

Singlestep Type traits - Comparison of May22 and Aug22

In this study I compare Singlestep breeding values from Aug22 (called new) with Singlestep breeding values from May22 (called old).

HOL: mean and standard deviation for 'body' for AI bulls by birth year

BYR	N	mean_new	mean_old	std_new	std_old	Corr new old
2010	249	99.2	99.3	10.0	9.9	0.994
2011	193	98.8	99.0	11.5	11.4	0.997
2012	212	97.6	97.7	11.0	11.1	0.997
2013	174	99.2	99.4	9.7	9.8	0.997
2014	131	98.5	98.8	10.8	10.8	0.997
2015	98	98.7	99.1	12.0	12.1	0.998
2016	78	100.1	100.2	9.1	9.1	0.993
2017	71	101.8	101.8	10.4	10.3	0.986
2018	93	103.3	104.2	10.1	9.8	0.979
2019	68	102.7	103.1	9.2	9.3	0.986
2020	70	103.4	104.3	9.8	9.6	0.982
2021	45	103.9	104.7	7.9	7.0	0.977

HOL: mean and standard deviation for 'leg' for AI bulls by birth year

BYR	N	mean_new	mean_old	std_new	std_old	Corr new old
2010	249	96.0	96.3	8.2	8.2	0.993
2011	193	97.0	97.2	9.9	9.8	0.995
2012	212	98.6	98.8	8.4	8.3	0.995
2013	174	96.7	97.0	8.1	8.1	0.995
2014	131	101.1	101.4	9.5	9.4	0.996
2015	98	100.9	101.2	9.3	9.1	0.995
2016	78	102.8	103.1	9.4	9.3	0.994
2017	71	102.4	103.1	8.8	8.5	0.976
2018	93	105.0	104.9	7.2	7.0	0.970
2019	68	104.6	105.3	6.8	6.5	0.978
2020	70	104.3	105.0	7.1	6.8	0.972
2021	45	105.9	106.3	7.3	7.1	0.980

HOL: mean and standard deviation for 'udder' for AI bulls by birth year

BYR	N	mean_new	mean_old	std_new	std_old	Corr new old
2010	249	92.3	92.8	9.4	9.3	0.992
2011	193	93.3	93.8	8.7	8.5	0.993
2012	212	95.2	95.6	8.6	8.6	0.991
2013	174	98.1	98.4	9.0	9.0	0.996
2014	131	99.4	99.7	9.7	9.7	0.996
2015	98	104.6	104.8	10.4	10.3	0.995
2016	78	105.1	105.3	9.4	9.3	0.993
2017	71	107.1	107.4	9.1	8.9	0.980
2018	93	108.1	108.7	8.4	7.9	0.955
2019	68	109.9	110.5	8.4	8.6	0.963
2020	70	110.2	110.3	7.6	7.3	0.964
2021	45	112.4	112.3	7.4	6.9	0.977

RDC: mean and standard deviation for 'body' for AI bulls by birth year

BYR	N	mean_new	mean_old	std_new	std_old	Corr new old
2010	259	100.6	100.5	9.9	10.0	0.997
2011	259	101.0	101.0	10.2	10.2	0.998
2012	206	99.2	99.3	11.4	11.5	0.998
2013	188	98.4	98.5	10.3	10.3	0.998
2014	141	100.9	101.1	10.9	10.9	0.998
2015	101	99.4	99.7	10.2	10.3	0.996
2016	96	100.0	100.3	12.8	12.8	0.997
2017	97	100.1	100.2	9.6	9.5	0.981
2018	89	100.7	101.1	9.6	9.5	0.987
2019	77	100.5	100.9	8.5	8.8	0.992
2020	74	100.6	101.0	9.4	9.1	0.987
2021	45	101.2	101.3	8.1	8.0	0.993

RDC: mean and standard deviation for 'leg' for AI bulls by birth year

BYR	N	mean_new	mean_old	std_new	std_old	Corr new old
2010	259	92.5	93.1	9.9	9.9	0.997
2011	259	93.6	94.2	10.3	10.3	0.997
2012	206	96.9	97.4	10.3	10.4	0.998
2013	188	97.7	98.2	9.2	9.2	0.997
2014	141	98.8	99.3	10.1	10.1	0.996
2015	101	102.2	102.6	9.2	9.2	0.995
2016	96	101.9	102.1	10.8	10.9	0.993
2017	97	104.5	105.0	9.4	9.6	0.971
2018	89	104.3	104.7	8.9	8.7	0.974
2019	77	106.5	106.7	8.7	8.3	0.986
2020	74	106.9	107.3	8.2	8.5	0.978
2021	45	109.5	110.0	9.1	8.8	0.988

RDC: mean and standard deviation for 'udder' for AI bulls by birth year

BYR	N	mean_new	mean_old	std_new	std_old	Corr new old
2010	259	95.6	96.2	8.9	8.8	0.997
2011	259	93.0	93.7	7.7	7.6	0.996
2012	206	95.1	95.7	8.3	8.3	0.997
2013	188	97.2	97.7	7.9	7.8	0.996
2014	141	98.9	99.4	8.5	8.4	0.997
2015	101	101.2	101.7	8.4	8.3	0.996
2016	96	103.8	104.3	6.6	6.6	0.989
2017	97	102.9	103.7	7.7	7.6	0.980
2018	89	104.3	104.7	6.7	6.6	0.978
2019	77	107.4	108.0	6.3	6.1	0.985
2020	74	107.3	107.9	6.1	5.9	0.971
2021	45	109.4	109.8	6.0	6.0	0.981

JER: mean and standard deviation for 'body' for AI bulls by birth year

BYR	N	mean_new	mean_old	std_new	std_old	Corr new old
2010	73	97.6	97.5	9.3	9.3	0.997
2011	75	97.5	97.5	9.6	9.5	0.998
2012	58	96.0	96.2	10.6	10.4	0.998
2013	67	99.1	99.1	11.1	10.9	0.999
2014	64	95.8	96.0	10.4	10.4	0.997
2015	53	102.0	102.3	9.4	9.5	0.997
2016	32	101.1	101.1	8.4	8.3	0.996
2017	38	106.7	106.6	10.3	10.6	0.988
2018	24	105.5	105.1	8.6	8.2	0.980
2019	51	108.4	108.1	9.3	9.1	0.989
2020	32	109.4	109.4	6.8	6.8	0.973
2021	21	106.6	107.0	5.8	5.7	0.980

JER: mean and standard deviation for 'leg' for AI bulls by birth year

BYR	N	mean_new	mean_old	std_new	std_old	Corr new old
2010	73	100.8	100.9	9.5	9.4	0.997
2011	75	97.6	97.8	8.9	8.9	0.996
2012	58	100.1	100.1	8.8	8.9	0.996
2013	67	101.3	101.5	10.6	10.6	0.998
2014	64	99.8	100.0	10.6	10.6	0.997
2015	53	103.2	103.1	9.7	9.8	0.996
2016	32	101.0	100.8	8.6	8.6	0.996
2017	38	101.3	101.8	13.2	13.0	0.994
2018	24	102.2	101.8	8.7	8.5	0.959
2019	51	102.4	102.5	8.4	8.4	0.984
2020	32	100.8	100.6	9.9	9.5	0.979
2021	21	99.2	99.0	7.7	8.0	0.995

JER: mean and standard deviation for 'udder' for AI bulls by birth year

BYR	N	mean_new	mean_old	std_new	std_old	Corr new old
2010	73	91.8	92.1	10.0	9.9	0.997
2011	75	94.6	95.0	9.4	9.4	0.997
2012	58	94.2	94.4	11.6	11.5	0.999
2013	67	94.7	94.9	7.6	7.4	0.996
2014	64	96.4	96.6	9.1	9.1	0.996
2015	53	102.4	102.4	9.1	9.0	0.996
2016	32	101.4	101.4	8.7	8.6	0.997
2017	38	106.5	106.6	10.4	10.0	0.991
2018	24	101.0	101.0	6.6	6.6	0.962
2019	51	108.0	107.6	9.7	9.5	0.993
2020	32	107.7	107.6	8.3	8.3	0.985
2021	21	106.7	106.9	8.0	8.0	0.996

We will have an extra look at bulls going from only having genomic and pedigree information to also include own daughter information. Thus, AI bulls with <2 daughters in May22 and >10 daughters in Aug22.

HOL: breeding values for body, leg and udder for Nordic AI bulls with daughters in Aug22 but not in May22

Id_nor	BYR	N daughters		Body			Leg			Udder		
		new	old	new	old	diff	new	old	diff	new	old	diff
HOLDNKM000000000259986	2018	28	1	95	93	2	103	107	-4	120	127	-7
HOLDNKM000000000260204	2018	38	1	94	100	-6	106	107	-1	106	110	-4
HOLDNKM000000000260203	2018	15	0	119	117	2	94	92	2	107	108	-1
HOLDNKM000000000260205	2018	18	1	100	103	-3	115	113	2	99	97	2
HOLDNKM000000000260208	2018	29	1	97	103	-6	94	95	-1	110	109	1
HOLDNKM000000000260210	2018	16	0	98	104	-6	107	107	0	121	119	2

RDC: breeding values for body, leg and udder for Nordic AI bulls with daughters in Aug22 but not in May22

Id_nor	BYR	N daughters		Body			Leg			Udder		
		new	old	new	old	diff	new	old	diff	new	old	diff
RDCDNKM000000000038039	2017	25	1	95	89	6	107	111	-4	97	102	-5
RDCDNKM000000000038047	2017	16	1	92	92	0	103	102	1	96	95	1
RDCFINM000000000048028	2017	14	1	94	93	1	95	95	0	105	108	-3
RDCFINM000000000048037	2017	40	1	115	117	-2	95	95	0	103	104	-1
RDCSWEM000000000099882	2017	16	0	103	106	-3	106	108	-2	97	101	-4

JER: breeding values for body, leg and udder for Nordic AI bulls with daughters in Aug22 but not in May22

Id_nor	BYR	N daughters		Body			Leg			Udder		
		new	old	new	old	diff	new	old	diff	new	old	diff
JERDNKM000000000304650	2017	20	1	123	126	-3	122	118	4	116	113	3
JERDNKM000000000304652	2017	20	1	111	111	0	86	86	0	87	90	-3

HOL: mean and standard deviation for 'body' for genotyped females by birth year

BYR	N	Mean SS		Mean Two		STD SS		STD Two	
		new	old	new	old	new	old	new	old
2015	13502	99.7	100.0	98.9	99.0	10.5	10.3	10.1	9.9
2016	20864	99.4	99.6	98.6	98.8	10.0	9.8	9.6	9.3
2017	31151	99.5	99.8	98.7	98.9	10.2	10.0	9.8	9.5
2018	43458	99.6	100.0	98.8	99.1	10.3	10.0	9.8	9.5
2019	48773	100.6	100.8	99.8	99.9	9.9	9.7	9.5	9.3
2020	58093	101.4	101.8	100.5	100.8	9.5	9.2	9.0	9.0
2021	54876	102.5	103.0	101.4	101.6	9.1	8.8	8.7	8.7
2022	3967	103.3	103.7	102.1	102.2	9.3	8.9	8.9	8.8

HOL: mean and standard deviation for 'leg' for genotyped females by birth year

BYR	N	Mean SS		Mean Two		STD SS		STD Two	
		new	old	new	old	new	old	new	old
2015	13502	97.3	97.6	97.3	97.4	8.1	7.9	7.9	7.7
2016	20864	97.3	97.6	97.3	97.4	8.0	7.9	7.8	7.5
2017	31151	99.1	99.4	98.7	98.8	8.0	7.9	7.7	7.5
2018	43458	100.3	100.6	99.7	99.8	7.8	7.7	7.5	7.3
2019	48773	101.3	101.9	100.2	100.7	7.8	7.7	7.5	7.3
2020	58093	101.9	102.3	101.0	101.3	7.5	7.3	7.2	7.1
2021	54876	103.6	104.0	102.9	103.2	7.2	7.0	7.0	7.0
2022	3967	103.5	103.9	102.6	103.0	7.1	6.8	6.9	6.9

HOL: mean and standard deviation for 'udder' for genotyped females by birth year

BYR	N	Mean SS		Mean Two		STD SS		STD Two	
		new	old	new	old	new	old	new	old
2015	13502	94.7	95.3	94.7	94.8	9.5	9.2	8.9	8.6
2016	20864	95.7	96.3	95.4	95.6	9.3	9.1	8.8	8.5
2017	31151	99.3	99.9	98.3	98.4	9.5	9.3	8.9	8.6
2018	43458	100.7	101.4	99.5	99.6	9.1	8.8	8.6	8.3
2019	48773	101.8	102.6	100.4	100.5	9.0	8.8	8.6	8.3
2020	58093	103.4	104.0	101.7	102.0	8.8	8.4	8.4	8.2
2021	54876	105.4	105.9	103.7	103.9	8.9	8.6	8.4	8.4
2022	3967	106.7	107.2	104.9	105.2	8.5	8.2	8.0	8.1

RDC: mean and standard deviation for 'body' for genotyped females by birth year

BYR	N	Mean SS		Mean Two		STD SS		STD Two	
		new	old	new	old	new	old	new	old
2015	11239	100.6	100.7	100.0	99.1	9.9	10.0	8.6	8.3
2016	15573	101.5	101.6	100.8	99.9	10.3	10.3	8.8	8.5
2017	18621	100.7	101.0	100.1	99.2	9.7	9.7	8.4	8.1
2018	20941	100.7	101.0	100.0	99.2	10.3	10.3	8.9	8.6
2019	21276	101.9	102.1	101.1	100.2	9.7	9.7	8.4	8.2
2020	23481	103.2	103.8	102.1	101.5	9.6	9.6	8.1	8.0
2021	22063	103.1	103.5	102.0	101.3	9.6	9.6	8.1	8.1
2022	1983	101.6	102.0	100.8	100.2	8.8	8.9	7.4	7.4

RDC: mean and standard deviation for 'leg' for genotyped females by birth year

BYR	N	Mean SS		Mean Two		STD SS		STD Two	
		new	old	new	old	new	old	new	old
2015	11239	97.7	98.2	97.9	101.8	9.1	9.1	7.8	7.4
2016	15573	98.2	98.7	98.2	102.0	9.2	9.1	7.8	7.1
2017	18621	99.5	100.0	99.0	102.8	9.2	9.2	7.8	7.2
2018	20941	100.9	101.4	100.0	103.7	8.9	8.9	7.5	6.9
2019	21276	101.9	102.2	100.4	104.0	9.0	9.0	7.7	7.1
2020	23481	103.3	103.6	101.5	105.4	8.5	8.3	6.8	6.6
2021	22063	102.9	103.2	101.6	105.4	8.7	8.6	6.9	6.9
2022	1983	104.6	104.8	102.6	106.5	8.5	8.3	6.8	6.8

RDC: mean and standard deviation for 'udder' for genotyped females by birth year

BYR	N	Mean SS		Mean Two		STD SS		STD Two	
		new	old	new	old	new	old	new	old
2015	11239	95.6	96.2	95.9	101.9	7.8	7.8	7.2	6.9
2016	15573	98.3	98.9	98.2	103.9	7.8	7.8	7.2	6.7
2017	18621	99.5	100.1	98.9	104.6	7.9	7.8	7.2	6.8
2018	20941	101.0	101.5	99.9	105.4	7.5	7.5	6.9	6.5
2019	21276	102.2	102.7	100.5	106.0	7.2	7.1	6.6	6.3
2020	23481	103.5	104.1	101.4	107.3	7.1	7.0	6.5	6.3
2021	22063	104.0	104.4	102.3	108.0	6.8	6.7	6.1	6.0
2022	1983	105.0	105.6	103.3	109.0	7.2	7.1	6.4	6.3

JER: mean and standard deviation for 'body' for genotyped females by birth year

BYR	N	Mean SS		Mean Two		STD SS		STD Two	
		new	old	new	old	new	old	new	old
2015	5819	98.2	98.3	97.0	101.8	10.0	9.9	10.4	10.4
2016	6945	98.5	98.6	97.0	101.9	9.5	9.5	10.0	10.0
2017	8684	99.6	99.7	97.9	102.6	9.1	9.1	9.6	9.6
2018	10665	100.8	101.1	99.0	103.9	9.6	9.5	10.0	10.0
2019	12936	102.9	102.9	100.9	105.5	9.1	9.0	9.6	9.6
2020	15376	103.6	103.4	101.3	105.8	8.6	8.5	9.2	9.1
2021	12580	103.5	103.4	101.2	106.0	8.7	8.6	9.2	9.1
2022	715	103.6	103.4	101.6	106.3	9.4	9.3	9.7	9.5

JER: mean and standard deviation for 'leg' for genotyped females by birth year

BYR	N	Mean SS		Mean Two		STD SS		STD Two	
		new	old	new	old	new	old	new	old
2015	5819	100.9	100.9	101.1	101.6	9.6	9.5	10.7	10.9
2016	6945	98.8	98.9	99.1	99.7	9.5	9.5	10.7	11.0
2017	8684	100.8	100.8	100.8	101.3	8.7	8.6	9.6	9.9
2018	10665	100.2	100.1	100.0	100.4	8.5	8.5	9.5	9.7
2019	12936	100.5	100.5	99.9	100.4	8.9	8.9	10.0	10.4
2020	15376	102.2	102.2	101.8	102.6	8.5	8.4	10.1	10.1
2021	12580	102.1	101.8	102.1	102.4	7.8	7.9	9.1	9.2
2022	715	103.2	103.4	102.8	103.7	8.3	8.5	9.5	9.7

JER: mean and standard deviation for 'udder' for genotyped females by birth year

BYR	N	Mean SS		Mean Two		STD SS		STD Two	
		new	old	new	old	new	old	new	old
2015	5819	95.6	95.8	96.4	102.5	8.8	8.7	8.6	8.6
2016	6945	96.0	96.2	96.5	102.6	8.7	8.6	8.6	8.4
2017	8684	100.7	100.8	100.8	106.7	9.0	8.9	8.8	8.6
2018	10665	101.2	101.2	100.8	106.6	9.3	9.1	9.1	8.9
2019	12936	102.7	102.8	101.7	107.7	9.6	9.5	9.4	9.3
2020	15376	102.8	102.8	101.6	107.7	9.1	8.9	8.9	8.8
2021	12580	104.8	104.7	103.5	109.5	8.6	8.5	8.4	8.4
2022	715	105.5	105.2	104.1	110.0	8.6	8.4	8.3	8.3

HOL: correlations SSnew-SSold, SSnew_Twonew, SSold-Twoold for each trait for genotyped females by birth year.

The correlations between SSnew and SSold is high for all traits. The correlations between SS and Two is lower and especially for the birth year classes 2020-2022.

BYR	2015	2016	2017	2018	2019	2020	2021	2022
corr_SS_new_old_Stature	0.994	0.993	0.992	0.991	0.990	0.983	0.987	0.986
corr_SSnew_twonew_Stature	0.980	0.978	0.977	0.976	0.975	0.972	0.967	0.968
corr_SSold_twoold_Stature	0.976	0.973	0.973	0.971	0.969	0.963	0.958	0.956
corr_SS_new_old_Body_depth	0.986	0.983	0.985	0.985	0.983	0.973	0.975	0.973
corr_SSnew_twonew_Body_depth	0.961	0.957	0.962	0.961	0.959	0.950	0.945	0.948
corr_SSold_twoold_Body_depth	0.950	0.944	0.950	0.949	0.946	0.932	0.924	0.928
corr_SS_new_old_Chest_width	0.978	0.977	0.976	0.977	0.976	0.966	0.967	0.961
corr_SSnew_twonew_Chest_width	0.944	0.942	0.944	0.947	0.948	0.937	0.933	0.934
corr_SSold_twoold_Chest_width	0.928	0.924	0.925	0.931	0.929	0.911	0.907	0.906
corr_SS_new_old_Dairy_form	0.987	0.988	0.986	0.986	0.980	0.973	0.977	0.977
corr_SSnew_twonew_Dairy_form	0.955	0.955	0.951	0.953	0.944	0.943	0.937	0.940
corr_SSold_twoold_Dairy_form	0.947	0.947	0.942	0.945	0.932	0.928	0.920	0.926
corr_SS_new_old_top_line	0.991	0.990	0.990	0.988	0.988	0.980	0.986	0.985
corr_SSnew_twonew_top_line	0.963	0.960	0.961	0.958	0.958	0.952	0.945	0.942
corr_SSold_twoold_top_line	0.965	0.963	0.963	0.960	0.959	0.953	0.947	0.946
corr_SS_new_old_Rump_width	0.987	0.986	0.985	0.984	0.983	0.967	0.975	0.973
corr_SSnew_twonew_Rump_width	0.965	0.965	0.962	0.962	0.962	0.956	0.947	0.949
corr_SSold_twoold_Rump_width	0.955	0.954	0.951	0.950	0.949	0.938	0.927	0.929
corr_SS_new_old_Rump_angle	0.985	0.985	0.985	0.984	0.983	0.974	0.977	0.974
corr_SSnew_twonew_Rump_angle	0.968	0.969	0.968	0.968	0.968	0.962	0.960	0.958
corr_SSold_twoold_Rump_angle	0.957	0.958	0.956	0.956	0.954	0.944	0.941	0.941
corr_SS_new_old_Rear_legs_sv	0.983	0.983	0.981	0.980	0.978	0.964	0.970	0.968
corr_SSnew_twonew_Rear_legs_sv	0.952	0.953	0.951	0.951	0.951	0.945	0.939	0.939
corr_SSold_twoold_Rear_legs_sv	0.939	0.942	0.937	0.937	0.935	0.924	0.913	0.915
corr_SS_new_old_Rear_legs_bv	0.981	0.981	0.980	0.979	0.977	0.966	0.969	0.965
corr_SSnew_twonew_Rear_legs_bv	0.936	0.933	0.932	0.932	0.932	0.923	0.909	0.906
corr_SSold_twoold_Rear_legs_bv	0.920	0.916	0.915	0.914	0.912	0.896	0.882	0.880
corr_SS_new_old_Hock_quality	0.992	0.991	0.990	0.990	0.987	0.982	0.986	0.983
corr_SSnew_twonew_Hock_quality	0.965	0.960	0.959	0.958	0.954	0.946	0.942	0.940
corr_SSold_twoold_Hock_quality	0.967	0.963	0.961	0.961	0.957	0.947	0.947	0.946
corr_SS_new_old_Bone_quality	0.993	0.992	0.991	0.991	0.989	0.983	0.988	0.986
corr_SSnew_twonew_Bone_quality	0.972	0.967	0.967	0.969	0.966	0.961	0.957	0.957
corr_SSold_twoold_Bone_quality	0.973	0.969	0.969	0.970	0.967	0.962	0.959	0.959
corr_SS_new_old_Foot_angle	0.980	0.981	0.978	0.976	0.972	0.953	0.963	0.962
corr_SSnew_twonew_Foot_angle	0.915	0.919	0.916	0.911	0.909	0.901	0.894	0.901
corr_SSold_twoold_Foot_angle	0.904	0.908	0.904	0.898	0.893	0.881	0.869	0.877
corr_SS_new_old_Fore_udder_att	0.983	0.983	0.982	0.981	0.979	0.972	0.975	0.971
corr_SSnew_twonew_Fore_udder_att	0.948	0.949	0.947	0.944	0.941	0.936	0.934	0.932
corr_SSold_twoold_Fore_udder_att	0.933	0.936	0.934	0.929	0.926	0.915	0.912	0.908
corr_SS_new_old_Rear_udder_hei	0.984	0.984	0.983	0.983	0.982	0.975	0.976	0.973
corr_SSnew_twonew_Rear_udder_hei	0.953	0.953	0.951	0.951	0.951	0.941	0.934	0.933
corr_SSold_twoold_Rear_udder_hei	0.940	0.941	0.938	0.937	0.937	0.920	0.917	0.915
corr_SS_new_old_Rear_udder_wid	0.990	0.990	0.989	0.989	0.988	0.981	0.985	0.985
corr_SSnew_twonew_Rear_udder_wid	0.955	0.956	0.955	0.957	0.954	0.948	0.939	0.939
corr_SSold_twoold_Rear_udder_wid	0.956	0.958	0.955	0.958	0.955	0.948	0.941	0.939
corr_SS_new_old_Udder_cleft_su	0.987	0.985	0.985	0.984	0.981	0.974	0.975	0.969
corr_SSnew_twonew_Udder_cleft_su	0.957	0.952	0.953	0.950	0.949	0.943	0.936	0.933
corr_SSold_twoold_Udder_cleft_su	0.948	0.942	0.942	0.938	0.936	0.924	0.915	0.909
corr_SS_new_old_Udder_depth	0.988	0.987	0.988	0.987	0.986	0.979	0.980	0.976
corr_SSnew_twonew_Udder_depth	0.970	0.968	0.970	0.968	0.966	0.959	0.958	0.957

corr_SSold_twoold_Udder_depth	0.960	0.957	0.960	0.957	0.954	0.944	0.944	0.942
corr_SS_new_old_Teat_length	0.989	0.989	0.987	0.987	0.986	0.978	0.980	0.979
corr_SSnew_twonew_Teat_length	0.971	0.971	0.969	0.967	0.967	0.962	0.957	0.956
corr_SSold_twoold_Teat_length	0.963	0.964	0.960	0.958	0.957	0.949	0.943	0.944
corr_SS_new_old_Teat_thickness	0.993	0.993	0.991	0.991	0.990	0.983	0.987	0.986
corr_SSnew_twonew_Teat_thickness	0.971	0.972	0.969	0.971	0.968	0.962	0.959	0.957
corr_SSold_twoold_Teat_thickness	0.973	0.975	0.971	0.973	0.971	0.962	0.960	0.959
corr_SS_new_old_Teat_place_f	0.988	0.986	0.985	0.985	0.983	0.974	0.978	0.977
corr_SSnew_twonew_Teat_place_f	0.971	0.967	0.967	0.964	0.962	0.960	0.959	0.956
corr_SSold_twoold_Teat_place_f	0.963	0.958	0.957	0.954	0.950	0.945	0.942	0.937
corr_SS_new_old_Teat_place_B	0.987	0.985	0.984	0.982	0.981	0.973	0.976	0.971
corr_SSnew_twonew_Teat_place_B	0.966	0.962	0.960	0.958	0.957	0.954	0.953	0.951
corr_SSold_twoold_Teat_place_B	0.956	0.951	0.948	0.946	0.943	0.935	0.934	0.930
corr_SS_new_old_Udder_balance	0.993	0.993	0.992	0.992	0.991	0.985	0.988	0.987
corr_SSnew_twonew_Udder_balance	0.967	0.966	0.963	0.961	0.962	0.959	0.953	0.951
corr_SSold_twoold_Udder_balance	0.968	0.967	0.964	0.963	0.962	0.957	0.952	0.951
corr_SS_new_old_Body	0.989	0.988	0.988	0.987	0.986	0.980	0.982	0.981
corr_SSnew_twonew_Body	0.971	0.968	0.968	0.969	0.967	0.961	0.958	0.961
corr_SSold_twoold_Body	0.962	0.958	0.958	0.959	0.955	0.946	0.941	0.944
corr_SS_new_old_leg	0.985	0.984	0.984	0.982	0.981	0.970	0.975	0.972
corr_SSnew_twonew_leg	0.943	0.938	0.939	0.936	0.937	0.928	0.918	0.920
corr_SSold_twoold_leg	0.936	0.930	0.931	0.927	0.928	0.913	0.904	0.904
corr_SS_new_old_udder	0.983	0.982	0.982	0.981	0.979	0.969	0.973	0.964
corr_SSnew_twonew_udder	0.955	0.954	0.954	0.952	0.950	0.945	0.942	0.938
corr_SSold_twoold_udder	0.940	0.937	0.939	0.935	0.933	0.923	0.922	0.917

RDC: correlations SSnew-SSold, SSnew_Twonew, SSold-Twoold for each trait for genotyped females by birth year.

The correlations between SSnew and SSold is high for all traits. The correlations between SS and Two is lower and especially for the birth year classes 2020-2022.

BYR	2015	2016	2017	2018	2019	2020	2021	2022
corr_SS_new_old_Stature	0.996	0.996	0.995	0.994	0.993	0.990	0.994	0.991
corr_SSnew_twonew_Stature	0.973	0.974	0.971	0.969	0.967	0.961	0.959	0.953
corr_SSold_twoold_Stature	0.973	0.975	0.972	0.971	0.967	0.958	0.958	0.954
corr_SS_new_old_Body_depth	0.993	0.993	0.992	0.993	0.990	0.985	0.991	0.987
corr_SSnew_twonew_Body_depth	0.971	0.973	0.968	0.972	0.970	0.965	0.963	0.956
corr_SSold_twoold_Body_depth	0.973	0.974	0.970	0.974	0.971	0.964	0.964	0.957
corr_SS_new_old_Chest_width	0.993	0.993	0.991	0.992	0.987	0.978	0.988	0.982
corr_SSnew_twonew_Chest_width	0.963	0.962	0.961	0.964	0.958	0.953	0.949	0.939
corr_SSold_twoold_Chest_width	0.965	0.963	0.962	0.965	0.959	0.954	0.950	0.941
corr_SS_new_old_Dairy_form	0.988	0.986	0.984	0.981	0.976	0.958	0.973	0.969
corr_SSnew_twonew_Dairy_form	0.938	0.930	0.932	0.926	0.929	0.914	0.903	0.893
corr_SSold_twoold_Dairy_form	0.940	0.932	0.934	0.930	0.930	0.914	0.902	0.893
corr_SS_new_old_top_line	0.993	0.994	0.992	0.990	0.986	0.980	0.986	0.982
corr_SSnew_twonew_top_line	0.967	0.971	0.970	0.966	0.967	0.959	0.956	0.956
corr_SSold_twoold_top_line	0.969	0.972	0.970	0.967	0.967	0.956	0.955	0.953
corr_SS_new_old_Rump_width	0.995	0.995	0.994	0.993	0.990	0.984	0.989	0.988
corr_SSnew_twonew_Rump_width	0.977	0.976	0.972	0.972	0.971	0.965	0.960	0.957
corr_SSold_twoold_Rump_width	0.977	0.977	0.973	0.972	0.969	0.963	0.958	0.956
corr_SS_new_old_Rump_angle	0.993	0.993	0.991	0.990	0.987	0.975	0.986	0.984
corr_SSnew_twonew_Rump_angle	0.975	0.975	0.971	0.971	0.970	0.967	0.962	0.959
corr_SSold_twoold_Rump_angle	0.975	0.975	0.970	0.970	0.969	0.965	0.961	0.958
corr_SS_new_old_Rear_legs_sv	0.992	0.992	0.991	0.990	0.984	0.982	0.986	0.983
corr_SSnew_twonew_Rear_legs_sv	0.972	0.971	0.970	0.972	0.965	0.966	0.960	0.952
corr_SSold_twoold_Rear_legs_sv	0.973	0.972	0.971	0.972	0.965	0.965	0.961	0.956
corr_SS_new_old_Rear_legs_bv	0.991	0.989	0.990	0.987	0.985	0.972	0.981	0.976
corr_SSnew_twonew_Rear_legs_bv	0.956	0.952	0.959	0.953	0.957	0.937	0.935	0.933
corr_SSold_twoold_Rear_legs_bv	0.960	0.954	0.962	0.956	0.958	0.936	0.934	0.928
corr_SS_new_old_Hock_quality	0.992	0.992	0.992	0.991	0.985	0.974	0.985	0.983
corr_SSnew_twonew_Hock_quality	0.967	0.968	0.966	0.968	0.966	0.960	0.963	0.960
corr_SSold_twoold_Hock_quality	0.967	0.971	0.971	0.972	0.969	0.961	0.963	0.958
corr_SS_new_old_Bone_quality	0.994	0.994	0.994	0.994	0.989	0.976	0.989	0.986
corr_SSnew_twonew_Bone_quality	0.976	0.976	0.976	0.976	0.975	0.970	0.972	0.970
corr_SSold_twoold_Bone_quality	0.976	0.978	0.978	0.979	0.977	0.969	0.972	0.969
corr_SS_new_old_Foot_angle	0.987	0.985	0.986	0.985	0.978	0.971	0.977	0.972
corr_SSnew_twonew_Foot_angle	0.945	0.937	0.947	0.947	0.943	0.934	0.919	0.909
corr_SSold_twoold_Foot_angle	0.950	0.942	0.951	0.951	0.945	0.937	0.928	0.922
corr_SS_new_old_Fore_udder_att	0.991	0.991	0.990	0.987	0.980	0.953	0.978	0.980
corr_SSnew_twonew_Fore_udder_att	0.956	0.956	0.956	0.952	0.949	0.945	0.932	0.942
corr_SSold_twoold_Fore_udder_att	0.959	0.960	0.959	0.956	0.952	0.940	0.936	0.946
corr_SS_new_old_Rear_udder_hei	0.991	0.991	0.988	0.989	0.983	0.970	0.978	0.979
corr_SSnew_twonew_Rear_udder_hei	0.957	0.958	0.954	0.958	0.948	0.943	0.920	0.933
corr_SSold_twoold_Rear_udder_hei	0.959	0.961	0.956	0.961	0.950	0.945	0.926	0.933
corr_SS_new_old_Rear_udder_wid	0.993	0.992	0.991	0.990	0.985	0.966	0.981	0.979
corr_SSnew_twonew_Rear_udder_wid	0.969	0.968	0.964	0.963	0.963	0.952	0.948	0.945
corr_SSold_twoold_Rear_udder_wid	0.969	0.969	0.965	0.962	0.962	0.948	0.945	0.945
corr_SS_new_old_Udder_cleft_su	0.990	0.991	0.989	0.988	0.984	0.963	0.982	0.977
corr_SSnew_twonew_Udder_cleft_su	0.960	0.964	0.963	0.961	0.963	0.954	0.951	0.944
corr_SSold_twoold_Udder_cleft_su	0.960	0.965	0.963	0.961	0.960	0.947	0.949	0.944
corr_SS_new_old_Udder_depth	0.993	0.993	0.993	0.990	0.989	0.983	0.988	0.985

corr_SSnew_twonew_Udder_depth	0.976	0.973	0.975	0.972	0.972	0.969	0.965	0.966
corr_SSold_twoold_Udder_depth	0.976	0.973	0.975	0.972	0.972	0.967	0.964	0.963
corr_SS_new_old_Teat_length	0.995	0.995	0.994	0.994	0.990	0.981	0.989	0.988
corr_SSnew_twonew_Teat_length	0.981	0.981	0.981	0.980	0.977	0.970	0.969	0.970
corr_SSold_twoold_Teat_length	0.981	0.981	0.981	0.979	0.977	0.970	0.969	0.970
corr_SS_new_old_Teat_thickness	0.995	0.994	0.993	0.992	0.991	0.985	0.990	0.987
corr_SSnew_twonew_Teat_thickness	0.980	0.979	0.977	0.976	0.976	0.970	0.967	0.965
corr_SSold_twoold_Teat_thickness	0.981	0.979	0.977	0.976	0.975	0.970	0.966	0.964
corr_SS_new_old_Teat_place_f	0.993	0.992	0.992	0.991	0.990	0.978	0.986	0.979
corr_SSnew_twonew_Teat_place_f	0.972	0.970	0.971	0.970	0.973	0.961	0.955	0.958
corr_SSold_twoold_Teat_place_f	0.971	0.970	0.971	0.970	0.972	0.958	0.953	0.955
corr_SS_new_old_Teat_place_B	0.990	0.990	0.989	0.987	0.984	0.974	0.978	0.977
corr_SSnew_twonew_Teat_place_B	0.955	0.955	0.952	0.952	0.950	0.942	0.935	0.928
corr_SSold_twoold_Teat_place_B	0.956	0.958	0.955	0.955	0.952	0.940	0.938	0.931
corr_SS_new_old_Udder_balance	0.993	0.993	0.992	0.991	0.989	0.980	0.985	0.987
corr_SSnew_twonew_Udder_balance	0.963	0.963	0.964	0.963	0.967	0.966	0.952	0.952
corr_SSold_twoold_Udder_balance	0.964	0.965	0.966	0.965	0.967	0.963	0.952	0.950
corr_SS_new_old_Body	0.995	0.995	0.994	0.994	0.992	0.987	0.993	0.990
corr_SSnew_twonew_Body	0.974	0.976	0.973	0.977	0.973	0.969	0.968	0.960
corr_SSold_twoold_Body	0.975	0.977	0.973	0.977	0.973	0.969	0.968	0.960
corr_SS_new_old_leg	0.993	0.993	0.993	0.992	0.988	0.976	0.987	0.985
corr_SSnew_twonew_leg	0.962	0.962	0.961	0.959	0.960	0.946	0.950	0.948
corr_SSold_twoold_leg	0.958	0.958	0.958	0.956	0.958	0.945	0.951	0.948
corr_SS_new_old_udder	0.993	0.993	0.992	0.990	0.987	0.978	0.985	0.986
corr_SSnew_twonew_udder	0.970	0.969	0.970	0.967	0.963	0.959	0.951	0.959
corr_SSold_twoold_udder	0.971	0.970	0.971	0.967	0.963	0.958	0.951	0.957

JER: correlations SSnew-SSold, SSnew_Twonew, SSold-Twoold for each trait for genotyped females by birth year.

The correlations between SSnew and SSold is high for all traits. The correlations between SS and Two is lower and especially for the birth year classes 2020-2022.

BYR	2015	2016	2017	2018	2019	2020	2021	2022
corr_SS_new_old_Stature	0.995	0.995	0.994	0.995	0.993	0.983	0.990	0.992
corr_SSnew_twonew_Stature	0.978	0.976	0.975	0.978	0.975	0.971	0.968	0.975
corr_SSold_twoold_Stature	0.979	0.977	0.977	0.979	0.977	0.973	0.971	0.977
corr_SS_new_old_Body_depth	0.995	0.994	0.994	0.993	0.991	0.984	0.988	0.989
corr_SSnew_twonew_Body_depth	0.973	0.970	0.971	0.969	0.968	0.963	0.957	0.958
corr_SSold_twoold_Body_depth	0.974	0.971	0.972	0.971	0.969	0.964	0.957	0.962
corr_SS_new_old_Chest_width	0.993	0.993	0.992	0.991	0.990	0.980	0.984	0.985
corr_SSnew_twonew_Chest_width	0.965	0.969	0.963	0.961	0.960	0.960	0.944	0.945
corr_SSold_twoold_Chest_width	0.969	0.972	0.967	0.963	0.963	0.959	0.943	0.951
corr_SS_new_old_Dairy_form	0.993	0.993	0.992	0.991	0.990	0.977	0.981	0.985
corr_SSnew_twonew_Dairy_form	0.967	0.968	0.964	0.963	0.963	0.966	0.960	0.953
corr_SSold_twoold_Dairy_form	0.969	0.970	0.967	0.966	0.965	0.964	0.959	0.955
corr_SS_new_old_top_line	0.994	0.995	0.993	0.994	0.992	0.979	0.990	0.991
corr_SSnew_twonew_top_line	0.971	0.971	0.966	0.968	0.968	0.962	0.962	0.968
corr_SSold_twoold_top_line	0.970	0.972	0.967	0.969	0.968	0.959	0.962	0.967
corr_SS_new_old_Rump_width	0.996	0.994	0.994	0.994	0.992	0.982	0.989	0.988
corr_SSnew_twonew_Rump_width	0.979	0.974	0.973	0.977	0.974	0.969	0.964	0.965
corr_SSold_twoold_Rump_width	0.980	0.976	0.975	0.979	0.975	0.970	0.966	0.966
corr_SS_new_old_Rump_angle	0.995	0.994	0.994	0.994	0.992	0.986	0.990	0.990
corr_SSnew_twonew_Rump_angle	0.979	0.977	0.977	0.978	0.973	0.969	0.969	0.972
corr_SSold_twoold_Rump_angle	0.981	0.979	0.979	0.980	0.975	0.970	0.973	0.975
corr_SS_new_old_Rear_legs_sv	0.991	0.992	0.991	0.989	0.988	0.980	0.986	0.987
corr_SSnew_twonew_Rear_legs_sv	0.953	0.962	0.957	0.949	0.955	0.950	0.943	0.943
corr_SSold_twoold_Rear_legs_sv	0.958	0.965	0.960	0.954	0.959	0.953	0.947	0.943
corr_SS_new_old_Rear_legs_bv	0.992	0.994	0.992	0.993	0.990	0.983	0.985	0.986
corr_SSnew_twonew_Rear_legs_bv	0.951	0.963	0.953	0.964	0.960	0.954	0.939	0.940
corr_SSold_twoold_Rear_legs_bv	0.950	0.962	0.952	0.963	0.958	0.950	0.939	0.948
corr_SS_new_old_Hock_quality	0.995	0.996	0.994	0.995	0.993	0.981	0.984	0.985
corr_SSnew_twonew_Hock_quality	0.968	0.977	0.967	0.968	0.971	0.967	0.956	0.957
corr_SSold_twoold_Hock_quality	0.970	0.980	0.969	0.970	0.972	0.966	0.956	0.958
corr_SS_new_old_Bone_quality	0.996	0.996	0.994	0.993	0.991	0.981	0.983	0.989
corr_SSnew_twonew_Bone_quality	0.974	0.977	0.967	0.965	0.967	0.968	0.948	0.956
corr_SSold_twoold_Bone_quality	0.974	0.978	0.968	0.966	0.969	0.968	0.948	0.958
corr_SS_new_old_Foot_angle	0.992	0.992	0.990	0.990	0.989	0.969	0.980	0.984
corr_SSnew_twonew_Foot_angle	0.955	0.957	0.951	0.952	0.955	0.944	0.943	0.940
corr_SSold_twoold_Foot_angle	0.958	0.960	0.955	0.955	0.958	0.943	0.942	0.944
corr_SS_new_old_Fore_udder_att	0.994	0.994	0.993	0.992	0.992	0.976	0.980	0.986
corr_SSnew_twonew_Fore_udder_att	0.971	0.971	0.973	0.971	0.974	0.968	0.962	0.963
corr_SSold_twoold_Fore_udder_att	0.973	0.973	0.974	0.973	0.976	0.971	0.965	0.967
corr_SS_new_old_Rear_udder_hei	0.993	0.992	0.991	0.991	0.987	0.979	0.986	0.986
corr_SSnew_twonew_Rear_udder_hei	0.966	0.966	0.962	0.964	0.961	0.960	0.956	0.955
corr_SSold_twoold_Rear_udder_hei	0.969	0.968	0.965	0.966	0.964	0.961	0.959	0.954
corr_SS_new_old_Rear_udder_wid	0.993	0.993	0.992	0.991	0.990	0.983	0.989	0.986
corr_SSnew_twonew_Rear_udder_wid	0.968	0.968	0.966	0.966	0.963	0.961	0.957	0.952
corr_SSold_twoold_Rear_udder_wid	0.969	0.970	0.967	0.966	0.963	0.960	0.957	0.953
corr_SS_new_old_Udder_cleft_su	0.993	0.992	0.991	0.991	0.989	0.983	0.987	0.986
corr_SSnew_twonew_Udder_cleft_su	0.966	0.965	0.964	0.965	0.961	0.960	0.951	0.956
corr_SSold_twoold_Udder_cleft_su	0.969	0.969	0.968	0.968	0.964	0.961	0.952	0.958
corr_SS_new_old_Udder_depth	0.994	0.994	0.995	0.994	0.994	0.984	0.990	0.991
corr_SSnew_twonew_Udder_depth	0.976	0.975	0.978	0.979	0.979	0.974	0.971	0.973

corr_SSold_twoold_Udder_depth	0.978	0.977	0.980	0.981	0.980	0.975	0.973	0.975
corr_SS_new_old_Teat_length	0.995	0.995	0.995	0.995	0.993	0.985	0.992	0.988
corr_SSnew_twonew_Teat_length	0.979	0.980	0.980	0.979	0.980	0.976	0.974	0.971
corr_SSold_twoold_Teat_length	0.979	0.981	0.980	0.980	0.980	0.978	0.977	0.973
corr_SS_new_old_Teat_thickness	0.995	0.996	0.995	0.994	0.993	0.987	0.991	0.988
corr_SSnew_twonew_Teat_thickness	0.977	0.979	0.978	0.977	0.977	0.973	0.970	0.967
corr_SSold_twoold_Teat_thickness	0.977	0.979	0.978	0.977	0.978	0.973	0.971	0.970
corr_SS_new_old_Teat_place_f	0.993	0.994	0.994	0.993	0.992	0.982	0.984	0.988
corr_SSnew_twonew_Teat_place_f	0.972	0.974	0.974	0.973	0.974	0.973	0.966	0.966
corr_SSold_twoold_Teat_place_f	0.974	0.976	0.977	0.974	0.975	0.973	0.969	0.971
corr_SS_new_old_Teat_place_B	0.993	0.994	0.993	0.993	0.993	0.984	0.986	0.988
corr_SSnew_twonew_Teat_place_B	0.969	0.967	0.967	0.966	0.967	0.965	0.960	0.958
corr_SSold_twoold_Teat_place_B	0.972	0.971	0.971	0.969	0.971	0.969	0.966	0.962
corr_SS_new_old_Udder_balance	0.994	0.993	0.994	0.994	0.992	0.980	0.988	0.990
corr_SSnew_twonew_Udder_balance	0.974	0.970	0.975	0.977	0.976	0.969	0.970	0.973
corr_SSold_twoold_Udder_balance	0.975	0.970	0.976	0.977	0.976	0.968	0.971	0.973
corr_SS_new_old_Body	0.995	0.995	0.994	0.994	0.992	0.985	0.989	0.991
corr_SSnew_twonew_Body	0.975	0.973	0.972	0.975	0.972	0.966	0.961	0.968
corr_SSold_twoold_Body	0.977	0.974	0.973	0.976	0.973	0.968	0.962	0.972
corr_SS_new_old_leg	0.994	0.994	0.993	0.992	0.991	0.974	0.979	0.986
corr_SSnew_twonew_leg	0.966	0.961	0.956	0.955	0.960	0.956	0.942	0.944
corr_SSold_twoold_leg	0.966	0.960	0.956	0.955	0.960	0.955	0.946	0.950
corr_SS_new_old_udder	0.994	0.994	0.994	0.994	0.994	0.987	0.990	0.990
corr_SSnew_twonew_udder	0.971	0.969	0.972	0.973	0.974	0.969	0.965	0.967
corr_SSold_twoold_udder	0.973	0.971	0.974	0.975	0.976	0.970	0.968	0.971