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EDITORIAL

Welcome to our Autumn/Spring newsletter. There have been some significant changes in the seasonal conditions in Australia over the last three months.

Initially, there was the devastation of the drought that so much of our country has been subjected to over the last 2 - 3 years. Then there were the bushfires over a wide area of very dry land in both bush and grassland so that the little feed that was left in some areas was lost. The devastation caused by both these events will take years THE OFFICIAL QUARTERLY NEWSLETTER OF recover from despite the most welcome, and in most places, soaking rains that followed during February. There are certainly still parts of the country that missed out on any productive rain so our thoughts remain with those producers and hope they can get some wet relief sooner rather than later.

> I hope that producers in other countries never have to experience similar events to those we have here recently. No doubt some of you will and are currently experiencing conditions created by Mother Nature that are causing hardships so our thoughts are with you as well.

> The effects of these events will have a significant impact on our economy for years to come and we are already seeing near record high prices for cattle as producers start to look at restocking. This is going to put them under considerably more financial pressure over the next few months. Let's hope that our government doesn't forget about the drought now that has been lessened to some degree as they have in the past. I have written before about the sort of programmes they need to be introducing to drought proof the land in the future.

> As with most businesses relying on the farming community for support, our business has reduced significantly, mainly because some of our breeder clients have had too sell most or even all their cattle in some cases. We will keep going as we have

little or no overheads which is major benefit in times like these.

WHAT'S (BEEN) HAPPENING

*The plan at present is to travel to north and central Queensland in May/June to do some evaluating. At this stage we are not sure how the COVID-19 situation will affect our planning. We hope to be able to keep working within the recommended pandemic guidelines where ever possible though.

*We are also planning a one day field day near Pomona in Qld. in May and will monitor the current corona virus situation before setting a date.

* We are still very keen to hold more field days in other localised areas over the next few months, so if you would like one in your area, please let myself, Albert Hancock (0267334666) or other company directors know and we will get it under way. We would like to be as flexible as possible in our future planning and would welcome and appreciate any input that you can provide for us in this regard.

*We now have linear measuring callipers available for sale for \$100.00 plus freight so if you are interested, please let me know.

*We remain keen to get some marketing of graded cattle going and are happy to advertise for any of our clients here in the newsletter or on our website.

EXPRESSIONS OF INTEREST

For sale, Coodardie Brahman Females for sale Registered (or eligible to be) Australian Brahmans

Heifers through to cows - will consider selling in small/individual lots or large draft - approximately 150 head available

Genetically quiet

High rating CLMS assessed herd

Currently running with Coodardie Bulls (high scoring CLMS)

Closed herd, Cherokee base

Reds & greys, polled, dehorned and horned Bred and raised in tough NT conditions (ticky country)

*We remain happy to promote the sales of other breeders and would like to put them in the newsletter, so please let me know the details.

TULI

I have found some slightly conflicting origins of the Tuli breed.

*One records the breed as a pure African Sanga breed and that the Sanga breeds were taken by the Bantu tribesmen on their southern migration, and eventually occupied most of Eastern and Southern Africa. In 1945 the Tuli breeding station was established in Zimbabwe to enhance the productivity of local herds being recognised for their increased beef production.

*Another reports that the Sanga breed from which Tuli originate from evolved several thousand years ago in Africa. It is thought that the breed was the result of natural mixing of indigenous cattle with the Zebu cattle, which were herded through the continent by nomads during the first Arab invasion. They have most likely existed in their present form for more than 5,000 years.

*The third records it as having been founded by the Rhodesian Government at a Government station situated on the Banks of the Tuli River. The purpose was to establish an indigenous breed suited to the prevailing hot dry conditions. It was originally established in 1949/50 in the purpose built Tuli Breeding Station.

That aside, **Tuli** is a form of Sanga cattle closely related to the **Tswana** breed from Botswana.

The most docile and domesticated Tswana cattle were selected by local Matabele chiefs for their herds, and their selective breeding practices and domestication enhanced the breed and refined its evolution. Thanks to the Matabele, the Tswana continued to prosper, and only 70 years ago became the foundation for the Tuli breed as we know it today.

They have been exported to Argentina, Mexico and the USA.

In South Africa, a composite of Tuli and Limousin cattle has recently been developed, named Tulim cattle.

When Australia decided to import the breed, it used embryo transfer in order to limit the possible transfer of African cattle diseases and parasites.

The **Tswana** breed had been developed over the centuries to suit the arid environment. They were docile, productive and highly fertile. These traits were preserved in the Tuli breed. Cattle were originally distributed from the research station to local African farmers, but white farmers soon became interested in the breed which afterwards became very popular.

Tulis are known for their early maturity, docile nature, good mothering ability and high fertility, and they can withstand intense heat without showing signs of stress.

Due to their unique genotype, Tulis offer the maximum hybrid vigour in a crossbreeding program. They are highly disease-resistant, especially tick-borne to diseases. Tulis are moderate framed cattle and have three basic coat colours - red, yellow and white. These colours enable them to adapt intense sunlight. Their coat is smooth, they have moderate sized ears and dewlap and they can be either horned polled. or disease-resistant. They are highly especially to tick-borne diseases. Tuli cattle produce high quality beef, their meat receives consistently excellent ratings for its flavour, tenderness and marbling, and usually Tuli Cattle are large enough to be slaughtered at about 18 months of age

Development in Australia

The Tuli was introduced to Australia in 1990 by CSIRO and the Boran and Tuli Consortium through the use of embryo transfer. Embryos were collected from purebred registered Tuli donors in Zimbabwe and were implanted into Australian-bred recipients in the Cocos Islands. This embryo transfer program began in August 1988 and continued for 5 months

— 74 calves resulted from the project and were cleared for transportation to Australia on the 2^{nd} . March 1990.



The Tuli is a medium-sized animal which, in its neat compact frame, incorporates high fertility, hardiness, adaptability and excellent beef qualities. Its sleek and glossy short-haired coat varies in colour from silver, through golden brown to rich red.

The meat of the Tuli has relatively low levels of fat (just sufficient to give a good marbling), and is tender and juicy.



Photo courtesy of Tuli Cattle Breeders Society of SA, <u>www.studbook.co.za</u>

Other factors:

- ☐ Adaptation to heat and nutritional stress
- ☐ Carcass merit
- ☐ Fertility and maternal strength
- ☐ Calving ease
- ☐ Good disposition
- ☐ Outcross genotype
- □ Polled 70-80% are naturally polled
- ☐ Solid colour
- ☐ Moderate frame, low maintenance
- ☐ Adaptability

The Law of Diminishing Returns

I realise that there isn't anything about individual trait selection in this newsletter

so I thought I would put something in about another way of looking at what traits need improving in a herd. I have commented in a previous newsletter and in our book, "The Vision Tender" about valuing your herd and using a method of evaluating based on what you believe is most important for your herd.

I thought I would base these comments on, or at least roughly, yet I believe, relevantly, the law of diminishing returns and how we can adapt it to cow/bull selection in a cattle herd.

This law states that in all productive processes, adding more of one factor of production, while holding all others constant will at some point yield lower incremental per-unit returns. It does not imply that adding more of a factor (such as the most available) will decrease the total production, though in fact, this is common.

Alternatively, when we have a number of inputs at various levels, returns are unlikely to increase significantly until the lowest input is increased to at least the same level as the next lowest input and then, if it is increased past that next level, that previously next lowest input then becomes the minimising or diminishing factor.

This has been shown in soil nutrition trials where soil tests have shown the various levels of minerals available to the soil at different levels and when all but the lowest level is increased, the output is not very high. However, when that lowest level is increased to at least the next lowest level, the outputs are significantly higher until another nutrient becomes the limiting factor. Output levels then taper off until that new lowest level is increased and so on.

A similar concept can be adapted to our cattle production. If we just focus on one or two traits and put all our efforts into improving these and ignore the others, then the level of productivity will decrease after the initial larger increase until we identify the worst trait and select to improve it. Then when that trait improves past some of the others, the next worst trait will become the

limiting trait and production will not improve really until that trait is selected for and improved. This highlights the folly of single trait selection that we have seen over the years, especially when we look at weight gain, for example, and forget about things like calving ease.

It's all very well to have a bull who produces heavy calves at birth, but if the cows don't have the rump width and length and correct hooks:pins;thurl angle then they will not be able to get rid of the calf.

Many of us have been caught up in the demand for big, fast weight gain animals and have been therefore drawn towards large boned animals. This has been fine for the feedlot and fattening industry, but the impact it has had on the breeding industry has been harmful in terms of changing the type of females we are now often breeding from, though it is gratifying to see that work on the most efficient animal size is showing that large animals are not necessarily as efficient and economic as we may have been led to believe over the last 30-40 years.

Again, I believe if we follow the above selection method, we can keep increasing the limiting traits until all traits are even and when this happens, we start to see balance in the animal. We then have an animal that if we use for breeding and select cows and bulls with this balance of traits, we can start to breed consistency into a herd. That doesn't mean though, that just because we have what we can see is balance, that we can't then start to work on more improvement of traits by selecting cattle that have a specific trait that we consider is the most important one to start the next stage of herd improvement with.

Again, we can score each of our traits and it may be useful to score each trait, say out of ten rather than five, as we do in our system, because it will give you a little more detailed choice and flexibility in your scoring method, especially as the traits get more even overall. Then you can quantify each trait by asking what needs to be done to improve it to the next level, similar to the

way we do it in the values process mentioned above.

Remember Drought

As mentioned in the editorial, seasonal conditions have changed quite a bit for the better around Australia, at least over the last 2-3 months. However, there are still some areas that are struggling though and we need to keep supporting them. Unfortunately, recent events such as the widespread bushfires we have experienced in many parts of Australia and now the corona virus outbreak have taken the focus of the effects of the drought, especially, it seems, at a government level and certainly in the media.

Whilst I have the utmost sympathy for what producers in drought areas have and still are currently experiencing and know some personally who have had to sell all their breeding herd, I hope that we learn from this experience that we can't keep doing what we have always been doing that is not working and at present our drought policies aren't working. Change needs to occur at all levels of the agricultural production chain. As I mentioned, the most innovative producers have changed, usually at their own expense, despite the bureaucracy and politicians. Now we need to encourage all producers to follow suit. We are motivated to change either by getting away from pain or going towards reward or pleasure. In the past, I believe that government and public support has reduced the pain just enough for a lot of producers not to make change.

Whether this drought is going to inflict enough pain on its own, only time will tell. However, by introducing a reward or incentive scheme to encourage producers to change as I have suggested previously might finally be enough to get the majority to do something about their situation. We are, generally speaking, creatures of habit so change doesn't come easily to us. Therefore, it needs to be nurtured and encouraged in the current climate so that the

greater good will eventually prevail and we will all benefit.

Robert Bakewell Letters

As something a little different, I have added a small extract from historical letters between two 18th. Century agriculturalists from England. I am indebted to Steve Campbell, Triangle C ranch in the USA and a colleague of the late Gearld Fry for passing these on to me. If any of you, especially sheep breeders, are interested in reading the letters in full, please let me know and I will pass them on. I have added the introduction by Steve to give a little back-ground on the gentlemen involved and then taken two small extracts from the letters that I think show some relevance to what we are doing today.

Introduction: "The series of letters known as the "Bakewell Letters" from the 18th century agriculturist, Robert Bakewell of Dishley Grange, near Loughborough, were discovered in 1954 by a member of staff from the Department of Agriculture in the house of a descendent of George Culley. For agricultural historians, both these names would be familiar: Bakewell pioneered work in breeding of sheep and cattle for the new industrial markets of the 18th century, devised grassland irrigation and new methods for rearing livestock, manuring the land and using turnips as a main winter feed for livestock.

George Culley was a pupil on Bakewell's farm in 1763 and, after travelling extensively and working on the family farm in County Durham he became a tenant farmer in the north of Northumberland in 1767. He and his brother Matthew were to become the best-known agriculturists of the late 18th and early 19th century in the north of England and beyond. A glance at the letters that survive show the wide range of farmers, landowners and agriculturists that they knew and influenced through their ideas. The majority of the Culley papers are now held at the Northumberland Record

Office, Gosforth, Newcastle upon Tyne. Robert Bakewell was a well-respected pioneer breeder and agricultural developer and most of his letters concern the hire of tups (rams) to other farmers, including Culley. They discuss the prices he charges, the use of the tups and many farming issues, especially crop prices. The prices that farmers had to pay Bakewell for the use of his tups (sometimes for only a part of the season) are enormous. Although Bakewell started hiring his tups for the low price of 17s 6d in 1760, by the time his flock had matured and were portraying the pure qualities he (and other farmers) wanted, he was able to command 1200 Guineas and the equivalent of \$88,000 today for the use of 3 rams and 2000 Guineas for the use of 7 others in 1789."

Extract from one of the letters:

At a Fair at Loughborough on the 25th Instant, two Graziers differed in Opinion about two Cows. One said such a Cow, a heavy boned one, was better by a Pound than another.

Your Acquaintance, Mr. Buckley said the other was best, upon which a small Wager was layd and the two Cows are to be grazed in the same Pasture. They were yesterday weighed and little difference in Weigh about Eight Hundred each Price Seven Pounds Fifteen Shillings, and the bets now go in favour of the light boned one, this will engage the Attention of many both of the old and new Opinion.

This comment is the earliest that I can find that shows producers recognised that there is a difference in bone structure and that big bones did not necessarily mean more meat or a bigger animal. It also highlights that given that they were both fed on the same pasture, the lighter boned cow was a better feed converter given that she would have had less bone weight than the heavy boned cow, but still weighed the same. This would indicate that she was able to produce more actual meat from the same feed that was available to them both.

I proposed a Mode of Examining their Stallions venturing to give it as my Opinion that a Horse either for figure or use, particularly the former should have his fore end so formed that his Ears when he is shown to advantage be as nearly as may be over his fore feet, that measuring a Horse from the fore part of his shoulder points to a little below the Tail and divide that Measure in to three parts that from the Shoulders to the Hip should not be the longest and when a Horse is shewn as Stallions commonly are, he should be wider over the ribs than from Shoulder to Hip, this Doctrine was new to them, but I rather think will have some Effect.

These comments indicate that objective measurement has been used on animals for at least 3 centuries. Whilst the reference here is to horses, there is little doubt that these producers in that era would have recognised that measurements were also important in selecting cattle. It is interesting to note in this example how there is emphasis placed on the heart girth (over the ribs) and how that should be wider than he is long from the (Shoulder to Hip). This is not the same as cattle, but indicates that producers in those times were aware of the importance of measurements correlations between those measurements in their animals.

I realise there is a lot of reading in this newsletter and hope that you find it, at least, a little more stimulating than boring.

I hope that you all stay safe and well over the next few months as this challenge we are all experiencing from the COVID – 19 virus follows its natural course.

Thank you for your continued interest in our newsletters, our website and our book. Please feel free to order one of our books and become familiar with the CLMS system and the directions we are taking in the overall scheme of animal and food production for human consumption

PLEASE FEEL FREE TO CONTACT US ABOUT ANY ITEMS IN THIS NEWSLETTER, ON OUR WEBSITE OR IN OUR BOOK. WE WELCOME PRODUCER INPUT AND INTEREST AND WANT TO INVOLVE YOU IN WHAT WE ARE DOING.

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