SOME NEGATIVE ASPECTS OF THE SIMMENTAL UNDER EXTENSIVE FARMING CONDITIONS AND HOW WE TRY TO IMPROVE THEM

(Prepared by C P Massmann for the World Simmental Federation Council Meeting, June 1989)

The Simmental, well adapted to the temperate and cold climates of Europe, was imported to Namibia and South Africa many years ago. The productivity of the breed and its crosses in our part of the world, where extensive farming conditions prevail, depends on its adaptability to a completely different environment than that of its country of origin. A brief background of the environmental conditions are therefore essential.

Hot, humid, tropical conditions in the east (Indian Ocean) and arid desertlike regions in the west (Atlantic Ocean). In between we find semi-arid, savanna, shrub and bushland areas.The rainfall is strongly seasonal. High temperatures in summer are fairly common and during winter sub-zero temperatures occur in the interior.

Due to climatic conditions, 80% of the agricultural area of the region can only be used for grazing under extensive conditions.

Breeding for consumer demands

"In attempting to produce adapted cattle we have two choices - we can breed cattle which are suited to the environment or we can adjust the environment to suit the cattle" (Berg, 1976).

Although management improved tremendously since the breed was introduced we could not provide air-conditioned barns, clip woolly coated animals, cut hooves and provide sunglasses to the large number of Simmentals kept under extensive conditions. In order to adapt better to large parts of the region described and be more acceptable to the commercial producer, we realised that much more emphasis must be placed on aspects such as haircoat, pigmentation, hide thickness, walking ability or in general functional efficiency than in the countries of origin of the Simmental.

To accomplish this in our stud Simmentals we introduced an inspection system where visual appraisal by qualified Inspectors is one of the prerequisites for registration. Animals eligible for registration are inspected before they are used for breeding. Rejected animals are cancelled in the Herd Book and their progeny are also not eligible for registration.

An enforced inspection system has both a direct and indirect bearing on the selection intensity of a stud breed. The direct effect is the rejection of animals presented which do not meet the requirements and the indirect effect is the fact that inferior or doubtful animals are not even presented for inspection and are therefore not registered. The pedigree of an approved Simmental carrot merely be associated with purity - it is proof that the animal as well as its ancestory have passed appraisal of conformation& standards, which are important to us.

Some conformational traits we attempt to eliminate

In establishing inspection priorities, which we reconsider every two to five years, we look at the 'commercial market - our bread and butter - to identify the problems in our breed. Once this is done by means of surveys amongst a few thousand beef producers who have been using a Simmental bull or bulls during the previous one or two cattle generations, we attempt to eliminate animals with these problems at inspection.

I will only concentrate on the three prime aspects identified during our recent survey. We raised the following questions:

1. Which single characteristic must be improved in the Simmental" and

2. "How does the Simmentaler breed perform in terms of the following score each of the 'allowing 12 characteristics from 1 to 9 according to your priorities".

A statistical analysis of the answers revealed the following:

1. Calving ease, 2. Hardiness/constitution and 3. Haircoat. Two other aspects I will not raise here, however

are worth mentioning, are walking ability (legs + hooves) and eyelid pigmentation. (Refer to "Better adapted Simmental on the basis of appearance", page 29, Technical Day, VI Simmental World Congress, 12 November 1986).

Walking ability which is of paramount importance in many parts of our country where cattle must walk long distances for water and grazing, was placed higher on the priority list in two previous surveys. However, we have succeeded in reducing leg and feet problems in registered bulls through many years of inspection.

Calving ease

The importance of calving ease in especially countries where crossbreeding is practiced is common knowledge. It has been well documented worldwide that continuous selection for growth rate and/or mature size increase birthweight and dystocia. Correlations of up to 0.68 have been found between birth mass and mature mass (Bosman, 1987). Green, et al. states that birth weight has proved to be the single most important variable affecting dystocia. Few other features can make a breed more unpopular than difficult births.

With this background our inspectors discriminate against extremes in size more than ever before. Nature does not tolerate extremes. We advocate the "middle of the road" type in our breed Journals and amongst our breeders. Other disqualifications for registration in this regard are: excessive muscling, coarse shoulders and a coarse bone structure in bulls as well as a flat or square rump shape in bulls and females. (See "The rump - square or sloping?" presented at this meeting).

Judged by all performance tested Simmental bulls in the country (140 day test after weaning at central testing stations) the average wither height (size) decreased over the last 10 years while the ADA (ave. daily gain since birth) and ADG (average daily gain during test) increased. This is proof of selection for more body capacity and fleshing ability without increasing si.ze.

Hardiness/constitution

"Continued selection for extreme frame size could result in extremely high maintenance cost and a lower production rate. Selection for extremely trim, shallow bodied, overly refined females could result in "hard-doing" cows that cannot hold a reasonable degree of body condition during lactation or during periods of environmental stress. " (Ritchie, 1984)

This is exactly what the commercial producer in our country classified as hardiness/constitution and is of special Importance during times of drought and shortage of food. Furthermore, there is a negative relationship between a large mature size and reproduction (Bosman , 1987) .

Here, as with calving ease, we endeavour to eliminate the large rangy types and exercise selection pressure for early growth, fleshing ability or in general the "middle of the road type" . We find that the environment, and not the showring, determines the size of an animal that will perform well. The ideal type in our arid regions is not the ideal type in our cropping area and our Inspectors take this into account.

Haircoat

Studies concerning haircoat have proven that long woolly coated cattle never do well compared to their more smooth or sleek coated counterparts under sub-tropical and tropical conditions. The short, glossy hair of heat adapted breeds facilitates evaporation and heat reflection better - long hair attracts heat (Maree, 1977 - ii). More evidence is:

- within the same breed (Africander) woolly coated animals were shown to have a higher respiratory rate and body temperature than smooth coated ones (Maree, 1977 - ii);

- clipping of woolly coated animals facilitated evaporation and improved efficiency (Yeates quoted by Maree, 1977 - ii)

- (Turner and Schleger, 1960; Turner, 1964 and Hayman, 1968) found a lower weight gain in Bos Taurus cattle with woolly coat type.

Another important aspect seldomly realised by our breeders in Europe, is that our sub-tropical and tropical

regions are characterised by a high incidence of ticks. Exotic cattle are more susceptible to tick-borne diseases than smooth coated indigenous breeds.

Mara Research Station (South Africa) experiments carried out in a sub-tropical tick infested area with 2000 animals over a 12 year period revealed the following tick borne heartwater mortality:

Africander (Zebu) = 2.5%; Bonsmara (developed from Zebu) = 2.5%; Simmental = 6%, and Hereford = 6%, (Maree, 1983).

(Francis and Little quoted by Maree, 1977 ii) in Australia, (Howell, 1975) in Narnibia and (Bonsma, 1949) in South Africa, all reported that indigenous smooth coated breeds carried approximately 10 times fewer ticks than the more woolly coated exotic breeds tested.

Smooth coatedness has an adaptive significance in many parts of our country. Heritability of coat score is estimated at 0.53 (Turner and Schleger, 1960) and we don't register an animal with a curly coat, during any time of the year or a long woolly coated animal in summer. Practical experience revealed that animals which shed their hair early in spring cycle regularly and are highly fertile.

These three aspects along with legs and hooves presently applied will for the next few years take precedence in our Inspection priorities

"Simmental feed the World"

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