

Report on analyses of RDC

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Table 1 and 2 show some basic information of data and indexes

Table 1. Some basic statistics on 2800-2900 NAV-AI sires with R2-Birth > 0.40 or R2-calving > 0.40, born > 2000.

	New Index Mean	Curr. Index Mean	New Index SD	Curr. Index SD	New Reliability	Curr. Reliability	Phenotypic mean*	No.of progeny*
dSB1	97.2	97.8	10.0	9.8	0.806	0.761	0.940	351.6
dCE1	99.8	99.5	10.0	9.7	0.788	0.816	3.71	276.5
dSB2	97.6	97.6	10.3	10.2	0.756	0.679	0.962	598.2
dCE2	99.0	99.3	10.5	10.1	0.739	0.769	3.83	430.5
mSB1	97.3	96.7	9.4	9.7	0.672	0.630	0.943	305.8
mCE1	95.7	95.8	10.0	10.2	0.719	0.706	3.73	253.2
mSB2	98.3	97.7	9.6	9.5	0.621	0.612	0.964	395.6
mCE2	95.8	95.7	9.8	9.9	0.654	0.648	3.85	307.0
Birth index	97.5	97.9	10.2	10.0	0.829	0.792		
Calving index	97.0	96.6	9.9	9.7	0.696	0.689		

Phenotypic mean: Direct traits: Mean of sire progeny group results. Maternal traits: Mean of daughter calving results

No of progeny: Direct traits: Number of calves per sire. Maternal traits: Number of daughter calvings per sire

Table 2. SD of solutions for sires born 2000-2004 and with R2-birth > 0.60 or R2-calving > 0.60. The results for Birth-, Calving- and MGS-index are SD of sum of: Solution * economic value. The results are used for standardization of breeding values

	Snell Score data			Observed data
	New	Adj 1	Adj 2	Current
dSB1	0.0684	0.0684	0.0684	0.0322
dCE1	0.1470	0.1470	0.1470	0.1413
dCS1	0.2694	0.2694	0.2694	0.2649
dSB2	0.0375	0.0375	0.0375	0.0145
dCE2	0.0770	0.0770	0.0770	0.0660
dCS2	0.2441	0.2441	0.2441	0.2435
mSB1	0.0561	0.0566	0.0563	0.0235
mCE1	0.1124	0.1129	0.1125	0.0939
mCS1	0.0849	0.0843	0.0855	0.0792
mSB2	0.0280	0.0278	0.0279	0.0134
mCE2	0.0693	0.0690	0.0693	0.0542
mCS2	0.0959	0.0951	0.0958	0.0763
Birth Index	12.3187	12.3187	12.3187	12.7489
Calving Index	9.4000	9.1165	9.3330	10.0720

Results from evaluation of RDC. Three alternative set of parameters for maternal traits have been analysed (as discussed at last meeting).

- Estimated parameters (new)
 - mSB1-mSB2: 0.65
 - mCE1-mSB2: 0.35
 - mSB1-mCE2: 0.34
 - mCE1-mCE2: 0.60
- With adjustments (adj 1) – like JER parameters
 - mSB1-mSB2: 0.48
 - mCE1-mSB2: 0.25
 - mSB1-mCE2: 0.25
 - mCE1-mCE2: 0.60 (unchanged)
- With adjustments (adj 2) – like HOL parameters
 - mSB1-mSB2: 0.60
 - mCE1-mSB2: 0.35 (unchanged)
 - mSB1-mCE2: 0.34 (unchanged)
 - mCE1-mCE2: 0.60 (unchanged)

Table 3. Various correlations

	Current index with				Curr. index Mean*	New-index Mean*	Adj1-index Mean*	Adj 2-index Mean*
	New	Adj1	Adj2					
dSB1	0.95	0.95	0.95		0.69	0.75	0.75	0.75
dCE1	0.97	0.97	0.97		0.39	0.42	0.42	0.42
dSB2	0.96	0.96	0.96		0.68	0.77	0.77	0.77
dCE2	0.93	0.93	0.93		0.29	0.34	0.34	0.34
mSB1	0.92	0.93	0.92		0.71	0.78	0.80	0.79
mCE1	0.97	0.97	0.97		0.45	0.49	0.49	0.48
mSB2	0.81	0.79	0.81		0.47	0.65	0.69	0.66
mCE2	0.95	0.95	0.95		0.50	0.55	0.56	0.56
Birth index	0.96	0.96	0.96					
Calving index	0.91	0.91	0.91					

Mean of observed data:

- Direct traits: Mean of progeny results.
- Maternal traits: Mean of daughter results (all calvings)

Additional results:

- Between sire SB1 and sire SB2 means: 0.33 (0.35 for 113 very large progeny groups)
- Between sire CE1 and sire CE2 means: 0.79 (0.90 for 113 very large progeny groups)
- Between MGS SB1 and MGS SB2 means: 0.20 (0.31 for 113 very large daughter groups)
- Between MGS CE1 and MGS CE2 means: 0.81 (0.81 for 113 very large daughter groups)

Results for direct traits are identical for all alternatives. For the maternal SB2 the “usual” low correlation to the current model is observed (results of the single traits indicated problems in the current model).

The correlations to the phenotypic sire mean are very similar for all three alternatives – and lower to the current model

Table 4. Distribution of index changes (number of sires) - new model without adjustment of parameters

Index change (new-curr)	Birth index	Calving index	dSB1	dCE1	dSB2	dCE2	mSB1	mCE1	mSB2	mCE2
<=-10	6	29	6	1	2	32	13	2	97	5
-9	2	28	3	1	5	16	5	0	46	10
-8	6	31	21	4	9	30	25	2	59	6
-7	21	38	29	13	10	56	33	20	93	20
-6	42	81	72	36	34	85	53	37	110	68
-5	75	124	117	88	66	130	93	66	118	87
-4	118	146	185	183	134	182	159	120	133	158
-3	240	213	306	314	205	238	162	219	159	211
-2	376	216	382	466	348	298	250	350	176	302
-1	520	269	434	563	428	371	304	450	208	357
0	556	271	419	466	460	321	359	466	200	397
1	405	295	334	350	434	296	294	391	207	339
2	247	259	228	199	311	270	248	263	191	313
3	157	209	181	109	221	182	229	188	178	203
4	75	173	109	78	127	162	180	131	157	131
5	46	107	48	28	60	82	130	52	143	70
6	23	99	22	16	45	67	103	23	112	58
7	8	80	21	13	20	39	55	15	93	29
8	6	50	12	5	16	29	43	6	81	22
9	7	30	8	11	4	28	21	3	62	11
>=10	8	62	7		5	30	51	6	187	13
Sum	2944	2810	2944	2944	2944	2944	2810	2810	2810	2810

Table 5. Survey of index changes in 3 models

Index change (new-curr)	Birth index	Calving index	dSB1	dCE1	dSB2	dCE2	mSB1	mCE1	mSB2	mCE2
New	bu									
Pct -1 to +1	50.3%	29.7%	40.3%	46.8%	44.9%	33.6%	34.1%	46.5%	21.9%	38.9%
Pct -3 to +3	85.0%	61.6%	77.6%	83.8%	81.8%	67.1%	65.7%	82.8%	46.9%	75.5%
Pct -5 to +5	95.6%	81.2%	93.2%	96.6%	94.9%	86.0%	85.7%	95.9%	66.5%	91.4%
Adj 1										
Pct -1 to +1	50.5%	28.7%	40.2%	50.3%	44.4%	33.6%	33.6%	43.5%	19.3%	39.4%
Pct -3 to +3	85.1%	59.3%	77.7%	86.3%	81.9%	67.3%	64.5%	78.4%	42.1%	73.1%
Pct -5 to +5	95.7%	78.1%	93.4%	96.7%	94.9%	86.0%	83.1%	91.5%	59.9%	88.3%
Adj 2										
Pct -1 to +1	50.4%	30.0%	40.2%	50.8%	44.7%	33.5%	34.0%	46.6%	21.5%	38.8%
Pct -3 to +3	84.9%	62.4%	77.5%	86.3%	81.8%	67.2%	66.7%	82.9%	47.3%	75.6%
Pct -5 to +5	95.7%	81.8%	93.3%	96.8%	94.9%	85.9%	86.0%	95.9%	66.2%	91.4%

For the birth index 50% of the indexes remain nearly unchanged – and less than 5% change more than 5 index units

For the calving index the changes will be larger: 30% of the indexes remain nearly unchanged – but around 20% change more than 5 index units. It is of cause due to the new results for SB2, but also SB1 have an impact.

In figure 1 and 2 the index trends are shown. For the three alternative sets of maternal parameters there is virtually no difference in index trends. There is a small difference to the current trends

Figure 1. Birth index trends

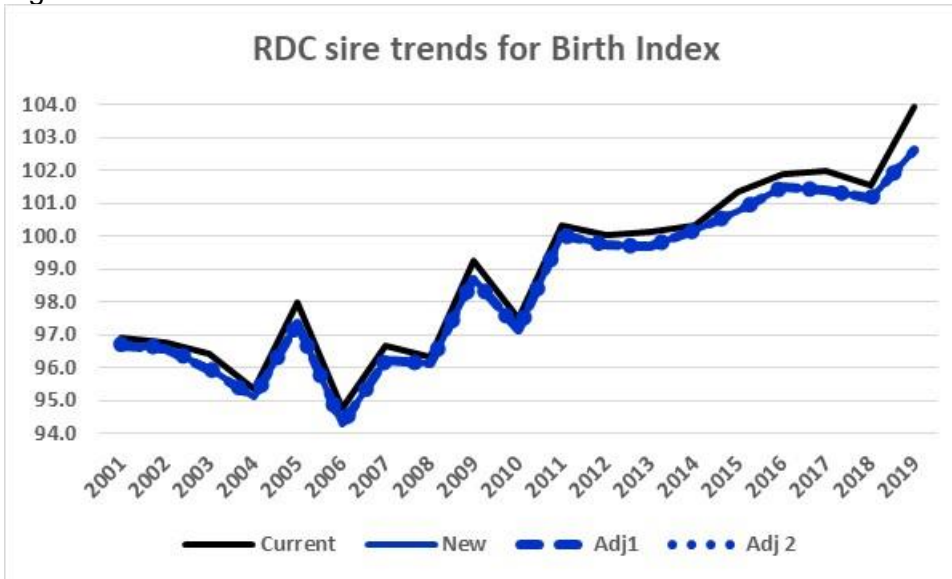


Figure 2. RDC calving index trends (sires)

