

MAIZE SILAGE FOR BEEF PRODUCTION — HELLABY'S, RUAWAI OPERATION

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When discussing the company's motivation into feedlot beef production there is a danger of being overly simplistic. However, it is true to say that there were two major influencing factors, namely economics and industrial relation.

ECONOMICS

Meat processing companies thrive on throughput. The industry is both capital and labour intensive and to ensure a reasonable return on investment it is essential that a plant is utilised to a maximum. This is particularly applicable to beef processing. But just to satisfy those people who have knowledge of the seasonal aspect of the South Island lamb operations let me assure you that the principle is basically the same. While the South Island plants are operating they have a throughput greater than any similar operation in the world. At times they tend to groan at the seams by maintaining a maximum kill day after day. As soon as the season ends, however, the plants shut down completely so that they do not suffer long periods with little throughput and with a comparatively large work force.

This is the essential difference between the South Island lamb works and the North Island plants which kill beef throughout the year.

An economic analysis of our operations at Shortland and Northland clearly indicated that the off-season was unprofitable and yet the company, to maintain faith and continuity with its export customers, had to maintain plants in operation for the full year. Therefore a scheme was proposed to supplement the limited number of stock being sent forward by farmers with cattle raised on our own farms.

The scheme was adopted and an initial trial at Paerata was converted into the fully fledged feedlot at Ruawai. Today up to 4000 head a year are being fed into Hellaby Northland to maintain the viability of that plant in the off-season.

INDUSTRIAL RELATIONS

For years the seasonal aspect of the freezing industry has been recognised as counter-productive to good industrial relations.

The whole object of obtaining a job at the freezing works was to earn the greatest amount of money in the shortest possible time. As a result, casual workers gained little feeling of loyalty towards the company. How could they when the company sent them down the road for half the year? Mind you, not everyone opposed the seasonal nature of the work. When jobs were plentiful, many workers enjoyed having two employers and this group have carried on with this employment pattern for years.

However, for the majority it was a life of uncertainty; never really certain that another job would be available when the freezing works closed. While everyone accepted that employment on an annual basis was the ideal, it was extremely difficult to achieve in practice.

Without intending to be critical, farmers were reluctant to produce cattle in the off-season, particularly when they could obtain a nearly equal return by finishing cattle during the season without running the risk of inclement winter weather coupled with feeding problems.

Companies did, and still do, offer premium payments for cattle in the off-season, but generally, the trouble was not justified by the return. While everyone recognised and spoke often and loudly about the need to reduce the seasonal aspect of the work, in reality there was little move away from the traditional killing season. That is until just a few years ago when increased beef numbers in the Auckland province allowed the beef house to work throughout the year at a lower capacity.

When Hellaby Northland began operation in 1971, the company was determined to offer all the workers full employment throughout the year. Northland cattle numbers were increasing faster than the national average and this provided the incentive to implement the plan.

The company recognised that it could not force farmers to produce off-season stock, but was hopeful that if it set the example others might follow suit; so here was another reason for entering the feedlot business. The end result in terms of offering steady employment has been a success.

As a side benefit, supplementing the Hellaby Northland operation from Ruawai has meant that cattle which might have been sent to Whangarei are handled at Shortland and now the beef house there operates throughout the year, even though for some months the throughput and manpower is below full capacity. The result is a more harmonious workforce and the ability to satisfy the needs of our export customers.

We hope that our experience at Paerata and Ruawai will influence producers to increase the ratio of off-season cattle, but we realise that this requires a long-term educational programme in both attitude and technique.

FEEDLOT DESIGN

The feedlot has been designed for a total capacity of 2,600 head with a throughput of around 4000 head in 6 1/2 months, which gives the cattle about 90-100 days on feed. The roof is built of poles with an iron sheath, the floor being constructed of concrete which is 20ft wide, 12ft of this being slatted. Each pen is 50ft long and will hold 50 cattle which are fed in a feed trough running down one side of the pen. The trough is filled with a self unloading forage trailer.

The feed is mainly maize silage with an addition of 45 gm urea/head/day added at loading.

Two men can service the feedlot, including feed and water care and the removal of solids from the hydrasieve.

Effluent disposal has been very successful. Recycled water from the last treatment pond is used to continuously flush the drains under the slatted floors. The effluent then passes over the hydrasieve which removes all solids over 0.25 mm, then into the first of

four treatment ponds which total over 3 ha. The contents of the last three ponds are used for irrigation in the summer months.

A considerable amount of undigested grain comes off the hydrasieve and we are experimenting with feeding this to pigs and cattle.

CATTLE FEEDING

This year we are looking at the economics of liquid protein supplement and trying it out as follows:

Three pens of Friesian steers, 50 to a pen, were selected at random from two mobs of cattle reared from boby calves under the same conditions on our own farm. To date (83 days on trial) with 17 days to go, the results are as follows:

Treatment	Starting weight	Daily gain
1. 0.75 daily Agrifeed and maize silage	342 kg	1.1kg
2. Maize silage plus urea	337 kg	0.92 kg
3. Maize silage only	345 kg	0.52 kg

Silage is fed to appetite all day, leaving the feed trough one-third full at the end of each day. This is always empty next morning, so all groups of cattle should receive the same amount of feed.

The Agrifeed at 14.4 cents daily is not an economic proposition at present beef prices.

Previously, growth rates on this basic feed of maize silage plus urea have averaged about 0.8 kg a day, this varying according to the condition of the cattle when they go into the pen.

FORAGE PRODUCTION

Six hundred acres of maize was grown this year for silage, harvested at an average of approximately 32% DM and stored in a concrete floored pit. The maize was sown in (0.75 m) rows from 6th October to 24th December, with starter fertilizer (N:P:K, =14:14:8) applied at 185 kg/ha.

This large acreage and a delayed start to planting caused by patches of wet soil reduced the yield of the last paddock sown to half that of the early sown crops. Next season we will use contractors as well as our own equipment to get the area planted faster. We would prefer to get it all planted in November, because black beetle problems are much less than with crops planted in October.

Weed control with Lasso and Atrazine was not good. Furadan, Parathion and Dasanit were used for insect pest control at establishment and there did not seem a great deal of difference between products. We sprayed approximately 180 ha to control a serious cutworm problem and a similar acreage to control a less serious army worm problem later in the season.

It is our experience when harvesting, that a high powered tractor and a screen in the harvester helps crack the kernels and we feel that this is important from a digestion point of view.

Cost of growing the maize is about 2.65 c/kg at the feed bunker. I do not need to tell you that this is not a profitable way to feed cattle at the present time. With our service charge and feed cost we would need a schedule of 70 c/kg to break even, but there is a further profit in the upgrading of the cattle with this type of feed. We are finding that manufacturing type animals can be improved to F.A.Q. and some cases G.A.Q. if they are on full feed for 90-100 days.

However no matter how cattle are housed or yarded, the system does have a great deal of merit where a farmer has a property that is unsuitable for wintering cattle. The fact that he gets his cattle off the paddocks will also prove profitable because his established pasture can be preserved. He could also buy his store cattle in the autumn when they are traditionally cheaper, instead of buying expensive stores in the spring.

FUTURE

It is really too early to evaluate the full potential of the Ruawai feedlot project, but with the low values being received for cattle, we are in exactly the same position as all other producers in the country.

However, we can say that we do have confidence in the philosophy behind the feedlot project and if results come up to expectations then there must be pressure to expand further in this direction.

Feedlot producing requires a large capital investment and in the interests of our shareholders and producer clients we would need to see a return on this capital before embarking on the next stage.