Production and Sale of Colostrum: is it a Viable Proposition?

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THE FARM AND FARMING PRACTICES

Our farm is just 6 kilometres east of Shepparton in the Goulburn Valley, Victoria. When I first started farming after leaving school we milked about 60 cows in a 4 unit (8 cow) walk through shed as well as running a few beef cows on our 80 hectare. This year, with our two sons now working on the farm we milked 360 cows on a pasture area of 86 hectares through a new 50 unit rotary dairy. Next year our pasture will expand to 96 hectares and our herd numbers to 400. Our whole farm has been lasered and laid out to automatic flood irrigation. We seasonally milk with a concentrated calving pattern from August 20 through until the end of September. All cows are dried off by the first week in July.

Cows are rotationally grazed around the farm’s two-hectare paddocks of perennial pasture, which are irrigated from the end of September until mid April. Pasture is sown in the Autumn after the paddocks have been lasered. Varieties consist of Waverly, Kopu and Victorian irrigation White Clover at a total rate of 5kg/ha and Vedette, Dobson, Banks and Aries perennial rye grass at a total rate of 20kg/ha. The seed is sown in many cases dry, with either a power harrow or baker boot machine with the seed dropped on top of the paddock, followed by harrows. Paddocks in most cases are only lasered and sown once, but good practice is to oversow about every five years with the newer varieties of rye grasses. Paspalum is rarely sown but comes into the pasture itself over a few years. Our utilised dry matter has been calculated by the local Dookie Agriculture College at just 12 tonnes/ha. We feed crushed triticale in the dairy at the rate of 900-1000kg/cow/season. Hay is conserved on both properties and is fed to the cows during Autumn and Winter when pasture growth is slow. Herd recording and artificial breeding have been used since its commercial availability in the 1960’s. We keep and rear all our heifer calves, which are grown out on our other property some 15 kilometres from home. Our water use for both farms this year was 1000 megalitres.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cow numbers</th>
<th>Litres milk</th>
<th>Kg. bf</th>
<th>Kg.protein</th>
<th>c/litre</th>
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<tr>
<td>1997/98</td>
<td>240</td>
<td>1,130,000</td>
<td>53,792</td>
<td>38,514</td>
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<td>1998/99</td>
<td>320</td>
<td>1,520,000</td>
<td>70,125</td>
<td>51,955</td>
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<tr>
<td>1999/00</td>
<td>360</td>
<td>1,950,000</td>
<td>90,000</td>
<td>70,000</td>
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<tr>
<td>2000/01</td>
<td>400</td>
<td>2,150,000</td>
<td>100,000</td>
<td>78,000</td>
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THE OPPORTUNITY TO COLLECT AND MARKET COLOSTRUM

In the light of falling returns from manufacturing milk and with the need to maintain cashflow, we replied to a newspaper advertisement regarding the supply of colostrum. The people wanting the colostrum were Northfield Laboratories from South Australia. They preferred a tight calving pattern and a minimum herd size of 200, which would give them a short season and reasonable pick-up volumes. Normal quality criteria had to be met including temperature and minimum protein level of 5.6%. Payments varied from 60c to as high as $2.00 a litre depending on the protein %. Our budgeted gross return from the colostrum in the first year was $5000). Having satisfied ourselves that we could meet these conditions and that we would gain a reasonable return we also had to consider the following:

S. Separate storage for the colostrum.
T. Sorting the milk.
U. Identifying colostrum cows.
V. Colostrum for calves.
W. Educating ourselves regarding colostrum quality.

These questions were resolved simply as follows:

- A good second hand operating bulk vat was purchased exclusively for the colostrum. Northfield offered a subsidy of 20% or $800 of the purchase price of a suitable storage vat.
- The cows were milked in two separate herds, ie. all freshly calved cows were kept separately from the main herd for a minimum of four days. An air purge was installed on the milk line in the dairy.
Within this fresh herd, we used a very basic system to allow identification of the freshest cows for the colostrum collection. Using a pressure pack marker, we printed on the cow’s udder, the unit number of the date on which she entered the herd. This allowed us to milk this herd as two separate groups. Cows always entered the herd prior to the evening milking and were milked into the colostrum vat for four milkings. The milk line was then air purged and the second group was milked for the calves.

All cows were calved down on an enclosed rice hull pad. This enabled us to closely monitor newborn calves first drink of colostrum, which is vital for their well being. If there is doubt, a stomach bottle of stored colostrum is given to them.

Northfield Laboratories supplied us with a hydrometer, so we educated ourselves by testing individual cows and also the total milk in the colostrum vat. We worked out from this that we could collect the first four milkings from each cow.

Northfield supply staff are readily available to answer any queries we might have. Bonlac Foods are contracted by Northfield Laboratories to collect the refrigerated colostrum from farms every second day. It is then taken to a local cold storage facility where it is snap chilled to insure it does not get above 4°C on its journey to Adelaide. Here it is manufactured into a powder which when mixed with water is consumed by athletes for energy. We are told the best example is the Adelaide Crows AFL football team who consumed the drink the year they won the Grand Final. They did not drink the colostrum last year. They did not win the Grand Final last year.

CONCLUSIONS

Our simple system worked to our satisfaction returning us an average of 78 cents per litre at an average protein test of 5.82%. Our gross returns were just short of our targeted $5000; break even after allowing for capital expenditure on the vat and air purge.