IRISH CATTLE BREEDING FEDERATION

C.O.W.

Cow's Own Worth



Official launch

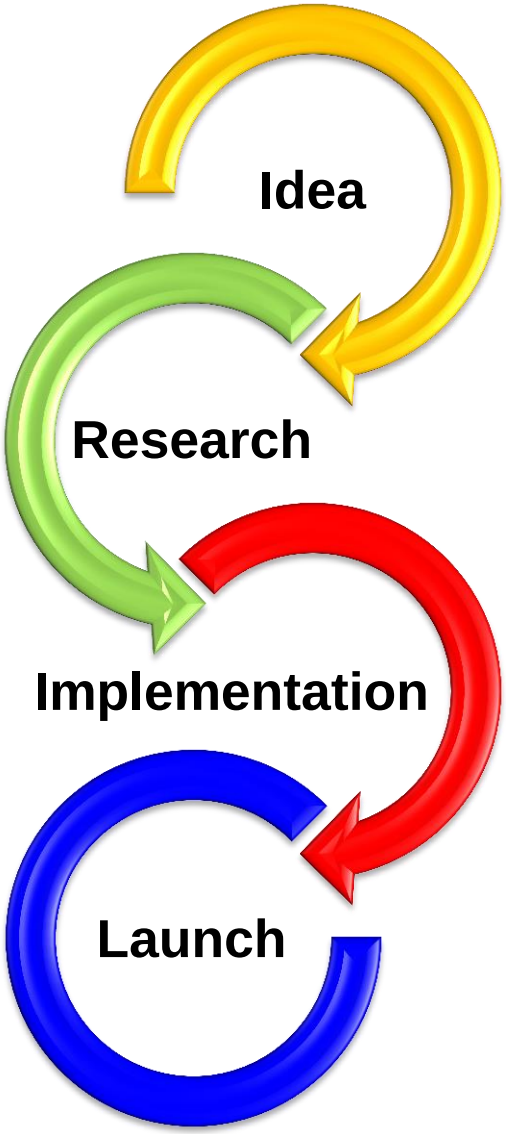
Dr. Margaret Kelleher

31st October 2017

Department of Agriculture, Food and the Marine

An Roinn Talmhaíochta, Bia agus Mara

Introduction



J. Dairy Sci. 98:4225–4239
http://dx.doi.org/10.3168/jds.2014-9073

Development of an index to rank dairy females on expected lifetime profit

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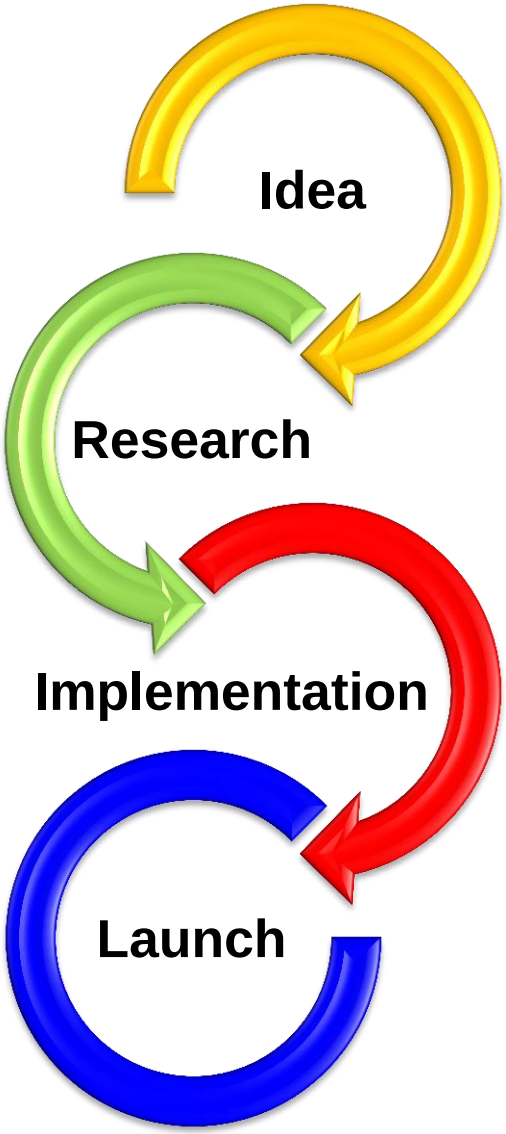
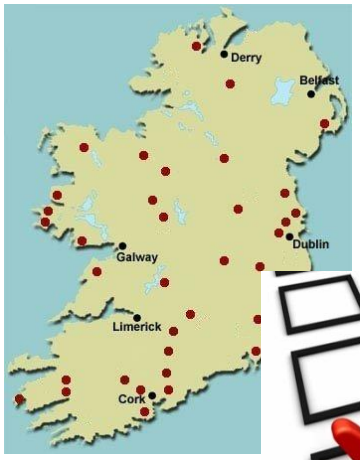
§Irish Cattle Breeding Federation, Bandon, Co. Cork, Ireland

Introduction





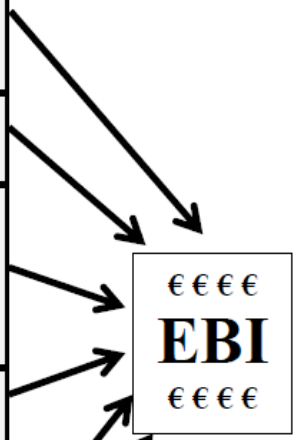
ICBF.com

What is C.O.W.?

Economic Breeding Index (EBI)

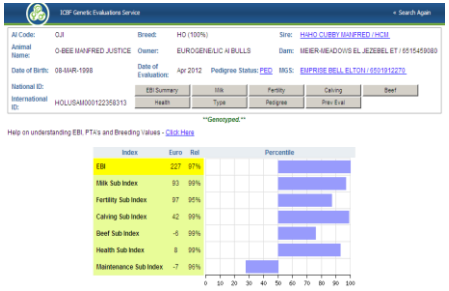
Table 1. *Economic values and % emphasis of the various traits in the EBI formula.*

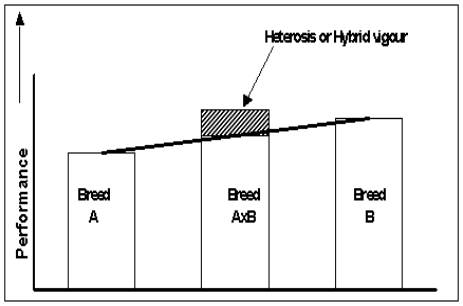
2017 Economic values and % emphasis for traits in the EBI				
Sub-Index	**Trait**	**Economic Weight**	**Trait Emphasis**	**Overall Emphasis**
Production	Milk	-€0.09	9.9%	32%
	Fat	€1.04	3.5%	
	Protein	€6.64	18.6%	
Fertility	Calving Interval	-€12.43	23.5%	35%
	Survival	€12.01	11.6%	
Calving	Direct Calving Difficulty	-€3.52	3.4%	10%
	Maternal Calving Difficulty	-€1.73	1.5%	
	Gestation Length	-€7.49	4.5%	
	Calf Mortality	-€2.85	0.6%	
Beef	Cull Cow Weight	€0.15	0.7%	8%
	Carcass Weight	€1.38	4.1%	
	Carcass Conformation	€10.32	1.7%	
	Carcase Fat	-€11.71	1.5%	
Maintenance	Cull Cow Weight	-€1.65	7.0%	7%
Management	Milking Time	-€0.25	2.1%	4%
	Milking Temperament	€33.69	1.9%	
Health	Lameness	-€54.26	0.7%	4%
	SCC	-€43.49	2.4%	
	Mastitis	-€77.10	0.9%	

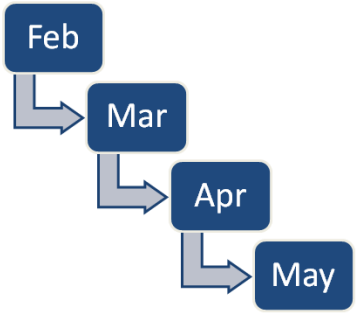


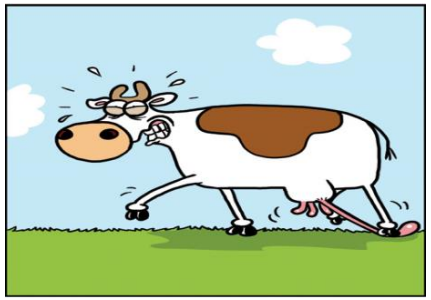
½ EBV

C.O.W. = Cow's Own Worth









Expected profit from:

C.O.W

=

Current Lactation

- Production
- Management
- Health (SCC)
- Maintenance
- Fertility (calving date)

Net Replacement Cost

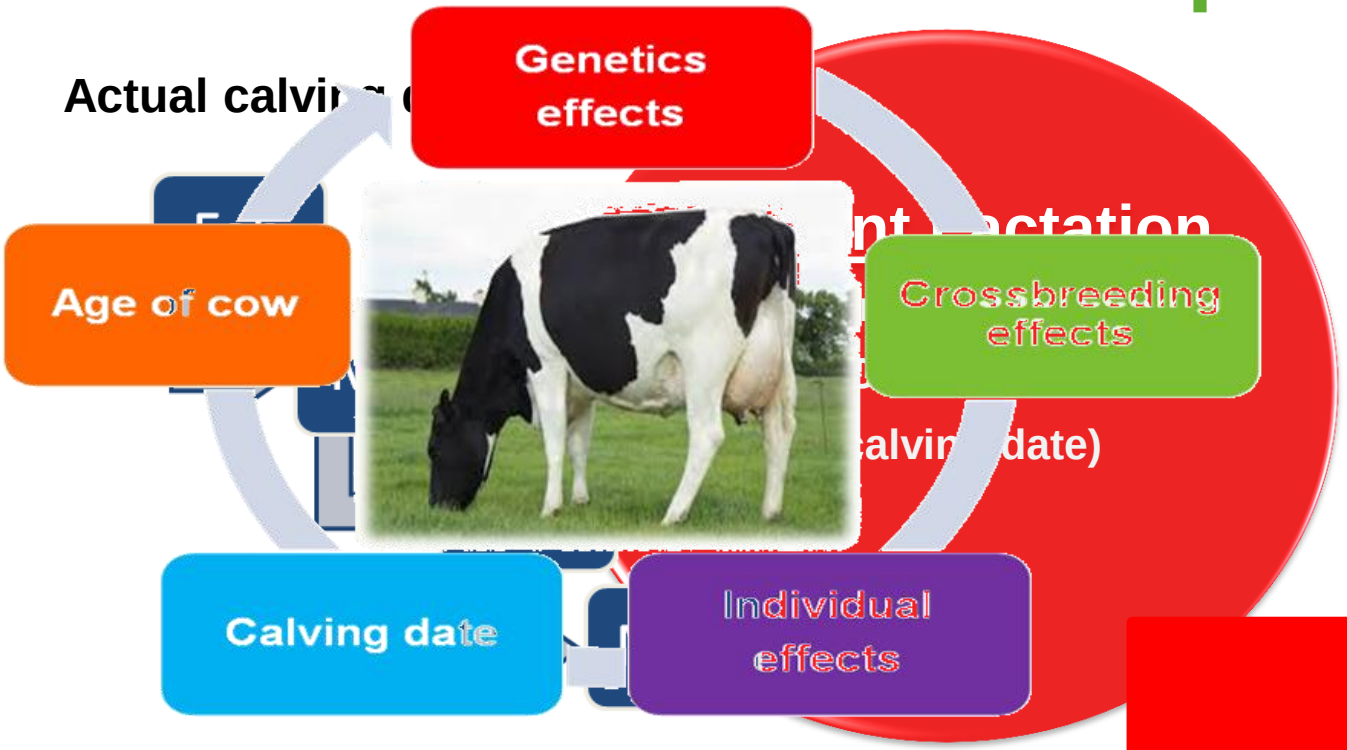
- Cull cow value
- Replacement cost

Future Lactations

- Production
- Management
- Health
- Maintenance
- Beef
- Fertility
- Calving
- Descendants

+ predictions on fertility, survival and SCC performance

Current lactation profit



Current milk price
Costs per day of date of calving MDSM

Expected profit from:

C.O.W

=

Current Lactation

- Production
- Management
- Health (SCC)
- Maintenance
- Fertility (calving date)

Net Replacement Cost

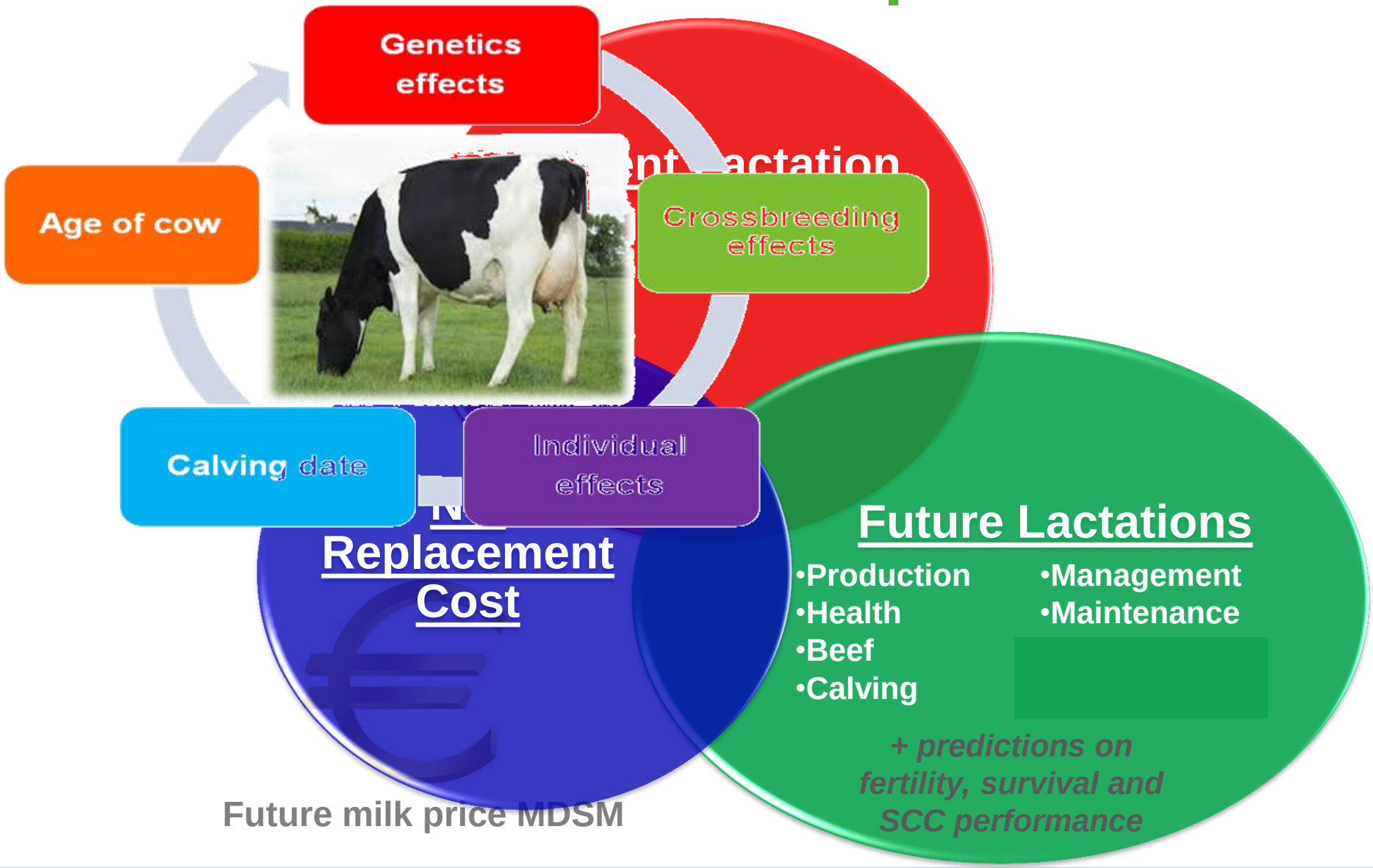
- Cull cow value
- Replacement cost

Future Lactations

- Production
- Management
- Health
- Maintenance
- Beef
- Fertility
- Calving
- Descendants

+ predictions on fertility, survival and SCC performance

Future lactations profit



Future lactations profit

Current Lactation

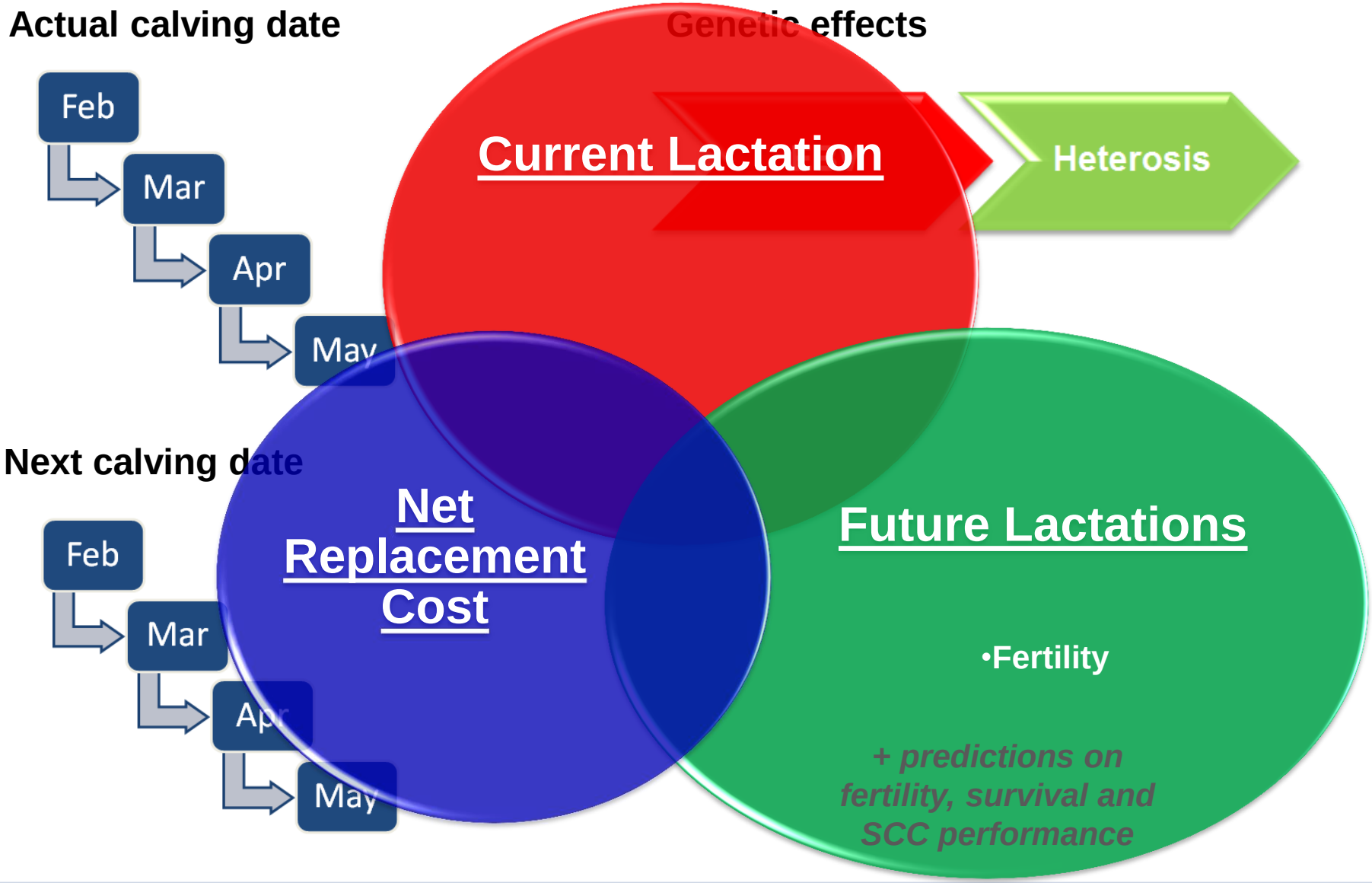
EBI times
Cumulative Discounted Expression

Net Replacement Cost

Future Lactations

- **Descendants**

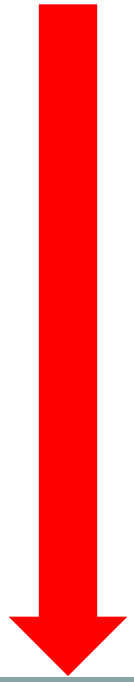
Future lactations profit



Future fertility performance

Transition matrices

Best Genetics



	Jan	Feb	Mar	Apr	May
Proportion	0.14	0.53	0.22	0.08	0.03
Cost (€)	0.00	0.00	-151.00	-210.00	-437.00
∑Cost (€)			-63.13		

	Jan	Feb	Mar	Apr	May
Proportion	0.13	0.39	0.25	0.15	0.07
Cost (€)	0.00	0.00	-151.00	-210.00	-437.00
∑Cost (€)			-99.84		

Difference of €36.71

Expected profit from:

C.O.W

=

Current Lactation

- Production
- Management
- Health (SCC)
- Maintenance
- Fertility (calving date)

Net Replacement Cost

- Cull cow value
- Replacement cost

Future Lactations

- Production
- Management
- Health
- Maintenance
- Beef
- Fertility
- Calving
- Descendants

+ predictions on fertility, survival and SCC performance

Net replacement cost differential

Cull value

Salvage value + Genetics$_{CWT}$

Current Lactation

Long term replacement requirement

Net Replacement Cost

- Cull cow value
- Replacement cost

Replacement cost

Future Lactations

Results: Milk production

€360 more value per cow per lactation for cows in top 25% versus bottom 25%

Group	Milk (kg)	Fat (g/100g)	Protein (g/100g)
	COW	COW	COW
Best (Top 25%)	6965	4.07	3.57
Good			
Poor			
Worst (Bottom 25%)	6164	3.97	3.44

€9000

Survey results 2016 pilot

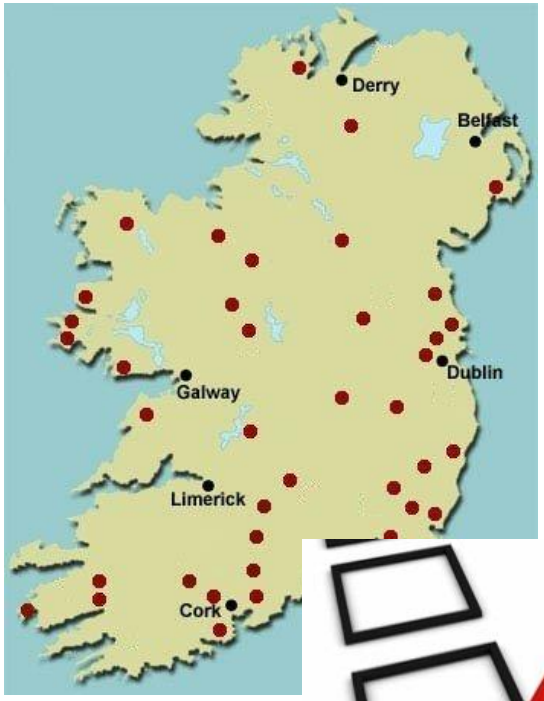
98%

I would like the COW to be generated for my herd from now on

95%

I would recommend the national extension of the COW to all spring calving milk recording herds in 2017

“Improve appearance”



“Live ranking of cows essential”

“I have been waiting for this support tool”

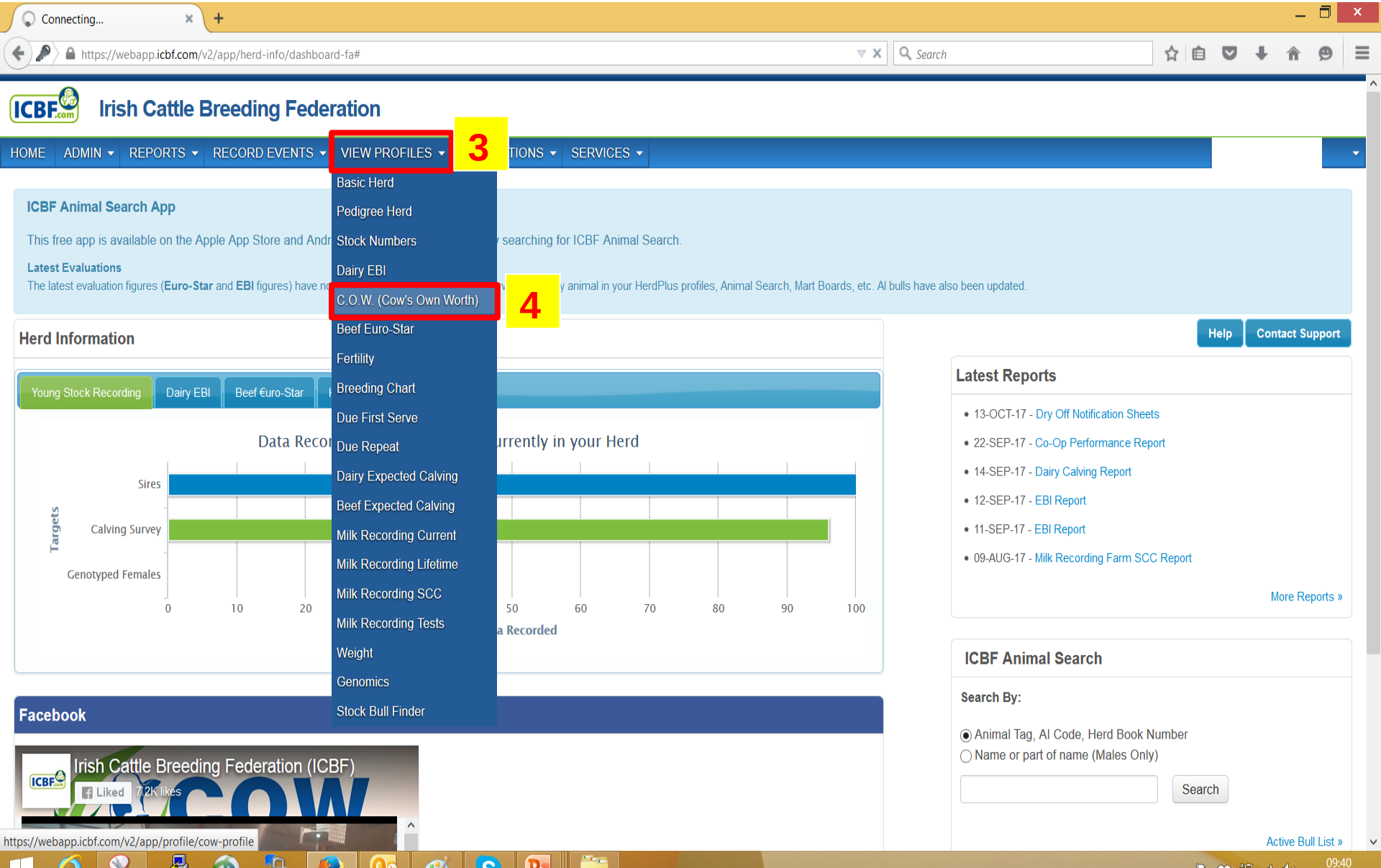
Key Features

Where do I find C.O.W.?

1. www.icbf.com
2. Enter username and password

Where do I find C.O.W.?

3. Click on “View profiles”
4. Select “C.O.W”




EBI REPORT
FERTILITY REPORT
HEALTH REPORT
MILK RECORDING REPORT
CALVING REPORT
PAST REPORT

Features of C.O.W. profile

C.O.W. (Cow's Own Worth) Profile Click on an Animal Number or Jumbo to view more details.

Help PDF | Help

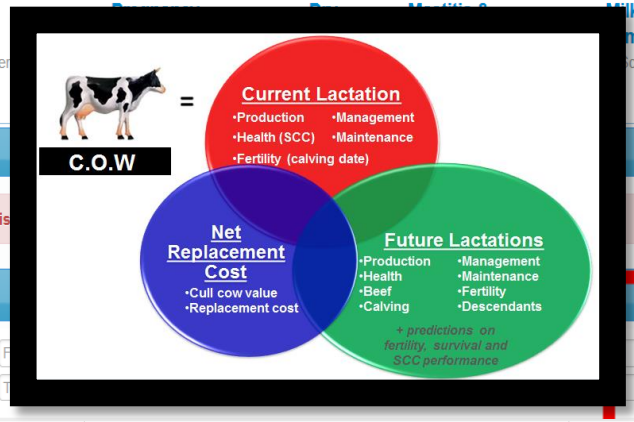
Record Events

Missing Sire — 7 Missing

Heat & AI/Serve — 206 Cows Ser

Milking Temperament — Scored

Mark For Culling — 0 Cows Marked



Some additional information

Eligible Animals | Missing Animals

Please ensure to record health events (particularly mastitis

Showing 1 to 203 of 203 entries

Hide filters | Excel | PDF | Print

From / To | Jumbo | Animal Number | From Date / To Date | Preg Diag | From Date / To Date | Marked For | From / To

Rank	Animal Details			C.O.W. Components				EBI	Fertility					SCC
C.O.W. Rank	Jumbo	Animal Number	Lact	C.O.W. (€)	Current Lact Profit (€)	Future Lacts Profit (€)	Net Replace Cost (€)	EBI (€)	Last Calving Date	Preg Diag	Expected Calving Date	Marked For Culling	SCC (,000 c/ml)
1	2127	2127	2	1895	216	873	805	136	31-JAN-17	IN CALF	07-FEB-18	NO	27
2	2098	2098	2	1820	190	826	804	152	20-FEB-17	IN CALF	13-FEB-18	NO	20
3	2332	2332	1	1788	127	754	907	151	08-FEB-17	IN CALF	01-FEB-18	NO	50
4	2262	2262	1	1779	116	754	909	172	15-FEB-17	IN CALF	11-FEB-18	NO	18
5	1968	1968	3	1770	210	859	702	130	26-JAN-17	IN CALF	21-FEB-18	NO	14
6	1857	1857	3	1726	223	802	701	110	21-FEB-17	IN CALF	14-FEB-18	NO	10
7	1733	1733	1	1643	222	823	598	153	18-FEB-17	IN CALF	28-MAR-18	NO	29
8	2232	2232	1	1600	106	586	908	155	10-FEB-17	IN CALF	13-APR-18	NO	25

Features of C.O.W. profile

Jumbo:

Animal Number:

Sex: Female

Date Of Birth: 02-FEB-2012

Animal Name:

Status: Born On Farm 2097 days ago

Breed: HO (68.75%), FR (31.25%)

Dam:

Sire:

EBI | Pedigree | Weight | Fertility | **Milk** | Progeny | Type | Prev. Eval. | Other

Lactation Summary

Lact.	Calved	Milk Kg	Fat Kg	Prot Kg	Fat%	Prot%	F+P Kg	SCC	Days	305d Milk Kg	305d Fat Kg	305d Prot Kg	305d Fat%	305d Prot%	305d F+P Kg
1	26-01-14	6957	309	258	4.45	3.71	567	78	323	6681	294	245	4.41	3.67	539
2	04-03-15	7990	348	294	4.36	3.68	642	33	292	8200	360	303	4.39	3.69	663
3	10-03-16	8459	368	308	4.35	3.64	676	33	279	8846	391	325	4.42	3.68	716
4	18-02-17	5473	305	191	5.56	3.48	496	29	172	8354	446	304	5.34	3.64	750
Avg (Completed)		7220	333	263	4.68	3.63	595	43	267	8020	373	294	4.64	3.67	667

Lifetime Production

Lact	Milk Kg	Fat Kg	Prot Kg	Fat%	Prot%	F+P Kg	Days
4	28879	1330	1051	4.61	3.64	2381	1066

Features of C.O.W. profile

C.O.W. (Cow's Own Worth) Profile Click on an Animal Number or Jumbo to view more details.

Help PDF | Help

Record Events

Missing Sire	Heat & AI/Serve	Pregnancy Diagnosis	Dry-Off	Mastitis & Lameness	Milking Temperament	Mark For Culling
7 Missing	206 Cows Served	211 Cows Scanned 18% Empty	0 Cows	0 Mastitis Case(s) 0 Lameness Case(s)	0 Scored	0 Cows Marked

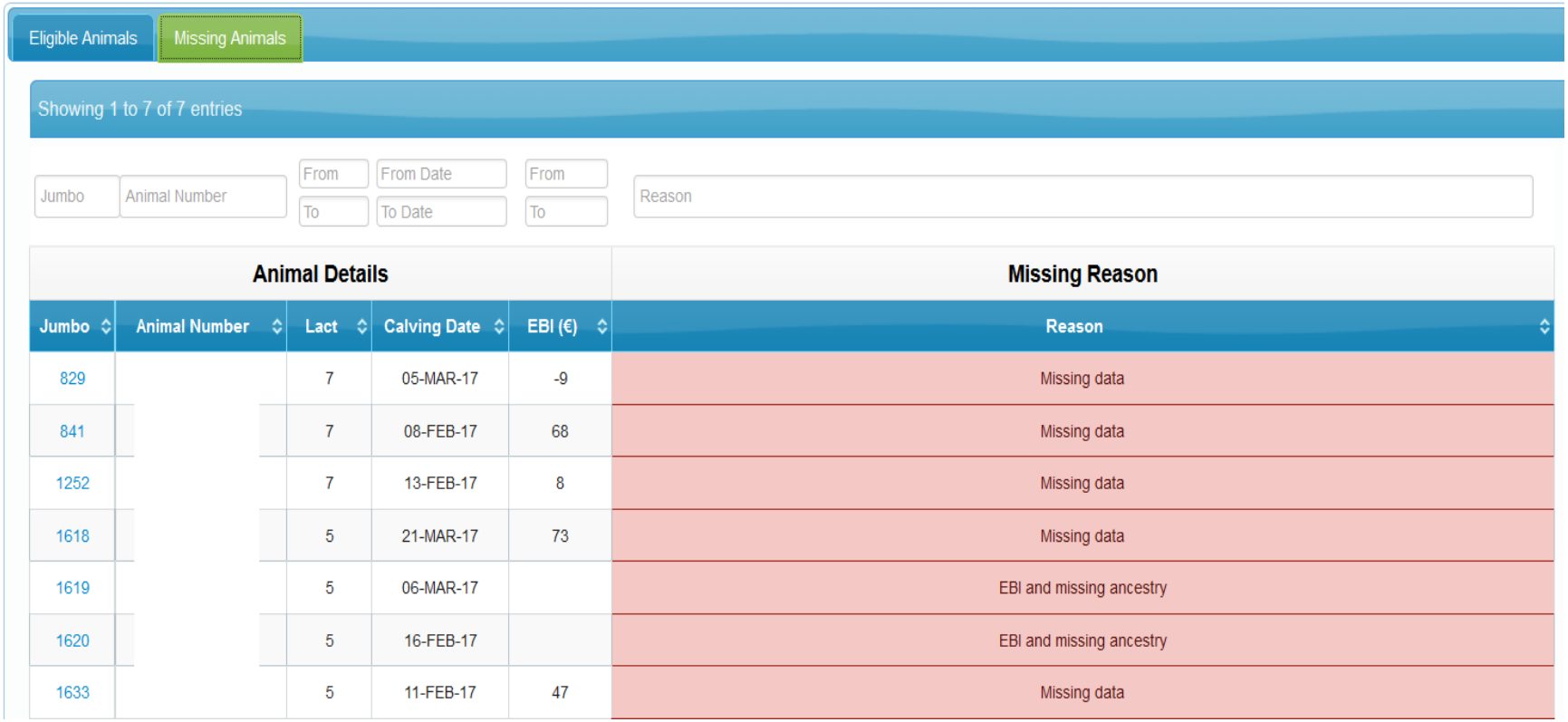
Eligible Animals | Missing Animals

Please ensure to record health events (particularly mastitis & lameness) to improve the accuracy of your C.O.W.

Showing 1 to 203 of 203 entries — Hide filters | Excel | PDF | Print

Rank	Animal Details			C.O.W. Components				EBI	Fertility				SCC
C.O.W. Rank	Jumbo	Animal Number	Lact	C.O.W. (€)	Current Lact Profit (€)	Future Lacts Profit (€)	Net Replace Cost (€)	EBI (€)	Last Calving Date	Preg Diag	Expected Calving Date	Marked For Culling	SCC (,000 c/ml)
1	2127		2	1895	216	873	805	136	31-JAN-17	IN CALF	07-FEB-18	NO	27
2	2098		2	1820	190	826	804	152	20-FEB-17	IN CALF	13-FEB-18	NO	20
3	2332		1	1788	127	754	907	151	08-FEB-17	IN CALF	01-FEB-18	NO	50
4	2262		1	1779	116	754	909	172	15-FEB-17	IN CALF	11-FEB-18	NO	18
5	1968		3	1770	210	859	702	130	26-JAN-17	IN CALF	21-FEB-18	NO	14
6	1857		3	1726	223	802	701	110	21-FEB-17	IN CALF	14-FEB-18	NO	10
7	1733		4	1643	222	823	598	153	18-FEB-17	IN CALF	28-MAR-18	NO	29
8	2232		1	1600	106	586	908	155	10-FEB-17	IN CALF	13-APR-18	NO	25

Features of C.O.W. profile



Eligible Animals | Missing Animals

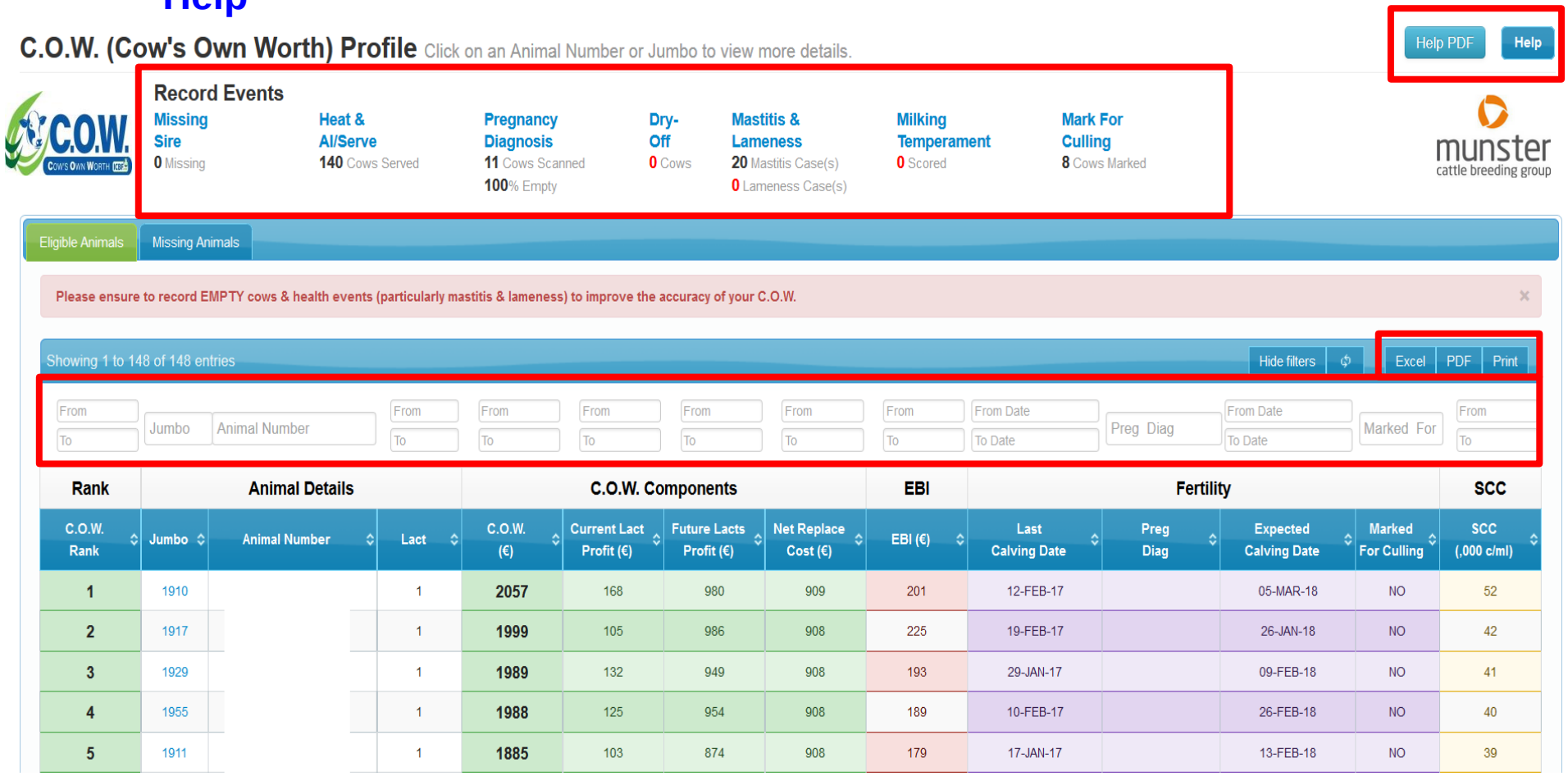
Showing 1 to 7 of 7 entries

Jumbo | Animal Number | From | From Date | To | To Date | From | To | Reason

Animal Details					Missing Reason
Jumbo	Animal Number	Lact	Calving Date	EBI (€)	Reason
829		7	05-MAR-17	-9	Missing data
841		7	08-FEB-17	68	Missing data
1252		7	13-FEB-17	8	Missing data
1618		5	21-MAR-17	73	Missing data
1619		5	06-MAR-17		EBI and missing ancestry
1620		5	16-FEB-17		EBI and missing ancestry
1633		5	11-FEB-17	47	Missing data

Features of C.O.W. profile

- Record events
- Filters
- Print
- Help



Culling on C.O.W.

Rank	
1	
2	
3	
4	
5	

Record event

- Pregnancy diagnosis
- Insemination
- Lameness
- Mastitis, etc.

Culling candidate

Culling on C.O.W.

Rank	Animal Details			C.O.W. Components				EBI	Fertility				SCC
C.O.W. Rank	Jumbo	Animal Number	Lact	C.O.W. (€)	Current Lact Profit (€)	Future Lacts Profit (€)	Net Replace Cost (€)	EBI (€)	Last Calving Date	Preg Diag	Expected Calving Date	Marked For Culling	SCC (,000 c/ml)
272			8	388	-35	-53	476	90	06-FEB-17	IN CALF	12-FEB-18	NO	109
273			8	388	-38	-50	476	104	12-FEB-17	IN CALF	22-FEB-18	NO	120
274			7	382	-17	-135	534	40	18-FEB-17	IN CALF	14-MAR-18	NO	49
275			3	378	-81	-243	702	60	11-FEB-17	IN CALF	07-MAR-18	NO	51
276			3	356	-51	-296	703	31	09-FEB-17	IN CALF	04-FEB-18	NO	20
277			4	349	-92	-157	597	114	16-FEB-17	IN CALF	24-FEB-18	NO	39
278			2	307	-706	210	803	107	20-APR-17	IN CALF	03-APR-18	NO	2370
279			8	304	-150	-21	475	136	09-FEB-17	IN CALF	05-APR-18	NO	388
280			3	302	-81	-318	701	57	03-FEB-17	IN CALF	29-MAR-18	NO	69
281			3	293	-148	-261	702	83	03-FEB-17	IN CALF	21-MAR-18	NO	403
282			6	167	-49	-385	601	91	02-FEB-17	IN CALF	19-MAR-18	NO	207
283			4	158	-88	-352	598	52	03-FEB-17	IN CALF	09-MAR-18	NO	30
284			7	155	-56	-326	536	-19	21-MAR-17	IN CALF	01-MAR-18	NO	203
285			8	101	-40	-335	476	27	04-FEB-17	IN CALF	05-FEB-18	NO	18
286			6	-130	-511	-216	597	41	11-FEB-17	IN CALF	03-FEB-18	NO	1137
287			1					147	28-FEB-17	EMPTY		NO	35
288			1					142	21-FEB-17	EMPTY		NO	76

Culling on C.O.W.

Group	No. of cows	Average days in milk	Completed Lactations Only M Kg	M Gall	F%	P%	F Kg	P Kg	F+P Kg
Overall	267	286	5748	1228	4.58	3.61	263	208	471
		305 CI: 371	5932	1267	4.63	3.64	275	216	490
1st Lactation	95	283	4869	1040	4.76	3.65	232	178	409
		305	5080	1085	4.82	3.68	245	187	432
2nd Lactation	97	289	6027	1288	4.47	3.62	269	218	488
		305 CI: 376	6190	1322	4.51	3.64	279	225	504
3rd Lactation	22	287	6595	1409	4.70	3.52	310	232	542
		305 CI: 361	6781	1449	4.75	3.54	322	240	562

Herd report

Individual performance

EBI | Pedigree | Weight | Fertility | Milk | Progeny | Type | Prev. Eval. | Other

Lactation Summary

Lact.	Calved	Milk Kg	Fat Kg	Prot Kg	Fat%	Prot%	F+P Kg	SCC	Days	305d Milk Kg	305d Fat Kg	305d Prot Kg	305d Fat%	305d Prot%	305d F+P Kg
1	10-03-15	4293	155	157	3.62	3.65	312	76	260	4754	177	177	3.72	3.72	354
2	19-03-16	4993	169	174	3.39	3.49	343	23	249	5510	193	197	3.51	3.57	390
3	03-02-17	5250	200	186	3.82	3.54	386	403	252	5942	226	212	3.80	3.57	438
Avg (Completed)		4845	175	172	3.61	3.56	347	167	254	5402	199	195	3.68	3.62	394

C.O.W. blocks

1. Criteria

- Spring calving
- Milk recording
- Fertility information
- Health

2. Time of year

- Lacking fertility information (e.g. inseminations/natural serves, pregnancy diagnosis)
- Lacking health information

Conclusions

- C.O.W. is for **culling**
- EBI is for **breeding**
- C.O.W. is complimentary to the EBI (national breeding index)

- Spring-calving herds
- Milk recording
- Fertility recording
- Health recording

- Added value service
- Multiple sources of data available
- Within herd ranking
- Live system
- Maximise COW accuracy by;
  - Recording MORE data
  - Recording ACCURATE data

ICBF.com

Our Farmer & Government Representation

Department of Agriculture, Food and the Marine
An Roinn Talmhaíochta, Bia agus Mara

Irish Creamery Milk Suppliers Association

IFA

Our AI & Milk Recording Organisations

DoveaGENETICS

munster cattle breeding group

PROGRESSIVE GENETICS

TIPPERARY COOP

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AYRSHIRES Cattle Society of Great Britain and Ireland

THE ABERDEEN-ANGUS CATTLE SOCIETY

IBBCS

EASBB

IRISH AUBRAC

BLONDE D'AQUITAINE

Irish Charolais Cattle Society

IRISH HEREFORD

IHFA

IRISH LIMOUSIN Cattle Society

Parthenais

Irish Piemontese Society

Irish Shorthorn Society Ltd.

Simmental

ISP

Irish Cattle Breeders

Ireland's Native Dairy Breed

Montbeliarde

MRI Cattle Society of Ireland
Meuse Rhine Issel -- Milk & Muscle!

Norwegian Red Cattle Society

Salers Cattle Society of Ireland Ltd.

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