptation and access to grazing, ...</p>



		<p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Same comment as #94. Please refer to that comment for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
161	Introduction to the draft for Public Consultation	<ol style="list-style-type: none"> 1. Methodologies 2.2. Provision of quantitative criteria for prevention of welfare consequences – Specific scenarios 1 and 3 - 201 The present draft opinion does not address the scenario 2. We would like to see a consultation on this scenario before the final opinion is published. 2. Assessment 3.1. Specific scenario 1 – The Welfare of male dairy calves raised for producing « white » veal meat and the risks associated with individual housing, insufficient space and feed restriction (such as deprivation of iron and fibres) - 3.1.1. Background - 3.1.1.1. White veal calf production in the EU and most common housing systems - 331-335: It is important to point out that white veal is a very distinct product from beef. This sector makes it possible to add value to more than 60% of the males from the French dairy sector, and thus to avoid these animals being considered as economic non-values at certain periods (calving peaks in particular). Ensure the veal calf sector continues to exist is therefore necessary for the circularity and sustainability of the dairy sector. In addition, the following details should be added to the description of the production system, which are particularly important for understanding the health problems encountered in this production: In France, most veal calf fatteners operate on an "all-empty-all-full" basis, i.e. all calves are put into the fattening building on the same day. This practice avoids the regular introduction of new microbes. It also avoids stressing the animals with each new entry. Furthermore, the average size of veal calf farms in France is 350 places (source: Veal calf building survey, INTERBEV, 2020). However, this study shows that this average farm is filled by 350 calves from an average of 325 different farms (more than 90% of the calves come from a dairy breeding farm) (Idele, 2022). This finding highlights the difficulty of controlling the transmission of germs from calf to calf on the fattening farm. 3. Individual Housing - 360-361: This is not true. Firstly, not all buildings are equipped in the same way. Some buildings are equipped in such a way that 100% of the baby boxes (and therefore of the calves) are side by side. Furthermore, in the above-mentioned case, the calves all have the opportunity to have contact with each other either from the front (over the buckets) or through the bars. 4. Group housing in small groups with milk feeding with bucket/trough - 370: In France, 41% of calves are fattened in pens of 6 to 10 calves (and 2/3 in recent buildings) and 12% in pens of more than 10 calves (source: Veal calf building survey, INTERBEV, 2020). 5. 2 393: In France, calves re-lotting is rather done 2 to 3 times during the fattening period and not every week (or 2 weeks). 6. 387: Calves are checked for iron at several stages of fattening. The aim of these controls is to prevent any risk of anaemia, a risk that is present by definition in veal calves because they are young animals, and a mammal whose diet as a youngster is mainly composed of milk: a highly digestible food but with a low iron concentration. The calves are monitored from the moment of arrival and iron supplementation is carried out well above 4.5 mmol/L to correct any deficiencies. The IDELE HEMOVEAU study shows in particular that many calves are recharged with iron as soon as they arrive at the fattening barn to correct an early deficiency. There are two ways of administering iron: - dietary iron used as a priority, which is used to supplement all calves in the batch in a general way, - injectable iron, which is used specifically to raise the haemoglobin level of the lowest calves, for which average intakes via feed or oral supplementation would not be sufficient.



		<p>7. 394: The primary objective of calves rearing is to allow calves that drink less quickly to have easier access to feed. This practice is directly related to animal welfare.</p> <p>8. 566: The negative impacts of group housing on the health of calves should not be neglected. The calf sector has invested heavily in the eco-antibio plans, with significant progress made (for example: in France, -47% of antibiotic use between 2013 and 2018 in French veal farms according to the longterm observatory of antibiotic use - IDELE, ANSES-ANMV). The issue of antibiotic resistance is particularly important for the veal industry. We cannot allow ourselves to favour practices that would undermine the progress made in this area.</p> <p>9. - Conclusions on individual and group housing - 681: the data presented in this chapter do not address the behaviours mentioned (exploratory, play, movement restrictions, resting problems, ...). It seems to us inappropriate to conclude on data that are not addressed by EFSA in the opinion.</p> <p>10. 687: The negative impacts of group housing on the health of calves should not be neglected. The calf sector has invested heavily in the eco-antibio plans, with significant progress made (for example: in France, -47% of antibiotic use between 2013 and 2018 in French veal farms according to the longterm observatory of antibiotic use - IDELE, ANSES-ANMV). The issue of antibiotic resistance is particularly important for the veal industry. We cannot allow ourselves to favour practices that would undermine the progress made in this area.</p> <p>11. 693: The description of the F2F EKE model for the impact of group size emphasises that group rearing with automatic milk delivery is not widespread in Europe. Few, if any, data were found in the literature for groups of more than 7 animals. We are then surprised by the level of certainty and the lack of nuance in this conclusion given the paucity of literature on the subject.</p> <p>12. 725: The lack of available data on calf rearing systems in groups larger than 7 individuals does not allow such a recommendation to be made.</p> <p>13. 727: This recommendation directly calls into question the model of group rearing of calves with automatic milk dispensers, which represents 12% of French farms, and which nevertheless offers certain benefits with regard to BEA: the presence of teats to meet the need for suckling, the possibility of a greater number of feedings per day, and a pen size that allows the calves to move freely at different speeds.</p> <p>14. 815: The F2F EKE analysis relies on an animal-based indicator: locomotor play behaviour. However, the table of uncertainties indicates that the definition of play behaviour and more specifically of locomotor play behaviour, which is used as an ABM in the following, is not consensual. This seems to be an important methodological bias in the proposed analysis.</p> <p>15. 890: In contrast to the other conclusions presented in this draft scientific opinion, for none of the conclusions presented in this section, EFSA does specify the degree of certainty.</p> <p>16. 891-893: To rely only on play behaviour is a simplistic way of describing the welfare of calves in large or small spaces. It is often assumed and demanded that for good welfare, farm animals must have "freedom to express their natural behaviour". This requirement is problematic for at least two reasons. Firstly, natural behaviour is difficult to delineate because of its variability and flexibility. Secondly, some behaviours, that are clearly natural, are in fact detrimental to the welfare of animals. Many factors contribute to animal welfare, which cannot be characterised only on the basis of play behaviour.</p> <p>17. 936: A fourfold increase of the minimum space allowance per animal would lead to 16% of the full extent of locomotor play behaviour expressed by the calf in the situation you describe as a reference (i.e. 6 minutes and 38 seconds over 24 hours). In concrete terms, this recommendation amounts to asking the calf industry to multiply by 4 the surface area available per animal to allow calves to play for 1 minute and 4 seconds per day. Such a measure would be disproportionate to the expected impact. Furthermore, you indicate in lines 858-860 that locomotor play behaviour is well</p>
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		<p>documented in calves up to the age of 3 months, but that beyond this age the calf's interest in this activity decreases to a level that is not known. The recommendation is therefore not valid beyond the age of 3 months. Finally, we would point out that a fourfold increase of the minimum space allowance per animal will increase the floor space of the rearing buildings by the same amount, i.e. by 66%, which would pose a significant problem in terms of the environment. At €1700 per place, such an increase in surface area per calf represents an additional cost of more than one billion euros. In our opinion, such a 4 recommendation is likely to call into question the sustainability of the veal calf industry, which remains the main source of value for males from the dairy industry. 945: The recommendation of 3m² is based on a single available study (Faervik et al, 2008). Furthermore, based on the F2F EKE analysis proposed by EFSA, 3m² per animal would allow calves to express locomotor play behaviour for 1 minute per day for half of the duration of fattening (since the calf's appetite for locomotor play behaviour is only known up to 3 months of age and then decreases to unknown levels, it is not possible to conclude that this is of major benefit to animal welfare). 949-950: 3m² per animal should provide a higher overall activity according to this recommendation. However, in line 908, EFSA states that there is no activity data for areas between 1.8 and 4m².</p> <p>18. 3.1.4.1. Assessment scope and assumptions 970: According to a recent online survey of 2592 consumers conducted as part of the RENOUEVEAU project in 2021, colour remains an important criterion for choosing veal for 62% of them. In addition to meeting consumer expectations, the light colour of veal clearly distinguishes it from beef and explains the price difference (+1.78€ / kg according to KANTAR September 2022). The production of red meat (young cattle and beef) concerns only 21% of males from the French dairy herd, compared to 63% for veal production. There are various reasons for this low share of the market: the economic model (insufficient sales prices vs. production costs), the saturation of the European red meat market, and the technical feasibility of fattening male dairy cattle beyond 12 months. The "light pink" colour of veal therefore remains a key element in the sustainability of the European veal industry, but also a determining factor in the circularity of the dairy production economy.</p> <p>19. 992: The sources of uncertainty in the model are great because there is a real lack of data. EFSA mentions on line 992: "A review of studies looking at haemoglobin concentration indicated that there is no clear agreement on the cut-off under which a calf is considered anaemic (Table 11). There are indeed no accurate or recent studies dating after the EU regulation that can be extrapolated to today's veal calf production regarding the threshold below which a calf is considered anaemic. There is clearly a lack of references that does not allow today to arbitrate that a threshold of 5.6 mmol provides significantly better animal welfare and health status than a calf at 4.5 mmol. More precise studies to acquire references on the current system of veal calf production are therefore necessary.</p> <p>20. 3.1.4.2. Welfare consequences of low haemoglobin levels. 3.1.4.2.4. Measures to prevent low haemoglobin levels - 1085: Iron replenishment in fattening plants is also done through collective drinkable replenishment with the addition of iron to the milk replacer during the preparation of the milk. Iron replenishment is therefore not exclusively carried out by injection.</p> <p>21. 5 3.1.4.4. Recommendations on haemoglobin levels - 1139: However, EFSA states in lines 955-957 that a high iron content feed does not always result in high iron availability for the calf</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for your comment. On point 1), please see answer to comment #110.; on point 2) and 3) see comment #155; on point 5), the sentence was reworded to express that regrouping events can be limited; on point 8) and 10), see</p>
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		<p>comment #92; on point 9), see comment #156, on point 11), see comment #156; on point 14) see comment #157; on point 15), certainty levels were now added to the statements were a range of certainty had not been provided; on point 16 and 17) see comment #157; on point 18, 19 and 21 see comment 158).</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
162	Introduction to the draft for Public Consultation	<p>In general, the working group behind this scientific opinion did a really good job. It is laudable the report is setting clear and quantitative recommendations.</p> <p>Answer: Thank you for your comment.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
163	Background	<p>It states on line 375 – 376 that no enrichment is provided, even though calves seem to enjoy enrichment to fulfill the desire to play. Recommendations regarding presence of enrichment would be important and valuable. r. 395 "There is an indication that veal are working on..." --> word 'famers' missing, I do not think veal are working on anything.</p> <p>Answer: Thank you for your comment. Recommendations on prevention of inability to perform exploratory behaviour are provided in the document and these include provision of enrichment. We have added the missing word in the sentence mentioned.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
164	Risks of individual housing	<p>R. 474 "these calves engaged in more agonistic social interactions than pair housed calves." --> some scientists consider this type of 'rebound-activity' (higher levels of a specific behavior after absence) a true sign of deprivation. It would be of added value to explore whether this also holds for calves and social housing.</p> <p>Answer: Thank you for your comment. We do not have indications whether the point made is true and can only report what has been found. But of course, we welcome further studies in this regard if they are available.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
165	Risks of iron restriction	<p>It is unclear why the recommendation for a minimal Hb level is set at 5.3 mmol/L. The table only provides some evidence that a concentration of 6.01 does not affect meals refused and gain/feed ratios, but it is unclear what happens between 5.3 and 6.01 mmol/L. Also, this experiment does not discuss oxygen consumption/heart rate/lactate production/resp frequency, so it is also unclear what the effect of an Hb-level of 6.01 mmol/L would have on these parameters, compared to 7 or 8 mmol/L. So why not be on the safe side (regarding welfare) and set it at 6.01 instead of 5.3 mmol/L? Please consider changing the minimum threshold for calves to 6.01 mmol/L, or better substantiate your decision to choose 5.3 mmol/L as a minimum.</p> <p>r. 1048 "(mean Hb level of an 4.34 mmol/L)" --> number or word missing the sentence on row 1048-1050 is unclear: "the same effect was not. (Gyax et al., 1993)." What is meant with 'the same effect'? As in, no significant difference was found between the two diets on Hb-level? Please clarify.</p> <p>Answer: Thank you for your comment. The conclusions reflect the outcome of the assessment; there are no studies looking at effects of values above 5.3 mmol/L. on the second point, we reviewed the mentioned sentence, and we did not spot any missing word.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>

166	Background	<p>Regarding calf-cow contact recent (2020 – 2022) studies from Wenker et al. (Wageningen University & Research) are missing. This would also fill in some of the gaps as mentioned on row 1634: “there is a lack of scientific evidence on the impact of early separation on the dam’s welfare”</p> <p>Answer: Thank you for your comment. A reference to one of Wenkers’ publications of 2022 was added to the scientific opinion.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
167	Risks of limited cow-calf bond	<p>Regarding the cow-calf contact recommendations: it is unclear why the report concludes on “the calf should be kept with the dam for some minimum 1-2 days”. Where do these 1-2 days come from? Especially because the following recommendations speak that in the future farmers should aim for prolonged calf-cow contact. Since the scientific opinion is about the welfare of the animals, recommendations should focus on that. From the literature, it makes more sense that on the basis of welfare, a recommendation to keep the calf with the mother for at least 12 weeks. This is much better supported by the data. Please consider changing the minimum threshold for this, or better substantiate why 1-2 days is recommended.</p> <p>Answer: EFSA considered all the scientific evidence known to the authors and identified following structured literature searches. The minimum recommended time results from the considerations of advantages and disadvantages of contact for a certain period of time. This assessment revealed positive effects of contact with the dam for a short period, in terms of immunity and disease resilience before the cow-calf bond is fully developed.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
168	Background and Terms of Reference as provided by the requestor	<p>It is unclear from which age onwards the mandate speaks. Is it from birth onwards? Will the early period on the farm also be addressed? Possibly in the GToR’s? Specifically, the first two weeks of a calf require extra attention since mortality is so high during this period. Calves are almost always individually housed, and the housing is poorly regulated.</p> <p>Answer: The mandate defines calves as bovines between 0 and 6 months. The document provides a description of housing types used in the early stages of the life of the animal, which although could not be made available in the public consultation due to time constraints, has now been published.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
169	Specific Scenario - The welfare of male dairy calves raised for producing “white” veal meat and the risks associated with individual housing, insufficient space and feed restriction (such as deprivation of iron and fibres)	<p>2. What is also missing is risks of temperature and humidity on the housing of the calves. Maybe this will be discussed in the GToRs, but this has received little attention in the old legislation. It would be good if the EFSA sets quantitative guidelines on min and max temperature & humidity (ideally all climate parameters, but temperature and humidity are measurable and enforceable). Possibly all white veal calves are housed in climate-controlled systems, but this should be addressed (if it is not addressed in the GToRs).</p> <p>Answer: Thank you for your comment. Please refer to comment #86 for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>

<p>170</p>	<p>Background and Terms of Reference as provided by the requestor</p>	<ol style="list-style-type: none"> 1. lines 137 – 1411 It is stated that current legislation requires calves to be kept in groups after the age of eight weeks and that EFSA will explore scientific information that supports the feasibility of further increasing the period of time during which calves can be kept in groups in a way that improves their overall welfare conditions. BVK wants to underline that nowadays the common practice in the veal sector is that calves are kept in individual pens less than 8 weeks (up to four (4) or five (5) weeks of age in Belgium). This system is being used for animal health reasons: it allows calves to make the transition from the birth farm to the husbandry in a tranquil manner, prevents the spread of infections and helps the farmer in these first weeks to better manage the individual animals (f.e. with the feeding, keeping track of the health status, etc.). These welfare conditions should not be forgotten by EFSA when reconsidering the options for keeping calves in groups. 2. lines 154 – 161 The consultation concerns only scenarios 1 and 3 and not scenario 2. We assume it would be beneficial to EFSA to consult stakeholders also on scenario 2. 3. lines 171 - 184 Scenario 1 lists 'four major factors potentially leading to welfare issues', the exposure variables. To what extent these factors are (still) present in European veal sector (and the variation between countries) seems not taken into account throughout the Scientific Opinion. According to the Guidance on Risks Assessment for Animal Welfare (EFSA Journal 2012;10(1):2513), a formal risk assessment should consist of a) exposure assessment, b) consequence characterisation, followed by c) risk characterisation. Occurrence / prevalence of exposure should be part of the exposure assessment. To determine impact of exposure, it is necessary to have insights in risk and prevalence. Both are not well-determined. Same Guidance document states that 'risk assessment should not <p>Answer: Thank you for your comment. On points 1 and 2), please refer to comment #33 and #18 respectively. On point 3), please see comment #112.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
<p>171</p>	<p>Provision of quantitative criteria for prevention of welfare consequences – Specific Scenarios</p>	<p>lines 208-298 EFSA refers to a method of risk assessment for animal welfare that is based on a similar approach as chemical and microbial risk assessment. Problem formulation, including factor identification, is a prerequisite of the process and is equivalent to hazard identification, which considers whether the factors as described in the draft Scientific Opinion have the potential to improve or impair directly or indirectly the animal welfare in the target population. In addition, the model used assumes a linear relationship between exposure and animal-based measurements, which is most likely not correct. Quantitative risk models should only be used in case hazards for welfare are well-defined and based on systematically reviewed scientific evidence, which is unlikely to be the case in the near future. In the used methodology the F2F EKE approach is used where two populations (the exposed and the non-exposed) are being compared. For example: the individual housing is being compared to the outdoor grazing with almost unlimited space. The advice that follows from this extreme opposite comparison is not substantiated since there is no comparison in a population with the current situation being compared to the advised situation. This involves that the model is based on a lot of assumptions and even more than what is stated in 230 – 245. Beyond that, the expression of the ABM are the unexposed conditions of the natural situation an animal population may experience, but all negative effects of an environment in the wild are not included but will undoubtedly be negative for the welfare of the animals. The model uses a simple interpolation framework. The question is whether this is justified: certainly, at the end "unexposed condition", little data will be known and more exponential relationships are probably more realistic.</p> <p>Answer: Same comment as #35; please refer to that comment for an answer.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>

172	Uncertainty assessment	<p>lines 301 - 316 The used model is a kind of elicitation with its own uncertainties and on top of that EFSA works with credibility ranges from that elicitation. And this model is applied within a specific group of researchers who are educated in a specific framework. It is based on assumptions and therefore potentially biased. Throughout the Scientific Opinion it is stated there is little or no data. Research should be done to collect/gather data. Expert opinions and modelling without data is not robust science. A lot seems to be based on assumptions. This undermines the value of the Scientific Opinion.</p> <p>Answer: Same comment as #36; for an answer, please refer to that comment.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
173	Specific Scenario - The welfare of male dairy calves raised for producing "white" veal meat and the risks associated with individual housing, insufficient space and feed restriction (such as deprivation of iron and fibres)	<p>325 -330 EFSA is referring to a report dated from 2012 when stating that young calves are fed with a predominantly liquid, milk replacer diet. In the last decade the diet of calves has changed dramatically. A calf consumes between 235 to 275 kg of calf milk replacer, 180 to 325 kg of fibre rich concentrate and 13 to 35 kg of chopped straw. Also, the iron intake has considerably increased by this. In many European countries roughage is available ad-libitum or in increasing quantities. The 'white veal' of the past is so to say not the 'white veal' of nowadays. The statement gives thus no worthy insight into the common practice of today.</p> <p>334 Although it was common practice a decade ago to keep calves in individual pens during the first six (6) – eight (8) weeks, today calves are kept in individual pens up to four (4) or five (5) weeks of age.</p> <p>347-350 See previous comment.</p> <p>360 – 368 In this phrases EFSA describes the housing system. It states that about 20% of the calves are positioned in the back. This is not always the case since every husbandry has a different outline – so there are several options and modifications possible. The statement that towards the end of the phase, when calves are larger, these calves positioned in the back have no contact with other calves' snouts is incorrect. Calves do have contact, also when positioned in the back. See figure 2 where at the right side two calves are being positioned in the back. The calves have every possibility to have contact with several other calves. The statement that calves housed individually receive no solid feed is incorrect. All veal calves are fed solid feed, this is current practice and mandatory by law.</p> <p>370 – 373 See previous comments on ages / individual housing.</p> <p>Answer: Thank you for your comment. On point 1, see comment #38, on point 2), see comment #51. Regarding the contact possibilities of calves positioned in the back, it is considered that the contact and interaction opportunities of these calves, in certain layouts, are considerably limited; hence no amendment is done to the text. Regarding the point on solid feed, the sentence was edited to correct this point.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
174	Background	<ol style="list-style-type: none"> 374 – 376 Rubber floors are not mentioned. It is stated that no enrichment is provided. Enrichment however may be present, such as a ball hanging from a chain from the ceiling, fixed brushes on the walls, and some form of dry teats to suck/chew on (see also the contradiction with 408 – 409). The enrichment of the feed menu with short-fibre straw stimulates species-own behavior such as ruminating and prevents tongue twisting. 387 Calves are checked for iron at several stages of fattening. The purpose of these checks is to prevent any risk of anaemia, a risk present by definition in veal calves because they are young animals, and mammals whose diet is mainly composed of milk: a highly digestible food but weakly concentrated in iron. The calves are checked in particular on arrival and iron supplementation is performed well above 4.5 mmol / L to correct any deficiencies. The IDELE HEMOVEAU study shows in particular that many calves are provided with iron as soon as they arrive at the fattening barn to correct an early deficiency. However, the priority route of iron administration is dietary iron, which is used to supplement all the calves in the batch in general. Injectable iron is used specifically to raise the haemoglobin level of



		<p>the lowest calves, for which the average intake via food or oral supplementation would not be sufficient.</p> <p>3. 395 In the phrase (..) indication veal are working on reducing this practice (..) it looks like the word 'integrators' or 'farmers' is missing.</p> <p>Answer: Thank you for your comment. On point 1), the system description provides an overview of general characteristics of systems to keep calves in small groups and in large groups; there is no contradiction in the text since the sections refer to two different systems. Rubber flooring is mentioned in the text describing large group systems. Regarding the point on the haemoglobin checks, a mention to the fact that haemoglobin of calves is checked on arrival was added. On point 2), please see comment #155. On point 3), thank you, the sentence has now been edited.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
175	<p>Specific Scenario - The welfare of male dairy calves raised for producing "white" veal meat and the risks associated with individual housing, insufficient space and feed restriction (such as deprivation of iron and fibres)</p>	<p>In the Netherlands around 45 dairy farms have a cow-calf contact system (Antonis, et al., 2017). This is less than 1% of all dairy farms. The recommendations on cow-calf contact do not take the impact on the farms into account. Prolonged cow-calf contact does not only effect dairy farmers financially (loss of production and investments in housing), but also the knowledge infrastructure for cow-calf contact system is absent (Antonis, et al., 2017). Experience with this system is limited, just like the extent to which veterinarians and advisors can really support on this point. Many factors influence the success of a cow-calf contact system. If requirements are not met, risks can arise for both the calf and the dam and a reduction in animal welfare. In the conclusions on cow-calf contact is not mentioned which health implications a cow-calf contact system may have. Wenker et al. (2022) conclude that full contact posed a challenge for calf health, presumably because the housing conditions in current stables are suboptimal. In the research is also concluded that more research into strategies to improve cow-calf housing and management in cow-calf contact systems is warranted. It can be concluded that an obligation for prolonged cow-calf without proper housing and knowledge about management the welfare of the calf is at stake instead of improving. EFSA pays too little attention to the implications a cow-calf contact can cause for the calf, the dam, and the dairy farmer. At this point we can only agree with the last recommendation: further research is needed to better understand how to implement such contact in a larger scale and to identify the best options in practice.</p> <p>Antonis, A., Cynthia, V., Lidwien, D., & Reina, F.-v. (2017). Verkenning Kalf bij de Koe. Bunnik/Wageningen: Louis Bolk Instituut en Wageningen University & Research. Wenker M.L., Verwer C.M., Bokkers EAM, te Beest D.E., Gort G., de Oliveira D., Koets A., Bruckmaier R.M., Gross J.J. and van Reenen C.</p> <p>This comment included an attachment. For the full list of comments including attachments please refer to this file.</p> <p>Answer: Thank you for the comment and for the publication provided. As noted in the SO text and in the comment, the conclusions state that there is limited published data on the practical strategies for implementation of CCC systems. The reference of Wenker (2022) was added to the text.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>
176	<p>Assessment</p>	<ol style="list-style-type: none"> 1. p12, 333: Calves are started in the veal farms at an age of 14 days till 35 days (in stead of 14-21 days). 2. p12, 348: Individual housing of veal calves after arrival allow monitoring of the feed intake and drinking behaviour, easy health checks and reduction of disease spread from mixing calves from various locations. This individual monitoring allows to form steady groups of equally sized calves when grouping. 3. p14, 386: It could be useful to ask the Member states feedback on the monitoring of iron levels in the calves. 4. p17, 492: The bond between the calves and the people that feed them and take care of them should also be considered. Calves used to being handled



		<p>by people, tend to have less stress in certain circumstances (like during transport, grouping).</p> <ol style="list-style-type: none"> 5. p20, 590: Attention, for a correct estimation of health, individual monitoring should be maintained, this is more difficult in calves in pairs or in small groups. The first weeks are therefore very important. 6. p35, 924: Although not in the mandate of this assessment, the socio-economic impact of these recommendations could also have an impact on the welfare of the calves. <p>Answer: Thank you for your comment. On points 1) and 5), this has now been amended. On point 2), the easiness of health checks is mentioned in the text, but it is also added that keeping calves in small groups would still allow health checks and monitoring of feed intake and be more beneficial from a welfare point of view. On point 3), recommendations for data availability on this matter are part of the document. On point 6), indeed those considerations are out of scope of the present scientific opinion.</p> <p>Changes to the Scientific opinion based on this comment: Minor.</p>
177	Risks of limited cow-calf bond	<p>General comment: consider the cows health and the calf health.</p> <p>Answer: Thank you for your comment. Both the calf and cow’s health, and welfare, were considered in the assessment.</p> <p>Changes to the Scientific opinion based on this comment: None.</p>



Appendix C – Attachments to comments submitted

For the full list of comments including attachments, please refer to the following link:
[https://open.efsa.europa.eu/consultations/a0c7U000001ScyTQAS?search=.](https://open.efsa.europa.eu/consultations/a0c7U000001ScyTQAS?search=)