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CHANCES AND RISKS OF DUAL-PURPOSE SIMMENTAL FLECKVIEH BREEDING IN THE 21ST CENTURY

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Introduction

The period of dairy cattle breeding, which is just coming to an end, started approximately 40 years ago when the use of deep-frozen cattle semen had become practicable. In this period, as it is still today, the breeding progress in the first lactation performance has been decisive for its success. The unwelcome side-effects of this unilateral breeding strategy have been known for a long time, yet, have only very recently been taken seriously.

In this period the US Holstein breeding has been by far most successful globally. This is the reason why the unintended side-effects of the selection are most distinctly recognizable and have been analysed most thoroughly in this population.

In order to find a solution of this problem two strategies are currently discussed and tested: the breeding value estimation of the so-called "functional traits" and high weighting of these traits in the selection index, as well as the use of heterosis effects according to the example of poultry and pig breeding. In order to examine the possibilities of the heterosis strategy pure bred Holstein cows are compared with crossbreding cows (F1) in big cattle farms in the USA (California).

A comment on the Californian experiment in the German issue of the magazine "Holstein International" (issue 467, 2004)

"We are running out of time"

Leading insemination stations are already reporting a surprising demand for sperm of other breeds for commercial crossbreeding. Each Holstein breeder must take these new instruments, which are useful in the selection of

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management and health traits, seriously. If the message that is conveyed by the Californian experiment is ignored, the dominant position of Holstein breeding in dairy cattle husbandry will be put at risk. The speed at which Holstein breeders around the globe will react to these challenges will certainly affect the appearance and the colour of the cows that will be used in the cattle farms in the next 10 to 20 years."

The "Californian Crossbreeding Experiment" is the US research program "Genetic Selection and Crossbreeding to Enhance Reproduction and Survival of Dairy Cattle", Project Number S 1008, Oct. 2002 – Sept. 2007.

The selection is too slow to adopt to changed market conditions – the market is developing more and more rapidly

The Holsteinizing of the European Schwarzbunt breed and the superseding of the European Braunvieh by Brown-Swiss in this period of dairy cattle breeding, which is phasing out, confirm the correctness of this theory. Ferdinand Malik, head of the Management Centre St. Gallen, explains these connections, which are valid for the entire economy, as follows:

"The market has no foresighted but only an observing impact. The market does not tell us where and how the resources should be employed, but only where and how they should have been employed. At the time this sign is given by the market it is already too late."

In the "Californian Experiment" Montbéliarde bulls are used

In the standard work "Genetics of Cattle", edited by R. Fries and A. Ruvinsky (1999), 20 breeds that are primarily used for milk production are mentioned. One of these is the Montbéliarde breed. Altogether five of these breeds are selected to produce F1-cows from Holstein cows. In the first evaluation (providing this provisional result) the F1-cows from the crossbreeding of a Montbéliarde bull with a Holstein cow achieved the highest milk yield in the first lactation. It is the only crossbreeding type that beats the purebred Holstein cows in milk performance.

Dual-purpose Fleckvieh breeding, an alternative to crossbreeding?

The more unilaterally and intensively the selection is, the earlier and more strongly unwelcome side-effects occur. In pig and poultry breeding these

problems could be satisfactorily solved by means of hybrid breeding programs. In cattle breeding this solution is considerably impeded by the long generation interval and the low reproduction rates. A solution of this problem by means of biotechnology is not to be expected in the foreseeable future. Especially for those farms that disapprove of the imbalance of the herd and the organisational effort that commercial crossbreeding programs result in an optimal dual use system provides a good alternative. From my point of view the dual use of Fleckvieh has the chances to meet the expectations of these farm managers. The lactation performance that is currently achieved by good Fleckvieh farms is already sufficient for these farms. What is in need of improvement is lifetime production. Therefore it is high time to give special emphasis to permanent performance concerning the selection, even if the generation interval is prolonged by this measure.

According to Holstein International, fall 2004, the message from the USA is:

"Today milk producers do not aim at maximum performance any more, they want profitable performance by unproblematic cows."

The economic pressure to achieve maximum performance is lower with the dual use cow than with the specialized dairy cow owing to the following reasons. One reason are the higher prices of beef cows and male calves. If it is possible to improve the productive life of the Fleckvieh cow, the resulting substantially lower replacement costs represent a further reason.

The continuation of the improvement breeding of Red-Holstein, which used to prove successful, is counterproductive for this strategy and additionally causes negative signals for the global market.

Professional milk production strategies

In the USA ("high input") and in New Zealand ("low input") production strategies that are recognized worldwide have been developed. In Switzerland the program "Opti Milch" has the purpose to optimise the "high performance strategy" and the "permanent pasture strategy" for the respectively suitable Swiss locations. The results find not only national but also international recognition.

Also for the "dual purpose cow" professional production strategies (both for intensive and extensive production) ought to be developed. The reputation of the dual-purpose cow is not good among experts. It is considered to be

out-of-date and antiquated. Breeding efforts and a professional dual-purpose production system could change this. The development of such a system will only be feasible, if the people in charge of the Fleckvieh associations in Germany and Austria make an effort to realize it, and if the respective national scientific institutions are ready and able to cooperate.

A global marketing plan for the dual-purpose Fleckvieh breed

Breeds that will not be present in the future period of cattle breeding on the global market are endangered of ending up as genetic reserve. In order to be successful on the global market apart from the breeding program and the production strategy the name of the breeding product, the brand name is significant. This has to be clear and unambiguous in order to be able to be correctly assigned to the product worldwide. In this respect the dualpurpose Fleckvieh breed is tremendously disadvantaged. Within the ESF and also the global association the terms “Fleckvieh” and “Simmental” are assigned to very different breeding products. This ambiguous use of terminology might be compared to the Confusion of Tongues at Babel.

The clearing-up of this confusion of terms will without doubt be difficult. Traditions that also involve emotions play an important part in this matter. Yet, this clarification of terms is indispensable.

Conclusions

The development of the breeds of Holstein-Friesian and Fleckvieh Simmental have differed extremely in the recent 40 years. The Holsteinizing of the Schwarzbunt dual-purpose populations has caused a worldwide stan-dardization of the Schwarzbunt cow. The global crossbreeding of Fleckvieh Simmental into beef cattle populations and of Red-Holstein into the Swiss Simmental population has resulted in an extreme diversification of the Fleckvieh Simmental breed. Both breeding plans have been extremely successful. In the next 10 to 15 years to come the points for the future development will be set anew. I hope and wish that we will succeed in developing the dual-purpose Fleckvieh into a breed of worldwide importance.

IZGLEDI I RIZIK UZGOJA SIMENTALCA FLECKVIEHA ZA DVOSTRUKU NAMJENU U 21. STOLJEĆU

Sažetak

Razvoj pasmina Holstein-frizijske i Fleckvieh-simentalske vrlo se razlikovao u zadnjih 40 godina. Holštajniziranje dvostruke namjene populacija Schwarzbunta prouzročilo je standardiziranje Schwarzbunt krave širom svijeta. Globalno križanje Fleckvieh Simentalca u populacije mesnog goveda i Crvenog Holsteina u populacije Švicarskog Simentalca rezultiralo je golemim proširenjem pasmine Fleckvieh Simentalca. Oba uzgojna plana vrlo su uspješna. U sljedećih 10 do 15 godina opet će se odrediti točke budućeg razvoja. Nadam se i želim da uspijemo razviti Fleckvieh pasminu dvostruke namjene u važnu pasminu u cijelom svijetu.

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