

REDUCING LAMENESS THROUGH A HOOF HEALTH BREEDING INDEX

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What happens with hoof health as a consequence of intensive selection for dairy production?

1. It gets better
2. It gets worse
3. It stays the same

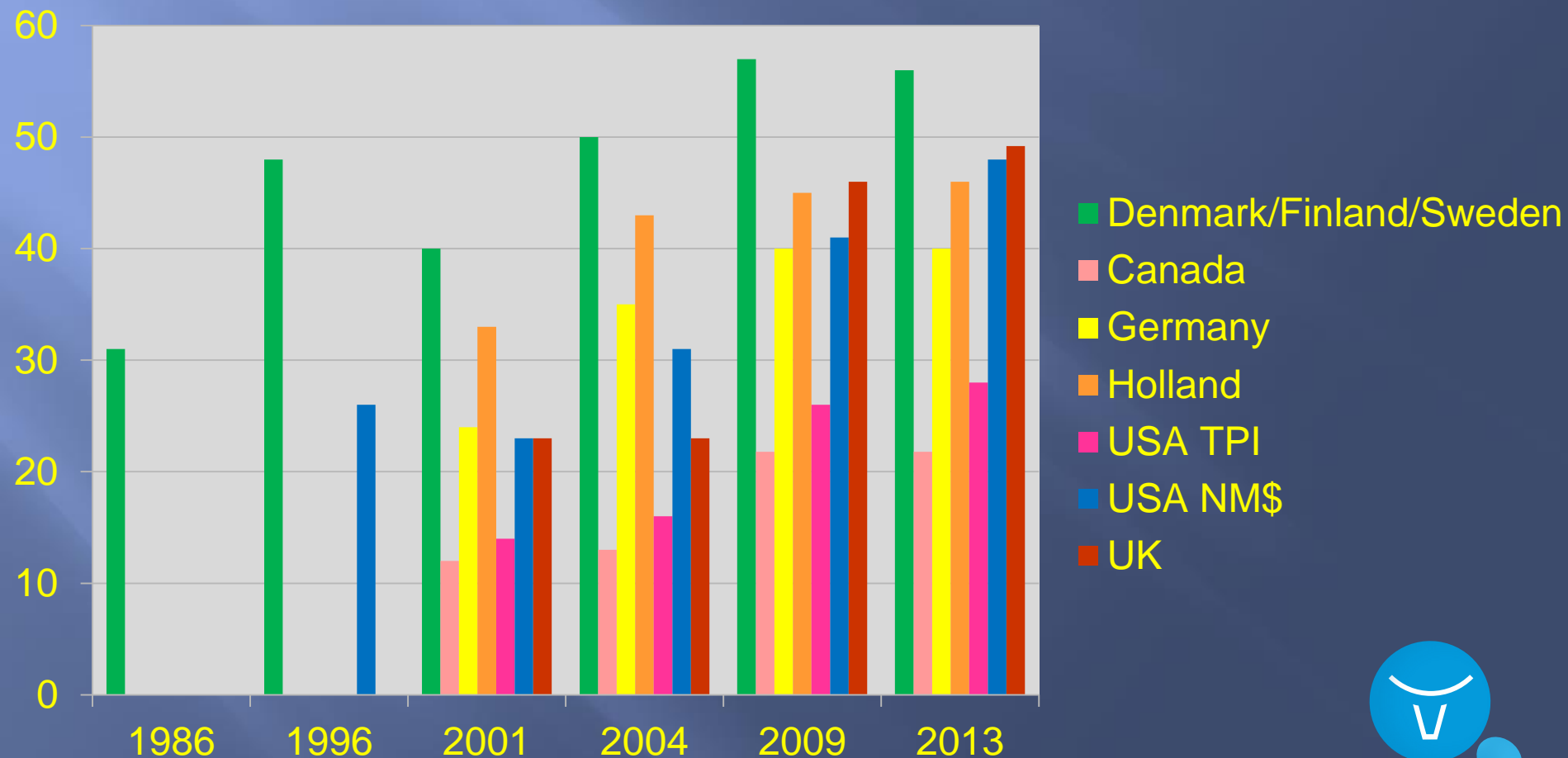


VikingGenetics – breeding company of Denmark, Sweden and Finland



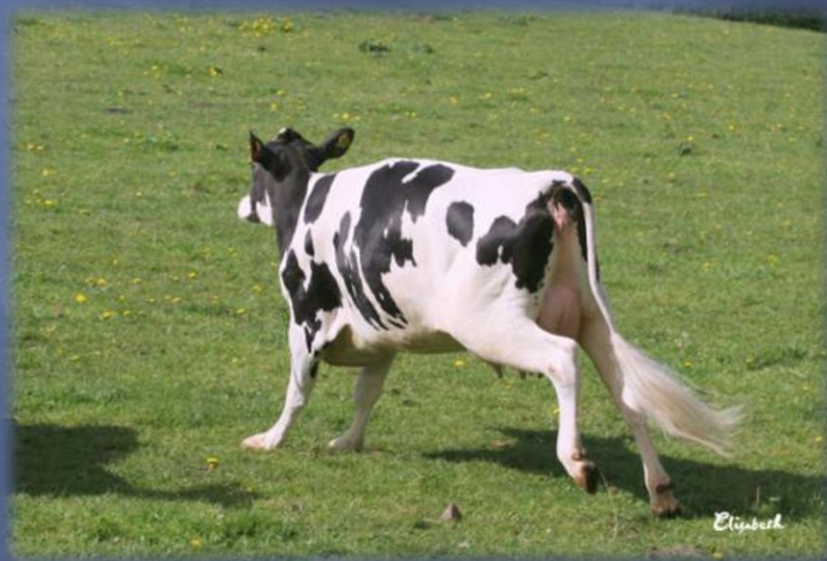
Scandinavian countries – pioneers of using health and fertility traits in selection

% of fertility and health traits in selection index



**2011- Hoof Health is included in
the Nordic Total Merit index**

**First time in history hoof health
was included in the overall
breeding goal**



Lameness - the top three for economic losses
Greatest animal welfare problem in dairy industry

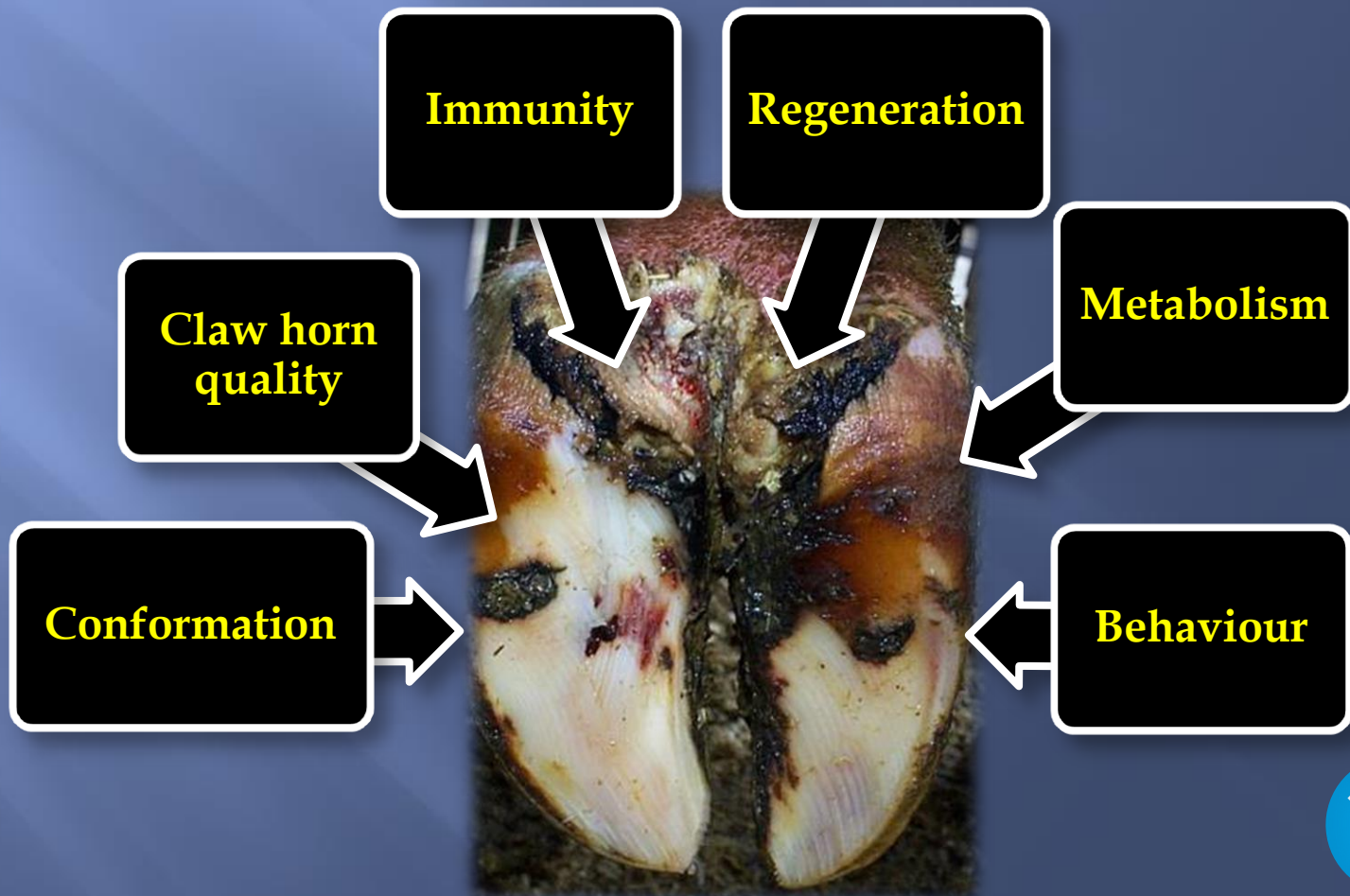


It is not only about management



Why it could be genetic?

Factors with some genetic portion
influencing resistance to foot disorders



Why they are healthy? rather than Why they are sick?

- ▣ Most of claw disorders are of multifactorial origin
- ▣ Direct selection on the claw health is more efficient than using indirect/correlated traits
- ▣ Don't forget - You get what you breed for!

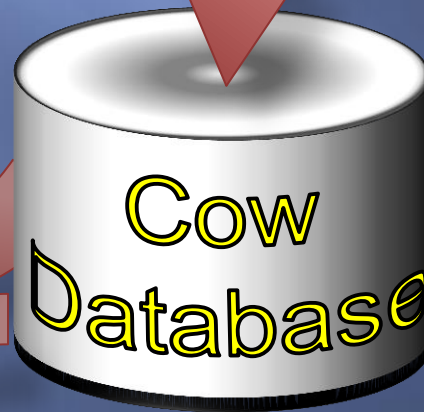


Nordic countries have the largest Hoof health database in the world

Nordic Cattle Genetic Evaluation



Breeding values



Annually about 500 000 cows evaluated, including about 300 000 Holsteins in Denmark, Sweden and Finland



All statistics about own herd are available for farmers



Hoof health index – what is in it?

Lesions and % of Genetic Progress in selection for HHI

INFECTIOUS (HYGIENE RELATED)

- Heel Horn Erosion (62%)
- Digital/Interdigital Dermatitis (50%)
- Skin Proliferation (41%)



ABNORMAL SHAPE

- Cork Screw Claw (57%)



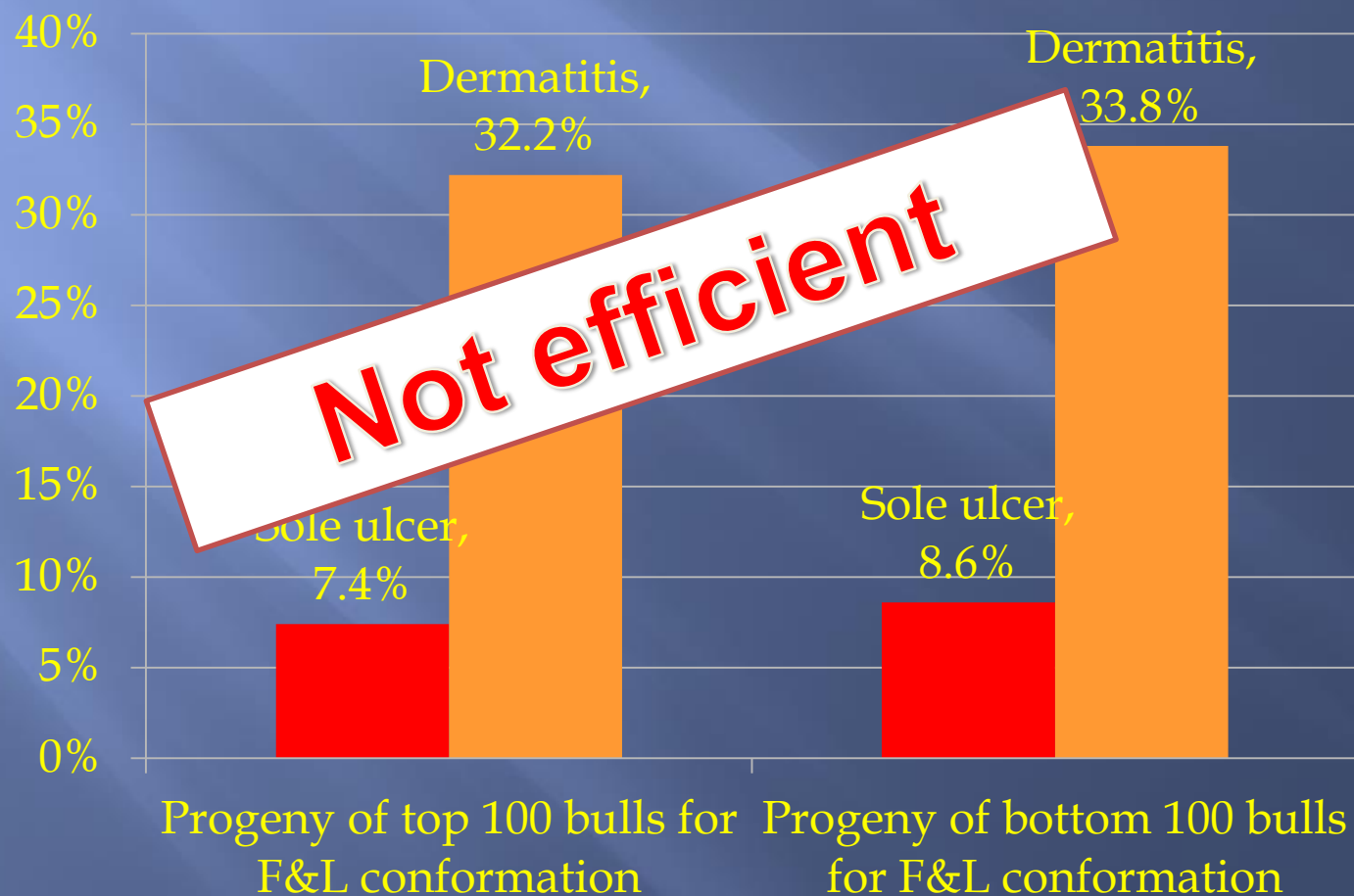
LAMINITIS RELATED

- Sole Haemorrhages (83%)
- White Line Disease + Double Sole (78%)
- Sole Ulcer (90%)



If You select for F&L conformation

Differences of expected hoof health in progeny of top 100 and bottom 100 Holstein bulls (born 2006-2009)



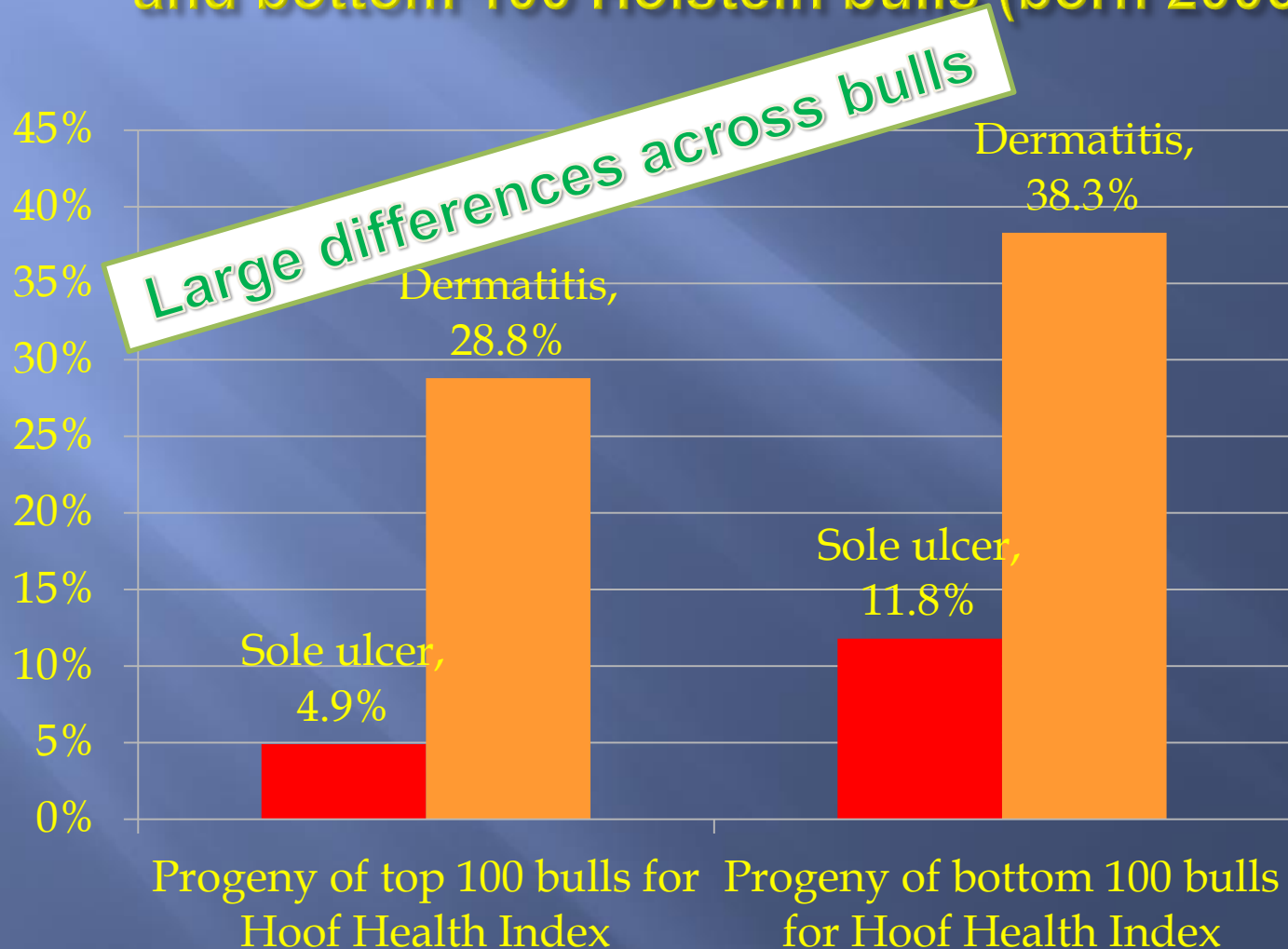
■ Sole ulcer

■ Dermatitis



If You select for Hoof Health

Differences of expected hoof health in progeny of top 100 and bottom 100 Holstein bulls (born 2006-2009)



- Sole ulcer
- Dermatitis

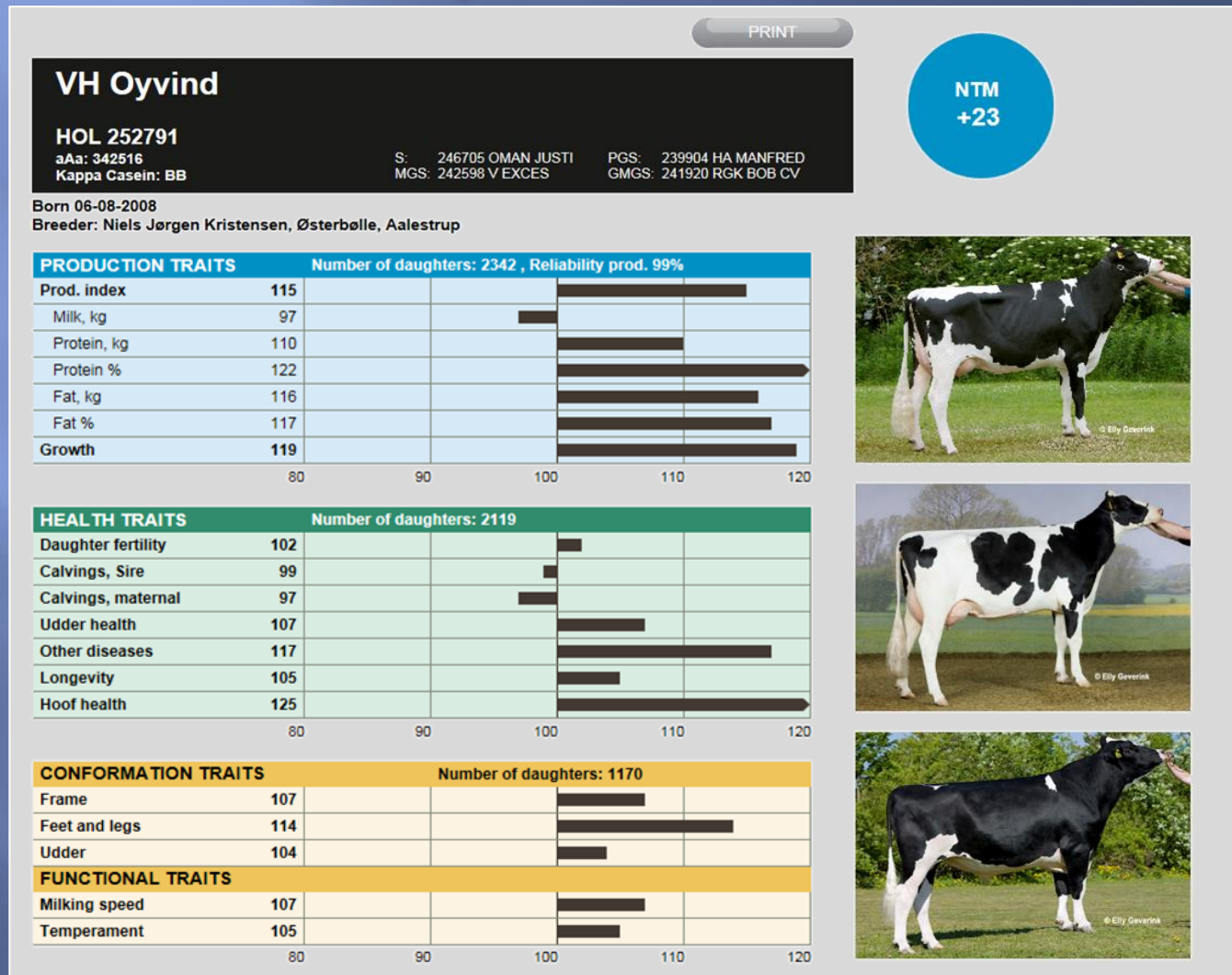


Breeding for Hoof health will save your money!

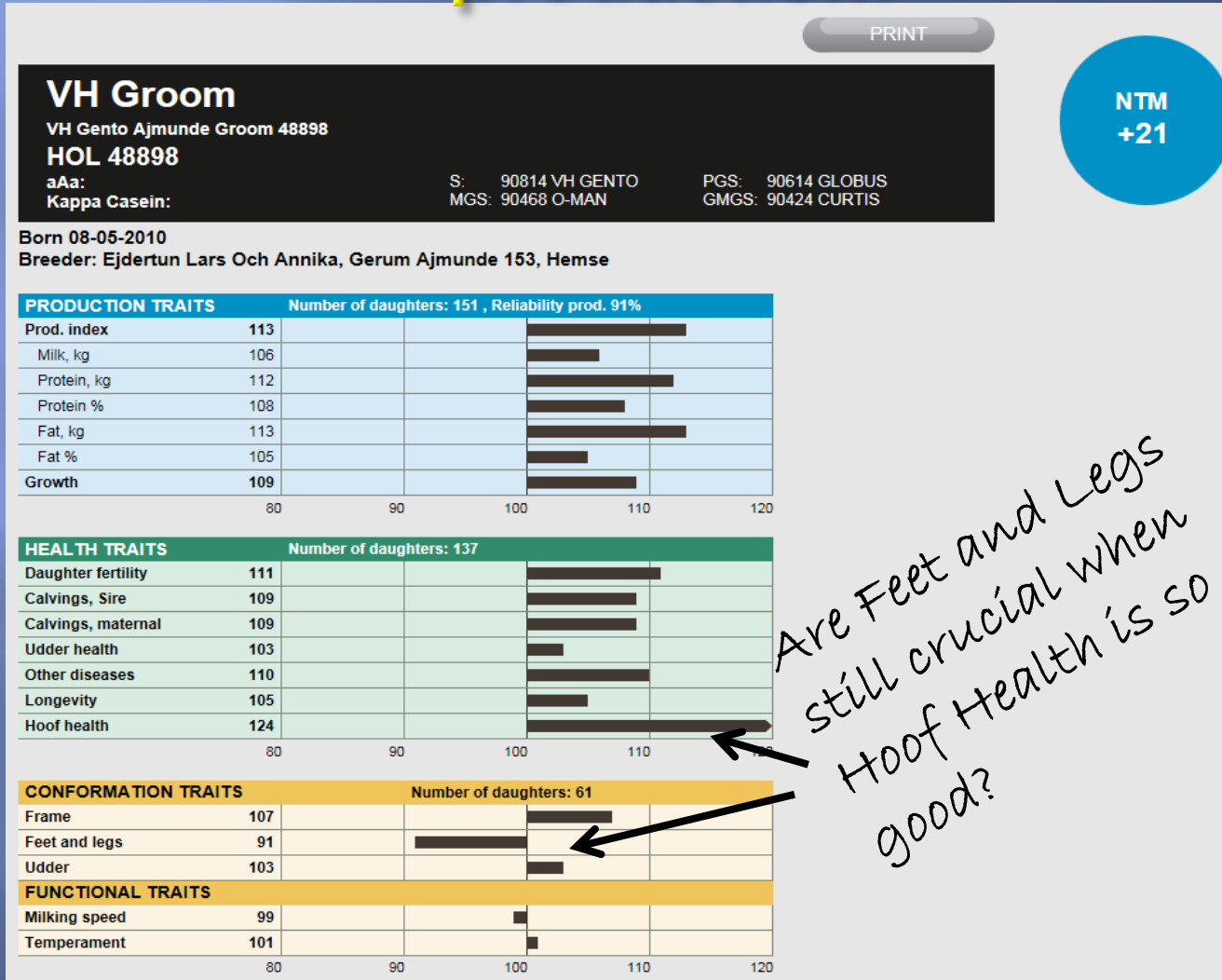
- ▣ The difference in sole ulcer between “best bulls” and “worst bulls” is **7%** points
- ▣ Average annual costs for a cow with Sole Ulcer in UK are **£324.17**
- ▣ For a herd with **150 cows** the difference would mean **£3 404 per year**
- ▣ This difference is solely due to decisions in breeding strategy



It is possible to combine genetics for good hoof health with genetics for good production!



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Which bull will contribute to reduction of lameness in the herd?

1. Bull whose daughters have superior F&L conformation
2. Bull whose daughters have multiple records of good hoof health
3. There is no bull effect on lameness, it's all management



Take home message

- ▣ Breeding is important tool to improve hoof health
- ▣ So far only Nordic countries provides breeding evaluation for Hoof Health solely based on large number of health registrations
- ▣ There is a big variation in Hoof Health Index across bulls, and there are bulls combining good hoof health with good production



Healthy cows – happy farmers



Thank you!

