

1 SUPPLEMENTARY MATERIAL

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3 **Tables**4
5 **Table S1.** Production parameters used to run the model in a 1000 sow farm.
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Mothers	Batches	20
	Number sows per batch	50
	Fertility to delivery	0.85
	Fertility at gestation control	0.9
	Abortion probability	0.02
	Average number of live offspring	12.55
	Average number of stillborn piglets	1.5
	Sow mortality	0.06
	Maximum number of deliveries by mother	8
	Maximum number of failures by mother	3
	Minimum number of failures by mother to remove	2
	Maxim parity to be removed	5
	Annual sow replacement rate	0.49
Lactation period Piglet data	Mortality week 1	0.06
	Mortality week 2	0.04
	Mortality week 3	0.02
Transition period	Number of pen	22
	Mortality	0.03
Fattening period	Number of pen	44
	Mortality	0.04

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22 **Table S2.** Average values of viable, sick animals and the consequent weight loss at the end of the nursery
 23 and fattening period depending on the percentage of infected and vaccinated animals.
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Nursery	Vaccination day						Fattening	Vaccination day					
	% Infected animals	0	25	50	75	100		% Infected animals	0	25	50	75	100
% of viable animals	5	91.57	92.39	93.84	95.22	96.19	% of viable animals	5	88.71	89.62	91.22	92.97	93.91
	10	87.42	89.33	91.38	93.58	95.33		10	82.96	84.76	87.19	89.71	91.75
	15	87	88.60	90.71	92.95	94.85		15	81.36	81.63	82.71	85.56	90.23
	20	88.80	89.89	91.31	93.14	94.86		20	85.39	86.27	87.37	89.48	91.84
% of sick animals	5	71.40	63.96	44.75	20.66	6.09	% of sick animals	5	26.62	28.96	23.32	8.47	0.44
	10	93.55	86.82	69.32	35.98	12.08		10	21.73	28.87	29.23	12.91	0.76
	15	98.22	94.71	80.21	45.75	17.10		15	3.19	1.07	3.03	8.40	1.19
	20	99.37	97.47	87.09	55.49	22.94		20	4.72	12.91	19.21	12.94	1.02
% of loos weight due to disease	5	12.68	10.40	9.33	4.79	3.54	% of loos weight due to disease	5	12.98	13.25	10.63	9.46	7.56
	10	16.69	14.79	11.02	8.08	5.99		10	17.53	15.99	13.76	10.67	8.69
	15	16.88	15.65	13.37	10.11	6.79		15	18.69	18.07	16.71	14.30	9.10
	20	16.57	14.76	13.34	9.18	7.16		20	15.48	14.98	14.08	11.39	8.53

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56 **Table S3.** Average values of viable, sick animals and the consequent weight loss at the end of the nursery
 57 and fattening period depending on the percentage of infected and the day of vaccination of the whole
 58 population (100% of the animals) versus the infection day.
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Nursery	Vaccination day						Fattening	Vaccination day					
	% Infected animals	1	10	20	30	40		% Infected animals	1	10	20	30	40
% of viable animals	5	95.36	92.75	88.96	88.41	88.62	% of viable animals	5	91.55	88.97	85.33	84.27	84.45
	10	94.09	89.68	85.53	85.04	84.91		10	90.28	86.02	82.05	81.23	81.07
	15	92.83	87.69	83.93	83.68	83.79		15	89.08	84.11	80.52	80.12	80.19
	20	91.69	86.12	83.25	83.13	83.01		20	87.96	82.59	79.90	79.70	79.59
% of sick animals	5	11.10	29.53	55.68	71.72	78.03	% of sick animals	5	0.70	1.86	2.84	7.51	12.97
	10	19.90	50.92	80.45	91.74	95.45		10	1.00	2.28	2.21	4.46	6.61
	15	28.43	65.50	91.31	97.18	98.83		15	1.20	2.09	1.28	2.12	2.94
	20	36.82	77.01	96.03	99.26	99.86		20	1.30	1.64	0.67	0.96	1.19
% of loos weight due to disease	5	7.88	10.35	13.66	16.31	12.99	% of loos weight due to disease	5	9.42	9.96	14.18	16.00	16.28
	10	6.67	11.39	16.02	19.17	20.44		10	9.91	13.56	17.54	18.43	19.94
	15	8.20	15.53	20.42	21.33	22.58		15	10.94	16.49	19.75	20.05	20.54
	20	8.38	17.22	19.60	20.56	22.11		20	13.48	15.71	19.71	20.11	21.13

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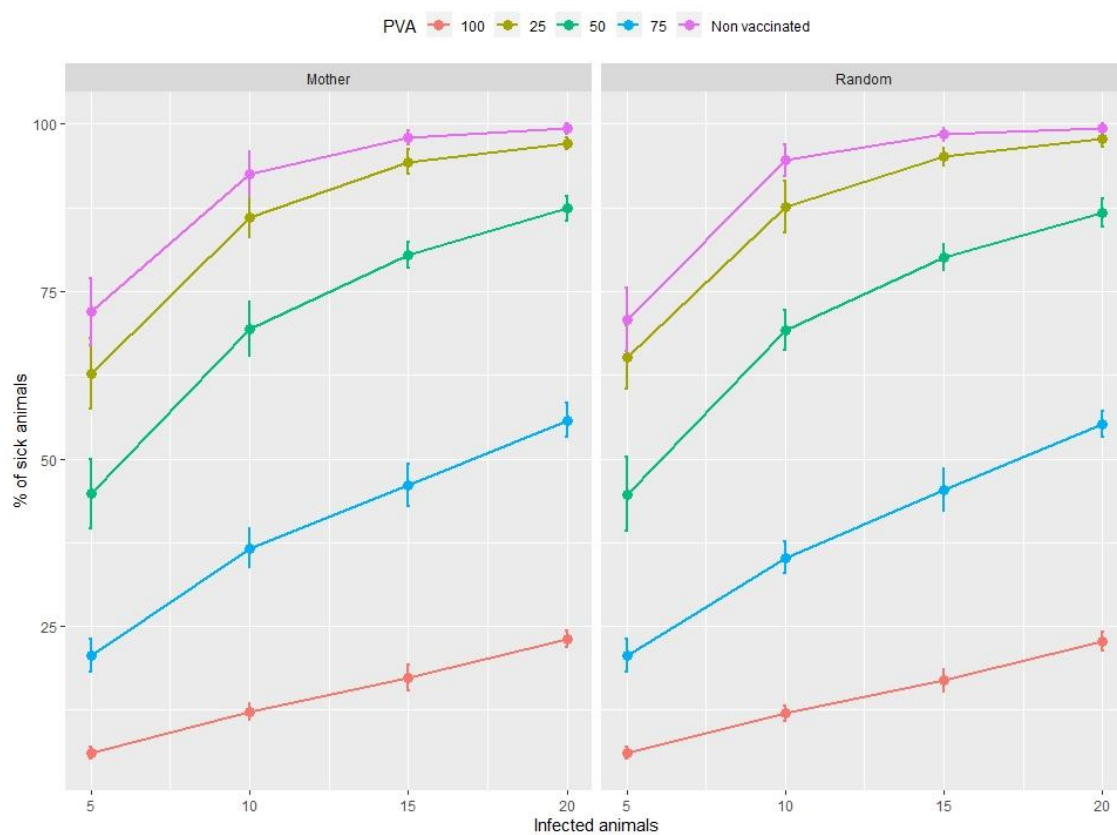
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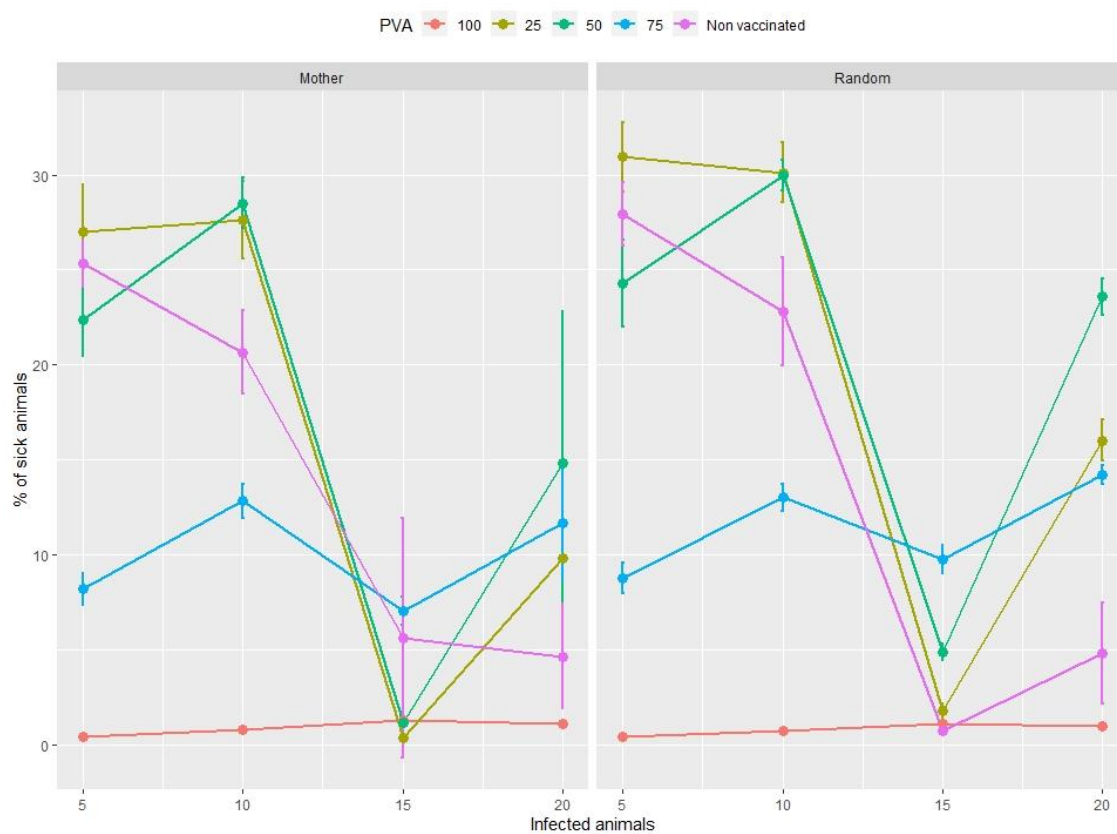
92 **Figure S1.** Nursery sick (A) and fattening sick animals (B), depending on the type of management, the
 93 percentage of infected animals at vaccine application and the percentage of vaccinated animals.
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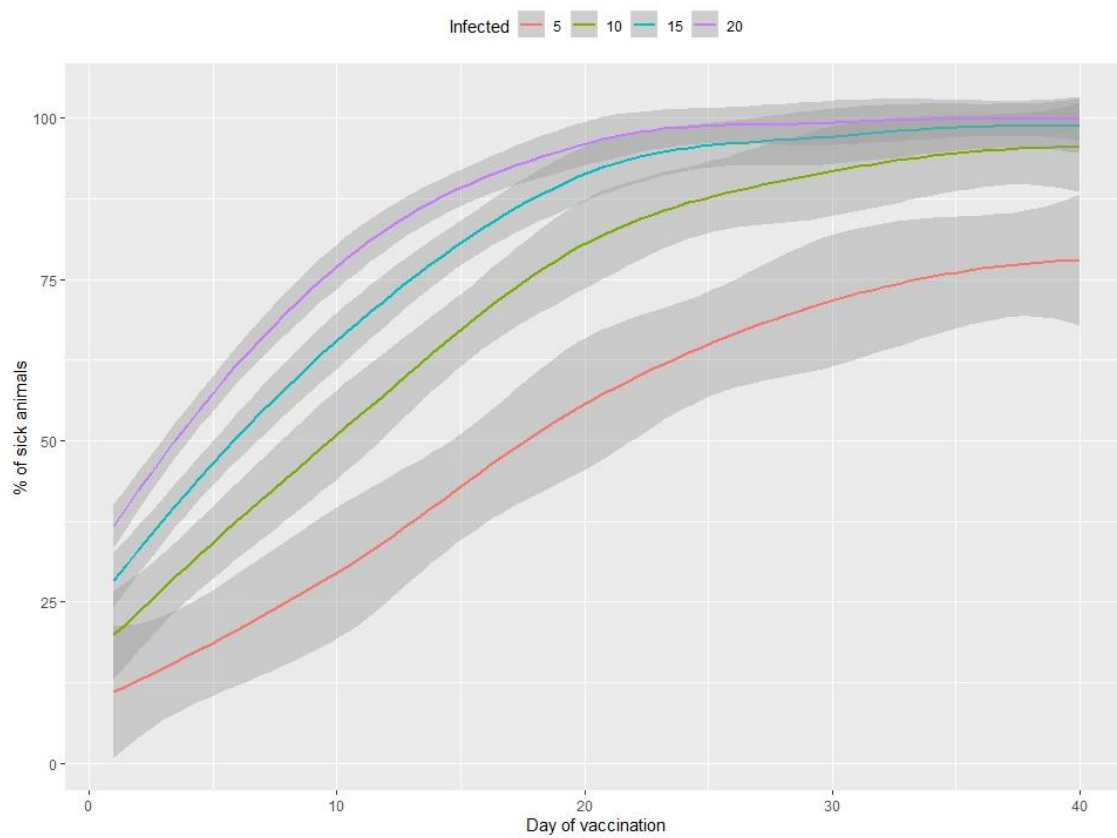
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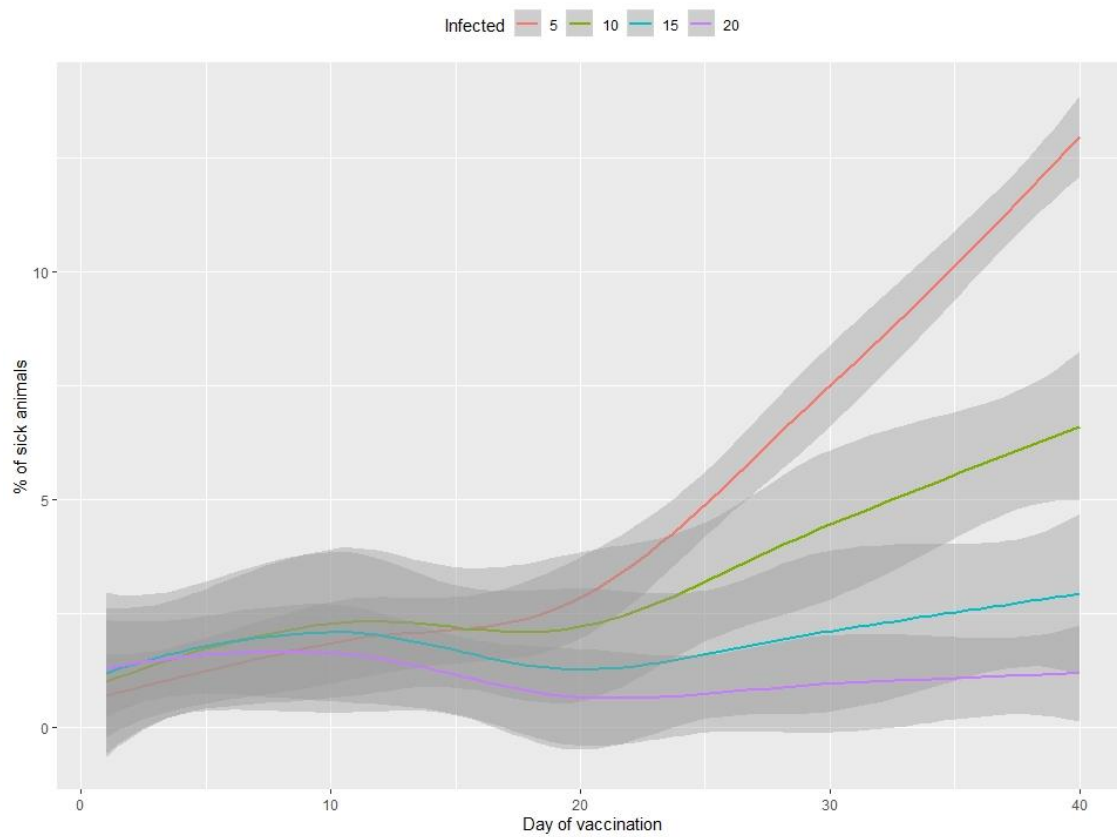
99 **Figure S2.** Nursery sick (A) and fattening sick animals (B), depending on the day of vaccination and the
100 percentage of infected animals when the vaccine is applied at 100% of the population.
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