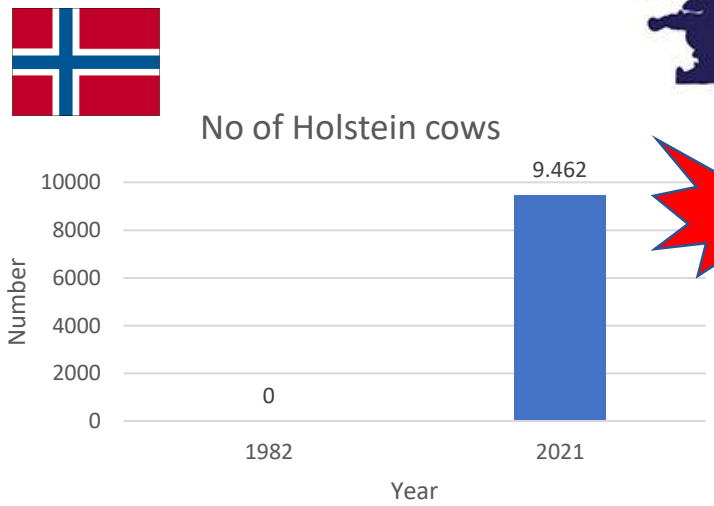
Holstein Breeding in Nordic countries

By Torben Lund, CEO, Avlsforeningen Dansk Holstein



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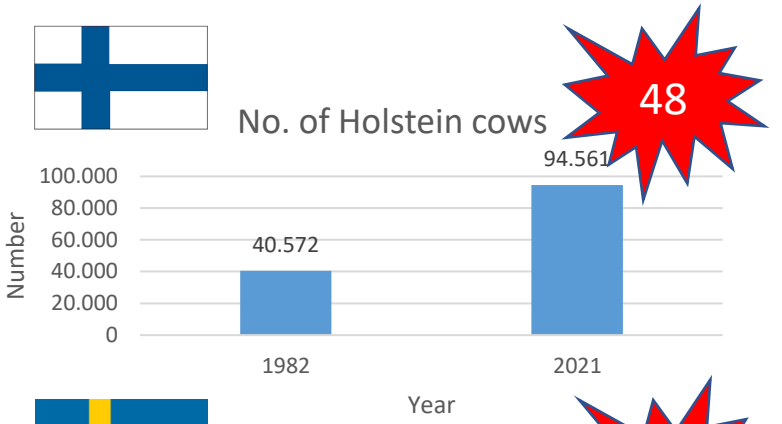

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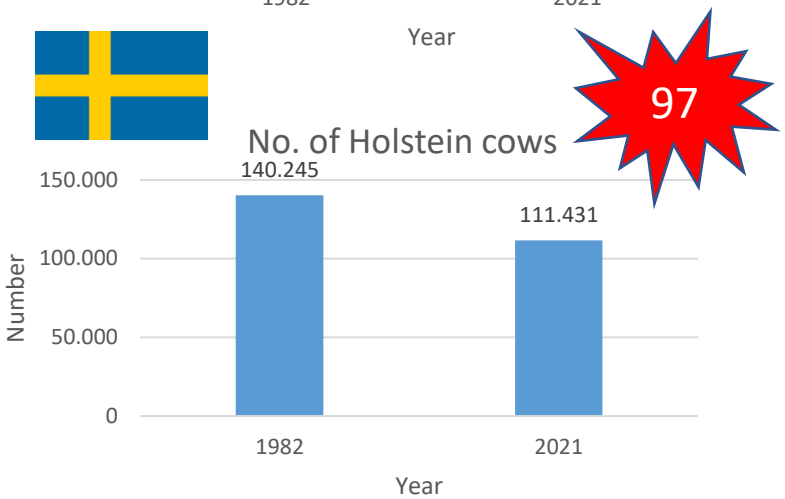

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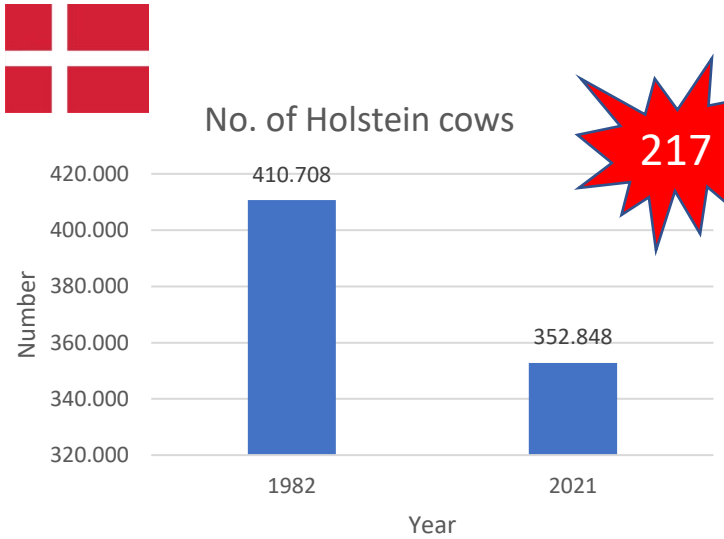

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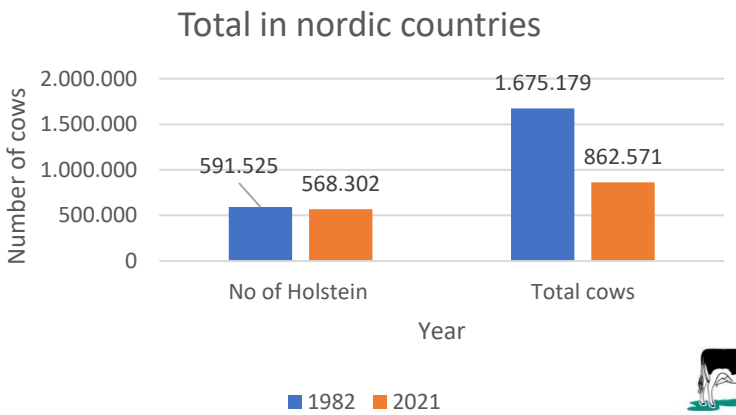

Total Holstein Milk production same period: 1982 3.485.373 ton
2021 6.419.875 ton

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Breeding goal

- Overall breeding goal : NTM
- Includes 15 indices – more 40 subindices
- Breeding goal is decided by the members of the Holstein associations within the Nordic countries in collaboration with NAV/ VikingGenetics and the 3 members of VikingGenetics.
- Genetic progress 2021 : 2,58 NTM/year

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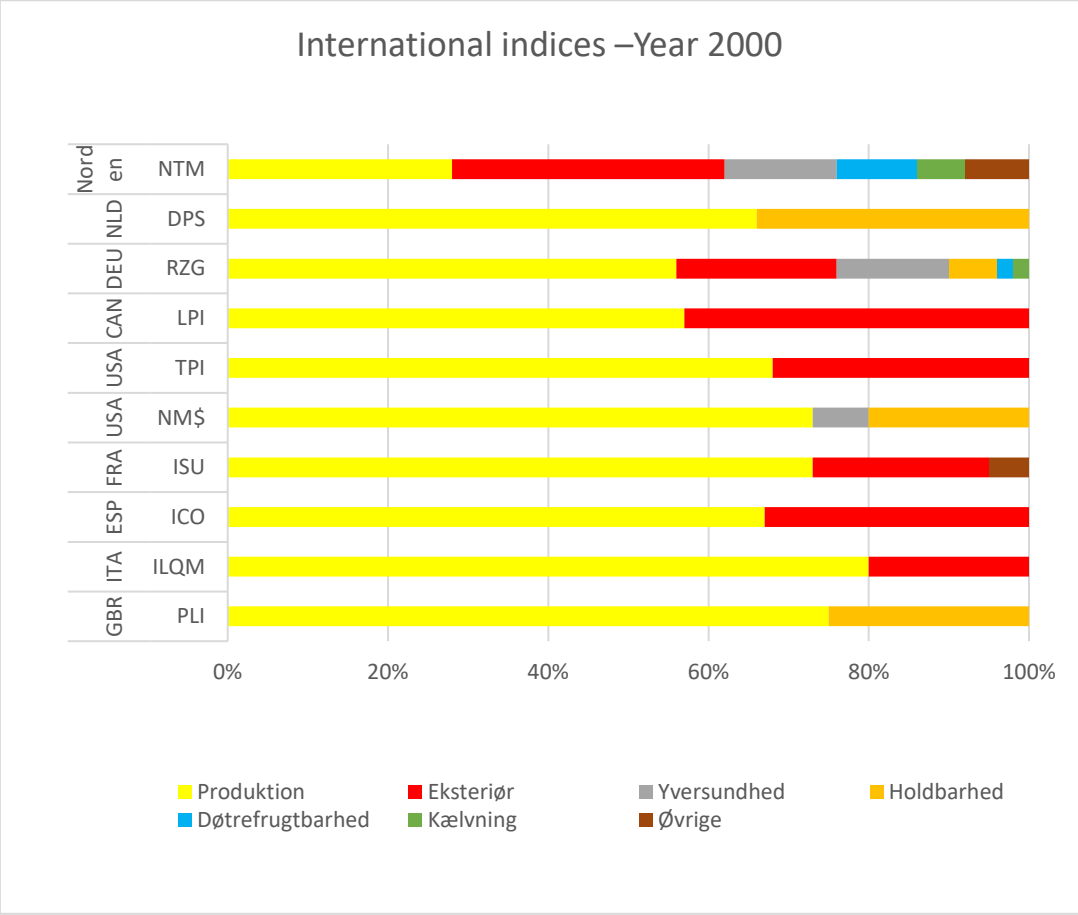
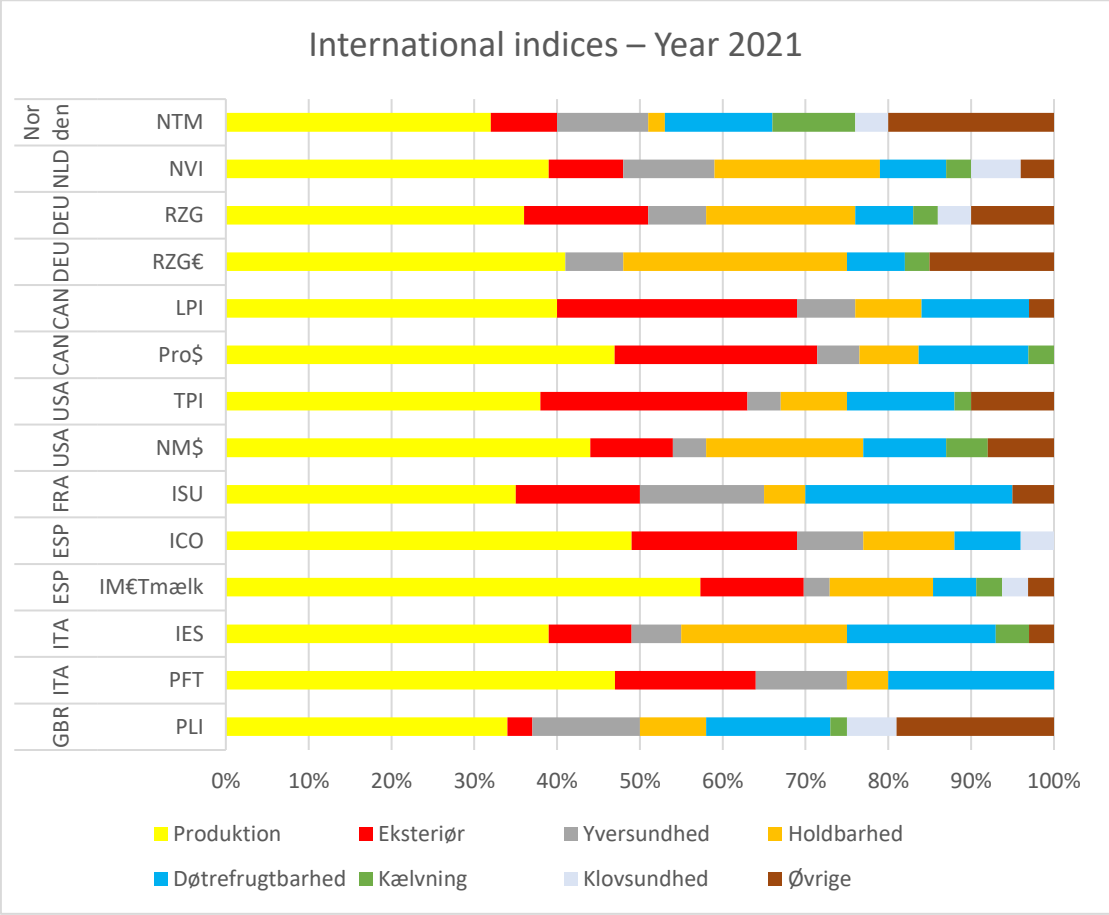
Nordic “breeding profile adapted by others





Result: The international competition gets tougher

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Holstein worldwide breed

- Massive genetic gene pool
- Worldwide acceptance
- Easy exchange of genetic genes / data
- Genomic testes are well incorporated

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International view

NR.	Firm	Land	TOTAL DOSES Million	TOTAL INT. Million	Home Market	% EXPORT	Breeds
1	**URUS**	US	32	19	13	53%	Holstein, Jersey, Angus, Nelore, Brahman
2	**Select Sires**	USA	24	14	10	55%	Holstein, Jersey, Angus, Herford, Simmental
3	**ABS-Genus**	GB	18	14	4	75%	Holstein, Jersey, Angus, Herford, Simmental, Zebu
4	**Semex**	CAN	12,7	6	6,7	47%	Holstein, Jersey, Angus, Brahman
5	**CRV**	NLD	*9,5*	2,8	6,7	29%	Holstein, Jersey, Fleckvieh, Nelore
6	**STgenetics**	US-	7,5	5,5	2	73%	Holstein, Jersey, Angus
7	**Evolution**		6	2	4	33%	Holstein, Normande, Charolais, Limousine
8	**LIC**	NZ	4,5	1	3,5	22%	Jersey, Holstein
9	**GGI**	GER	3,5	1	2,5	29%	Holstein, Fleckvieh, Angus, Limousin, Simmental
10	**Genes Diffusion**	FR	3,5	1,1	2,4	31%	Holstein, Charolais
11	**AWE**	BEL	3,5	3,2	0,3	91%	Belgien Blue
12	**VikingGenetics**		3,2	1,2	2,0	38%	Holstein, Jersey, VikingRed plus Beef
13	**Masterrind**		3	1	2,0	33%	Holstein, Jersey, Angus, Limousine, Simmental

Genomics has changed the gameplan

$$\text{Genetic progress} = \frac{\text{Selection Intensity} \times \text{Accuracy} \times \text{Genetics Std.}}{\text{Generation interval}}$$

Before Genomic time age : $G = \frac{I \times 25\% \times A}{2}$

After Genomic time age : $G = \frac{I \times 60\% \times A}{1}$ = Factor 6

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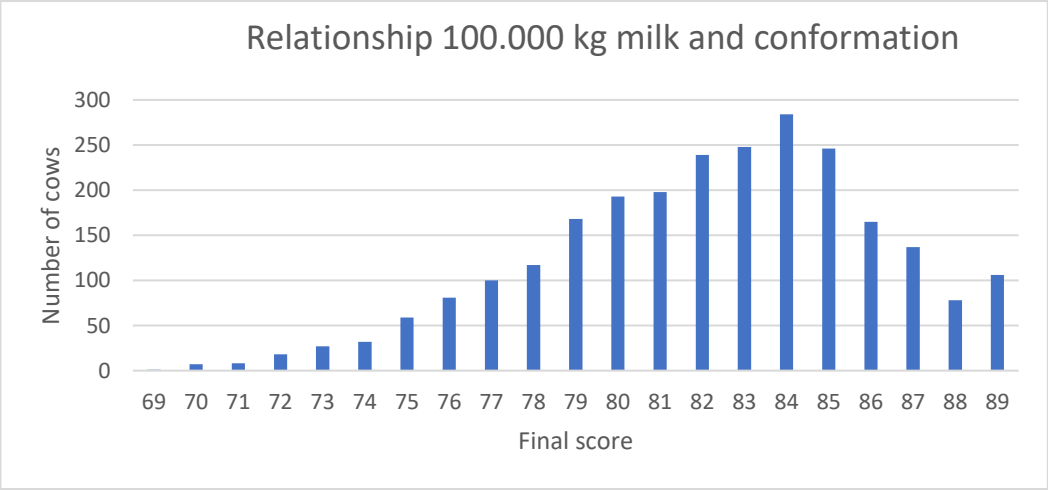
Consequence

- Genetic progress will increase
- Minor mistakes
- Increased genetics improvement for secondary traits
- Genetic distance to others breed will increase

Holstein – the true potential

- Impressive development

- Increased importance of good conformation



Source : SEGES; September 2021

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Future

- Still focus on a balanced breeding goal – NTM
- Holstein still the best alternative
- Longevity – positive impact on climate
- Focus on feed efficiency
- The importance of good conformation
- Upper limit on stature for Holstein?

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