

Rearing Quality Heifers – Then Watch Them Milk

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Introduction

The proof of a quality rearing system is having well framed heifers that milk well and get back in calf to begin their second lactation in a timely fashion. The two constraints placed on all of us who rear our own replacements are expense and time.

We are here to explain our heifer programme which, to date, has given us good results in heifer competitions: second by one point in the South Island final 2003, and resulted in heifers averaging 415 kg MS and 3+ year olds averaging 500 kg MS.

Our hope is that you can take something from our experiences and get results from your heifer rearing programme.

Farm setup

Lloyd and Anne Wilson moved from the Waikato to Southland in 1997. Fred was employed in 1998 and worked for two seasons as herd manager, and for the last three seasons has been Farm Manager, and he and his wife Sarah now have an equity share in the farm. All three of us play major roles in the rearing programme. Lloyd calves the cows and identifies calves, Anne rears calves until weaning and Fred manages the stock through. Of course all these tasks do overlap.

Our farm is located in Drummond, Western Southland. It covers 240 hectares, is self contained and this includes a 40 hectare runoff 10 kilometres away. We milk 425 registered pedigree Jersey cows of mostly American and overseas genetics, approximately 10% Livestock Improvement Bulls are used and we carry 300 replacements. Most of our supplements are made on the farm (including the runoff) but we usually buy in straw and some hay.

Calf Rearing

Vaccination of cows

Our programme begins with vaccination of the cows for salmonella + Brandenburg and rotovirus. Our reason for this is to increase the level of antibodies in the calves at the earliest opportunity. Since an outbreak of salmonella 10 years ago when 40 calves were lost, it has been viewed as cheap and effective insurance. Rotovirus is a huge problem in New Zealand. The disease itself would not be such a problem but it also debilitates the immune system so much that other diseases can take effect, with often devastating results.

Colostrum

The cows are calved down in converted covered yards. The calves are then fed as soon as practicable with 2 litres of first milk colostrum, again placing the building blocks for a strong immune system. Calves are identified and navel sprayed with strong iodine tincture. Calves are removed from their mothers when they go for their first milking (twice daily). Their second feed is also first colostrum.

Calf Population

Calves are first housed in a warm, draught free shed on sawdust bedding. They stay here for practical reasons, until they can self feed. When they are feeding strongly the heifers go to permanent housing and the bulls go to run bull rearers.

Calf housing is various converted haybarns around the farm that have been cleaned out, virus sprayed and have had clean sawdust laid. The sheds are open to the sun and protected from the wind. Pens are 4m by 6m with 10 calves in each. In the past, 15 calves were reared in each pen but after having problems with rotovirus and speaking to animal health professionals and other farmers who have had problems and overcome them, it was decided the biggest common factor was calf population. Increasing the calf population by half does not increase the disease challenge by half, it more than quadruples it. A calf's worst enemy is another calf because another calf allows the disease challenge to multiply faster than its own immune system can develop.

Milk Feeding

Calves are fed 2 litres of colostrum twice daily for a month to weeks depending on the calves, then 2 litres once a day. This encourages a higher hard feed intake prior to weaning.

Hard Feed

Straw and high protein meal with Rumensin® are available from day four (when calves go into permanent pens). The aim of this is to maximise the speed of rumen development and reduce the cost of rearing.

Water

The calves have access to fresh clean water from when they go to permanent pens. This is important for animal health and maximising intake of hard feed.

Patience

Throughout this initial period calves are treated with patience and care and are carefully observed. Problems are dealt with immediately with a focus on prevention rather than cure.

Transition to rising one year old

Grass

When the calves are eating a good volume of hard feed and the weather is right, the gates to the pens are opened and the calves get free range of a recently grazed paddock. Two to three days prior to this their diet begins to change to a cheap low protein meal with a coccidiostat in it (rumensin). Ad lib hay/straw is continued. One litre of milk per day is still fed until the calves are ready to be weaned. Weaning is done by calf condition and is again weather dependent. Underfed calves are no good as poor nutrition leads to disease and undergrown, under producing cows. Overfed calves also grow into under producing cows as they build up fatty tissue around the udder, especially pre puberty. The resulting udder will look like a beef udder and milk like a beef udder. The aim is to grow a good frame without laying down too much fat. Getting the balance right is important right through to becoming a milker. The key to this is constant liveweight gain and no checks. Putting fat on heifers is therefore expensive in two ways.

The calves stay in this paddock for up to six weeks then they are either rotated around the farm or are set stocked and fed meal and hay. This works out to be slightly cheaper than grazing out, without taking transport costs or travelling into account and allows us to maintain control. This is similar to the Australian system. Visiting Australian dairy farmers regularly, we have found they do a great job of rearing calves. Due to the courage and foresight of the Australian government and dairy industry addressing the problem of Johnes disease, regulations require that calves must be reared on paddocks where no cows have been for two years (two years under crop) for the first six months of their lives. Farmers were not keen to do this but have found it to be cheaper, easier and better. Due to a feed shortage we did it this way last season and it worked well.

Worm Drenching

Our major problems are cooperia worm and lung worm. Calves are first drenched when they are let out of their pens, then regularly until 15 months of age and then as required.

Vaccinations

'7 in 1' twice around weaning then BVD twice in late summer. Calves are given a leptospirosis booster and salmonella booster at the start of their first winter and every winter after that.

First winter

No Crops, pad shelter

Yearling heifers go onto a pad with plenty of shelter and get ad lib silage and hay. At the end of the winter, to improve growth rates, a small amount of crushed barley is fed.

Observation

Watch for any animals which are not doing well and remove them to grass.

Flushing

Follow milkers

On leaving the pads the heifers follow the milkers on a rising plane of nutrition until the end of mating.

Minerals

The heifers get minerals through the water supply while on the milking area, especially fertility associated minerals.

Worm drench

Final planned worm drench at start of mating to ensure no checks.

Transition of heifers into milkers

Early winter

Similar to the first winter with silage and hay.

Pre-calving

Start feeding low protein feed to maximise intakes and avoid udder odema. Teat spraying is carried out and, if necessary, pre-milking.

Post calving

New cows

Continue transition feeding. Focus on individual animal health, treating problems early to avoid ketosis. Aim to get new cows eating and producing in a settled routine.

Summary

The aim of our heifer rearing system is to grow well framed replacements that produce to their genetic potential at an acceptable cost. Then watch them milk. Our processes are

successful; we rear well framed heifers which produce. There are no shortcuts. Our process relies on

- a patient, dedicated calf rearer
- a refined and adaptable feed plan
- constant focus on individual animal health
- observation by stock focused farmers.