

Inbreeding: Status and optimal balance between inbreeding and genetic gain/progress

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The modern philosophy of breeding Holstein cows is focusing not solely on production even followed by type but many recently reinvented secondary traits as longevity fertility in both gender and avoiding inbreeding.

This is not new for many of us! The golden era of big milk checks has unfortunately ended. The ever increasing level of global trade of genetics in the meaning of semen, embryo and live breeding animals on one side and competitive world market of dairy product have resulted a kind of uniformity in the definition of our activities' aim. Earning profit! Seems to forget to produce milk – one of nature best food from healthy, long living cows...

Holstein Friesian cows can and will produce milk in a highly efficient way everywhere on Earth from extremely hot, dry, humid, temperate to extremely cold climate condition. Isolation of the local subpopulation of this great breed has ended. The migration of genes is common and not that controlled as it used to be.

A.I. Industry and the Breeders are sharing the responsibility to use this “two-edged sword” The Breeders are usually looking after only a few highlighted genetic value of a certain bull (most probably production values and some feet and legs or udder traits) and forget to select those bulls according to the secondary traits or inbreeding coefficient.

It does not make any sense to have inbreeding problem in a most numerous (dairy) cattle breed! It is the A.I. Companies responsibility to take care their marketing strategy. Way too many information of different breeding values hiding the naked truth: same content could be found in different envelopes. Many of the TOP bulls are results of ET – identical twins. The “new” biotechnical methods as multiple ovulation, embryo flushing, sexing or splitting embryos gave quick and valuable services with beneficial financial results for the Industry but great threats concerning inbreeding. Heavy promotion and world wide usage of Favorite bulls narrowed the bottleneck for long lasting cows.

The commonly emphasized solution is crossbreeding with another dairy breeds – which we must disagree.

Those potential other dairy breeds have their own problems. Inbreeding in their kind is probably the worst of them... It is due the size of their population. Considering the number of young bulls to be progeny tested annually a few hundreds versus the c.a. 6000 Holstein.

Are we really choosing the best bulls, or is it really the right choice to make. Do we have to sacrifice some production to gain health or longevity or can we find impressive outcrosses within

breeds? Is it really beneficial to start crossbreeding between breeds? Can we afford the price to pay for this concerning all possible losses?

The author is using first hand results of national/population level experiments to compare performances of pure bred and crossbreed populations and maximizing genetic gain.

Sophisticated methods were applied earlier (late seventies and early eighties) to result synthetic breed in Hungary and the former East-Germany. Both Hungarofriesian and SMR population went to extinction unlikely without reasons. The performance of the first generation is acceptable, but the problems arising within a couple of years. Effect of heterozis is long time gone and the “new refreshment” of genes requires even more difficult decisions to make. We are talking about open or closed synthesis of new breeds! Not practical at Farm level et all. The “invention” of crossbred bulls side could give a twist, but proved to fail.

We know the superior qualities of our breed but it must and can be used wisely and not short – sighted to avoid the “popular” mistakes.