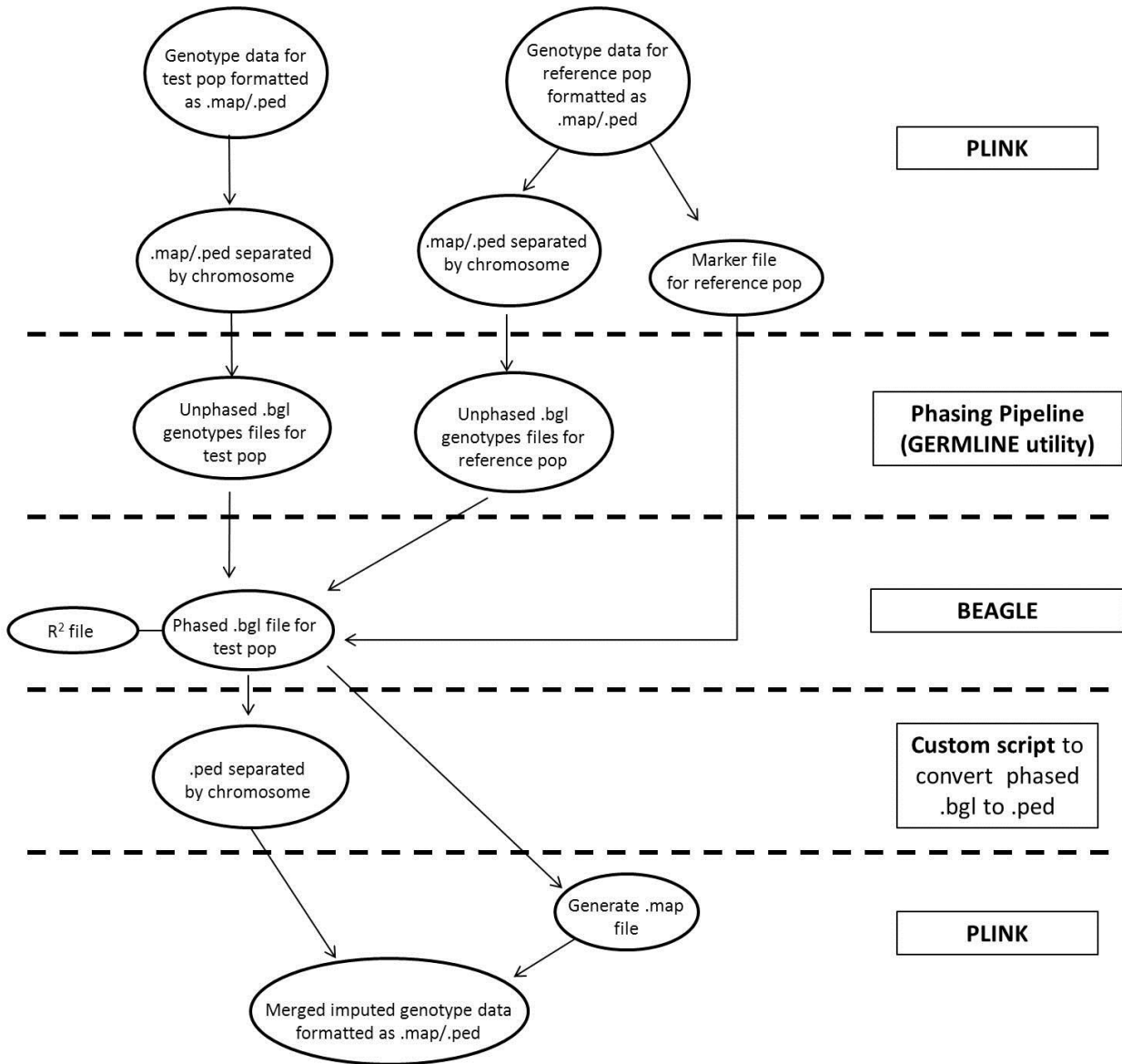


Type of file: figure

Label: Figure S1

Filename: McCue and McCoy 2013 Imputation Validation fig S1.pdf

Figure S1: Complete pipeline for imputation of equine genotyping data. The progression of file types is represented in ovals on the left side, while the program or utility associated with each step is shown in the boxes on the right.

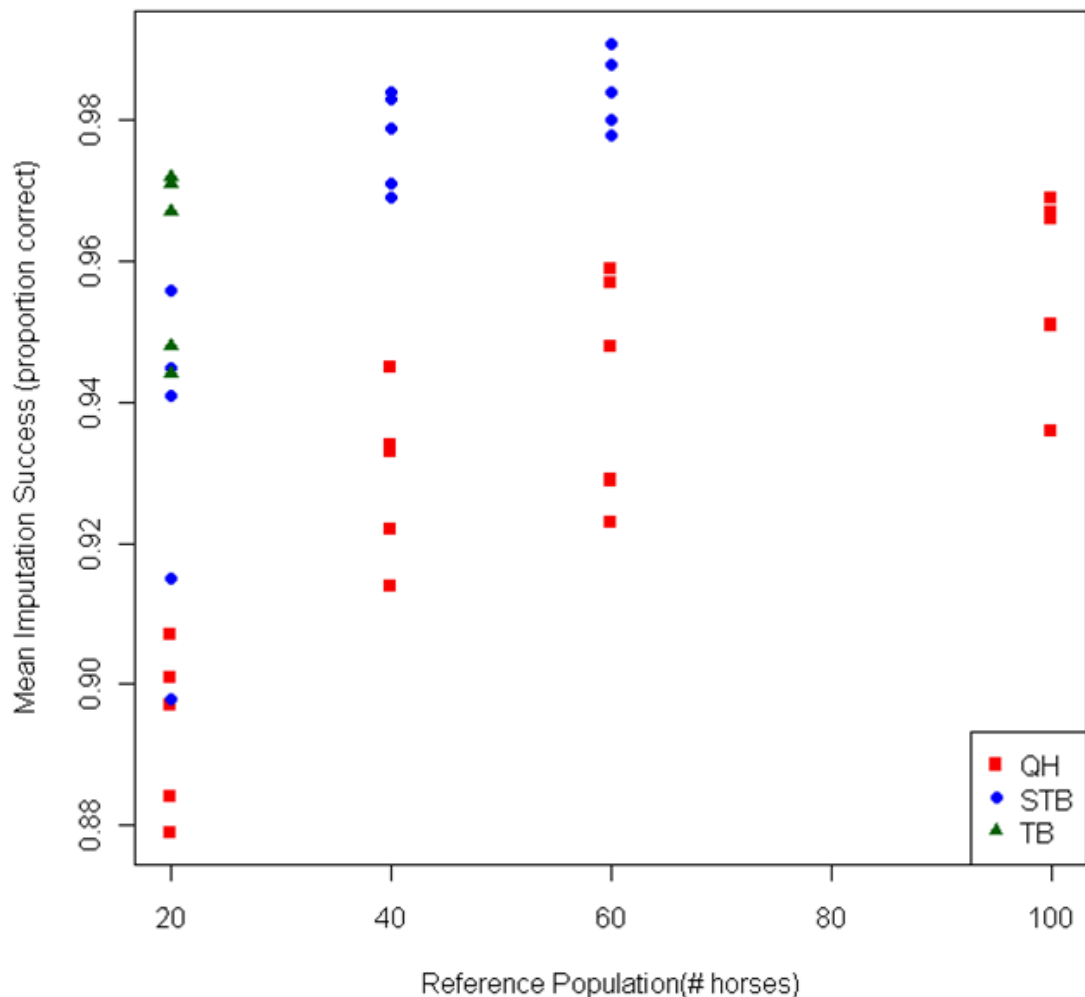


Type of file: figure

Label: Figure S2

Filename: Supplemental_Figure_S2.tif

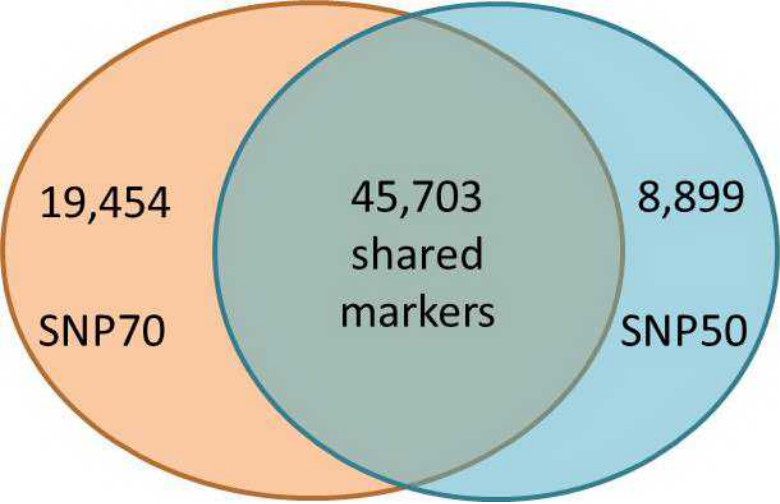
Mean Imputation Success in All Breeds (Same Breed Ref Pop) All Chr, Test Pop n=10



Type of file: figure

Label: Figure S3

Filename: Supplemental_Figure_S3.jpg



Type of file: table

Label: Table S1

Filename: Supplemental_Table_S1.xlsx

Imputed pop breed # in imputed pop Reference pop breed # in reference pop	QH 5 QH 40					QH 10 QH 40					QH 20 QH 40					QH 30 QH 40					QH 10 QH 60				
Chromosome	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX
# SNPs in reference panel	4835	2412	2533	964	3342	4835	2412	2533	964	3342	4835	2412	2533	964	3342	4835	2412	2533	964	3342	4835	2412	2533	964	3342
# SNPs imputed	1468	767	733	365	1173	1468	767	733	365	1173	1468	767	733	365	1173	1468	767	733	365	1173	1468	767	733	365	1173
Mean imputation success	0.936	0.914	0.939	0.926	0.937	0.945	0.922	0.933	0.934	0.914	0.944	0.925	0.936	0.930	0.921	0.941	0.918	0.932	0.928	0.925	0.959	0.929	0.957	0.948	0.923
Minimum individual imputation success	0.909	0.896	0.903	0.907	0.886	0.921	0.893	0.912	0.912	0.866	0.914	0.872	0.911	0.89	0.872	0.884	0.87	0.888	0.88	0.883	0.942	0.897	0.936	0.925	0.882
Maximum individual imputation success	0.945	0.924	0.971	0.961	0.965	0.978	0.938	0.955	0.954	0.952	0.978	0.958	0.955	0.967	0.978	0.962	0.977	0.969	0.975	0.974	0.975	0.952	0.971	0.98	0.955
Mean r ² for imputed SNPs	0.686	0.697	0.696	0.690	0.834	0.721	0.643	0.692	0.677	0.703	0.712	0.655	0.657	0.669	0.724	0.693	0.655	0.698	0.670	0.751	0.768	0.7	0.765	0.737	0.764
% SNPs r ² < 0.5	0.17	0.15	0.17	0.17	0.07	0.15	0.22	0.19	0.20	0.16	0.16	0.21	0.23	0.21	0.15	0.18	0.24	0.17	0.22	0.12	0.10	0.18	0.12	0.13	0.11
Test (imputed) pop breed # in test pop Reference pop breed # in reference pop	QH 20 QH 60					QH 30 QH 60					QH 10 QH 100					QH 20 QH 100					QH 30 QH 100				
Chromosome	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX
# SNPs in reference panel	4835	2412	2533	964	3342	4835	2412	2533	964	3342	4835	2412	2533	964	3342	4835	2412	2533	964	3342	4835	2412	2533	964	3342
# SNPs imputed	1468	767	733	365	1173	1468	767	733	365	1173	1468	767	733	365	1173	1468	767	733	365	1173	1468	767	733	365	1173
Mean imputation success	0.955	0.936	0.954	0.947	0.927	0.956	0.931	0.952	0.941	0.935	0.969	0.951	0.967	0.966	0.936	0.964	0.949	0.964	0.959	0.937	0.969	0.945	0.968	0.953	0.953
Minimum individual imputation success	0.925	0.898	0.923	0.897	0.876	0.897	0.884	0.915	0.892	0.876	0.938	0.923	0.947	0.951	0.874	0.937	0.917	0.945	0.918	0.88	0.897	0.877	0.917	0.895	0.903
Maximum individual imputation success	0.981	0.969	0.979	0.991	0.97	0.983	0.983	0.988	0.994	0.993	0.988	0.972	0.98	0.99	0.977	0.987	0.976	0.985	0.994	0.973	0.991	0.984	0.996	0.996	0.993
Mean r ² for imputed SNPs	0.758	0.717	0.741	0.738	0.73	0.76	0.711	0.739	0.718	0.772	0.818	0.764	0.837	0.819	0.779	0.805	0.771	0.806	0.796	0.757	0.815	0.748	0.82	0.779	0.816
% SNPs r ² < 0.5	0.11	0.15	0.13	0.15	0.15	0.12	0.17	0.14	0.18	0.10	0.06	0.11	0.05	0.06	0.10	0.07	0.11	0.07	0.08	0.12	0.06	0.13	0.06	0.07	0.07
Test (imputed) pop breed # in test pop Reference pop breed # in reference pop	QH 10 Mixed 100					QH 20 Mixed 100					QH 30 Mixed 100					QH 10 QH 20					STB 10 STB 40				
Chromosome	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX
# SNPs in reference panel	4839	2413	2538	964	3351	4839	2413	2538	964	3351	4839	2413	2538	964	3351	4839	2413	2538	964	3351	4839	2413	2538	964	3351
# SNPs imputed	1471	768	736	365	1178	1471	768	736	365	1178	1471	768	736	365	1178	1468	767	733	365	1173	1468	767	733	365	1173
Mean imputation success	0.956	0.928	0.953	0.953	0.923	0.955	0.937	0.95	0.953	0.925	0.954	0.928	0.952	0.945	0.935	0.901	0.879	0.897	0.884	0.907	0.983	0.969	0.984	0.971	0.979
Minimum individual imputation success	0.93	0.907	0.936	0.925	0.878	0.927	0.883	0.927	0.904	0.879	0.89	0.87	0.903	0.885	0.888	0.881	0.861	0.87	0.849	0.851	0.971	0.946	0.971	0.914	0.953
Maximum individual imputation success	0.978	0.943	0.968	0.983	0.965	0.985	0.969	0.972	0.992	0.969	0.986	0.977	0.986	0.99	0.99	0.938	0.904	0.924	0.912	0.968	0.996	0.989	0.996	0.994	0.994
Mean r ² for imputed SNPs	0.8	0.726	0.785	0.799	0.734	0.784	0.735	0.763	0.779	0.735	0.766	0.726	0.768	0.763	0.78	0.624	0.649	0.582	0.598	0.711	0.981	0.815	0.908	0.836	0.899
% SNPs r ² < 0.5	0.07	0.13	0.09	0.08	0.14	0.09	0.15	0.12	0.11	0.15	0.11	0.15	0.10	0.13	0.10	0.19	0.17	0.23	0.21	0.14	0.02	0.08	0.02	0.05	0.03
Test (imputed) pop breed # in test pop Reference pop breed # in reference pop	STB 10 STB 60					STB 10 Mixed 100					STB 10 STB 20					TB 10 Mixed 90					TB 10 TB 20				
Chromosome	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX	ECA1	ECA6	ECA15	ECA26	ECAX
# SNPs in reference panel	4839	2413	2538	964	3352	4839	2413	2538	964	3352	4835	2412	2533	964	3342	4839	2413	2538	964	3351	4839	2413	2538	964	3351
# SNPs imputed	1468	767	733	365	1174	1472	768	738	365	1182	1468	767	733	365	1174	1471	768	736	365	1177	1471	768	736	365	1177
Mean imputation success	0.988	0.978	0.991	0.98	0.984	0.986	0.965	0.986	0.971	0.976	0.945	0.915	0.956	0.898	0.941	0.987	0.97	0.989	0.983	0.968	0.971	0.944	0.972	0.967	0.948
Minimum individual imputation success	0.975	0.956	0.983	0.937	0.972	0.974	0.946	0.979	0.934	0.956	0.939	0.887	0.92	0.822	0.908	0.98	0.948	0.977	0.961	0.945	0.951	0.904	0.955	0.949	0.855
Maximum individual imputation success	1	0.991	0.998	0.999	0.992	0.996	0.995	0.993	0.994	0.988	0.972	0.936	0.978	0.944	0.974	0.995	0.991	0.996	0.994	0.987	0.99	0.976	0.984	0.986	0.991
Mean r ² for imputed SNPs	0.923	0.869	0.939	0.905	0.918	0.903	0.842	0.906	0.818	0.872	0.756	0.645	0.751	0.601	0.789	0.912	0.824	0.914	0.906	0.909	0.84	0.802	0.832	0.837	0.926
% SNPs r ² < 0.5	0.01	0.07	0.01	0.02	0.03	0.02	0.08	0.01	0.05	0.05	0.11	0.19	0.13	0.22	0.09	0.01	0.08	0.01	0.02	0.04	0.07	0.09	0.08	0.09	0.03

Type of file: table

Label: Table S2

Filename: Supplemental_Table_S2.xlsx

SNP50 → SNP70						SNP70		
Chr	# SNPs	# SNPs imputed	# SNP errors	# genotype errors	imputation success	Chr	# SNPs	# SNPs imputed
1	4835	1456	80	103	0.982	1	4357	978
2	3430	1042	57	73	0.982	2	2801	413
3	3019	860	56	70	0.980	3	2809	650
4	2938	808	80	97	0.970	4	2549	419
5	2737	772	49	55	0.982	5	2261	296
6	2412	755	52	68	0.977	6	1850	193
7	2607	745	51	66	0.978	7	2229	367
8	2654	780	37	54	0.983	8	2159	285
9	2336	675	35	48	0.982	9	1958	297
10	2306	684	53	62	0.977	10	1910	288
11	1790	554	24	35	0.984	11	1451	215
12	876	285	27	39	0.966	12	707	116
13	1136	362	24	40	0.972	13	955	181
14	2670	710	37	50	0.982	14	2222	262
15	2533	720	22	32	0.989	15	2150	337
16	2416	686	65	71	0.974	16	2078	348
17	2184	511	38	43	0.979	17	1869	196
18	2146	554	40	60	0.973	18	1908	316
19	1716	471	26	39	0.979	19	1414	169
20	1778	537	41	55	0.974	20	1475	234
21	1678	462	34	44	0.976	21	1349	133
22	1416	383	29	36	0.977	22	1177	144
23	1498	408	20	22	0.987	23	1241	151
24	1401	404	24	28	0.983	24	1094	97
25	1070	318	21	29	0.977	25	924	172
26	964	362	11	12	0.992	26	957	355
27	1066	325	18	24	0.982	27	871	130
28	1245	336	31	31	0.977	28	1090	181
29	803	180	21	28	0.961	29	769	146
30	813	222	10	12	0.986	30	713	122
31	638	185	23	26	0.965	31	595	142
X	3342	1171	128	205	0.956	X	2530	359

→ SNP50

# SNP errors	# genotype errors	imputation success
69	87	0.978
47	62	0.962
36	53	0.980
28	35	0.979
27	33	0.972
35	51	0.934
22	33	0.978
30	45	0.961
36	54	0.955
30	53	0.954
17	20	0.977
18	31	0.933
13	21	0.971
32	44	0.958
21	26	0.981
31	34	0.976
26	30	0.962
23	37	0.971
15	20	0.970
32	46	0.951
18	20	0.962
20	29	0.950
13	18	0.970
15	22	0.943
11	20	0.971
11	15	0.989
11	15	0.971
5	9	0.988
8	13	0.978
7	9	0.982
12	14	0.975
68	119	0.917

Type of file: table

Label: Table S3

Filename: Supplemental_Table_S3.xlsx

Test (imputed) pop breed	QH				
# in test pop	30				
Reference pop breed	Mixed				
# in reference pop	280				
Chromosome	ECA1	ECA6	ECA15	ECA26	ECAX
# SNPs in reference panel	4373	1858	2154	958	2541
# SNPs imputed	997	209	352	357	344
Mean imputation success	0.937	0.964	0.94	0.932	0.936
Minimum individual imputation success	0.884	0.924	0.908	0.874	0.895
Maximum individual imputation success	0.978	0.988	0.968	0.979	0.965
Mean r² for imputed SNPs	0.682	0.795	0.723	0.680	0.746
% SNPs r² < 0.5	0.25	0.08	0.17	0.23	0.14

The NIHMS has received the file 'McCue and McCoy 2013 Imputation Validation suppl text.pdf' as supplementary data. The file will not appear in this PDF Receipt, but it will be linked to the web version of your manuscript.