Status and plans genomic prediction

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Reference population
January 2019

	Reference population	
	Bulls	Cows
Holstein	35,100[a]	44,100
RDC	9,300[b]	43,500
Jersey	2,700[c]	21,800

a) Includes proven bulls from NLD, FRA, DEU, ESP, POL
b) Includes proven bulls from NOR
c) Includes proven bulls from USA

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Tested females per country and birth year

Year	Holstein			RDC			Jersey		
	DNK	FIN	SWE	DNK	FIN	SWE	DNK	FIN	SWE
2012	2,775	1,826	592	1,334	3,767	2,153	4,679	17	112
2013	4,369	2,632	1,471	1,666	3,503	2,465	3,591	13	85
2014	4,842	2,869	2,278	1,839	3,701	2,866	4,448	13	85
2015	6,129	3,570	2,605	2,211	4,847	3,934	5,216	37	142
2016	9,897	4,992	3,912	2,852	6,986	5,282	6,009	46	156
2017	14,812	8,548	4,761	3,659	8,722	5,595	7,197	67	198
2018	11,694	7,411	4,357	2,672	6,697	4,253	5,598	50	154
Total	59,986	33,628	21,049	17,897	44,313	30,055	43,616	267	1091

HOL total:	114,663	RDC total:	92,265	Jersey total:	44,974
New since last year:	36,808		20,837		10,949

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Efficiency of genomic prediction
(compared to pedigree information)

	HOL	RDC	JER
Yield	*****	****	*****
Growth	****(*)	***(*)	
Body	*****	*****	*****
Feet & legs	****	****	****(*)
Udder	*****	****(*)	*****
Milking speed	*****	*****	****(*)

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Efficiency of genomic prediction
(compared to pedigree information)

	HOL	RDC	JER
Fertility	*****	***	*
Birth	***(*)	****	-
Calving	***(*)	*(*)	-
Udder health	*****	***	***
General health	*(*)	**(*)	**(*)
Claw health	**	**	*
Temperament	**	*	(*)
Longevity	****	****	**
Y. Stock survival	**	*(*)	* (no evaluation)

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SNPs on LD chip

- **Current LD chip contains SNPs which are not on current 54k chip**

- **Combining the extra SNPs with the currently used SNPs in testing → improvement of prediction reliability is negligible**

- **Further tests will be done**

"LD chip version 9"

- **85,000 SNPs included**

- **New LD chip bigger than current 54k chip**

- **SNPs from 54k chip will be included, and 54k chip will not be used in future**

- **Will be introduced spring 2019**

- **SNPs on current 54k chip will be used for prediction until extra tests have been completed**

GEBV for more sub traits

- **Fertility**

- **Udder health (SCC)**

- **GH**

- **Claw health**

- **Persistency**

- **Will not improve prediction, but information can be used for marketing**

- **Will be introduced spring/summer 2019**