06-APR-2017

NAME
ADDRESS 1
ADDRESS 2
CO CORK

D1234567

Dear HerdPlus member,

Please find enclosed your new "**GENOMIC EVALUATION REPORT**" for each animal requested.

For further information please see the explanation sheet **P.T.O**
This report is also available in the reports section of the ICBF website www.icbf.com

If you have any queries on this report please call the HerdPlus Lo-call number on **023 8820452** and our staff will be glad to assist you.

Yours sincerely,

Sean Coughlan
Chief Executive, Irish Cattle Breeding Federation

Explanation of the Genomic Evaluation Report

Official Genomic Evaluation and Reliability
The official genomic evaluation is a combination of an animal's ancestry and DNA information to provide the most accurate genetic evaluations for the animal. The reliability is proportional to the reliability of the sire and dam as well as the amount of DNA information available in the back ancestry of the animal.

Weighting on Genomics
The greater the proportion of the back ancestry of an animal that is genotyped and included in the reference population, the greater the contribution of genomics to the overall blended proof. If an outcross animal is poorly related to the reference population then the weighting on genomics will be low.

DNA Value
This is the value of the DNA only part of the official genomic evaluation. This does not include any parentage influence. It should not be used as a selection tool as it would discount the performance of the dam of the animal.

Parent Average Evaluation and Reliability
The parent average evaluation is the base from which genomic evaluations are done. It is calculated as half the sire EBI and half the dam EBI. The parent average figures will be very similar or the same as the current EBI of the animal. It will be the same where no calving information is available on the calf but the calving sub index will be different where a calving evaluation is available on the animal.

Diff. from Parent Avg
This column gives the deviation of the official genomic evaluation from the parent average. Favourable changes from the parent average indicate the animal has inherited better genes than might have been expected from the average of the parents.

Increase in reliability
This is the difference between the parent average reliability and the official genomic evaluation. This increase depends on the amount of information in the genomic evaluation. It equates to an animal having the equivalent of about 10-15 daughters in milk production.

Genomic Evaluation Report

Jumbo	2236	**Lact. No**	
Tag		**Sex**	M
Name		**Sire**	YRY (€182)
DOB	19-Feb-2017 0y 1m	**Dam**	
Breed	HO (91%), FR (9%)	**Dam's Sire**	GZY (€227)
Date of Evaluation	05-Apr-2017		

Index	Official Genomic Evaluation (*)	Reliability	Weighting on Genomics	DNA Value	Parent Average Evaluation	Reliability	Diff.from Parent Avg	Increase In Reliability
EBI €	**233**	**45%**	37%	222	221	29%	+12	16%
Milk Sub Index €	**78**	**57%**	48%	70	81	31%	-3	26%
Fertility Sub Index €	**121**	**48%**	35%	115	105	25%	+16	23%
Calving Sub Index €	**35**	**36%**	29%	43	35	37%	0	-1%
Beef Sub Index €	**-11**	**30%**	31%	-8	-12	34%	+1	-4%
Maintenance Sub Index €	**8**	**24%**	33%	2	9	25%	-1	-1%
Health Sub Index €	**0**	**41%**	33%	0	2	23%	-2	18%
Milk Sub Index								
Milk (Kg)	**95**	**57%**	48%	119	168	31%	-73	26%
Fat (Kg)	**17.9**	**57%**	48%	15.7	16.4	31%	+1.5	26%
Protein (Kg)	**10.3**	**57%**	48%	9.7	11.9	31%	-1.6	26%
Fat (%)	**0.24**	**57%**	48%	0.19	0.17	31%	+0.07	26%
Protein (%)	**0.12**	**57%**	48%	0.1	0.11	31%	+0.01	26%
Fertility Sub Index								
Calv Int (Days)	**-5.46**	**48%**	36%	-5.06	-4.55	26%	-0.91	22%
Survival (%)	**4.46**	**47%**	33%	4.31	4.05	25%	+0.41	22%
Calving Sub Index								
Dir.Calv Diff (%)	**2.3**	**38%**	30%	1.7	2.35	37%	-0.05	1%
Mat.Calv Diff (%)	**5.63**	**22%**	28%	5.4	5.32	30%	+0.31	-8%
Gest Len (Days)	**-2.89**	**40%**	29%	-3.31	-2.88	40%	-0.01	0%
Calf Mort(%)	**-0.03**	**37%**	28%	-0.62	0.07	37%	-0.1	0%
Beef Sub Index								
Cull Cow Weight (Kg)	**-5**	**24%**	33%	-1.15	-5.5	25%	+0.5	-1%
Carcass Weight (Kg)	**-4.5**	**31%**	32%	-1.87	-6	35%	+1.5	-4%
Carcass Conf (Grade)	**-0.84**	**30%**	31%	-0.8	-0.75	35%	-0.09	-5%
Carcass Fat (%)	**-0.4**	**29%**	30%	-0.3	-0.39	35%	-0.01	-6%
Maintenance Sub Index								
Cull Cow Weight (Kg)	**-5**	**24%**	33%	-1.15	-5.5	25%	+0.5	-1%
Health Sub Index								
Lameness (Locomotion)	**-0.42**	**30%**	22%	-0.72	-1.12	18%	+0.7	12%
Udder (SCC)	**0**	**56%**	49%	-0.01	-0.04	30%	+0.04	26%

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Trait	Official Genomic Evaluation	Reliability	Weighting on Genomics	DNA Value	Parent Average Evaluation	Reliability	Diff.from Parent Avg	Increase In Reliability
Overall Type	**-0.89**	**36%**	29%	-0.56	-0.42	21%	-0.47	15%
Overall Udder	**-0.33**	**39%**	30%	-0.36	-0.11	28%	-0.22	11%
Overall Feet + Legs	**-0.87**	**35%**	27%	-0.81	-0.37	20%	-0.5	15%
Angularity	**-0.58**	**43%**	33%	-0.54	-0.84	28%	+0.26	15%
Stature	**-0.88**	**44%**	34%	-0.66	-1.09	31%	+0.21	13%
Body Depth	**-1.14**	**41%**	32%	-1.09	-1.98	29%	+0.84	12%
Chest Width	**0**	**39%**	30%	0.02	-0.95	29%	+0.95	10%
Foot Angle	**0.72**	**34%**	26%	-0.18	-0.54	20%	+1.26	14%
Rear Leg Set	**-0.33**	**39%**	28%	0.4	0.6	23%	-0.93	16%
Locomotion	**-0.42**	**30%**	22%	-0.72	-1.12	18%	+0.7	12%
Body Condition Score	**0.7**	**37%**	28%	0.56	0.49	22%	+0.21	15%
Rump Angle	**2.5**	**43%**	33%	2.44	2.19	31%	+0.31	12%
Rump Width	**-2.2**	**39%**	30%	-1.4	-2.29	28%	+0.09	11%
Fore Udder Attachment	**0**	**40%**	30%	-0.23	0.02	29%	-0.02	11%
Rear Udder Height	**-0.57**	**40%**	30%	-0.54	-0.41	29%	-0.16	11%
Udder Depth	**-0.17**	**41%**	32%	-0.31	0.16	28%	-0.33	13%
Udder Support	**-0.68**	**39%**	29%	-0.48	-1.26	28%	+0.58	11%
Rear Teat Placement	**-0.62**	**10%**			-0.62	9%	0	1%
Teat Length	**-3.82**	**42%**	32%	-3.35	-2.95	28%	-0.87	14%
Teat Placement	**-0.26**	**28%**	23%	-0.36	-0.82	16%	+0.56	12%

Explanatory Notes:

Official Genomic Evaluation = the new official index based on combining the DNA information with the parental average information.

DNA Value = the index based on DNA information only. Weighting on Genomics = the percentage of the official evaluation that is based on DNA information.

For more information on Genomics terminology see attached sheet or on relevant section of our website www.icbf.com

***** Note research on calculating genomic breeding values for new traits (lameness/mastitis/temperament/milking time) is currently on-going, therefore these traits are not included above. The "Official Genomic Evaluation" does contain these traits based on parent average information (where available).