DEPARTMENT OF PRIMARY INDUSTRIES

TOWNSVILLE BOWEN AYR INGHAM CHARTERS TOWERS

NORTHERN MUSTER

Wickham St., Townsville, P.O. Box 931, Qld. 4810.

NO. 8 AUGUST, 1985.

NEW CSIRO ADVISORY COMMITTEES

The CSIRO Division of Tropical Crops and Pastures has reorganised its Advisory Committees into three Regional Committees.

The N-W Regional Adv. Committee (North Territory & North West Australia).
The N-E Regional Adv. Committee (North East Queensland).
The S-E Sub Tropical Reg. Adv. Com. (South East Queensland).

Committee members need to be informed on pasture developments in their districts to offer advice to CSIRO on them and to keep industry informed on the latest research work. Producers can contact any of the people through their industry organisations. We invite comment.

The committee will discuss all contacts and the producers concerned will be advised to keep industry involved. The media will also be used.

Some of the work presently being done at Lansdown and Davies Laboratory comprises experiments to find more suitable legumes, work on the shrub Leucaena which shows outstanding promise in the over 30" rainfall belt, measuring options for minimum superphosphate on seca and verano with grass mixtures or alternatively supplementing the stock with phosphorus, which at this stage shows promise.

Another vital study is the practical application of pasture improvement and tree killing, their effects on the ecology and eventually the measuring of economics. Three sites on different soil types will be established, including Hillgrove, north west of Charters Towers and Cardigan, east of Charters Towers.

The old Davies Advisory Committee no longer exists and we in the new structure have the responsibility of building on the excellent spadework done by its members.

N.E. Regional Advisory Committee Members
D.P.I. - Mr L. Wicksteed, Townsville; Dr. R. Holroyd, Swans Lagoon.
CSIRO Townsville - Dr. P. Gillard; Dr. J. McIvor; Dr. J. Hogan; Mr R. Isbell.
James Cook University - Dr. K. Entwistle;
Graziers - Mr J. Torta, Wood Road, Home Hill; Mr J. Stewart, P.O. Box 1011, Townsville; Mr J. Andison, Glen Eden, Bowen; Mr G. Arnold, Wrotham Park, Cairns; Mr Bill Carter, Felspar, Charters Towers;
Townsville City Council - Ald. V. Valentine;

(Supplied By Bill Carter, Chairman Of Committee, CSIRO Divisional Advisory Committee).

WEDNESDAY, 18TH SEPTEMBER, 1985
9.30 A.M.

SWANS LAGOON OPEN DAY

The 1985 Swans Lagoon Open Day will give you the chance to hear of and see research being carried out for North Queensland conditions.

Are you interested?

Do you have some questions?

Do you have some suggestions?

The morning session begins with morning tea at 9.30. Talks begin at 10.00 a.m. and during this session:-

Dick Holroyd will discuss the station breeding programmes covering the aims and what has been achieved.

Stuart MacLennan will outline pasture studies, including the burning project as well as field aspects of supplementary feeding.

John Lindsay's brief is to explain the intensive pen studies and the findings of using true protein feed-stuffs, urea and molasses.

Throughout the day static displays will show information about:

Buffalo Fly
Bull Growth and Selection
Tick Control

Following lunch conducted tours will allow you to view stock, pastures and facilities.

Morning tea and lunch are available and to close the day there will be an informal barbecue which will give you the opportunity for discussions with station and other Departmental staff.

See you there.

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EDITORIAL
THE BEEF MARKETING SCENE - CHANGES ARE COMING!

It is apparent that changes in cattle marketing are with us! There is concern in all sections of the industry that the best return for product is not always being achieved, and there is a search for ways to improve this.

During the past eighteen months I have been associated with this search in a small way and gained some impressions about differing aspects of marketing cattle and beef.

Competition in the world market is increasing. Market access can no longer be seen as a right, but must be continually argued and protected by ensuring the product is meeting the requirements.

Locally our market is continually being threatened and eroded. This year consumption of beef will be about 40 kg per person, down 4% on last year.

Why are we losing this market share? It seems several factors apply:-

Adverse nutritional comment, stating that beef is not a healthy food!

Price variations and the competitiveness of other meats.

Poor consistency of product. Lamb and poultry particularly, can be relied on to provide acceptable eating.

Availability! Poultry and fish are available seven days a week. Red meats are restricted to normal shopping hours, and thus are at a serious disadvantage in modern shopping habits.

At producer level, new selling systems are on trial. Carcass classification is prominant in discussion and seems to be gaining slow acceptance. Selling by description is being tried

but needs much more promotion and explanation, particularly as the national system becomes operational. These options can result in less handling, lower costs, better pricing and easier matching of cattle supply to demand. Comparisons are being made between new systems and conventional methods, but much more experience is needed before it will be seen that the majority of people involved will benefit from change.

Excess fat has come in for serious criticism in many areas but vendors are still able to cite experience in auction and direct selling where fattest stock are bringing the top money. Does this suggest that processors are still seeking the most suitable combinations of weight and finish?

A further impression gained was that some processors are seeking to reduce trimming and thus improve throughput and lower costs.

The end result of this changing scene is far from clear. It seems that industry economics at all levels are dictating the need for improvement in our selling methods and this includes more involvement by producers in the mechanics of marketing.

JOHN ROUND
EDITOR

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GROWTH AND DEVELOPMENT OF THE BOVINE CARCASS

The relationship between muscle, fat and bone changes with age. It is important to understand, the normal patterns of growth and the differential growth between the tissues at any particular time.

When the calf is born it appears "gangly" and unco-ordinated.

In pre-natal growth there is a rapid growth in bone relative to the growth of muscle, whilst there is virtually no growth in the fat depots.

Priorities of growth pre-natally, are the essentials of life such as the brain, related central nervous system, organs of the body and bone. The rate of growth in these components declines following birth.

Post-natally, muscle growth rate initially exceeds that of either bone or fat, so that the muscle:bone ratio is increasing. When the fattening phase is triggered, growth of fat tissue far exceeds that of either muscle or bone.

The objective of beef production is to maximise muscle production, optimise fat, and minimise bone content of the animal.

Following birth, muscle to bone increases from as low as 2:1 up to 6:8:1. With the onset of the fattening phase, fat growth approaches muscle tissue content. In the early stages of growth, it is muscle and then fat which has the most influence on carcass composition, whilst at no stage does bone exert the dominant influence on carcass composition.

It is essential for survival, that bone reaches a high level of development before birth. Fat has a higher growth co-efficient than muscle which in turn is higher than bone. Following birth, bone has a "low impetus" growth rate, muscle is "intermediate", while fat has a "high impetus" growth rate.

Factors Affecting Composition

In the early stages of growth, bone, muscle and fat follow very similar growth patterns relative to carcass weight for both early maturing and late maturing breeds but at the fattening phase relative changes in

carcass composition become evident. Early maturers fatten at lighter carcass weights than late maturers and will have relatively more muscle and bone in their carcasses.

Genetic differences also exist in the quantity of muscle relative to the quantity of bone.

"Good" shape of carcasses usually results from associated early maturity and the onset of the fattening phase. Fat cover acts to smooth out indentations between the muscles on the surface of the carcass, leading to the appearance of a smooth, rounded and "well muscled" carcass.

The findings of Charles and Johnson (1976) on four breeds of cattle indicate that conformation of the carcass is not associated with superior saleable beef yield or the distribution of higher priced cuts of beef. Good carcass conformation, can be counter-productive in assessing market suitability and carcass value, unless it is considered in conjunction with fat coverage.

Significant breed differences exist in muscle:bone ratios. Herefords show consistent superiority over Friesians. Muscle:bone ratios as high as 6.8:1 were found for double-muscle Charolais, while Friesians had the lowest values of 4.1:1.

Factors Resulting From Starvation

Research shows that when an animal is kept on a sub-maintenance ration, fat is first utilised, followed by muscle then bone, with these tissues being first depleted in the latest maturing body regions, such as the loin and pelvis. As fat depots become increasingly depleted, the animal's behaviour changes in order to conserve energy. But since the basic energy requirements cannot now be met by fat mobilisation, the breakdown of muscle tissue commences.

Also during starvation it would appear that the organs with an early period of maximum growth can draw on, or have prior claim on, the nutrition of those having a latter period of growth.

Subcutaneous fat is the tissue most affected by semi-starvation, although all fat depots suffer large percentage decreases compared to other body tissues.

In addition, late developing muscle groups lose considerable weight, while early developing muscles lose little weight.

At the end of any period of semi-starvation, the musculature has a priority claim over fat depots thus, little fat is laid down until muscle is fully recovered.

The depleted tissues of bone, muscle and fat are progressively replaced in their order of development.

(Condensed From An Article By Benjamin Ball, Marketing Executive, South Burnett Meatworks Co-Op. Association Ltd.).

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MAXIMUM RETURNS FROM BEEF CATTLE

The principles on how to maximuse returns from beef cattle are the same where ever you are, it is the method of achieving them that varies.

Northern Australia has the highest return to capital from beef cattle, although it is still very low, about 5%. I believe it is possible that with the right cattle, property management and cattle marketing, the profits from cattle can be attractive.

The cattle market can rise or fall 30% or more in a few weeks but the price of cattle is really more sensitive to the supply of cattle. Cattle producers become very uncertain and nervous about the market and make irrational decisions because of the uncertainty.

If the marketing system remains as it is and video sales or the like don't really change the system, then there are certain requirements to survive or more importantly, to take advantage of this type of marketing.

1. Have sufficient grass or supplementary feed to be able to hold cattle and take advantage of the market fluctuations.

2. Have sufficient funds to be able to take advantage of these ups and downs and be sufficiently independant financially not to have some financier tell you when to sell.

3. Have the right type of cattle to be able to increase weight without getting overfat.

4. Have cattle that require the MINIMUM of attention (cost) and have the MAXIMUM productivity.

Sufficient Fodder:

Sufficient feed to be able to hold cattle, whether they be stores or fats, can be achieved by either having country that can fatten all the year or areas that will hold over, kept for the dry spells, or supplementary feed or complete feeding.

Finance:

It is useless having sufficient feed if you don't have the finance to take advantage of the market. Finance is also valuable if you have surplus feed to take advantage of someone who has run out of grass or money.

Don't have mortgages on trading stock because producers are nervous and jumpy enough, without having some financier who is also nervous, interfering with market decisions. It is worse if the stock mortgage is to a Livestock Selling agent who has a vested interest in turning your stock over. Finance is very competetive and you need to shop around when borrowing or investing money. It helps if you have good securities established with more than one bank.

Right Type Of Cattle:

More money has been wasted on trying to make unadapted cattle productive than anything else.

Cattle suitable to our environment had to be able to withstand heat, ticks, blight, bogging in the 34 mile river and lake frontage and be able to make use of long dry grass in the dry season. About 22 years ago following advise from CSIRO and DPI, we changed our breed of cattle to a breed (Brahman) known to be well adapted to our environment but with poor fertility, low weight gains and with a nervous disposition.

We are now really starting to reap the benefits from continuously culling cows for fertility and using only quiet, weight performance tested bulls, tested only on grass and up to a weight and age commensurate with the weight and age that we sell our bullocks. Calving percentages rose from 67% to 80% (although pregnancy rates fell from 90% to 85%) because Brahman cows were able to rare most of their calves.

Yearly weight gain for steers rose from 270 lbs. to 470 lbs. although the country has deteriorated because it was newly pulled scrub now 18 years old.

Labour costs were cut for stockwork from 5 man hours per beast per year to less than 1 hour per beast per year last year, - on todays wages, from $30 per beast to $4 plus $1 per head for Helicopter to muster.

Total costs per beast vary and should be considered in relation to return per head of total cattle numbers.

Our total cost per beast is very high, $60 per head per year, but we average $90 to $100 per year per beast run. These total costs include improvements and maintainance and all overheads including Stud cattle.

Because most cattle in Australia now run on land that is not suitable for any other purpose, it is not the maximum return per acre that counts, it is the maximum production per beast that must be watched.

Key men, are very valuable to a successful operation and anything to save time for these key people is important. If the operation is big enough, it probably needs an aircraft, helicopter, machinery and good communications.

There is an optimum number of cattle you must run in one operation to get maximum return. Over a certain size becomes difficult to control and starts to lose benefit of size. To justify the equipment and overheads we need all of the 12,000 cattle. But I have friends who run far less and do very well with less management and staff worries.

(Condensed From An Address By Graham E. McCamley)

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MARKETING DEVELOPMENTS IN THE CATTLE INDUSTRY

Sale by description of beef cattle is being developed by a variety of industry and government agencies. Common to all is the necessity for a satisfactory description of the stock on offer, whether it be slaughter or store selling.

Slaughter Cattle

The systems that have evolved to date are from the Agricultural Business Research Institute (ABRI) based at Armidale N.S.W., the Australian Council of Livestock Agents (ACLA) and the Livestock and Meat Authority of Queensland, better known as NELCM, CLASS, QUEST etc.

ABRI Systems (NELCM and CLASS)

New England Livestock Computer Marketing (NELCM) and Computer Livestock Auction Selling Services (CLASS) are essentially the same system and an examination of the NELCM system will cover both.

NELCM is based on on-farm animal appraisal by independent assessors weighing all animals in the lot and estimating fat thickness of each beast.

An estimate of dressing percentage is made to predict final carcass weight, then the cattle are released into a holding paddock to await the sale outcome.

Buyers bid in cents per kilogram carcass weight and there is no post slaughter adjustment to the rate payable. Final value is determined by applying the rate (cents per kg) to the actual dressed weight of the lot.

Delivery must occur within seven days of sale. Buyers are responsible for transport, and accept the risk at the point of delivery (farm gate) and the vendor pays the slaughter levy.

NELCM is an electronic auction using telex for communication. The Aust. Meat Research Committee (AMRC) developed and funded NELCM and CLASS, NELCM sales being held weekly, offering around 300 head.

ACLA System

Estimates of the range of carcass weights are required and condition and dentition must be described in terms of a scoring system. Bidding determines cents per kg and final value is determined by the "over the hooks" carcass weight. In the event of misdescription, buyer and vendor must negotiate a new price.

Seven days are allowed between sale and delivery. Delivery point may include the property, an abattoir, saleyard or rail siding. Freight to the place of delivery is the vendor's responsibility and the vendor pays the slaughter levy. The ACLA system also provides a liveweight option for slaughter cattle.

LMAQ System (QUEST)

QUEST allows the vendor to supply an adequate initial description without mustering, yarding and handling the cattle. A wide combination of weight, fat and dentition ranges for cattle of the same sex is permissable within any one lot. However, a vendor should be mindful of market suitability when offering a lot for sale.

QUEST offers individual carcass pricing. Bidding in cents per kilogram carcass weight determines the price. This is converted by the computer into a complete table of prices for each weight, fat and dentition combination which is sent to both vendor and buyer immediately after the sale. The vendor may set a minimum reserve, and knows in advance of the cattle leaving home the complete price schedule. He nominates at the time of listing, a date or optional dates for delivery.

A total of 3,491 cattle have now been offered in 59 lots. Lot size has ranged from 18 to 230 head and 37 vendors have participated.

QUEST is an electronic auction conducted on the Computer Sciences of Australia (CSA) network and has wide industry backing. Buyers bid from their offices on computer terminals and vendors, with their own computers, are able to watch the sale in progress.

AMLC National Electronic Marketing Initiative

CALM (Computer Aided Livestock Marketing) is an AMLC service to facilitate development of computer-based livestock selling and aims for improved methods of marketing livestock that incorporate payment on sale by description.

The CALM Board has representation from producers, processors, and livestock agents (three members each), one representative from the pig industry, and a Chairman selected by the AMLC. Funding is through cattle and sheep industry levy and should provide on current kill estimates around $0.9M per year.

Two basic sale types will be available. One is based on an average price mechanism and includes carcass weight, liveweight and dollars per head options (similar to the NELCM, CLASS and ACLA systems).

The other is based on individual carcass weight sales only (similar to the QUEST system).

Mayne Nickless has been awarded the contract for the supply of hardware and software and the Board hopes to have the CALM system up and running by early 1986.

Store Cattle

The most visible development of store cattle selling has been video sales conducted by Elders and Primac. Liveweight and dollars per head options have already been covered by NELCM, CLASS and ACLA.

Elders Video Auction

Cattle are yarded for filming and assessment. Details include comments from both the vendor and agent together with all the usual descriptive detail. An estimate of liveweight and the number per 40' deck is also made, and the date the cattle were filmed is shown. Vendors may nominate a percentage rejection at delivery which must take place within 7 days of the sale.

Video tape is used for previews and the auction itself and more than one centre participates in the auction which is conducted from a central point. Buyers must attend either the central auction or one of the relay locations. Bidding is in dollars per head.

Primac Teleauction

Primac's video sales follows Wes-farmers format in Western Australia. Cataloguing and filming is similar to the Elders system. The sale itself is broadcast over commercial television, allowing a much larger audience to "attend" the sale and update their knowledge on store cattle prices.

Advantages Of Computer/Video Selling

Sale by description which involves direct delivery to a meatworks avoids:

(i). stress of cattle attributed to the saleyard environment;

(ii). the mixing of horned and hornless cattle (which often occurs in the saleyard);

and involves a time saving over the saleyard system between muster and slaughter of at least 2 to 3 days in extensive areas and 1 to 2 days in intensive areas.

The information that comes back to the vendor relating prices to different carcass attributes, is an invaluable management tool in the quest to get the best return out of the production potential of the property and cattle.

(Condensed From An Article By K.R. Woolcock, Livestock And Meat Authority Of Queensland).

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