

## Presentation – Jim Brennan

Good Morning Ladies & Gentleman.

### **Analysing the Viability of Supplementary Feeding.**

We thought that this topic was a logical follow-on from the prior speakers, but it has also come about because of observations I have made going onto properties all over Central Queensland for over 15 years now and prior to that, over properties in South and West Queensland. I have seen and spoken to numerous people putting out a whole host of different supplementary feeds, and almost without exception they could see that the stock had benefited, (for example the cattle had cleaned up in the coat or the cows were making more milk), most had a fair idea of the costs, - some were pretty accurate, some were pretty rough, but almost everyone had difficulty working out whether a) they were actually making money out of supplementary feeding after accounting for all costs and b) whether feeding was the most economical alternative available to them at that particular time. So you might say that it felt good, because the cattle were doing well, but were they actually making money? Whilst there are other considerations such as personal time and family etc, we must always stay focused on profitability and cost of production. So how do you work out if it's profitable and whether it is the best alternative?

When I first started seriously thinking about putting this talk together a couple of weeks ago it was just after Valentines Day. An email arrived and as I was laboring over methods of analyzing the economics of supplementary feed, and thinking about digestive systems and compatibility of pasture, I was looking for a little light distraction, yet something that was a bit relevant.

The email went something like this. Little David comes home from Grade 1 and tells his father that they'd learnt about the history of Valentine's Day. 'Dad, since Valentine's day is for a Christian Saint, will God get mad at me for giving someone a Valentine?'. His father thinks, 'Grade 1 and he's thinking about Valentine's day'!. Dad says 'I don't think God would get mad. Who would you like to give a Valentine to'. 'Osama Bin Laden', David says. As you could imagine his father was shocked. 'Why Osama Bin Laden' Dad said. 'Well', said David, 'I thought that if a little American Jewish boy could have enough love to give Osama a Valentine, he might start to think that maybe we're not all that bad and maybe start loving people a little bit. And if other kids saw what I did and sent Valentines to Osama, he'd love everyone a lot and then he'd start going all over the place telling them how much he loved them and he wouldn't hate anyone any more'. Well, his father is overcome, he's so proud and he puffs himself up like a male plain turkey in the mating season (when they fluff out their plimage and look about 3 times the size that they really are!!). He looks at his boy with profound pride, and says 'David that is the most wonderful thing that I have ever heard'. He gets so lost in his egotistical thoughts of what a good father he's been to have instilled such noble principles into his son that he doesn't hear his son say 'Yeh Dad and once that gets him out in the open, the US marines can blow him into 1,000 pieces'.

So we've got to stay focused on profitability just like David stayed focused on the outcome he was looking for – don't get lost on the 'feel goods'.

## **Introduction**

Supplementary Feeding can be broadly broken into 2 regimes: **complementary feeding** to better utilize existing feed, and **replacement feeding** which is when there is an inadequate quantity of pasture.

Today we will assume that there is adequate dry matter available and will hence be focusing on complementary feeding.

At the outset I acknowledged that there are huge variances between properties and management in such areas of soil types, pasture species, availability of legumes and browses, condition of pasture and past rainfall, scale of enterprise, control over water and stock, management capacity, management goals and management's attitude to risk. With that in mind, my focus today will be on the decision making process and a methodology for assessing what might be described as a 'best bet strategy'. We all acknowledge that in the business we are dealing with the unknowns of markets and seasons will sometimes force us to change what under most circumstances would have been a sound decision. However we must not let these variable factors be an excuse for not making sound decisions, because mostly if properly thought out, the desired outcomes are achieved.

## **Alternatives**

Alternatives always need to be considered even if they're not immediately desirable. Most cattleman are proud of their stock and become fairly attached to them and hence when the season turns against them, their inclination is to look after their stock and feed them but we must never lose sight of the importance of sound economic decisions, not just feeling good like David's Dad did. Some alternatives might be the sale of stock, use of feedlots, use of agistment, use of share-fattening, establishment of improved pastures, purchase of additional country etc. Whilst each of these options will have their own implications to the business, they should each be properly considered, as often when feeling the pressure of drought or cashflow problems, it is easy to think that alternatives are not available, when in fact they almost always are. Today we are assuming that each alternative has been properly assessed with suitable thought given to the various factors affecting a particular alternative. We call these factors 'considerations'.

## **Considerations for Supplementary Feeding.**

We need to acknowledge that all strategies that intensify production will generally involve

- a) increased management which may impact on time available for other parts of the business and on personal time, (Bill Loughan will possibly point out later, that one of the biggest risks to your business today is divorce or family partnership disputes).
- b) additional capital expenditure,
- c) additional operating expenses,
- d) additional interest costs,
- e) increased sensitivity to movements in both costs and incomes.

Most of these impact directly on cost production. As Australia is one of the world's biggest exporters of Beef, we must never lose focus on the importance of being

internationally competitive, and we must therefore be mindful of any changes to our system which may increase the cost of production.

The above factors - 'Alternatives' & 'Considerations' go hand in hand as to assess the 'alternatives', account must be taken of 'considerations'.

### **Objectives:**

As Supplementary Feeding is an expensive business, it is important to work out what your objectives are, not only as Stuart McLennan has so rightly pointed out in terms of animal production, but also what the possible impacts on your overall business might be. Some objectives might be increasing calving percentages and/or moving calving date to an optimal time or turning off steers by 2 ½ year old and still meeting Jap Ox specifications.

### **Analysis.**

Assumptions need to be realistic and whilst it is essential that assumptions made are soundly based, it is also important not to get too bogged down in detail because there is so much variability. For example trying to determine exactly whether the old truck will do 8 or 10 miles/gallon when carting lick around the place will generally not improve the quality of the final decision made. Generally some Sensitivity Analysis will be more useful for establishing whether a) it is economic, and b) if you are comfortable with the associated risk.

Today we'll look at a couple of scenarios, the first being a breeder enterprise with deteriorating pasture quality, and the second being a breeding and fattening enterprise considering whether to utilize supplementary feeding on steers to ensure turn off at 2 ½ yr old, hence allowing additional breeders to be run on the property.

## **Scenario 1**

### **The Enterprise.**

This property runs 1,500 breeders (including 300 first calf heifers) on Native Pasture. We're assuming that the majority calved by Christmas and got back into calf when there was a break in the season but there's been little follow up rain and pasture quality has deteriorated even though there still remains a good body of feed. This could well be the Scenario facing some people in the Alpha and Clermont districts in about a month's time. The cows with calves at foot are struggling to feed their calves and there's a little gremlin on your shoulder whispering 'El Nino!'.

How do you decide whether to Supplementary Feed? What will it cost to do it and what will it cost not to do it?. Lets follow the methods outlined earlier:

### **Alternatives**

#### **Sell**

You can sell some cattle and hope that with less mouths to feed, you can carry the rest through, but you might look around the property and think that as you have plenty of feed and have invested a lot of time, management and money into your breeders and have good fertility rates and libido, you're not keen to start selling them – unless you have to.

#### **Agist**

Agistment/Lease –Most people shy away from this option due to the direct cost of the agistment, freight two ways, and plenty of story's about bad experiences and how many cattle didn't come back, BUT it still needs to be considered. Factor these costs into your calculation, because in some conditions with little available feed, it may still work out to be the better option. If you get to this point you may also re-consider sale.

You could also sell some of the stock to reduce the impact on the pasture but you then need to be aware of the impact on our future cashflow and also your ability to replace these cattle. Generally speaking you're better off moving early if you intend to sell as generally your stock will be in better condition, the market itself will be stronger and hence the dollars you have to replace the stock at a later date will be greater.

#### **Do Nothing**

You also have the option to do nothing.

### **Complementary Feeding** – which is what we will investigate further today

The decision made should take account of the quantity and quality of feed available, time of year, the likelihood of receiving useful rain given the time of the year, the seasonal outlook, alternatives available, future impact on both cashflow and pasture. (It's no good ending up with a property flogged out, for as we all know, it takes country a long time to recover when it has been abused).

We also need to consider the risks of either doing nothing or delaying a decision.

Today we're assuming that you have properly assessed all those issues and you've decided to Supplementary Feed.

### **Considerations**

- a) Increased Management - Have you got sufficient labour to handle the extra workload
- b) Capital Expenditure – are feeding troughs available, what gear are you going to require to do the feeding, if you haven't got this equipment, are blocks (which are more expensive), a cheaper option overall (less labour, less equipment required)
- c) Additional Operating Costs – Not only the cost of licks but also more driving around the property and possibly more labour and equipment. This also has an impact on cashflow, as do the two previous issues.
- d) All of the above may result in additional interest cost.
- e) You are spending more money so your production costs are most likely going up.
- f) What's your outlook the cattle market,
- g) how are you geared and can your enterprise handle these additional costs?

### **Objectives**

So what are our aims and objectives. a) to reduce or eliminate cow and calve mortality.  
b) As we've heard today, maintenance of body weight is critical to ensuring that i) the cow gets in calf, ii) carries the pregnancy, and iii) when the calf is dropped, the cow is able to sustain the calf.

In a breeding enterprise it is critical to remain focused on getting the next calf on the ground. This might sound pretty obvious but over the years I have seen people feeling swamped by a poor seasonal outlook, and cattle starting to fall away and have seen them lose sight of the impact of their actions now on future calving and hence cashflows and viability.

### **Calculations**

Moving on, in today's scenario we're assuming that you have got a fairly tidy breeding operation and have very few late calves. The calves have been weaned and put into better country and you're trying work out the economics and cashflow implications of going into a Supplementary Feeding Regime for the breeders, knowing full well that you might not get a break in the season for 6 to 8 months. We will now look at the Livestock Schedule for this Enterprise. As the Livestock Schedule shows the impact of a decision made in year one not to Supplementary Feed, is felt severely 4 years later. Given the cyclical nature of the cattle industry, this could become a 'Double-whammy' if it happened to coincide with a down turn in the cattle market. So we can see the cost of not doing it. What then are the costs of going into the Supplementary Feeding Regime.

## **Feed Costs**

We've heard Stuart McLennan calculate the cost per head of the five month period from June to October for dry season lick @ \$10/head, and for our purposes we'll adopt that, but we're going to consider a longer period of time. Some of the variables which should be considered when doing this assessment are the difference in lick costs for early dry season, dry season and late dry season. The Mt Aberdeen producer demonstration site, (which was a project titled 'Improving Whole Herd Female Productivity' sponsored by DPI and MLA and others), showed that in 1999 respective costs of head per week of these different dry season licks were 33c, 41c and 50c/head/week. Stewart's figure for 5 months was \$10/hd which calculates to 45.5c/head/week or an easier figure to remember is \$2/head/month. In the Scenario we're considering, it's the first of May and we want to be confident that we can get the next calf on the ground. So we're doing our sums on feeding right through to the end of January, which is 40 weeks.

40 weeks @ .455c/week = \$18.20/head/breeder x 1,500 Breeder = \$27,300.

In addition to that we have to calculate operating costs. Again this will vary widely depending on eg.the size of your property, whether you have a square block or a long skinny block, whether roads are good or bad or there are many creeks to cross. We've assumed that it will take 12 hours per week to feed out and allowed \$40/hour to cover labour and vehicle costs, and the capital cost of troughing, (which we're allowed to write off over 10 years). Obviously this figure will vary widely between enterprises but the figure adopted will be on the higher end for most enterprises.

40 weeks x 12hrs x \$40/hr = \$19,200.

The total cost of the program is therefore \$46,500 to feed 1,500 breeders which is \$31/breeder. To put this into perspective, 160kg weaners are worth about \$2/kg landed home which is \$320/hd, which means the program will cost 145 weaners or 9.6% of the total breeders fed. The Supplementary Feeding outlined above should ensure that calving rates are maintained. In simple terms, if the seasonal conditions risk a greater than 10% drop in calving then the economics, even for an extended period of feeding, look like they stack up.

Obviously the costings set out above assume a fairly severe and extended dry season. Hopefully some relief rain would be received before the end of January which would reduce the cost of the program. Whilst many people think that a 10% drop in calving is unlikely in most years, properly recorded statistical data shows that variations in calving of this magnitude are not uncommon.

Other factors that need to be considered are obviously the cashflow implications. Consideration could be given to subsidizing this by sale of some stock which would have the dual benefit of reducing the cashflow implications and reducing pressure on pasture, but again we would have to be mindful of the impacts on future cashflow.

A quick summary shows that expenditure of \$46,000 plus interest costs (on a worse case scenario) could save you \$72,250 in a maximum of three years. This computes to a 51.8% return on investment which indicates that the interest cost associated with the investment is warranted.

### **Conclusion**

In conclusion, a) this is a breeder enterprise and it needs to be performing on a year in year out basis, b) before a decision is made what we have called 'alternatives' and 'considerations' need to be assessed, and c) having elected to Supplementary Feed, you need to assess for your particular enterprise both the cost of doing the feeding and not doing the feeding. d) There have been various trials and research done over the years, more recently a project at Swan's Lagoon which supported Producers' experience that Supplementary Feeding in isolation will not give as good as a result as a multi-pronged approach which might involve for example separating the late calving cows, early weaning, and paddock rotation in conjunction with Supplementary Feeding.

## **Scenario 2.**

A producer with a fairly common breeding and fattening enterprise is considering the possibility of turning steers off 1 year earlier. His objectives are to increase profitability, meet market demand for younger beef and secure a premium, and perhaps it's part of the big picture plan to increase breeder numbers so that he's better placed to buy more country in the future.

## **Considerations**

To achieve the objectives, complementary feeding will be required in most years, which intensifies management. As it is planned to increase breeder numbers, he will have to be prepared to do it on a year in year out basis which will have implications on available time. Additional expenditure is required to set up self-feeders and distribute feed and operating expenses will increase which will have an associated interest cost. In this scenario the cost of production will be increased on an ongoing basis which will make the enterprise more sensitive to movements in input costs and cattle prices.

## **Alternatives.**

- a) Could elect to sell cattle one year earlier and not have to deal with the tighter specifications being demanded by Meatworks these days, b) could utilize a feedlot, (this requires careful consideration as the margins are fine but it could be a method of meeting the objectives), c) move steers to agistment or share-fattening. Agistment has a cashflow implication and puts very little responsibility on the landholder, whereas share-fattening puts responsibility on the landholder and is kinder on cashflow. When looking at this option, factors such as proximity to the existing enterprise, style of management of the landholder where the cattle are to be agisted or share-fattened and locality in terms of proximity to the market need to be considered. (It is obviously not desirable to move cattle away from their eventual market as this incurs a double freight cost) d) another alternative might be to plant a forage crop or plant improved pastures such as Laeuceana.

In this scenario there are many alternatives and each should be properly considered prior to making what is potentially a significant change in management.

Today we are considering the viability of supplementary feeding not the other alternatives so we'll start with looking at the potential income which could be generated from such a regime by referring again to our Livestock Schedule.

## **The Enterprise.**

This property is running 3,500 hd of cattle or 3,993 adult equivalent, and generates annual income of \$672,500 as is shown on Year 1 of the Livestock Schedule. In Year 2 the Supplementary Feeding regime is entered into, and this allows twice the number of Bullocks to be sold in that year. Having done some homework, I have calculated that to get to a static breeder herd with steers turned off 2 1/2 yr old, breeder numbers need to be increased to 1,500hd, so additional cows and calves are bought to achieve this. This then leaves the property under-utilized so 210 weaner steers are purchased. Apart from the normal replacement of Bulls, 7 additional Bulls are required for the extra breeders. The Livestock Schedule shows that the enterprise generates an additional \$430,000 of income from sales in the first year, \$171,000 in the second year, and settles out at \$120,000 of additional income in year 3 and future years. So this side of the equation looks very encouraging. What are the costs associated with doing this?

If we assume that we wean a 180 kg weaner in May, our goal will be to have the beast put on an additional 200kg in the following 12 months so that he weighs 380kg at 18 months of age and 200/220 kg's in the following 12 months in order that he reaches our target weight of 580/600kgs in May of the following year. Obviously some enterprises may prefer to target lower weights and premiums in the EU or Korean Market, but for our exercise today we are targeting the Jap Ox Market.

To calculate what feed is required to meet our target, some assumptions need to be made. Again this will vary between enterprises however for our purposes we have assumed a weight gain of .7kg/hd/day for six months during the wet season. To achieve our required annual weight gain we need to ensure that during the dry season the beast continues to put on .3kg/day. On much of the country in Central Queensland there will be many years where a steer will achieve this weight gain on improved pastures and perhaps some urea based Supplementation. In the scenario under discussion, the herd structure has been changed with breeder numbers being increased, and it is therefore essential that steers are turned off 2 1/2 years of age. We are therefore basing the calculation on the assumption that we will have to feed for 180 days in the dry season. Depending on your individual attitude to risk and quality of your country and pastures, you will be able to adjust these figures to suit your particular circumstances.

## Calculations.

For the weaners a 1.5kg barley and 2% Urea mix, with Barley costing \$200/tonne and Urea at \$400/tonne will achieve the required weight gain. This ration will cost 31.2c/day or \$56 for 180 days. For the steers, Barley intake needs to be increased to 2.4kg and this in turn will cost 50c/hd/day or \$90 for 180 days. As we have limited time I will not calculate feeding costs during the transition phase but will move to the steady state herd which is achieved in years 3, 4, 5 as shown on the livestock schedule.

▪ Ration Costs: 579 weaners x \$56/hd + 573 steers @ \$90/hd =	\$ 83,994 pa.
▪ Additional Labour Costs -	\$15,000 pa
▪ Additional Fuel, Repairs & Maintenance -	\$10,000 pa
▪ Additional Capital Costs (eg. Feeder- written off over 10 years) -	\$ 5,000 pa
▪ Interest Allowance -	\$ 7,500 pa
▪ Additional Cost Allowance for Bulls - \$22/breeder for 220 breeders	\$ 4,840 pa
▪ Additional Cost Associated with increased Breeder numbers (Veterinary & Handling) \$15/breeder x 220	\$ 3,300 pa
<b>TOTAL ANNUAL ADDITIONAL COST</b>	<b><u>\$129,634 pa</u></b>

We now refer back to the Livestock we can see that Total Income stabilizes at \$795,600 which is an increase of \$123,100 on the current enterprise which results in a Net Loss of \$6,534.

These calculations tell us that we need to do significant fine tuning or abandon the idea. The sorts of fine tuning which might make the proposed supplementary feeding a viable alternative could be to reduce the period of feeding, use Water Medication or improved pastures or a combination of these could significantly reduce the cost of Supplementary Feeding. For eg. if feeding was only required for 3 months this would immediately convert the outcome to approximately a \$35,000 profit and this could be further improved if water medication reduced the feeding costs further.

## Conclusion

The foregoing demonstrates the importance of doing your homework on any proposal and provides a methodology for assessing the impacts on your business based on your assumptions. It is very important to be aware of both the immediate and long term impacts on your business and to never lose sight of containing the cost of production and increasing profitability.

Thank you all for your attendance Today and for your attention during my talk.

Thank you.