

Table S2 for

Application of selection mapping to identify genomic regions associated with dairy production in sheep

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Table S2. Candidate regions identified based on reduced heterozygosity signals identified in at least two of the analyzed dairy breeds. Non-dairy breeds showing a coincident reduced heterozygosity signal are also indicated. For each breed, the results contain the bottom 0.5th percent of the distributions of observed heterozygosity values, averaged in sliding windows of 9 SNPs. Only the regions that were found in at least two dairy breeds were labeled as candidate regions based on the reduction of observed heterozygosity (ObsHtz-CRs). Gaps up to 2 Mb were allowed between positions identified within the same breed and between different breeds to consider a single selection signal. Positions of the markers (Mb) are referred to the Sheep Genome Assembly v2.0 (update September 2011).

ObsHtz-Candidate region (ObsHtz-CR)	Chr	Dairy breeds					Non-dairy breeds				
		Breeds	Start marker	Start position (Mb)	End marker	End position (Mb)	Breeds	Start marker	Start position (Mb)	End marker	End position (Mb)
Obs_Htz1	1	Milk Lacaune Churra	OAR1_137761966 OAR1_138170073	127.147272 127.525829	OAR1_137785444 OAR1_138302052	127.181978 127.655271	Finnsheep	OAR1_138135147	127.487148	s13122	127.757038
Obs_Htz2	1	Comisana Chios	s43775 s73989	191.715311 191.896602	s28201 OAR1_207015625_X	191.726576 191.993294	Australian Poll Merino	s03519	191.732813		
Obs_Htz3	2	Comisana Churra	OAR2_20411070 OAR2_20494849	20.132217 20.200641	OAR2_20557855	20.27409					
Obs_Htz4	2	Comisana East Frisian Brown	OAR2_76331680 OAR2_77962229	72.044265 73.59807	OAR2_79499240 OAR2_78106813	75.030746 73.747233	Finnsheep Meat Lacaune Australian Poll Merino	OAR2_75832730 OAR2_77568893 OAR2_77705450	71.577808 73.183462 73.305483	OAR2_75908169 OAR2_77690140 s59857	71.612583 73.288963 73.888851
Obs_Htz5	2	Milk Lacaune Churra	s41033 s22902	104.332992 104.395536	OAR2_111932274 s67874	104.586592 104.642351	Meat Lacaune Finnsheep Ojalada Australian Poll Merino	s41033 s22902 s22902 s29891	104.332992 104.395536 104.395536 104.501488	OAR2_111932274 OAR2_111932274 s29891	104.586592 104.642351 104.501488
Obs_Htz6	2	Churra Milk Lacaune Comisana Chios	OAR2_130265015 OAR2_130413374 s18930 OAR2_130656808	122.212699 122.472584 122.622313 122.697031	OAR2_130817865 OAR2_130656808 s46322 OAR2_131507986	122.86725 122.697031 123.095079 123.721808	Ojalada	OAR2_130413374	122.472584	OAR2_130656808	122.697031
Obs_Htz7	2	East Frisian Brown Churra	OAR2_190455427 OAR2_193567149	180.309886 183.403726	OAR2_192112657	181.952078					
Obs_Htz8	2	Chios Milk Lacaune	OAR2_210373144 s70318	199.479344 199.813655	OAR2_210391244	199.493856					
Obs_Htz9	2	Chios Comisana	OAR2_222355235 OAR2_222355235	211.20491 211.20491			Ojalada Australian Poll Merino	OAR2_222327692 OAR2_222518452	211.177754 211.36389		
Obs_Htz10	2	Milk Lacaune Churra	OAR2_244597797 s01478	232.586994 234.42203	OAR2_244925652 OAR2_246577997	232.809436 234.454459					
Obs_Htz11	2	Churra Comisana Milk Lacaune	OAR2_252085914 s68726 s68726	239.683321 241.681223 241.681223	s04809 s72745 s64586	241.810875 241.755749 241.79047	Meat Lacaune Australian Poll Merino Finnsheep Ojalada	OAR2_252367108 s58181 s10651 s10651	239.948483 240.928078 241.717335 241.717335	s00772 s04809	241.977125 241.810875 241.929821
Obs_Htz12	3	Churra Milk Lacaune	s46658 s46658	18.647955 18.647955	s00385	18.858614					
Obs_Htz13	3	Milk Lacaune East Frisian Brown Comisana	OAR3_34159096 OAR3_34209284 OAR3_34470839	31.475728 31.520076 31.786813	s67270 s67270 s67270	32.053944 32.053944 32.053944	Meat Lacaune Ojalada Finnsheep	OAR3_34159096 OAR3_34209284 OAR3_35192406	31.475728 31.520076 32.520276	OAR3_34470839	31.786813
Obs_Htz14	3	Milk Lacaune Chios Churra	OAR3_79812234 s40967 s40967	75.12407 75.200035 75.200035	s52383 OAR3_79936157 OAR3_80038014_X	75.334539 75.239426 75.340524	Finnsheep	s40967	75.200035		
Obs_Htz15	3	Comisana Chios East Frisian Brown	OAR3_127437500 s70128 OAR3_127924329_X	119.375297 119.623504 119.921829	OAR3_127719431 s70128 OAR3_127956387_X	119.73187 119.623504 119.9636	Ojalada	OAR3_128558246	120.420761		
Obs_Htz16	3	East Frisian Brown Chios	OAR3_134591031 OAR3_134841132	125.994367 126.252978	OAR3_134708445	126.116303	Ojalada	OAR3_132722549	124.350223	OAR3_132876525	124.473799
Obs_Htz17	3	Comisana Milk Lacaune	s26177 OAR3_165060142	153.950444 154.207199	OAR3_165549468_X OAR3_165200988	154.679398 154.347363	Meat Lacaune Sakiz	OAR3_165050963 OAR3_165050963	154.197278 154.197278	OAR3_165060142 OAR3_166244306	154.207199 155.291702
Obs_Htz18	3	Churra Milk Lacaune	s75549 OAR3_175355785	163.340446 163.685017	s28012	163.447575	Sakiz Finnsheep Meat Lacaune	s35593 OAR3_174446873 OAR3_175355785	162.838475 163.148256 163.685017	s03123	163.200412
Obs_Htz19	3	Churra Milk Lacaune East Frisian Brown Comisana	OAR3_181499831 OAR3_181499831 OAR3_181535066 OAR3_181576673	168.655327 168.655327 168.688319 168.751495	OAR3_181815353 OAR3_181815353 OAR3_182492456 OAR3_181714610	168.958984 168.958984 169.636983 168.866473	Australian Poll Merino Meat Lacaune Finnsheep Ojalada Sakiz	OAR3_181535066 OAR3_181535066 OAR3_181576673 OAR3_181576673 OAR3_181688249	168.688319 168.688319 168.751495 168.751495 168.83807	OAR3_181815353 OAR3_181714610 OAR3_181714610 s36931 OAR3_181815353	168.958984 168.866473 168.866473 170.561972 168.958984
Obs_Htz20	3	Churra Milk Lacaune	OAR3_196791000 OAR3_196913312	182.497709 182.643043	OAR3_197402139	183.099123	Meat Lacaune	OAR3_196913312	182.643043		
Obs_Htz21	3	Chios Churra East Frisian Brown	OAR3_229873996 s17644 OAR3_233491871	211.624402 212.763057 214.981744	s22341 s66905 s35739	211.87793 213.048035 215.4033	Australian Poll Merino Ojalada	s41320 DU384041_287	211.806587 212.622841	s23020	212.887492

Obs_Htz22	4	Churra	0AR4_11306223	10.518307	0AR4_12079184	11.293408	Meat Lacaune	0AR4_12079184	11.293408				
		Comisana	0AR4_12000546	11.218811			Ojalada	0AR4_12079184	11.293408				
Obs_Htz23	4	Comisana	s28608	97.763212	0AR4_105812413	98.865276	Australian Poll Merino	s16828	97.812402	s37018	97.871965		
		Churra	s16828	97.812402	s37018	97.871965	Ojalada	s37018	97.871965				
Obs_Htz24	4	Milk Lacaune	s06803	112.216316	0AR4_120520710	112.268889	Finnsheep	s56814	113.730938				
		Churra	0AR4_121859278	113.688324									
Obs_Htz25	5	Chios	0AR5_43897574	40.407364	s72060	41.107358							
		Milk Lacaune	s74709	40.894605									
Obs_Htz26	6	Milk Lacaune	0AR6_26894928	23.623375	0AR6_29577816	25.949127	Meat Lacaune	0AR6_26396811	23.210527	0AR6_26894928	23.623375		
		Chios	s17623	25.885521			Ojalada	0AR6_26396811	23.210527	0AR6_31567469	27.819055		
							Australian Poll Merino	0AR6_31621001	27.872898				
							Sakiz	0AR6_33453920	29.69792				
Obs_Htz27	6	Milk Lacaune	0AR6_38585187	34.57594	0AR6_42834740	38.054381	Australian Poll Merino	0AR6_36395028	32.401102	0AR6_46589899	41.873949		
		Comisana	0AR6_41044118	36.436857	0AR6_42317192	37.632679	Meat Lacaune	0AR6_38383335	34.365051	0AR6_44473865	39.833644		
		Churra	s16069	41.629024	s38254	41.862923	Ojalada	s43499	36.056663	0AR6_48259046	43.363614		
Obs_Htz28	7	Churra	0AR7_19866890_X	19.072325	s68550	19.257574							
		Milk Lacaune	0AR7_19928730	19.134616									
Obs_Htz29	7	Comisana	0AR7_46818598	42.026482									
		Chios	0AR7_47960594	43.116197	s68972	43.570232							
Obs_Htz30	7	Milk Lacaune	0AR7_60354601	54.41476	s30690	58.162605	Ojalada	0AR7_60354601	54.41476	0AR7_66685731	60.560526		
		Chios	0AR7_65038832	59.047277	0AR7_65338086	59.341935	Meat Lacaune	0AR7_62610703	56.372667	0AR7_65264623	59.275972		
		Churra	0AR7_65120201	59.12761			Australian Poll Merino	s00240	58.138119	s51528	60.408964		
		Comisana	0AR7_66489587	60.45256	0AR7_66685731	60.560526	Finnsheep	s30690	58.162605	0AR7_64371135	58.364778		
							Australian Poll Merino	0AR7_64280352	58.272169	s51528	60.408964		
							Sakiz	0AR7_64854028	58.864481	0AR7_66229320	60.192716		
Obs_Htz31	8	Milk Lacaune	0AR8_83750883	78.04147									
		East Frisian Brown	s34293	78.728134	s66278	78.759335							
Obs_Htz32	9	Milk Lacaune	s09014	74.560664	s39785	74.609642	Australian Poll Merino	s09014	74.560664				
		Chios	0AR9_80693962	76.140824	0AR9_80804089	76.242733	Meat Lacaune	s09014	74.560664				
							Ojalada	s22340	74.659349				
							Sakiz	0AR9_80534807_X	75.985327	0AR9_81054740_X	76.651847		
Obs_Htz33	10	Comisana	0AR10_26652355	24.855758	s38815	28.800676	Finnsheep	0AR10_27085156	25.261864	0AR10_29546872	27.557292		
		Churra	0AR10_28646479	26.67809	0AR10_29737372	27.837794	Meat Lacaune	0AR10_29448537	27.460172	0AR10_29737372	27.837794		
		Milk Lacaune	0AR10_29389966_X	27.398222	0AR10_29793750	27.896977	Ojalada	0AR10_29538398	27.547387	0AR10_30790959	28.876748		
Obs_Htz34	10	Comisana	0AR10_44470993	42.082634	0AR10_44655795	42.272772	Finnsheep	0AR10_43391432	40.671337	0AR10_45065959	42.682521		
		Chios	0AR10_44655795	42.272772	0AR10_44834335	42.474049	Ojalada	0AR10_44470993	42.082634	0AR10_44834335	42.474049		
		Milk Lacaune	0AR10_44655795	42.272772	0AR10_44834335	42.474049	Sakiz	0AR10_44470993	42.082634	0AR10_44615697	42.230982		
							Meat Lacaune	0AR10_44509259	42.123799	0AR10_44834335	42.474049		
Obs_Htz35	11	Churra	0AR11_18701428	18.346557	s69909	18.602308	Meat Lacaune	s13840	16.449218	s27474	18.671334		
		Milk Lacaune	0AR11_18701428	18.346557	s27474	18.671334	Ojalada	0AR11_18701428	18.346557	s69909	18.602308		
		Comisana	0AR11_18815864	18.454208	0AR11_18909056	18.544951	Australian Poll Merino	0AR11_18815864	18.454208	0AR11_19810690	19.403144		
							Sakiz	0AR11_19810690	19.403144				
Obs_Htz36	11	East Frisian Brown	s59074	22.135921	0AR11_23034869	22.199593	Meat Lacaune	s51197	22.183054	s43495	22.368448		
		Churra	s51197	22.183054									
		Milk Lacaune	s51197	22.183054	s43495	22.368448							
Obs_Htz37	12	Comisana	s13858	24.480926			Sakiz	0AR11_26873926	25.777153	s31301	26.612875		
		Churra	s14394	24.545136	s43122	24.803153	Australian Poll Merino	s51636	26.318526	s23362	29.221714		
		Chios	s10340	24.60133	s62452	29.530127							
		Milk Lacaune	0AR11_27752920	26.50247									
Obs_Htz38	12	Churra	0AR12_61804737	55.672814	s66802	55.842304	Australian Poll Merino	s66802	55.842304	0AR12_61974786	55.848797		
		Milk Lacaune	0AR12_61874204	55.74348	0AR12_61974786	55.848797	Meat Lacaune	s66802	55.842304	0AR12_61974786	55.848797		
		Comisana	s66802	55.842304			Australian Poll Merino						
Obs_Htz39	12	Churra	s30614	58.136309	0AR12_64628319	58.302665	Meat Lacaune	s30614	58.136309				
		East Frisian Brown	s26801	58.576013	0AR12_64944672	58.61688							
Obs_Htz40	13	Churra	0AR13_33752762	30.635254	0AR13_33955992	30.85995	Ojalada	0AR13_33752762	30.635254	0AR13_33896421	30.786161		
		Milk Lacaune	0AR13_33896421	30.786161	0AR13_33955992	30.85995	Australian Poll Merino	0AR13_34032007	30.939655	0AR13_34176651	31.065051		

Obs_Htz41	13	Milk Lacaune Comisana	s08503 OAR13_54016379	39.88509 41.65332	s20479	41.694042					
Obs_Htz42	13	Chios Comisana	OAR13_60893851 s31201	56.060654 56.339588	OAR13_68535533 s63708	63.227469 63.78132	Sakiz Finnsheep Australian Poll Merino	s31558 OAR13_67067820 s48133	56.277903 61.900545 62.276683	s13874 s19346 OAR13_67425309	63.323127 62.210378 62.371867
Obs_Htz43	15	Churra Comisana	OAR15_37160581 OAR15_37160581	35.602806 35.602806	OAR15_37380344 OAR15_37443121	35.789479 35.84624	Finnsheep	s65735	31.027264		
Obs_Htz44	15	Chios Milk Lacaune	s02793 s28875	72.842543 72.948461			Finnsheep Australian Poll Merino Meat Lacaune Ojalada	OAR15_77074005 s28875 s28875 s28875	71.384913 72.948461 72.948461 72.948461	OAR15_77122668 s52687	71.432136 72.988365
Obs_Htz45	16	Comisana East Frisian Brown	OAR16_51977009 OAR16_52089645	48.03606 48.143409							
Obs_Htz46	17	Churra Milk Lacaune	OAR17_64627979 OAR17_64889221	59.584736 59.812538	s37924 s37924	60.05064 60.05064	Meat Lacaune	OAR17_64889221	59.812538	s37924	60.05064
Obs_Htz47	20	Churra Milk Lacaune	OAR20_44626939 OAR20_44626939	40.652715 40.652715	s17843 s37017	40.959336 40.920512	Meat Lacaune Australian Poll Merino	OAR20_44626939 s64274	40.652715 41.01732	s37017	40.920512
Obs_Htz48	20	Churra Comisana Chios Milk Lacaune	OAR20_54497778 OAR20_54497778 s61798 s61798	49.766895 49.766895 49.816123 49.816123	s35415 s35415 s35415 s35415	49.979989 49.979989 49.979989 49.979989	Meat Lacaune Finnsheep	s61798 s35415	49.816123 49.979989	s35415	49.979989
Obs_Htz49	21	Chios Milk Lacaune	s52830 s41284	27.451792 29.40318	OAR21_30678813 s75804	27.471775 29.587175	Meat Lacaune Australian Poll Merino Ojalada	s75804 s38134 s38134	29.587175 29.447881 29.447881	s75804 s44540 s44540	29.587175 29.507008 29.507008
Obs_Htz50	21	Churra Comisana Milk Lacaune	s72899 OAR21_46682445 OAR21_46682445	38.858968 40.738496 40.738496	s59728	38.91103	Australian Poll Merino	OAR21_46682445	40.738496	OAR21_46936641	40.874274
Obs_Htz51	22	Milk Lacaune East Frisian Brown	OAR22_23392099 OAR22_24747565	19.587631 20.99124	OAR22_23417873	19.610393	Meat Lacaune Australian Poll Merino	OAR22_23392099 OAR22_26275112	19.587631 22.366773	OAR22_23446812	19.639123
Obs_Htz52	22	Comisana Milk Lacaune	OAR22_36492428 OAR22_36492428	31.879508 31.879508	OAR22_40197865 s73065	35.61184 34.30344	Ojalada Australian Poll Merino Meat Lacaune Finnsheep	OAR22_36492428 OAR22_38946909 OAR22_38946909 OAR22_42931135	31.879508 34.273821 34.273821 38.322102	OAR22_36576021 OAR22_41042892 s13462 OAR22_43010940	31.963576 36.462598 38.550647 38.403606
Obs_Htz53	24	Comisana Milk Lacaune	s08130 s08130	26.375802 26.375802	OAR24_29399883	26.984286	Finnsheep Ojalada	OAR24_28445680 s08130	26.035068 26.375802	s63355 s48918	27.096216 26.58114
Obs_Htz54	25	Comisana East Frisian Brown Milk Lacaune	s12019 s25195 s03686	5.095615 6.235402 6.359903	s21107 s67158	6.461437 6.571187	Australian Poll Merino Meat Lacaune	s25195 s44881	6.235402 6.451855	s67158 s21107	6.571187 6.461437
Obs_Htz55	25	East Frisian Brown Milk Lacaune	OAR25_19926183 OAR25_20106030	18.148895 18.316414	OAR25_20142347	18.354065					