



Web tools for genetic improvement

Canadian Centre for Swine Improvement (CCSI)





Web tools for Genetic Improvement

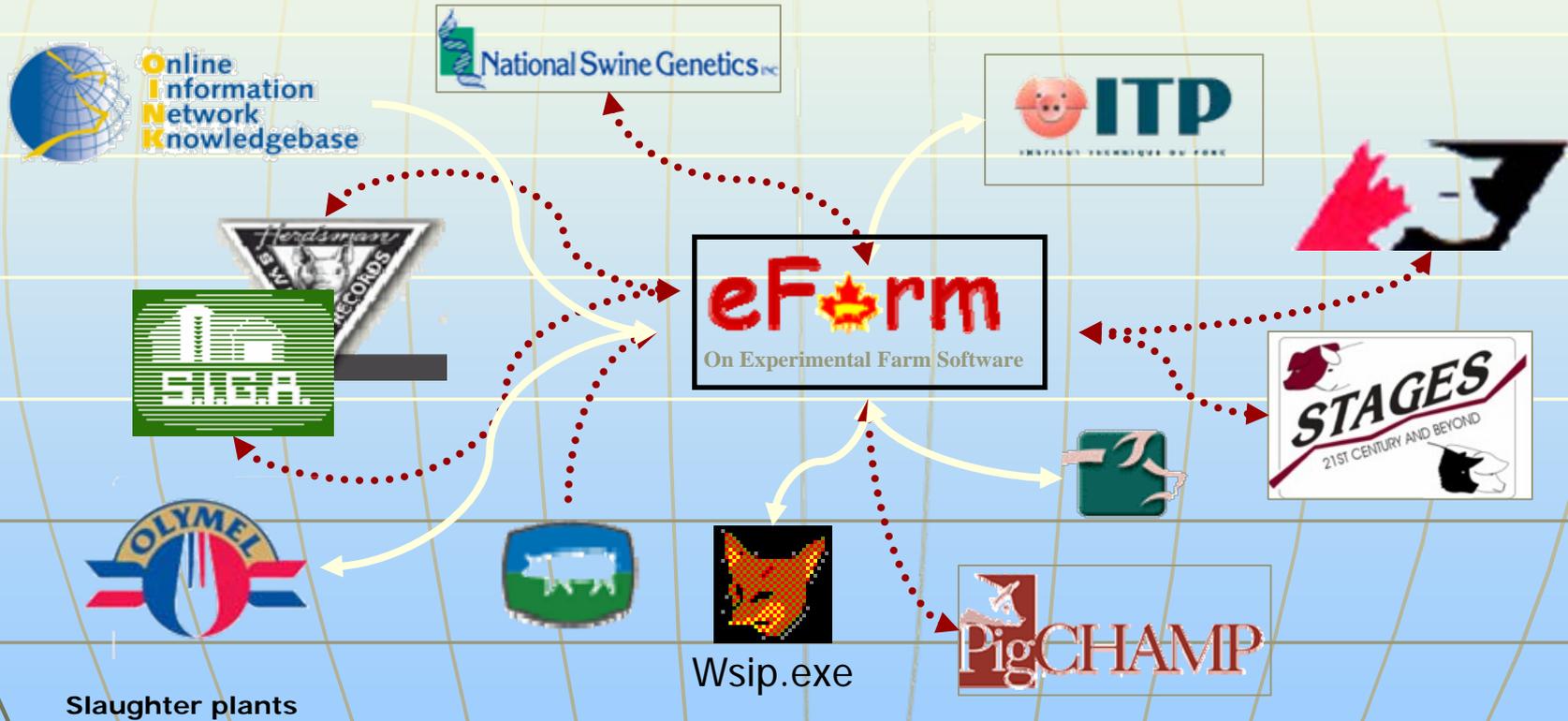
1. Performance Recording
 - Data entry
 - Data transfer
2. Basic management reports
3. Genetic evaluation
 - From phenotypes
 - From molecular tests
4. Breeding goals
5. Selection decisions
 - Select on total BV
 - Genetic diversity
6. Mating plans
7. Monitoring results



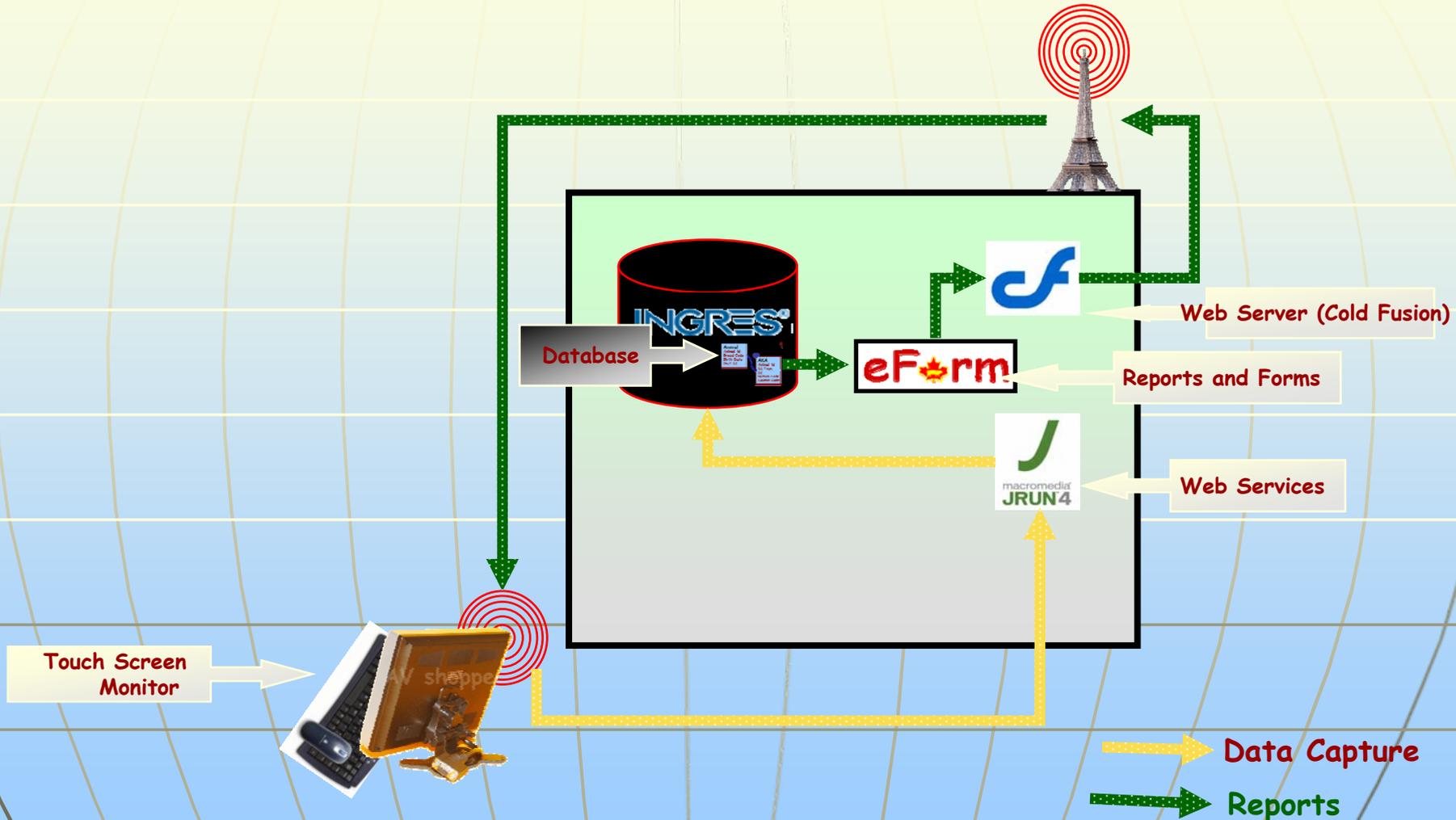
On-line data transfer

Interfaces with commonly used programs

OINK: Hog marketing



Servlets for data transfer





Entry > Reports > Groups >

Farrowing Rate Report

Herd	From	Until	
CCSI Training Herd (ON 99)	2007-04-17	2007-10-16	Go!

Service Dates	S	Week1	Week2	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12	Week13	Week14	Week15	Week16	F	Farrow Rate	Expected Due Dates	
17-Apr-07 - 23-Apr-07	26	24	24	22	21	21	21	20	20	20	20	20	20	20	20	19	18	10	38.46	10-Aug-07 - 16-Aug-07	
24-Apr-07 - 30-Apr-07	30	29	27	26	25	25	24	23	23	23	23	23	23	23	23	23	23	18	60.00	17-Aug-07 - 23-Aug-07	
01-May-07 - 07-May-07	28	26	26	25	25	25	25	25	24	24	24	24	23	23	23	23	23	10	55.71	24-Aug-07 - 30-Aug-07	
08-May-07 - 14-May-07	24	21	20	20	19	19	19	18	18	17	17	17	17	17	17	17	17	7	29.17	31-Aug-07 - 06-Sep-07	
15-May-07 - 21-May-07	15	14	14	14	14	13	12	12	12	12	12	12	12	12	12	12	12	6	40.00	07-Sep-07 - 13-Sep-07	
22-May-07 - 28-May-07	24	24	24	23	22	21	20	20	20	20	20	20	20	20	20	19	19	5	20.83	14-Sep-07 - 20-Sep-07	
29-May-07 - 04-Jun-07	21	20	20	19	19	19	19	19	19	18	18	18	18	18	18	17	17	10	47.62	21-Sep-07 - 27-Sep-07	
05-Jun-07 - 11-Jun-07	11	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	6	54.55	28-Sep-07 - 04-Oct-07	
12-Jun-07 - 18-Jun-07	25	22	22	18	17	16	16	16	16	16	16	16	16	15	15	14	14	6	24.00	05-Oct-07 - 11-Oct-07	
19-Jun-07 - 25-Jun-07	13	12	11	11	11	10	10	10	10	9	9	9	9	9	9	9	9	6	46.15	12-Oct-07 - 18-Oct-07	
26-Jun-07 - 02-Jul-07	20	18	18	16	15	14	13	13	13	13	13	13	13	13	13	13				19-Oct-07 - 25-Oct-07	
03-Jul-07 - 09-Jul-07	23	22	22	22	22	22	22	21	21	21	21	21	21	21	21	21				26-Oct-07 - 01-Nov-07	
10-Jul-07 - 16-Jul-07	22	19	19	19	19	19	18	18	18	18	18	18	18	18							02-Nov-07 - 08-Nov-07
17-Jul-07 - 23-Jul-07	21	19	19	15	15	13	12	12	12	12	12	12	12								09-Nov-07 - 15-Nov-07
24-Jul-07 - 30-Jul-07	19	18	18	14	13	13	13	13	13	13	13	13									16-Nov-07 - 22-Nov-07
31-Jul-07 - 06-Aug-07	18	17	17	16	16	15	15	15	15	15	15										23-Nov-07 - 29-Nov-07
07-Aug-07 - 13-Aug-07	23	22	22	20	18	18	16	16	16	16											30-Nov-07 - 06-Dec-07
14-Aug-07 - 20-Aug-07	28	24	24	22	22	22	22	22	22												07-Dec-07 - 13-Dec-07
21-Aug-07 - 27-Aug-07	19	18	18	17	15	15	15	15													14-Dec-07 - 20-Dec-07
28-Aug-07 - 03-Sep-07	17	16	16	14	14	14	14														21-Dec-07 - 27-Dec-07
04-Sep-07 - 10-Sep-07	20	19	19	19	19	19															28-Dec-07 - 03-Jan-08
11-Sep-07 - 17-Sep-07	20	17	17	17	17																04-Jan-08 - 10-Jan-08
18-Sep-07 - 24-Sep-07	26	24	24	24																	11-Jan-08 - 17-Jan-08
25-Sep-07 - 01-Oct-07	0																				
02-Oct-07 - 08-Oct-07	0																				
09-Oct-07 - 15-Oct-07	0																				

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Genetic Evaluation

from phenotypes and DNA tests

- Phenotypic records on the animals
 - Growth, feed efficiency
 - Fat / lean
 - Sow productivity
 - Conformation
 - Disease resistance
 - Carcass and meat quality
 - etc.
- DNA tests: IGF2 and others
- On line BLUP evaluation -> EBVs and indices

Computer Dating:

Selection and Mating Decisions

Les Porgreg inc. ▾



Step 1: Decide on your breeding goals [HELP](#)

1. Use the national index (Recommended) -> Go to step 2.
2. Create your own index (For advanced users)-> [Continue](#)

Step 2: Select the boars and gilts to be mated

1. Select top boars from AI using [Your Custom Index](#) or [National Index](#)
2. Select top boars or sows from your herd using [Your Custom index](#) or [National Index](#)
3. Add any other boars/sows from a file or enter them on screen. Go to next step .

Step 3: Expected mating results

List inbreeding levels EBVs and indices from matings of selected boars and gilts--> [Continue](#)

Selection of breeding animals

CCSI Seed Shop - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://www.ccsi.ca/Members/AISires/topBoars.cfm

Genome Canada International Confer... CCSI Seed Shop

Top Boars!

Use this page to find the top AI Boars in Canada
Select a breed, AI Centre and/or trait to rank by... and then Click "Go!"

Breed	AI Centre	Rank By	# to Show
Duroc	All...	(3-4RL) Lean Depth	5

Go! add a boar... Go!...

You can add or remove AI Boars from your [Computer Dating](#) list by clicking on the heart beside him.
To add a boar, click on the green heart (♥). To remove a boar, click on the red one (♥).

5 found.

Duroc									
Rank	Boar	Born	EBVs		Connectedness		Progeny		Centre
			Sirep	3-4RL	Lean Growth	NBorn	Herds	Pigs	
1	PSP 1130P (DU) (DU) ♥ ♀ ♂ 🏆 🏆 🏆	Jul-12-2004	122	4.34	8.0	15	237	OSI Swine A.I. Centre (ON 2)	edit...
2	PSP 226R (DU) (DU) ♥ ♀ ♂ 🏆 🏆 🏆	May-14-2005	136	3.72		7	111	OSI Swine A.I. Centre (ON 2)	edit...
3	NEUD 214N (DU) (DU) ♥ ♀ ♂ 🏆 🏆 🏆	Apr-14-2003	103	3.63	51.0	18	462	OSI Swine A.I. Centre (ON 2)	edit...
4	ATJS 312S (DU) (DU) ♥ ♀ ♂ 🏆 🏆 🏆	Jan-11-2006	91	3.63		1	1	International Genetics (PE 15)	edit...
5	CLM 10604R (DU) (DU) ♥ ♀ ♂ 🏆 🏆 🏆	Aug-30-2005	132	3.59		2	43	OSI Swine A.I. Centre (ON 2)	edit...

Select the EBVS to Show On The Report

Sirep
 Damp
 Yield
 LEYEA
 Age
 FCR
 Fat
 3-4RL
 NBorn
 Sirex
 Damx
 FLI
 PPS
 FLSV
 FLFV
 FLP
 HLSV
 HLRV
 HLP
 FLIT
 ELQ
 HLIT
 HLOT
 ETear

Find: atkc Next Previous Highlight all Match case

Done www.ccsi.ca

Consideration of genetic diversity

Pogo Phage - Mozilla Firefox

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https://www.ccsi.ca/Members/R... caseous lymph...

Genome Canada International Confer... Pogo Phage

2004 - 2006

Genetic Variability		Main Ancestors		
# Animals born between 2004 and 2006	364			
<u>Inbreeding trend</u>	0.004	1. USA 321M (DU)	Male	9.1%
Effective population size ¹	133	2. ACA 32507E (DU)	Male	8.5%
# Founders	812	3. NEUD 228K (DU)	Male	8.5%
Effective # of founders	123.4	4. ACA 8005N (DU)	Female	8.4%
Effective # of ancestors	19.7	5. ACA 8203E (DU)	Female	6.3%
# of remaining founder genomes	8.6	6. ACA 19202M (DU)	Male	6.0%
		7. DLDA 53H (DU)	Male	5.3%
		8. ASPX 5482M (DU)	Male	4.1%
		9. USA 621P (DU)	Male	3.6%
		10. ACA 26801N (DU)	Male	3.5%

¹ Based on inbreeding change

The 10 main ancestors explain 63.4% of the gene pool in the population under study.

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Find: atkc Next Previous Highlight all Match case

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Mating Plans

decide on a few possible matings

https://www.ccsi.ca - Oink Oink Life - Mozilla Firefox

Sow/Gilt		Predicted EBVs										
		National Index (Sire)	Sirep	Damp	Yield	LEVEA	Age	FCR	Fat	3-4RL	NBorn	
ATJS 59718 (DU)												
▼	ASPX 5492R (DU)	0.000	113	113	116	-0.19	-0.37	-4.8	-0.052	0.70	-0.39	0.10
▼	ATJS 7076R (DU)	0.032	122	122	112	0.00	0.01	-5.5	-0.066	0.19	0.07	-0.17
▼	ASRF16603R (DU)	0.000	125	125	123	0.06	0.08	-6.1	-0.075	0.31	-0.19	0.06
▼	BMR 50205R (DU)	0.000	111	110	108	-0.34	-0.55	-5.1	-0.051	0.81	-0.20	-0.10
▼	BMR 50204R (DU)	0.000	115	115	110	-0.19	-0.45	-5.1	-0.056	0.55	-0.31	-0.10
▼	ATJS 7828 (DU)	0.001	114	114	96	-0.23	-1.47	-5.3	-0.057	0.62	-1.68	-0.47
▼	ATJS 9068 (DU)	0.033	94	93	91	-0.71	-0.85	-3.3	-0.019	1.40	-0.07	-0.25
▼	ATJS 9078 (DU)	0.033	103	102	98	-0.59	-0.60	-4.8	-0.040	1.21	0.07	-0.25
			(pts)	(pts)	(pts)	(%)	(sq cm)	(days)	(kg/kg)	(mm)	(mm)	(pigs)

Sow/Gilt		Predicted EBVs											
		National Index (Sire)	Sirep	Damp	Yield	LEVEA	Age	FCR	Fat	3-4RL	NBorn		
ATJS 65218 (DU)													
▼	ASPX 5492R (DU)	0.002	121	121	98	-0.03	-0.38	-5.6	-0.066	0.59	-0.70	-0.54	
1st	▼	ATJS 7076R (DU)	0.000	129	129	93	0.16	-0.00	-6.4	-0.081	0.08	-0.25	-0.81
2nd	▼	ASRF16603R (DU)	0.011	133	133	105	0.21	0.07	-7.0	-0.090	0.20	-0.50	-0.58
▼	BMR 50205R (DU)	0.009	118	118	90	-0.19	-0.57	-6.0	-0.066	0.70	-0.52	-0.74	
▼	BMR 50204R (DU)	0.009	122	122	92	-0.03	-0.46	-6.0	-0.071	0.44	-0.62	-0.74	
1st	▼	ATJS 7828 (DU)	0.125	121	121	78	-0.07	-1.48	-6.2	-0.072	0.51	-1.99	-1.11
2nd	▼	ATJS 9068 (DU)	0.000	101	101	73	-0.55	-0.87	-4.2	-0.034	1.29	-0.39	-0.89
3rd	▼	ATJS 9078 (DU)	0.000	110	110	80	-0.43	-0.62	-5.7	-0.055	1.10	-0.24	-0.89
			(pts)	(pts)	(pts)	(%)	(sq cm)	(days)	(kg/kg)	(mm)	(mm)	(pigs)	

Sow/Gilt		Predicted EBVs										
		National Index (Sire)	Sirep	Damp	Yield	LEVEA	Age	FCR	Fat	3-4RL	NBorn	
ATJS 93138 (DU)												
▼	ASPX 5492R (DU)	0.006	93	93	99	-0.51	0.54	-1.4	-0.003	1.24	1.17	0.04
▼	ATJS 7076R (DU)	0.256	101	101	94	-0.31	0.92	-2.2	-0.017	0.73	1.63	-0.23
▼	ASRF16603R (DU)	0.001	105	105	105	-0.26	0.99	-2.8	-0.026	0.85	1.37	0.00
▼	BMR 50205R (DU)	0.004	90	90	90	-0.66	0.35	-1.8	-0.002	1.35	1.35	-0.16
▼	BMR 50204R (DU)	0.004	94	94	93	-0.50	0.46	-1.8	-0.007	1.09	1.25	-0.16
▼	ATJS 7828 (DU)	0.001	93	93	79	-0.55	-0.56	-2.0	-0.008	1.16	-0.12	-0.53

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Results: Genetic trends

EBV Trends - Mozilla Firefox

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https://www.ccsi.ca/Members/Reports/EBVs/ebvTrends.cfm

bearskin airlines

Canadian Centre for Swine Improvement Inc.

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Pigs On The Web | AI | Reports | eFarm | Mating Plans | Tools

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Yorkshire Number Born (pigs)

Year	Canada	CCSI Training Herd (99)
1997	-2.2	
1998	-2.1	
1999	-1.9	
2000	-1.7	
2001	-1.5	
2002	-1.3	
2003	-1.1	
2004	-0.9	
2005	-0.7	
2006	-0.5	-1.6

Period	Number Born (pigs)				
Year	Quarter	Pigs	Average	Minimum	Maximum
2006	2	1	-1.6	-1.6	-1.6
2006	all	1	-1.6	-1.6	-1.6

Want another graph? Select a breed, trait, and region and then click 'Go'

herd	Breed	Trait	Region	
CCSI Training Herd (99)	Yorkshire	(NBorn) Number Born	Canada	Go

Done

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Goats On The Web - Microsoft Internet Explorer

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Back Forward Stop Home Search Favorites Media

Address https://www.ccsi.ca/Members/Goats/GoatsOnTheWeb/ebv.cfm?animal_id= Go Links

Trait	Index/EBV	Unit	Rep	Date
Combined Index	143	pts	--	Mar-19-2005
Production Index	121	pts	--	Mar-19-2005
Type Index	134	pts	--	Mar-19-2005
Milk	102.18	kg	--	Mar-19-2005
Protein Yield	1.92	kg	--	Mar-19-2005
Protein Percent	3.00	%	--	Mar-19-2005
Fat Yield	1.40	kg	--	Mar-19-2005
Fat Percent	2.97	%	--	Mar-19-2005
Teats	5.45	pts	--	Mar-19-2005
Fore Udder	5.77	pts	--	Mar-19-2005
Rear Udder	5.51	pts	--	Mar-19-2005
Suspensory Ligament et al.	5.33	pts	--	Mar-19-2005
Dairy Character	5.27	pts	--	Mar-19-2005
General Appearance	5.18	pts	--	Mar-19-2005
Body Capacity	4.97	pts	--	Mar-19-2005
Feet and Legs	4.85	pts	--	Mar-19-2005

1. *Parent averages are shown in italics*

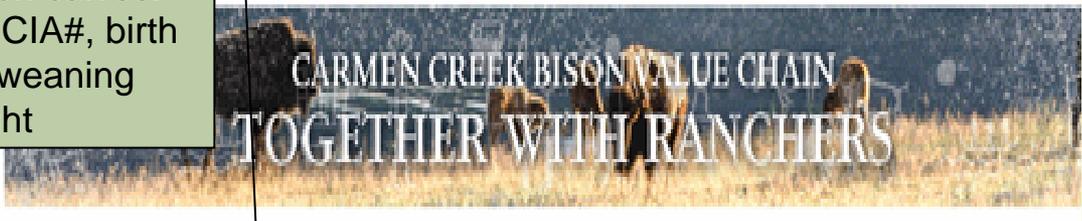
Evaluation history...

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Information on calves:
dangle tag, CCIA#, birth
year, sex, weaning
weight



Carcass data
uploaded to
WIS



Cow-calf producers



Carcass data in
Excel spreadsheets
Emailed to CC

Feedlots

Weights, owner,
movement to
slaughter



Processors



Web tools for Genetic Improvement

- Developed in partnership with swine producers to combine herd management with genetic evaluations
- One, easy to use, online application for herd information
- No need for specific software installation
- Always available as a backup
- Used by producers in Canada, Chile, China etc.
- You can try it as well...



Thanks for your attention....!

More information:

www.ccsi.ca or info@ccsi.ca