

Will EBV's Replace Judging In Simmentalers?

By CP Massmann

WHY DO WE JUDGE AND CLASSIFY CATTLE ON APPEARANCE IF MOTHER NATURE IS A BETTER JUDGE THAN WE ARE? THE COW WHICH CALVES YEARLY IN A NATURAL ENVIRONMENT AND WEANS A HEAVY CALF RELATIVE TO HER WEIGHT HAS THE CORRECT SIZE AND ALSO DEFINES THE STRUCTURAL CORRECTNESS WE SHOULD STRIVE AFTER. READ HERE WHY WE SHOULD MAINTAIN A SOUND BALANCE BETWEEN EXTERNAL APPEARANCE AND MEASURED PERFORMANCE.

From discussions during the last world congress it is clear that the stud breeding industry is dominated by the use of EBV's. In Europe, EBV's are compulsory for all bulls even if they are used for commercial use. Leading beef producing countries like Australia, Canada and the United States nowadays avail themselves increasingly of EBV's for calving ease, growth, milk and lately carcass evaluation. In a nutshell, the majority of the countries market bulls on the strength of their EBV's. But don't let's bluff ourselves either, the odds are that although these bulls were marketed on their EBV's, the purchasers eyeballed them thoroughly before they wrote their cheques!



Which one has more milk? The correlation between visual evaluation of an udder and milk is exceptionally low. Rather look at the milk records or, in beef recording, the 200-day milk EBV.

It was interesting to observe too that in spite of this EBV preference, congress-goers still took great

pleasure in evaluating cattle visually. This is not strange, those who work with cattle love being among cattle. We can talk about EBV's all day but the real fun comes when we get amongst the cows and discuss them. Also significant is the fact that our Society's constitutional requirement in respect to inspection as a pre-requisite for registration, is not used in any other country. After experiencing the Congress Show, some of the foreign delegates asked me to put some of our ideas on paper.

THE ROLE OF JUDGING IN STUD BREEDING

Why does our Society incur the high costs associated with inspection and judging, when ease of calving, pre- and post weaning growth, milk and carcass traits can be determined much better on the strength of EBV's? Indeed, BLUP values remove the guesswork from judging and inspection. Why do we pit our abilities as judges against those of Mother Nature, who has proved herself a far more efficient judge than we? She shows us that cows, which calve easily and regularly, have the correct legs, hair cover, rump form, size etc. By selecting for fertility viz. the Society's annual reproduction or Simpro herd analyses, we indirectly select for structural soundness as well.

We cannot get away from the fact that in the past century, shows

have made a large contribution to breed improvement. On the other hand, showing has also led to the demise of some once popular breeds, due to unfounded judging practices. Our Society believes that it's direct involvement with showing, provides a valuable impetus in the application of it's breeding objectives. We attribute this to the setting up of sensible classes, providing production figures, and appointing well-trained judges.

By attending official shows young and new breeders can pick up invaluable information, as professional judges of the breed will explain the reasons for their placings in detail. If they pay careful attention, prospective buyers can turn this information to good use when selecting prospective purchases. "What a person sees, and can be seen doing, is the easiest to understand and results in the greatest motivation for improvement." (Fulk)

Visual appraisal however, is only justified if limited to those characteristics that we know have a direct correlation with fertility and production. It makes no sense to occupy oneself with so-called conformational fancy points and unfounded freaks of fashion that have no bearing on production. Inexperienced individuals invariably fall into this trap! We judge and inspect cattle in order to eliminate those individuals that

carry undesirable characteristics obvious to the eye. This includes hereditary defects and important deviations of the hooves, legs, haircoat, sheath, scrotum, udder and teats. "Appearance should follow function. If you select cattle for what you want them to do, they will look a certain way. Some judges try to idealise what they want stud cattle to look like, they place them first and assume that the animals will perform as a result. This is normally not the case." (Massmann adjusted from Steve Garst.)



If she weans a heavy calf every year, she's got the correct size and looks.

In this article we will deal with the opinions of scientists and cattle experts in respect to some traits that we can see on an animal while endeavouring to concentrate on facts instead of overused "judging legends." To quote Bernard Baruch: "If you don't get the facts, your judgement can't be right."

Maintain breed-identity

While not necessarily associated with production, the Breed Association's objectives compel us to protect the **phenotypical purity** of the breed by means of our inspection system. In certain overseas countries the term breed purity is frowned upon. However, in the light of the use of pure breeds for the development of synthetic breeds and particularly cross breeding, we still like to think of our breed as being purebred. "Stud cattle must possess purity in its desired genes. This will maximize the return from cross breeding." (H. Fowler.)

One of the main reasons behind

the continued popularity of the Simmentaler in Southern Africa is that the breed plays such an important part in cross breeding systems. Beef producers are always on the lookout for breeds that respond efficiently when used in conjunction with others, because cross breeding forms virtually the entire basis of beef production.

We welcome the infusion of suitable genes from other breeds in order to improve upon certain qualities in our own breed but we limit this so-called foreign blood to under 12%. Through the visual evaluation employed in our inspection system, we can ensure that these animals are phenotypical Simmentalers. Examples of such infusions are: the Pirol line (Red Angus), the German R-line (Red Holstein) and of our own polled breeds, e.g. the Red poll.

TRAINING OF JUDGES

We realise that the most important component of show judging is the judge. The judge must possess a wide knowledge of cattle in general, and of his breed in particular. The breeding aims the superior qualities and shortcomings of his breed should be second nature to him. These days, in addition to all this, he also must acquaint himself with scientific aspects such as the Blup, Simdex and Sinscore systems. Our Society has compiled a panel of trained judges, and only appoints members from this panel to fulfil judging assignments.

Appointment to this panel comes after the successful completion of a series of stiff courses and a period of practical judging. It takes about twelve years to attain the status of Breed Examiner, which is the highest rung of the judging ladder. The task of the training and promotion of judges rests with the Council of the Society.

Mr Dave Morley, one of the first Simmentaler Breed Examiners, suggests that we should try to impress

on our Course Leaders the importance of a positive approach in evaluating the breed. "In our efforts to bring home to candidates what we do not want in Simmentaler conformation, we dare not let this overshadow what we do want and need. Judging candidates have a penchant for remembering the faults and deviations of conformation, probably because these are easier to see. However, it takes more application to identify and understand the desirable characteristics; in essence these are more difficult to grasp. When a judging candidate looks back on a course he has completed, it is our desire that his memories of Simmentaler cattle should be one of fertile, productive, well conformed animals. Certainly not memories of a bunch of seedy individuals, full of faults. Great care is therefore taken in respect of the quality of the cattle that we place before the judging candidates."

THE FERTILE COW AND HEIFER

In Simmentaler circles we always emphasis firstly, the most important aspect of a cattle operation viz. fertility or reproduction. This trait is said to be five times more important than growth, and even ten times more important than carcass quality. Bulls must get as many cows in calf as possible; while cows must conceive, calve easily and raise their calves well.

Calving records will identify regular reproduction better than the eye of the best cattle expert. That is why we have supplied the official reproduction record of cows on the show cards for the past 26 years to judges. Simmentaler judges have indeed been envied by other judges who, without this information, have to spend their day wondering whether they are guessing right. Commentary received during the recent world congress on Simdex proved that we are world leaders in the application of reproduction at shows.

Nevertheless, cows and heifers show certain features that depict fertility with which all judges should be fully conversant. Knowledge of these characteristics is especially important in heifers that have yet to start producing. Bonsma says: "One of the basic principles when judging cattle for functional efficiency is that an imbalance in hormone function will alter the animal's conformation." Maré describes this as follows: (translated):



Possibly a champion somewhere else, But in Southern Africa she lacks the much sought after femininity and will not be placed.

"Forequarter: A cow described as having "good depth through the forequarter" does not correlate with good fertility. Femininity and good fertility go hand in hand. When viewed from the side, the cow should show with a wedge shaped body, with the deepest part, or open end of the wedge, through the rear end of the center piece just in front of the udder, from there forwards the wedge narrows to the first rib. The fertile cow shows an unobtrusive brisket, a large well sprung barrel and no heavy muscling in the fore- or hindquarters. This is precisely the opposite in the bull, where a well developed forequarter tapers down to a narrower, but well muscled hindquarter - this being a typically masculine trait.

Fat: Overfat cattle have a lower level of fertility, while infertile cattle become fat. Fertile cows are not large and beefy, and judges should take care never to judge cows for muscle and carcass characteristics. A heifer with a lower level of fertility usually appears large, heavy,

fat and masculine.

Size: Less fertile heifers are usually big and heavy.

Shoulder blades and withers: In the fertile cow the withers and neck are clean and slender. The top ends of the shoulder blades, the withers, are lightly muscled, move smoothly and protrude slightly above the spinal cord while the animal walks.

Genital organs: Under development of the exterior parts of the genital organs, a small genital opening, lumps of fat below the genitals and around the tail setting all point to low fertility."

THE FERTILE BULL

The visible signs of fertility in the bull are there for all to see and are of **extreme importance** because they cannot be measured in terms of EBV's. Judges and breed inspectors should give the utmost attention to this and not allow any leeway. A bull with the best EBV's is of no use whatever if he cannot sire offspring.

According to Maré there are certain characteristics that without any doubt are part and parcel of good fertility. From nose to tail, he must be a BULL!

- "Muscle definition and strong development in the forequarter, especially as he grows older.
- A well developed, strongly muscled hump.
- Masculine behaviour and appearance - well developed testicles that can be easily drawn up and let down in the scrotum.
- Mobility of the sheath - coarse hair around the sheath and the switch.
- Coarse, curly hair covering on the head, face and neck."

Drayson whose conclusions are based on a study of 15 537 bulls from 19 breeds says: "Look first at

the coarseness of hair on a bull's head and face. The most fertile bulls generally have quite coarse and curly hair, with the hair most tightly curled when the bull is at his peak of sperm production, between three to seven years of age. How curly is 'curly?' If you take a curl of hair strand between your thumb and index finger and pull it up straight, it immediately returns to its curly position when you release it. Coarse, straight hair is a step down the fertility ladder, although the bull should still have good fertility. But, be careful of a bull with fine, straight hair. The same principles apply to neck hair as to head and poll hair: Coarse and curly hair suggests the bull is highly fertile."

Fat - the biggest culprit:

Coetzer sums up his research on fat as follows: "Overconditioning in bulls can lead to fat deposition in the scrotum, this in turn can affect heat regulation and cause semen deviations. Overfat bulls purchased on sales always present problems. The new owner endeavours to reduce condition by drastically limiting the bull's energy intake, or by putting the bull immediately with the cows. The bull is then faced with a metabolic challenge caused by fat catabolism. All of a sudden stress is placed on his unfit body by all this exercise in trying to defend himself against a strange group of bulls. This makes it virtually impossible for him to sire any progeny for quite a number of months."

Coulter, in his research on fat observed that: "The fat bulls in our tests showed a reduction of 50% in semen reserves, half as many mobile sperm, one third as many normal sperm and eleven times less services."

Pruitt reports as follows: "Bulls fed high gaining rations often lay down fat in the scrotum, and this results in lower fertility. The testes normally maintain a temperature four to six

degrees cooler than the body temperature. If fat deposits develop in the neck of the scrotum, the concurrent heat exchange, where warm blood from the body is cooled by the blood in the testes, is disrupted. Sperm production is not normal at higher temperatures and results in impaired reproductive traits."

The business end of a bull

"When I buy a bull, I always start by looking at the back end of the bull. That's where the business end is. I want to see large testicles and a well shaped scrotum. That's the most important part of a bull. No matter how good he is otherwise, if he can't sire calves, he's no good to me. It doesn't matter if he is the best walking bull in the world, if he hasn't got the equipment to do the job he's no good." (Anonymous)

Tests conducted in South Africa, the United States and Canada by Lusby, Hunlun, Bosman and Morrow, have proved that the reproductive potential of bulls are influenced to a large degree by the size and structure of their genital organs. The importance of scrotal circumference is endorsed by a high correlation with semen production, semen quality and puberty of daughters. Some of the objectionable scrotal deviations that our judges look out for, appear in our "Basic Principles of Judging." ([www. simmentaler.org](http://www.simmentaler.org)).

Due to the importance of scrotal circumference, our Society instituted minimum scrotum requirements for registration, as far back as 1985. Those who measure the scrotum circumference of all their bulls, will in future receive Breedplan EBV's.

Twisted scrotums

The effect that a twisted scrotum can have on the fertility of a bull has led to much discussion among judges over the years. Van Rooyen conducted a subjective evaluation of bulls from fifteen beef breeds and found that 54% of the bulls showed scrotal twist, of which 87%

twisted to the left. He is of the opinion that scrotal twisting has no effect on the normal functioning of the testicles. "It has also been established that the level of heredity in respect to scrotal twist-



When I buy a bull, I always start by looking at the back or the so-called "business end" of a bull.

ing in bulls, extends from moderate to high. The pedigree industry should keep a watchful eye on this condition of scrotal twisting. This condition should not be confused with testicular torsion where the testicles twist inside the scrotum, resulting in pain to the animal and exerting a detrimental effect on the functioning of the testes.

Sheaths

Are Simmentaler bulls starting to show too much sheath development? Bosman measured sheath development in young Afrikaner, Bonsmara, Brahman, Santa Gertrudis and Simmentaler bulls and found:

- A large variation existed in all the breeds.
- The Simmentaler showed the best average sheath length.
- The longest Simmentaler sheath was shorter than average of the Brahman and the Santa Gertrudis.

According to this study it is clear that in comparison with these Sanga and Zebu breeds the Simmentaler does not have a sheath problem. We must take care not to allow this sheath scare to run away with us! If we propogate a "thick ample, pliable and loose skin" (Standard of

Excellence) we will also get more sheath.

THE FOUNDATION: LEGS AND HOOVES

In a country where over 90% of cows are settled by natural mating as opposed to AI, it is obvious that legs and feet are of great importance. The improvement that has taken place in the legs and feet of our Simmentalers must be attributed to inspection, together with adaptation. For more about leg faults consult our Basic Principles of Judging on www.simmentaler.org. Just one aspect about legs. We realised years ago that that the straight hock is a more serious defect than the sickle hock. This has also been confirmed by research done in Germany by Moser. He studied the growth rate of tested Simmentaler bulls that had been classified according to the set of their hocks, and reported the following: Normal hocks 1364g; sickle hocks 1346g; straight hocks 1286g and spastic or completely straight hocks 1250g.

Hooves

Judges should pay more attention to this vital aspect of conformation. In a heavy breed like the Simmentaler, legs and hooves come under pressure especially when the animals are kept under intensive conditions. A bull with the best top line, beautiful hind quarter, good capacity and length is of no use if he cannot walk under extensive conditions and do the job of getting all his cows safely in calf. Evaluation of a bull should start from the bottom upwards. Look first at his hooves, pastern, hock joints and bone structure. If he passes this vital test, one can move to his tools i.e. scrotum and sheath. Only then you look at the body itself. Most bull buyers to their own cost, are guilty of neglecting these seemingly insignificant yet vital features when they select a bull.

Interbreed Judge and Vet, Dr N Schutte, says that:

"The hooves are the first shock absorbers. If the hooves do not



Rolled hooves - a genetic abnormality where the outer rear hoof folds inward must be avoided.

function efficiently structures higher up are exposed to excessive shock. The reverse is also true. If faults occur higher up, the weight distribution on the hooves is uneven.

When the **pasterns** are too straight, i.e. upright or steep, the animal appears to stand on it's toes and we then have to do with small upright hooves. This is one of the most important faults that Simmentaler breeders must guard against.

Laminitis results from an excessive intake of high energy rations, e.g. grain and mealie meal, and can lead malformation of the hooves.

Hypoplasia of the hoof is a problem that seems to be on the increase. This is a genetical abnormality where the outer rear half of the hoof is smaller than the inner half, and folds inwards. Weight distribution to the hoof is therefore impaired and undue pressure is placed on the pastern joint. This a heritable condition and cannot be rectified by hoof trimming, it should be eliminated by culling and selection."

SIZE

"Pure bred breeders talk more about the size of their cattle than they do about their own grand children." (Long)

During the late eighties and nineties Simmentaler judges in certain overseas countries started a craze at shows, by placing the largest animals at the top of their classes. Because of the publicity accorded to champions, many breeders also climbed onto this size wagon. This trend did much harm to the Simmentaler cause in these countries and is an example how a ridiculous show ring about a disruption in policy, causing cor buyers to become with the breed. We allow the show ring breeding policy of a

Since the first Simme Simposium in 1990, policy in respect to changed much. At all gatherings, it was middle-of-the-road, fi

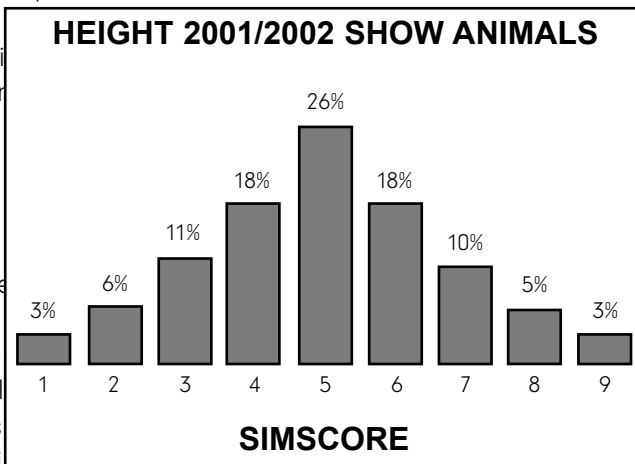
showed the best reproduction figures and highest relative weaning weights. Since then we have urged our judges and breed inspectors to always follow the middle-of-the-road policy.

Since some judges were not consistent in placing middle-of-the-road animals at shows a Simscore of 1(very small) to 9 (very large) was established in 1997 for the dif

ings from this grouping. Less than 20% of all animals had a Simscore of 1, 2, 8, or 9.

Why not large animals?

From our literature it is obvious that large cows in general, and particularly those under extensive conditions, suffer from low fertility and poor constitution. Butram and Wilham, after years of research with Bos Taurus cattle, reported the following calving percentages with small, medium and large frame cows, over a 43 day mating



season:

Similar results were obtained in a study in Florida, USA with Bos Indicus cattle.

Bouwer at Potchefstroom, in a long term project observed that under intensive management, large frame cows performed slightly better than their small framed counterparts, however the small framed

Management/Nutrition	Large Cows	Medium Cows	Small Cows
Good	82%	85%	85%
Poor	53%	67%	74%

ferent age groups. This was done according to frequency analyses of wither height measurements taken at shows. The Simscore is entered on each animal's ring card and over 60% of all animals have a Simscore of 4, 5, or 6 which provides judges with more than enough scope to select their plac

cows performed increasingly better as nutritional conditions became more extensive.

In the United States, Brink and Kniffen conducted a study of calving intervals (ICP's) on 330,000 beef females, from eight different beef breed associations. Results

from this project showed that females with EBV's for yearling weight in the upper twenty percent within each breed, had longer average calving intervals than the low and intermediate groups of females of the same breed.

How does one measure size?

Wither/shoulder/hump height and height at the rump are used worldwide as a measure of size. We use wither height for our Simscore calculation. The person doing the measuring must ensure that animal stands squarely and correctly on a level surface and that the handler keeps the head of all the animals in the same height position.

Are large animals always heavy? In animals of the same sex, of similar age and more or less in the same level of condition, and if comparing favourably in breadth of body, we find that the larger animals are the heavier ones.

How large should my cows be?

Let the environment that exists on your farm and the management techniques that you apply, determine the size of your cows. Identify your cows that calve regularly (Simpro analysis) and that, relative to their weights, regularly wean heavy calves. Measure their wither heights, appraise them as a group and "learn to like the way they look!" These will be your best cows and because they are adapted and functionally efficient, their size is the size that you must strive for. For goodness sake, don't let yourself be influenced by old Joe Soap's cows on the neighbouring farm; he is doing his own thing, which is not your thing! Your Simpro list confirms that this bunch of cows you have pulled out, are the best cows on your farm and their size is right.

"But the cows that are placed on shows are bigger!" Of course they are bigger because they have received special treatment for months (years). But the genetics in

the Simmentaler gene pool remain basically the same, and that is the point. The double standards that exist between the "show cow" and the "farm cow" is unfortunately a worldwide phenomenon in all beef breeds. It is a source of much grumbling and grouching and it's a pity that we cannot get away from this hassle and show only "farm cows." Instead of looking at one animal that was fed for a show, we now have a very reliable genetic measurement for size, which is based on weights (size) of all the relatives. This selection tool is called "mature cow" EBV and compares your cows with the rest of the breed.

A last aspect on size. Avoid comments like "although this bull is one of the smaller ones in the ring he is the longest." Kirschten found research on 10 000 Simmentaler females, that size and length are highly correlated (0,86%) viz. selection for size normally results in an increase in body length or vice versa.

CALVING EASE

The calving ease EBV's of a bull (both direct and daughter's calving ease) predict his calving ease much more accurate than visual appraisal. Because bull buyers in general show preference for larger framed bulls, it is necessary to drive home the importance of size on easy calving.

Research has already proved that constant selection for size, or high WDA (weight per day of age) in bulls, results in heavy calves, and thus calving difficulties. Proof of this is the high genetic correlation between weight (size) and birth weight that according to Greyling amounts to: 0.58 with weaning weight; 0.54 with growth test gain; 0.60 with weight at 18 months and 0.68 with mature weight.

From Ritchie we learn that:

- Birth weight is world wide, the

trait most highly correlated with calving in all breeds of cattle.

- Calf mortality increased by 0.35% per pound (lb) increase in birth weight.
- As the percentage of Zebu breeding increases in the dam, birth weight and dystocia decline due to lower foetal growth.
- Overfeeding females to the point of obesity, has been shown to increase birth weight and the incidence of dystocia.

Although individual birth weights can be used as a guide, EBV's are much better predictors, because they combine data from several sources. As a bull sires more progeny, the accuracy of his breeding value improves markedly, and his own individual birth weight becomes less significant. Heifers should achieve at least 65% of their mature weight by breeding time and 85% when they calve as two-year olds.

MUSCLING

"Muscle is beef, and beef is our business." (Long)

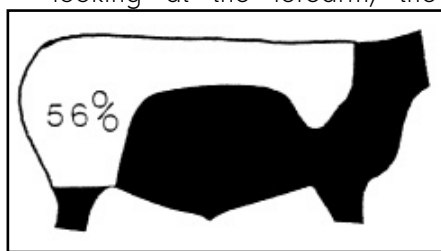
Beef producers sell muscle and therefore judging for muscling in Simmentaler bulls is important. We emphasize muscling on bulls, as we have no need to judge muscling on cows. This is easier to accomplish on lean bulls, but becomes more tricky where animals have been fitted for showing. Here the muscling issue is clouded by condition. The following has been summarised from research done on this aspect by Drs. B. Long (USA), G. Harwin (RSA), R. Barton (New Zealand) and R. Butterfield (Australia).

- The often used phrase, **"this one has more weight in the high priced cuts of the hind quarter"** should be abandoned. There is no animal with well-developed muscles in one part of his body and poorly developed muscles

in another part. Research on carcasses of British, Zebu and unimproved primitive breeds **showed the same relationship between the various muscles.**

This does not mean that muscle can not be increased or decreased. It simply means that one muscle or one group of muscles cannot be changed without changing all muscles by the same percentage. If there are poorly developed muscles in one part, then they will be poorly developed all over.

- Distinction between fat and muscle can be made by remembering that when a well muscled animal walks, the muscles are clearly defined and firm, with no sign of flabbiness. Fat hangs and drapes and shakes.
- Muscle is best measured by looking at the forearm, the



In all the British, Zebu and "primitive" breeds we tested, the expensive group of muscles constituted 56% of the total muscle weight.

area between the knee and the elbow. Since fat is not deposited here, and the shape of each bone is essentially identical in all cattle, any change in width, thickness or bulge in the forearm region, must be due to muscle development. The forearm of a thinly muscled bull is thinner, straighter and flatter.

- Depth in the flank is not associated with muscling. If we look at the body structure here, it is obvious that the only thing which can produce "depth of flank" is fat.
- Muscular development is not as closely related to the amount of

"bone" as we have often been led to believe. No relationship could be found between heavy or light, large or small and dense or porous bone, and the amount of muscling.

- Heavily muscled cattle are leaner than they appear, and light muscled cattle are fatter than they appear.

HAIR COAT

Great differences prevail in the various countries where Simmentalers are bred in respect to the desired hair coat. In some countries it plays no significant role, while in others, breeders prefer long woolly coats for protection during long cold winters. Here in Southern Africa we regard a short, smooth coat as being important.

We summarized the following from research by Maree, Turner, Bonsma, Schleger and Howell: Hide plays an important part in the animal's ability to tolerate high temperatures. Heat is dissipated through a myriad of sweat glands in the hide and a smooth, slick hair coat provides for minimal interference in sweating, and therefore more efficient heat dissipation. Woolly and/ or curly coated cattle never adapt adequately to subtropical, tropical or arid climates. Their body temperatures remain high, as their hair coats interfere with the process of heat dissipation. These cattle also provide a haven for ticks, and accordingly are more susceptible to tick-borne diseases than their smooth coated counterparts.

Through inspection we have all but eliminated the undesirable tight, coarse and curly hair coat in the breed. However, Simmentalers are still associated with long hairy coats, even though in many cases, it remains a perception.

Dave Morley, having long been associated with Bos Indicus and Bos Taurus breeds, reports as fol-

lows: "In the tough, arid extensive areas it appears that many commercial producers believe that the Simmentaler is not adapted to the prevailing conditions. The reason for this seems to revolve largely around the hair coat. At the end of winter, when grazing is sparse and the cows lose condition, many Simmentalers stand around with long staring coats, and look like anything but adapted animals. Has the time not arrived for us to make an all-out effort to select for slick, short hair coats in the Simmentaler breed. One remains convinced that the breed must possess very good powers of adaptation, in spite of the long hair; otherwise it would never have survived so long in the extensive regions. But it is the perception of these animals with that long upstanding hair in the dry times, that puts producers off; it makes them think that there is no way that this breed can be adapted. Adaptability in cattle in the Southern Hemisphere is synonymous with short, smooth hair coats, and this is what producers look for. So let's give it to them!"

EYE PIGMENT

Simmentaler bull buyers show a marked preference for pigmented eyelids, and more so if the eye pigment comes in the form of a brown patch that encircles the entire area around the eye. This is substantiated by the higher prices paid for these bulls. Although they dearly love to see evidence of eye pigment, inspectors and judges do not discriminate against animals where it is not present. However, because of the popularity of pigment amongst bull buyers, we summarized research done by Anderson, Blogg, Dors, Eloff, French, Gibb, Lavah, Massmann, Patrick, Pfeiffer, Potgieter, Richardson, Tabbard and Walker.

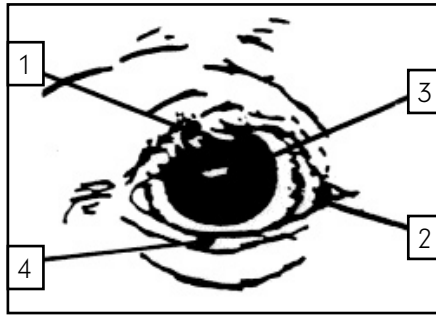
- There is an association between lack of eyelid pigmentation and susceptibility to eye cancer. This

is a condition occurring on the eyeball, eyelids or third eyelid, and is the most common form of cancer in cattle.

- Eye or eyelid tumour is a complex disease associated with heredity, ultra violet light, pigmentation of eyeball and eyelids, eye setting, viruses and of course, breed.
- The intensity of pigmentation is not important as long as it is darker than just a light creamy, white or pink colour.
- Cancer eye is less prevalent in countries where the intensity of bright sunshine, and therefore ultra violet light, is lower. It increases at higher altitudes and countries located closer to the equator; and is also more prevalent in older cattle.
- There is no association between eyelid pigmentation and weight EBV's in Simmentalers. The same applies to colour and performance.
- Much more eyelid pigmentation is present in light coloured Simmentalers than in dark red animals. Selection for a lighter coat colour, e.g. yellow animals, will improve eyelid pigmentation quicker than direct selection for pigmented eyelids in darker or red animals.
- The heritability of eye cancer is estimated at 0.3 to 0.4. Families or lines with a history of cancer cases should be avoided - in fact one should never breed from affected or treated animals.
- Pigmentation on the lower eyelid (4), is more important than pigmentation on the upper lid (1). Cancers that begin in the third eyelid (2), invade the deeper tissues more rapidly than those that start on the eyeball (3). Cancer on the third eyelid (2), is not affected by

selection for eyelid pigmentation.

- In Hereford cows studied in



Australia, the probability of lesions occurring on completely pigmented upper (1) and lower (4) eyelids, was 1% and 4% respectively and for lids with no pigmentation, the probability was 16% and 66% respectively.

Not much work has been done on the positioning of the eyes, we are nevertheless convinced that placing of the eye is also associated with eye cancer. Some breeders maintain that this aspect is more important than pigment itself. In cases of prominent or protruding eyeballs, there is more exposure to the sun, insects and grass seeds, than where the eyeball is located deeper in the socket, together with a well developed orbital ridge or eyebrow. A well hooded eye with a thick sensitive eyelid, commonly found in Zebu cattle, serves as excellent protection against the negative environmental factors described.

WHY DO OUR JUDGES LOOK AT RUMP SHAPE?

Of the many factors affecting calving difficulty, two stand out: "The primary cause of calving difficulty or dystocia in young cows, is due to a disproportion between the size of the calf, those with high birth weights, and the size of the birth canal or pelvic area of the cow." (Deutscher.)

Our literature research reveals that pelvic area has been known to be the most important **cow variables** influencing calving difficulty. We

believe that there are two factors involved here:

(a) the pelvic angle, or slope of rump, i.e. the fall or slope from hips to pinbones and (b), the internal pelvic area. Due to the fact that it is impossible to measure the pelvic area of all the animals we inspect, we place more emphasis on slope of rump and discriminate against square, level or flat rumps where the thurl bones are set high. The reason for this is, although there is no scientific evidence to support it, why do all easy calving animals like antelopes, Zebu and Sanga cattle, have sloping rumps? McFarlane and Bonsma state that "it is evident that as you raise the pinbones, you automatically narrow the opening that the cow has for calving - you lessen the distance between the pelvic floor and the base of the tail".

THE FUTURE

The days of mere phenotypical judging, without taking factual reproductive and production data into account, are on the way out. "Where the facts are few, stories are many." (Anonymous).

External appearance and measured performance have for a few decades already been successfully combined in Europe, with good results in the show ring. A sound balance should be maintained between what we see in an animal, and its genetic potential e.g. Blup breeding values. As a breed run under extensive conditions in Southern Africa, we should use performance figures as a necessary and valuable aid in our selection programmes, yet not become obsessed by them. "Some of us can see much in an animal and others less, but no-one can see everything. In this respect the breeder should remember not to try and see that which he can measure with figures - and he must appreciate the limitations of visual evaluation as well as the limitations

of figures." (Dr Herman Venter.)

Our Society has long since moved away from the old traditional way of showing, and in South Africa we have led the field; in so doing, we have achieved a number of firsts. For example: since 1976, cows have been judged on the strength of their own reproduction abilities; up to 1987 on intercalving records, and since by means of the Simdex system. From 1977, progeny orientated group classes were introduced where bulls, staying at home to see to their business, were judged on the basis of their progeny that were entered at shows. In 1980, classes for performance tested bulls were introduced, and in 1999 a class came into being for a champion bull, based on Blup EBV's (70%). We continue to progress along these lines by using modern, measurable selection aids. "I cannot understand why people are frightened of new progressive ideas. I'm frightened of the old ones" (John Cage)

- The annual general meeting has resolved unanimously that bulls with birth weight EBV's that fall into the lowest 5% of the breed, do not belong at shows. This resolution will be implemented as soon as queries in respect to management groups incorporation of calving ease EBV's in young bulls, have been sorted out.
- After reproduction, a cow's ability to produce milk is her most important function. We cannot visually evaluate the milk potential of a heifer, cow and how much milk the daughter's of the grand champion bull will produce. It therefore has occurred that cows with poor breeding values for milk, have won classes at shows. As a dual purpose breed, we cannot allow this to happen. We now have reliable Breedplan EBV's for milk at our disposal. If we can indicate to



Which one's daughters will produce more milk? Not possible by visual assessment - look at his milk EBV.

judges what cows and bulls have EBV's for milk in the lower say 10% bracket for the breed, this should help solve the problem.

- Beef producers sell muscle and not fat! Fat is expensive to produce, in fact more than twice as costly as beef. "Fat comprises not only very little additive value to the animal, but it also affects reproduction efficiency and milking ability; it leads to increased calving problems as well, and in essence affects longevity." (Hunsley.) An opinion prevails among our breeders that "cattle have to be fat to show - and win!" This perception must change because it hurts. Our

judges should have absolutely no qualms about penalizing fat cattle in the show ring.

The greatest majority of bulls are still purchased mainly on outward appearance.

We must face the fact that breeders and buyers will always evaluate cattle visually, this we will not change. What we can change however is how they interpret what they see and that the genetic merit can only be measured by EBV's. It will, however, depend on us whether we use the show ring to improve the genetic production level of the breed or not.

Registration certificate assist bull buyers

THE BREED SOCIETY'S REGISTRATION CERTIFICATE ASSIST BULL BUYERS TO SELECT BULLS THAT BREED LIGHTER CALVES (see 'Birth' - lower better) AND/OR BREED CALVES THAT ARE BORN WITH LESS DIFFICULTY (see CED - higher better). THEY CAN ALSO SELECT FOR GREATER GROWTH FROM BIRTH TO WEANING (see 200 day EBV) AND HEAVY YEARLING (see 400 day EBV) PROGENY. THEY CAN ALSO SELECT BULLS THAT BREED DAUGHTERS WITH MORE, OR LESS, MILK (see Milk EBV) AND THUS PRODUCE HEAVIER CALVES.