

Draft Report task1

realUser1

NA

Cross validation

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Table 1: blup: random effect=id, masking=random

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>sample_1</i>	0.7828	0.9242	0.7439	0.1751	0.4208	1.5434	1005	244	0
<i>sample_2</i>	0.7800	0.9228	0.7611	0.1380	0.3777	1.4743	1012	237	0
<i>sample_3</i>	0.7660	0.9187	0.7688	0.1455	0.3818	1.5929	1001	248	0
<i>sample_4</i>	0.7848	0.9244	0.7585	0.1079	0.3604	1.4474	962	287	0
<i>sample_5</i>	0.7761	0.9209	0.7753	0.1389	0.3769	1.4077	1016	233	0
Stand dev	0.0074	0.0024	0.0119	0.0239	0.0224	0.0745	21.60	21.60	0.00
Mean	0.7779	0.9222	0.7615	0.1411	0.3835	1.4931	999.20	249.80	0.00

Table 2: ablup: random effect=id, masking=random

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>sample_1</i>	0.7634	0.8947	0.9062	0.1934	0.4551	1.6413	356	121	72
<i>sample_2</i>	0.7698	0.9002	0.8712	0.2275	0.4845	1.6738	373	97	79
<i>sample_3</i>	0.7204	0.8712	0.9730	0.2433	0.5040	1.5800	359	114	76
<i>sample_4</i>	0.6980	0.8657	1.0185	0.2402	0.5246	1.4633	332	125	92
<i>sample_5</i>	0.7216	0.8751	0.9286	0.2098	0.5186	1.5972	390	92	67
Stand dev	0.0307	0.0152	0.0576	0.0211	0.0282	0.0804	21.51	14.62	9.42
Mean	0.7346	0.8814	0.9395	0.2228	0.4974	1.5911	362.00	109.80	77.20

Table 3: ablup: random effect=id, masking=cohort

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>generation_8</i>	0.7396	0.8848	0.9238	0.2591	0.6051	1.5228	536	10	3
<i>generation_9</i>	0.7263	0.8768	0.9400	0.1487	0.3882	2.1167	474	41	34
<i>generation_10</i>	0.7726	0.8985	0.8868	0.1975	0.4490	1.5080	411	84	54
<i>generation_11</i>	0.7235	0.8733	0.9810	0.1304	0.4102	1.5988	424	104	21
<i>generation_12</i>	0.7425	0.8848	0.9464	0.2737	0.5251	1.5374	395	98	56
<i>generation_13</i>	0.7943	0.9135	0.8123	0.2322	0.4869	1.6855	283	159	107
<i>generation_14</i>	0.7777	0.9026	0.8647	0.0910	0.3743	1.6473	485	40	24
Stand dev	0.0276	0.0147	0.0571	0.0691	0.0827	0.2122	81.06	50.16	33.94
Mean	0.7538	0.8906	0.9079	0.1904	0.4627	1.6595	429.71	76.57	42.71

Table 4: gblup: random effect=id, masking=random

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>sample_1</i>	0.6748	0.8452	1.0258	0.2780	0.5274	1.5536	346	121	82
<i>sample_2</i>	0.6609	0.8368	1.0324	0.2237	0.4918	1.6620	387	97	65
<i>sample_3</i>	0.6899	0.8526	1.0283	0.1852	0.4898	1.6337	344	114	91
<i>sample_4</i>	0.6770	0.8456	1.0404	0.2025	0.5068	1.4852	322	125	102
<i>sample_5</i>	0.6407	0.8245	1.0825	0.1589	0.4649	1.6665	397	92	60
Stand dev	0.0187	0.0108	0.0234	0.0450	0.0231	0.0786	31.59	14.62	17.56
Mean	0.6687	0.8409	1.0419	0.2097	0.4961	1.6002	359.20	109.80	80.00

Table 5: ssblup: random effect=id, masking=random

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>sample_1</i>	0.6206	0.8181	1.0805	0.2158	0.4679	1.6188	332	121	96
<i>sample_2</i>	0.7182	0.8657	0.9763	0.2394	0.4971	1.6552	380	97	72
<i>sample_3</i>	0.6641	0.8367	1.0790	0.1966	0.4911	1.6272	343	114	92
<i>sample_4</i>	0.7020	0.8603	1.0324	0.2204	0.5146	1.4821	325	125	99
<i>sample_5</i>	0.6768	0.8426	1.0580	0.1513	0.4618	1.6790	393	92	64
Stand dev	0.0376	0.0191	0.0432	0.0335	0.0217	0.0767	30.17	14.62	15.61
Mean	0.6763	0.8447	1.0452	0.2047	0.4865	1.6125	354.60	109.80	84.60

Table 6: ssblup: random effect=id, masking=cohort

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>generation_8</i>	0.6465	0.8251	1.0915	0.4528	0.7225	1.3203	533	10	6
<i>generation_9</i>	0.6054	0.7972	1.1194	0.2142	0.4652	2.0355	471	41	37
<i>generation_10</i>	0.6402	0.8199	1.1032	0.2119	0.4766	1.4922	394	84	71
<i>generation_11</i>	0.6439	0.8227	1.0786	0.1582	0.4396	1.5817	352	104	93

<i>generation_12</i>	0.6537	0.8321	1.1003	0.2916	0.5411	1.5185	370	98	81
<i>generation_13</i>	0.7593	0.8892	0.9264	0.1925	0.4608	1.7248	276	159	114
<i>generation_14</i>	0.6773	0.8405	1.0538	0.0238	0.3248	1.7383	492	40	17
Stand dev	0.0483	0.0284	0.0656	0.1307	0.1212	0.2291	90.10	50.16	40.54
Mean	0.6609	0.8324	1.0676	0.2207	0.4901	1.6302	412.57	76.57	59.86

Table 7: lasso: random effect=id, masking=random

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>sample_1</i>	0.4908	0.8417	1.0750	0.2723	0.5490	1.6663	447	102	0
<i>sample_2</i>	0.5705	0.8739	0.9977	0.2097	0.2994	1.8089	444	105	0
<i>sample_3</i>	0.6083	0.8623	1.0123	0.3468	0.3528	1.6756	437	112	0
<i>sample_4</i>	0.5219	0.8560	1.0597	0.2358	0.3479	1.7454	421	128	0
<i>sample_5</i>	0.5689	0.8483	1.0368	0.2149	0.1991	1.9248	447	102	0
Stand dev	0.0460	0.0125	0.0321	0.0565	0.1274	0.1067	10.96	10.96	0.00
Mean	0.5521	0.8564	1.0363	0.2559	0.3496	1.7642	439.20	109.80	0.00

Table 8: ridge: random effect=id, masking=random

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>sample_1</i>	0.3810	0.7807	1.2127	0.2324	0.5144	1.7100	447	102	0
<i>sample_2</i>	0.5415	0.8423	1.0611	0.1984	0.2562	1.8465	444	105	0
<i>sample_3</i>	0.4939	0.8206	1.1450	0.3148	0.4038	1.5653	437	112	0
<i>sample_4</i>	0.3918	0.7917	1.2207	0.2513	0.4122	1.6792	421	128	0
<i>sample_5</i>	0.5159	0.8162	1.1143	0.1888	0.1686	1.9282	447	102	0
Stand dev	0.0736	0.0244	0.0673	0.0502	0.1374	0.1429	10.96	10.96	0.00
Mean	0.4648	0.8103	1.1508	0.2371	0.3510	1.7458	439.20	109.80	0.00

Table 9: bayesa: random effect=id, masking=random

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>sample_1</i>	0.6469	0.8906	0.9028	0.2708	0.3901	1.8693	447	102	0
<i>sample_2</i>	0.7613	0.9253	0.7667	0.2597	0.2388	1.9325	444	105	0
<i>sample_3</i>	0.6953	0.9023	0.8828	0.3299	0.3262	1.6950	437	112	0
<i>sample_4</i>	0.6609	0.9008	0.8961	0.2724	0.3630	1.7508	421	128	0
<i>sample_5</i>	0.6920	0.8985	0.8731	0.2149	0.2040	1.9191	447	102	0
Stand dev	0.0442	0.0130	0.0558	0.0410	0.0801	0.1054	10.96	10.96	0.00
Mean	0.6913	0.9035	0.8643	0.2695	0.3044	1.8333	439.20	109.80	0.00

Table 10: bayesb: random effect=id, masking=random

	Train			Test			Sample Size		
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	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>sample_1</i>	0.6094	0.8774	0.9490	0.2912	0.5001	1.7283	447	102	0
<i>sample_2</i>	0.6695	0.9007	0.8856	0.2311	0.2513	1.8818	444	105	0
<i>sample_3</i>	0.5968	0.8588	1.0254	0.3467	0.3456	1.6875	437	112	0
<i>sample_4</i>	0.6003	0.8839	0.9668	0.2413	0.3174	1.7845	421	128	0
<i>sample_5</i>	0.6426	0.8822	0.9362	0.2042	0.1430	1.9762	447	102	0
Stand dev	0.0313	0.0150	0.0507	0.0565	0.1311	0.1174	10.96	10.96	0.00
Mean	0.6237	0.8806	0.9526	0.2629	0.3115	1.8117	439.20	109.80	0.00

Table 11: bayesc: random effect=id, masking=random

	Train			Test			Sample Size		
	R2	r	RMSE	R2	r	RMSE	train	test	unused
<i>sample_1</i>	0.5864	0.8630	0.9853	0.2804	0.5270	1.6927	447	102	0
<i>sample_2</i>	0.6217	0.8744	0.9618	0.2443	0.3259	1.8028	444	105	0
<i>sample_3</i>	0.5591	0.8525	1.0593	0.3044	0.3278	1.6606	437	112	0
<i>sample_4</i>	0.6861	0.8972	0.8827	0.3311	0.3052	1.9092	421	128	0
<i>sample_5</i>	0.6055	0.8690	0.9821	0.2095	0.2346	1.8783	447	102	0
Stand dev	0.0476	0.0166	0.0632	0.0481	0.1090	0.1100	10.96	10.96	0.00
Mean	0.6118	0.8712	0.9742	0.2739	0.3441	1.7887	439.20	109.80	0.00

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Model Summarys

Bayesian

Statistics

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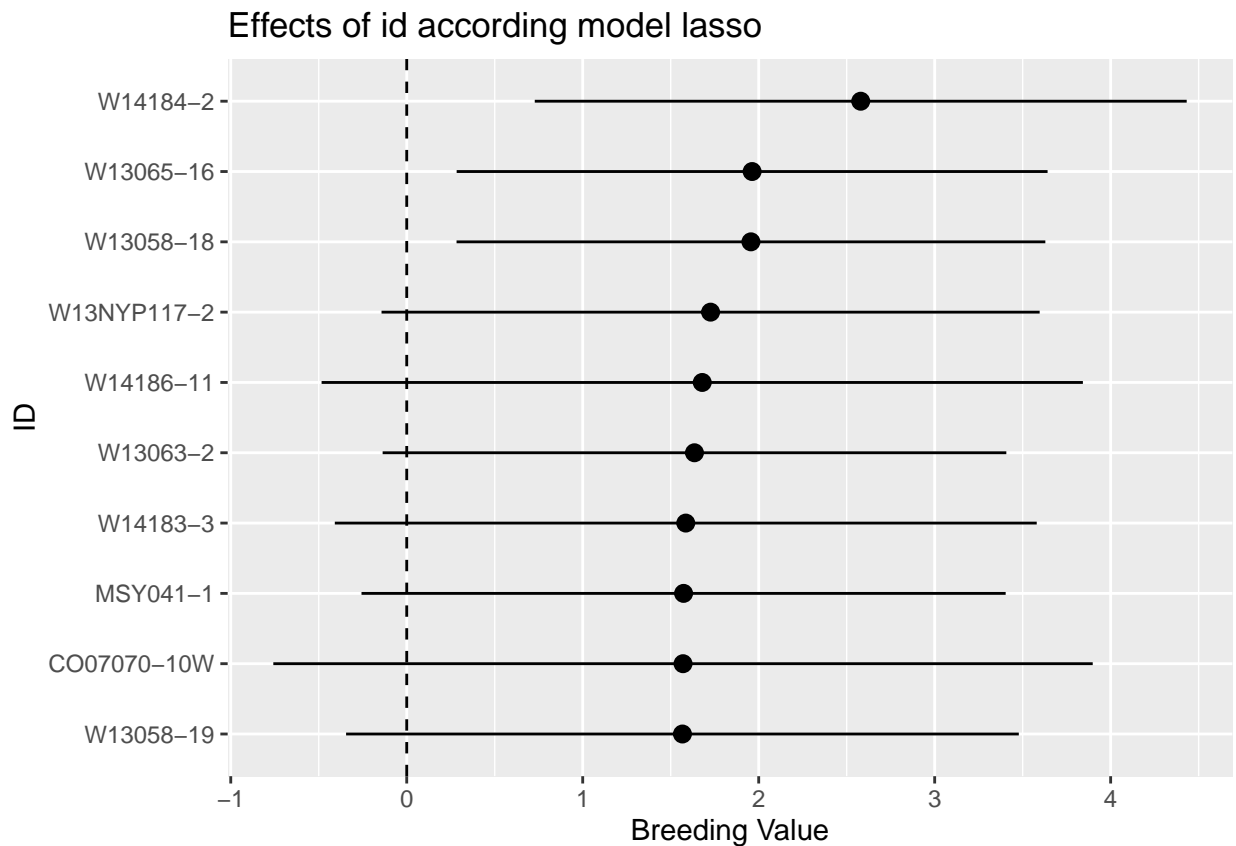
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Table 12: Bayesian models summary table

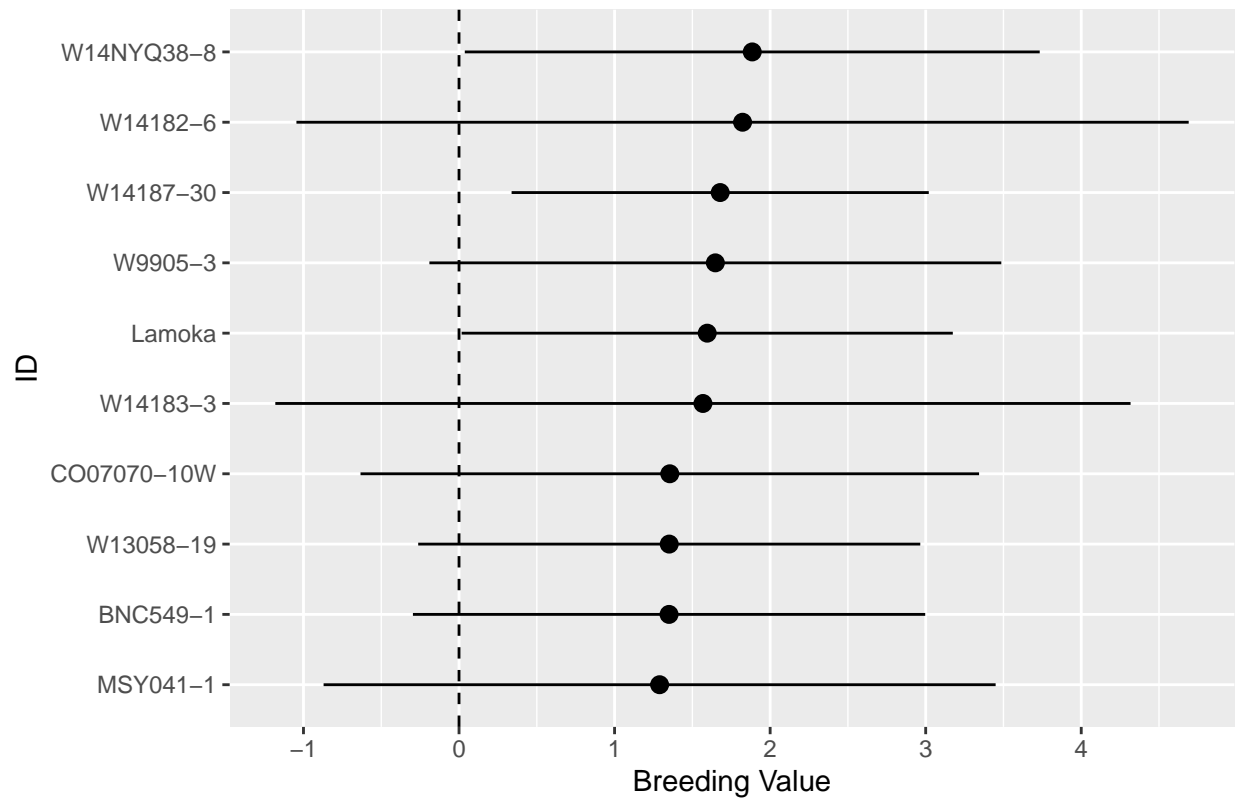
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<i>lasso</i>	<i>id</i>	-2.94	-0.52	0.06	-0.02	0.51	2.58
<i>ridge</i>	<i>id</i>	-2.32	-0.43	0.01	0	0.47	1.89
<i>bayesa</i>	<i>id</i>	-3.36	-0.65	0.11	0.01	0.67	3.23
<i>bayesb</i>	<i>id</i>	-3.67	-0.68	0.06	0.02	0.73	3.17
<i>bayesc</i>	<i>id</i>	-4.18	-0.92	0.01	-0.01	0.86	4.29

Plots

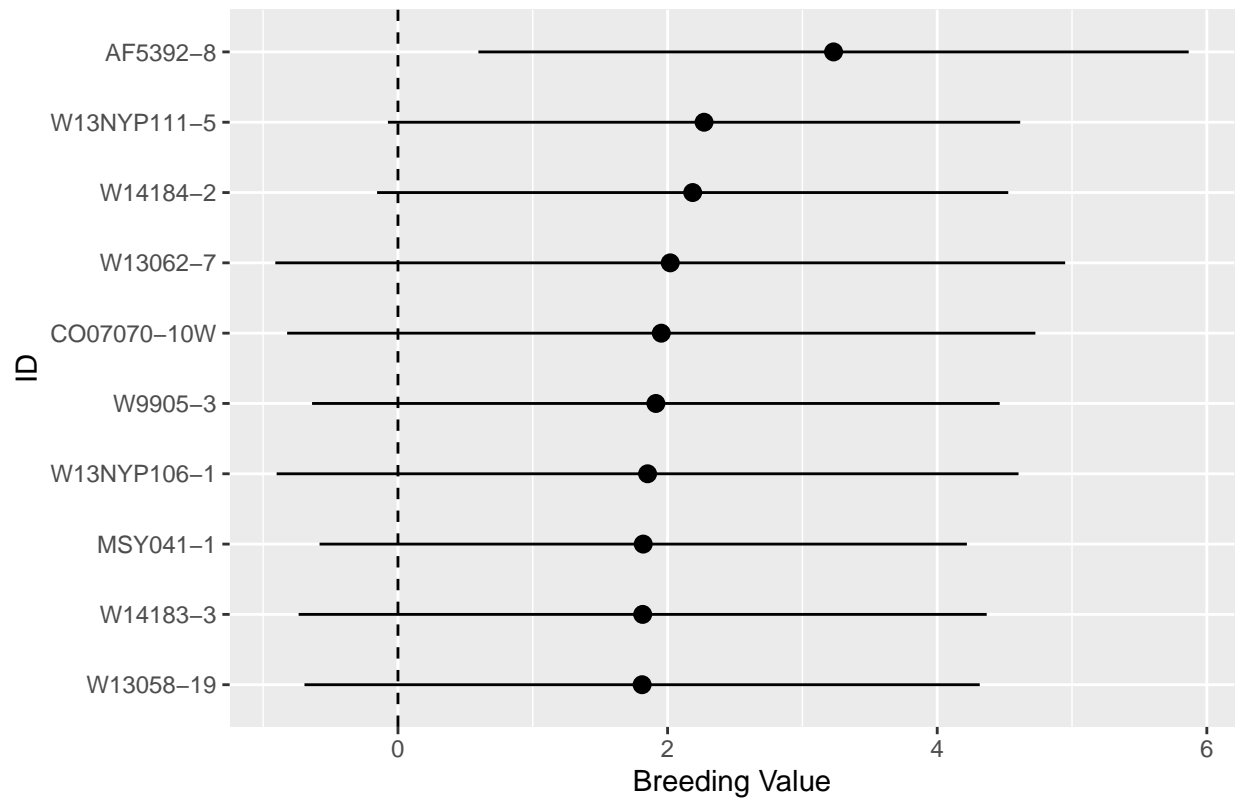
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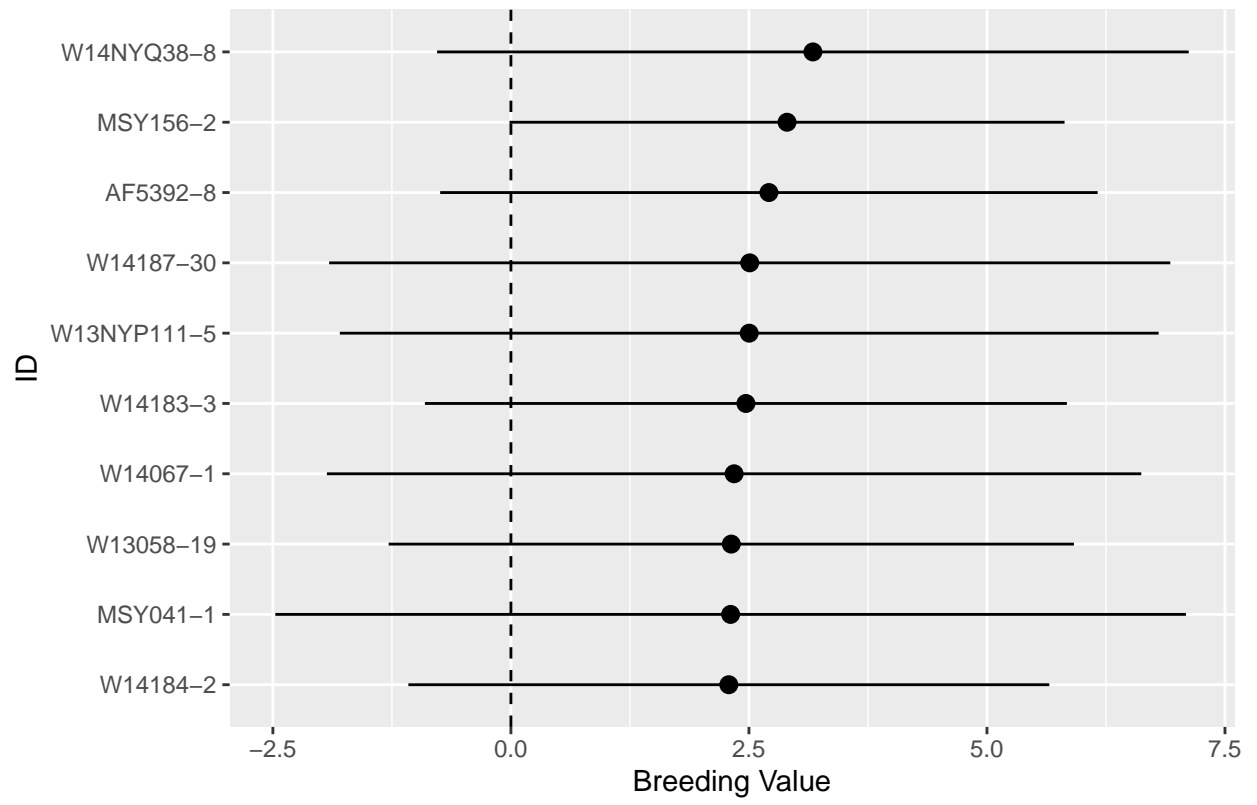
Effects of id according model ridge



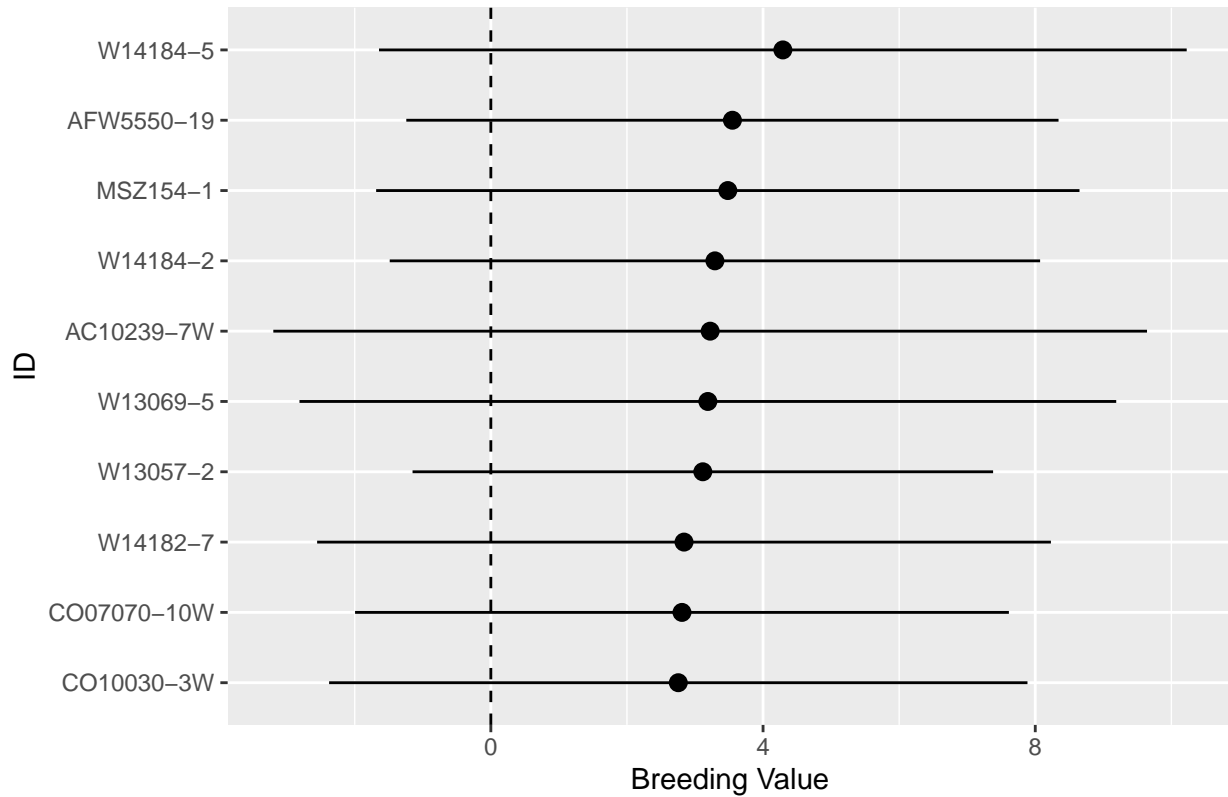
Effects of id according model bayesa



Effects of id according model bayesb



Effects of id according model bayesc



GAME

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Statistics

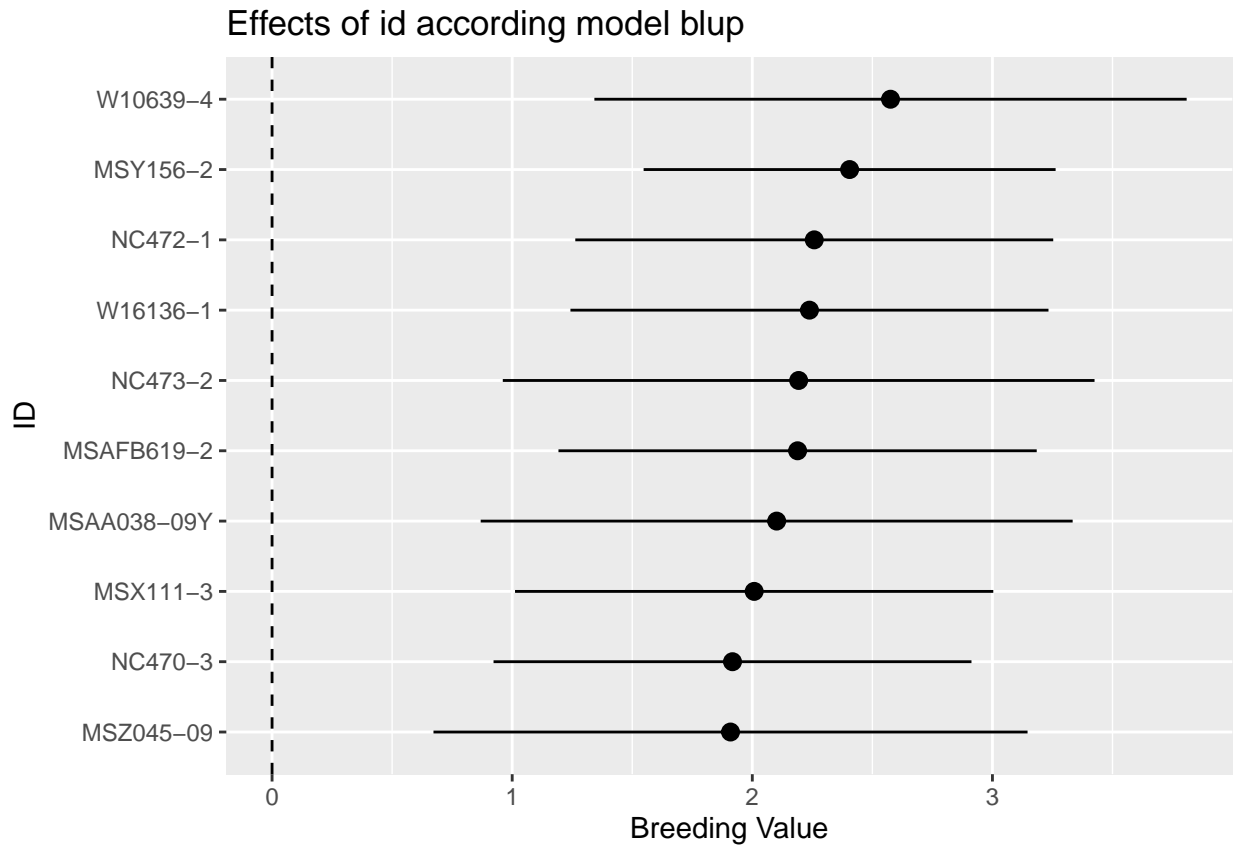
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Table 13: Bayesian models summary table

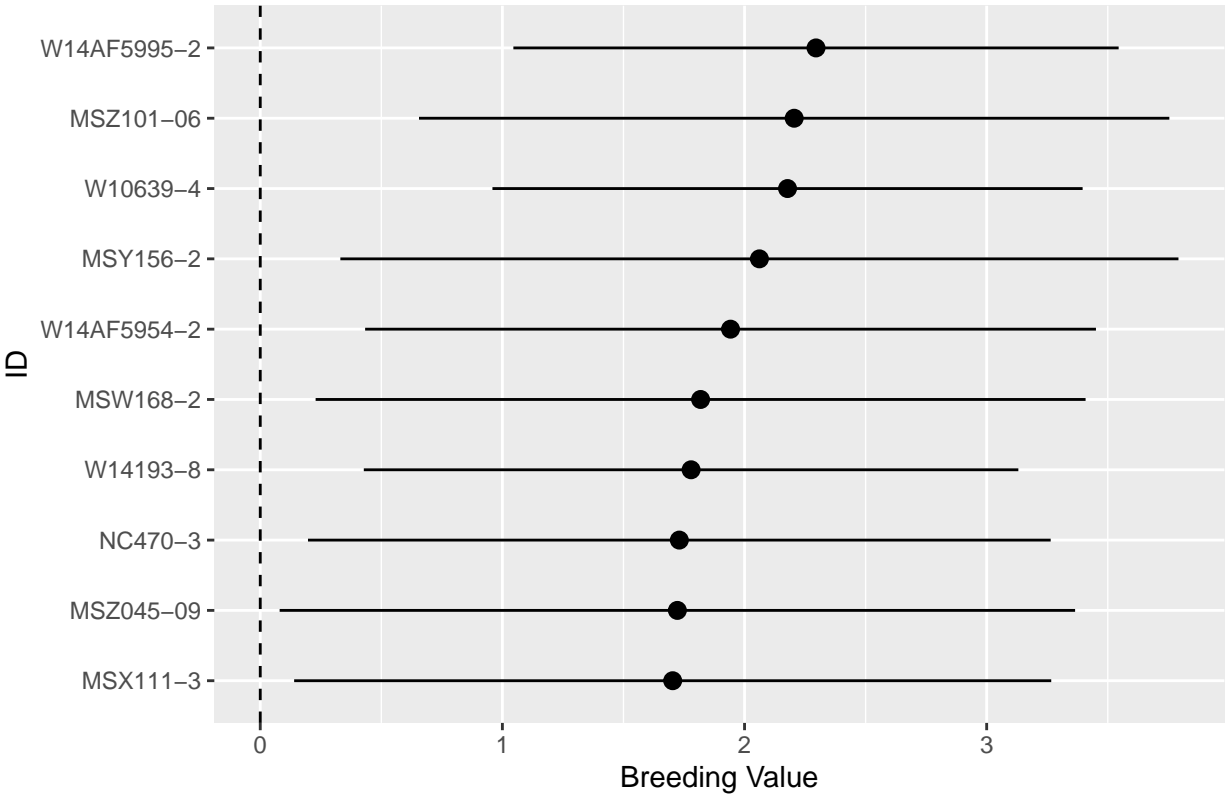
Model	Breeding Variable	Minimum	1st Quantil	Median	Mean	3rd Quantil	Max
<i>blup</i>	<i>id</i>	-2.75	-0.52	0.07	0	0.61	2.58
<i>ablup</i>	<i>id</i>	-2.5	-0.77	0.04	-0.05	0.68	2.3
<i>gblup</i>	<i>id</i>	-1.98	-0.48	0.06	0	0.54	1.9
<i>ssblup</i>	<i>id</i>	-2.35	-0.55	-0.11	-0.11	0.31	2.84
<i>blup</i>	<i>env</i>	0	0	0	0	0	0

Plots

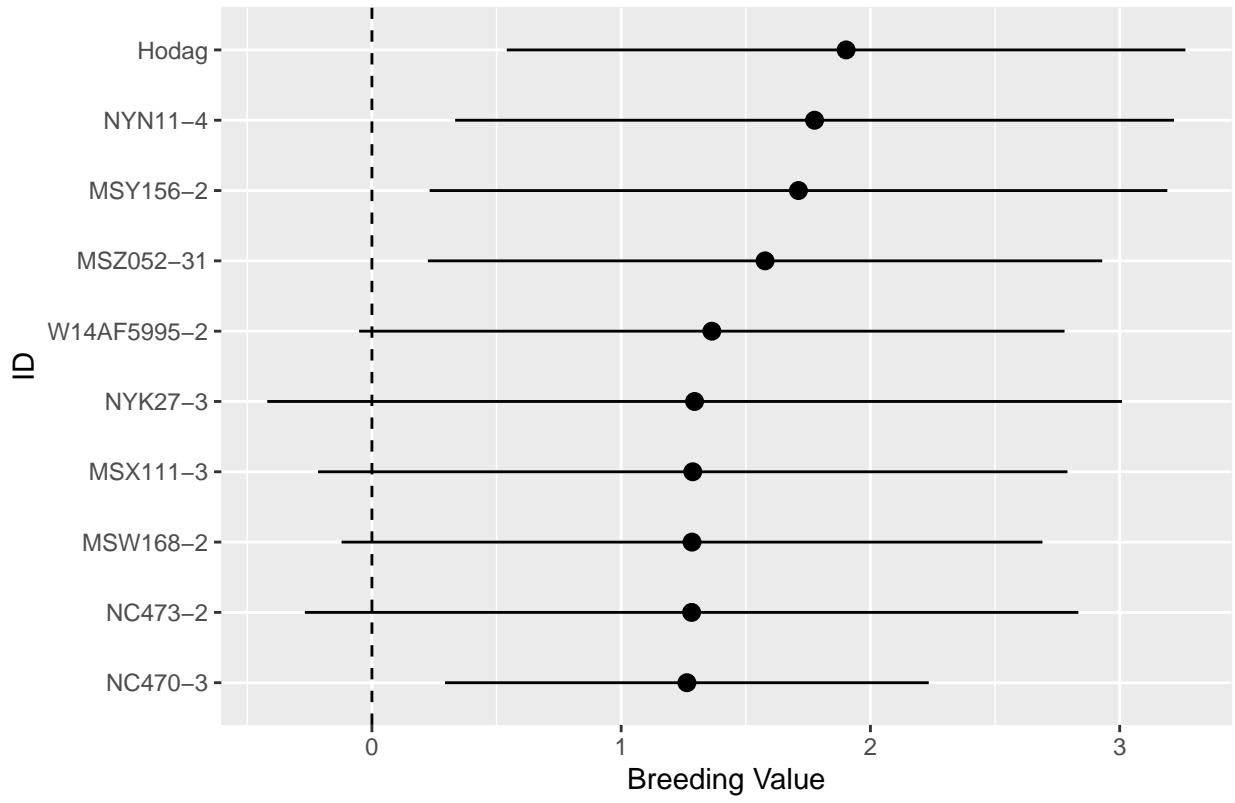
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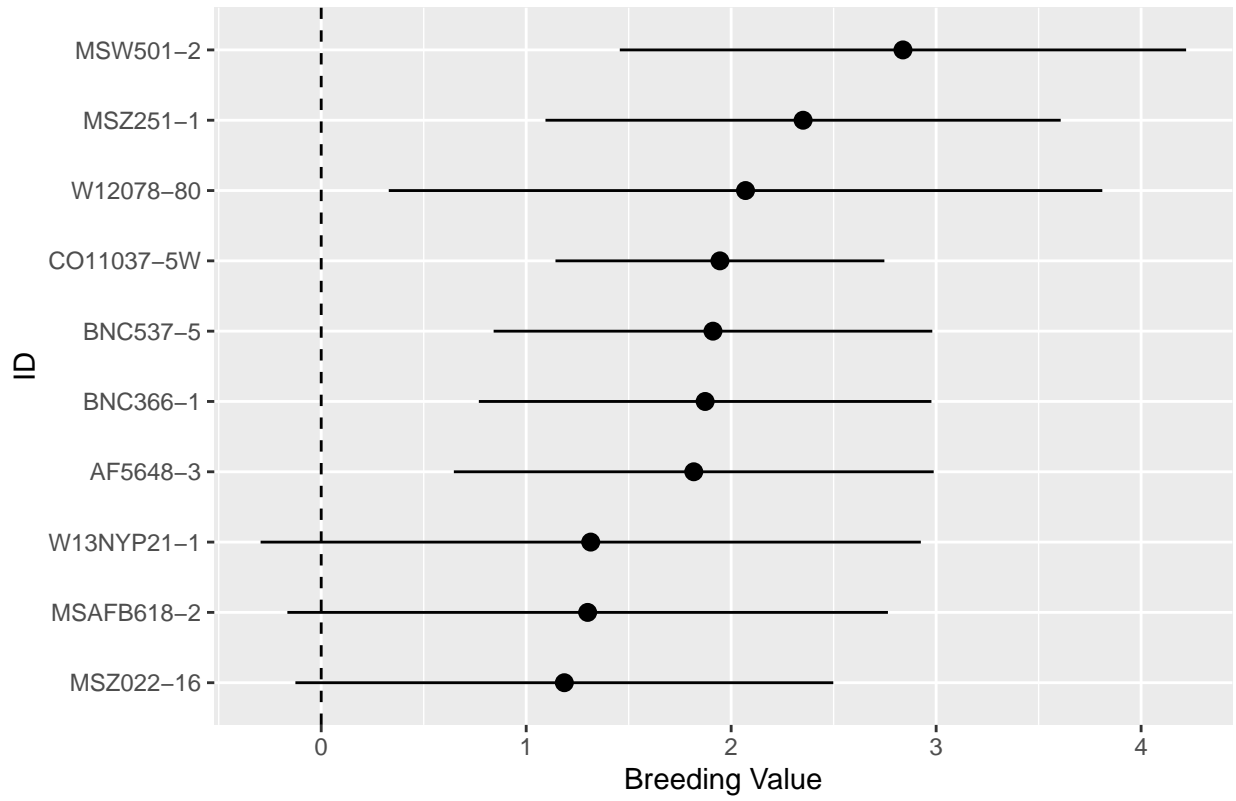
Effects of id according model ablup



Effects of id according model gblup



Effects of id according model ssblup



Effects of env according model blup

