

# Maintaining calf growth rates over summer key to closing supply gap

Dr Paul Muir

With parts of the East Coast of both islands yet again in the grip of a drought we are again faced with the problem of feeding weaned calves.

Most Friesian bull calves are reared in spring simply because this is when they are available. These then have to be sold in late spring because most rearers have small blocks and need to get rid of them. However, many finishers now hold off buying calves until autumn because of poor calf growth rates over summer and feed availability.

This means there is an obvious gap in the supply chain between when calf rearers need to sell their calves (late spring) and when finishers want to buy (early autumn). This leads to a weak market, lower prices and is one of the reasons why more and more calf rearers are exiting the industry or looking to rear on contract. As more and more calf rearers turn to contract rearing fewer of these spot market calves are going to be available in autumn. Those who want bulls in their farming systems will increasingly need to find ways to feed calves through the summer.

Feeding of weaner bulls over their first summer is always difficult as although these

calves might be 100kg in November they still have a relatively small rumen. It might be well developed but it just isn't big enough to fit in enough low quality feed to meet their needs for growth. This is particularly the case in summer dry areas. In a typical Hawke's Bay summer at Poukawa, Friesian bull calves average 0.55kg/day but grow even slower than this if it is really dry as has occurred in the last couple of years.

Autumn born calves are only three months older but can average 0.77kg/day under the same summer conditions. Autumn born calves have the benefit of an additional three months on good quality grass and they have a larger rumen so they are better able to handle the lower quality summer feed. This means that by the end of February, autumn born calves are around 90kg heavier than their spring born counterparts. At 250kg, these calves have a real point of difference—they are virtually guaranteed of being killed before they are two years old. Whilst technically these calves have gone through two winters, the reality is that for the first winter they were fed milk and meal and very little grass. However, the number of autumn reared calves is limited so when these are not available better ways of feeding spring born calves are needed.

So how do we keep these spring born calves growing and just what is possible?

We have undertaken a number of trials over the years, much of it with funding from Meat & Wool NZ. We would expect calves on summer pasture to average around 0.57kg/day but this assumes some green in the pastures. At a pasture cost of 10c/kg DM, the daily cost is around 40c/day. We know that summer



growth rates of 1.35kg/day are possible and have achieved this in 150kg calves fed solely on high octane pellets containing high quality by-pass protein and lucerne hay. But these sorts of diets are prohibitively expensive.

Over several years, we have examined the feasibility of slightly cheaper options. We have found in a moderately dry summer when some green was present in the pasture we could lift growth rates from 0.57kg/day to around 0.72kg/day by supplementing with 1kg of crushed barley (25% of their ration) at a total daily feed cost of 70c. Under drier conditions where little or no green pick was available the amount of supplement required was increased.

Feeding 1kg of crushed barley and 1kg of palm kernel (50% of their total ration) lifted growth rates to 0.8-0.9kg/day at a daily ration cost of 90c. Thus the cost and amount of supplement fed depends on how dry the summer is and quality of the feed available.

While these supplementation options provide the ability to turn the supplementary feed off and on as needed, they are not the cheapest option.

Planting a brassica crop is probably the most cost-effective way of ensuring good calf growth rates in a summer dry area. The cultivar needed is one that can be grazed early yet is capable of carrying a bulk of feed into the summer when it gets dry.

Our experience is that forage rapes provide the best fit. We have run two trials where Winfred rape gave good calf growth rates, produced in excess of 5000kg DM/ha and gave no animal health problems when crops were grazed 85 days after sowing.

As with all brassicas, calves (and lambs) need time for the rumen microbes to adapt to what is a complete change of diet. This means that growth rates will be slow for the first three weeks after calves are introduced to a crop.

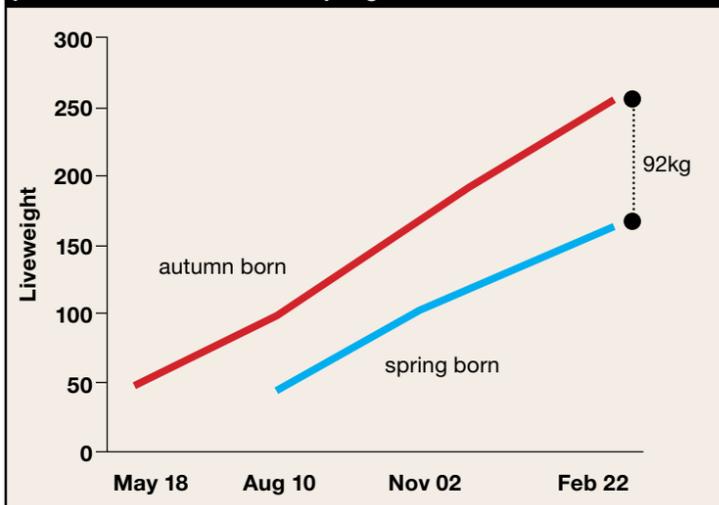
Over two experiments, calves on Winfred averaged 0.8kg/day over the first three weeks and 1.1kg over the second three weeks. To achieve this level of performance, calves need to be rotationally grazed and moved once they have eaten the leaf off the crop. If they are pushed to graze into the stem they will grow slower and brassica re-growth will be compromised.

On a crop of 5000kg DM/ha, calves could be stocked at 10/ha and rotationally grazed for a period of 12 weeks. Assuming an overall growth rate of 0.9kg/day, each hectare of brassica would generate around 740kg of liveweight gain (74kg/calf over a 12 week period). Assuming a cost of \$300/ha for spray, sowing, seed and fertiliser, the daily feed cost was 36c and about 40c/kg of liveweight gain. This calculation places no opportunity cost on the land and assumes that it is land earmarked for pasture renewal in autumn. There will also be a residual value in the stems which will need to be grazed by other stock when the calves have finished grazing. While a brassica crop provides the cheapest option for summering calves, it requires planning and having suitable land.

There are viable options for achieving good calf weightgain even in summer dry areas. However, it is important to plan how these growth rates are going to be achieved. While the cheapest option is to plant brassicas, early purchase of supplements, although dearer, can be a feasible alternative. Having a range of options available will help close the gap in the supply chain between when rearers need to sell calves and the availability of autumn pasture.

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performance of autumn and spring born Friesian calves



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