



Northland Agricultural

RESEARCH FARM (INC)

Autumn vs Spring Calving Trial

A 3 year trial (1997 to 2000) was undertaken at NARF to compare all autumn calving with spring calving. This farm is very winter wet and is a real test for the totally autumn calved system

The results showed the premium for May to July needed to be 90 cents/kg milksolids for autumn calving to be as profitable as spring calving. Profitability of the autumn calving system was very sensitive to the winter milk premium and the cost of supplements imported.

RESULTS

	AUTUMN	SPRING
	3 Year Av	3 Year Av
Area (ha)	32	32
Cows	76	96
Stocking Rate	2.38	3.0
MILK PRODUCTION		
(kg) MS		
Total	27661	29942
Per Cow	364	312
Per Ha	864	936
LACTATION DAYS	285	257
PEAK MILK		
Kg msol/cow/day	1.55	1.72
SUPPLEMENTS USED		
(kg DM/cow)		
Maize Silage	737	183
Grass Silage	406	63
Hay	8	111
Meal	42	0
Squash	0	21
Total T DM/cow	1.19	0.38
NITROGEN (kg N/ha)	129	167
GRAZING		
Estimate	0	250

The autumn system used no grazing, less nitrogen but more silage than spring calving.

The autumn herd peaked lower than the spring herd but had more lactation days and a slightly higher daily milksolids over the lactation.

In 1999/2000 the spring herd was split for the maize silage trial and so the level of maize feeding is an average of the nil and plus maize sub herds.

FINANCIAL COMPARISON

	AUTUMN	SPRING
	3 Year Av	3 Year Av
DAIRY INCOME		
Payout \$/kg MS	3.96	3.41
Winter Premium \$/ha	496	*
Milk \$/ha	3443	3190
Net Stock	<u>348</u>	<u>270</u>
Total Income \$/ha	3791	3460
DAIRY EXPENSES		
Cow Costs \$/cow	134	121
Feed Costs \$/cow	296	184
Land Costs \$/ha	545	589
Overheads \$/ha	240	240
TOTAL EXPENSES \$/ha	1808	1744
CASH SURPLUS \$/ha	1983	1716
Adjustments (Wages, Deprecn)	659	619
ECONOMIC FARM SURPLUS	1324	1097
Difference	+227	
Expenses/Income	48%	51%
Costs/kg MS	2.10	1.87

Some costs were not monitored separately and have been equally apportioned to the systems.

Note that the EFS for the spring herd in 1999/2000 would have been about \$60/ha higher if the maize silage benefits had not been averaged across the nil and plus maize sub herds. In turn this would reduce the 3 year advantage to the autumn system by \$20/ha.

SENSITIVITY ANALYSIS

The major factors affecting the profitability of an Autumn system are:

- a) Winter Milk Premium
- b) Cost of Supplements

Winter Milk Premium

The table shows the effect on profitability of differing levels of premium.

Premium \$/kg MS	Advantage
1.00	32
1.25	107
1.50	182
Actual	227

Cost of Supplement

Cents/kg DM	Advantage to Autumn \$/ha
10	364
15	276
17.8	227
20	188
21.4	164
25	100

(3 year average maize cost 17.8 cents/kg DM)

Autumn Calving In Practice: Northland Experience

A survey was conducted by Northland Dairy Company of both split and conventional spring calving farms to compare performance. The following are the results :-

Table: Production statistics – Average of first and second year split calving farms

	Split calving	Spring calving
Milking Area (ha)	119	90
Total Cows	275	192
Stocking rate (/ha)	2.33	2.14
Milk solids /cow (kg)	251	238
Milk solids/ha (kg)	586	508

Table 2 Feed comparison of split calving with spring calving farms

	Split calving	Spring calving
Nitrogen (kg/ha)	75	46
Meal (t)	15	2.8
Hay (bale equi)	1190	1079
Grass Silage (t)	102	30
Maize Silage (t)	80	8
Greenfeed crop (ha)	1.1	0.2
Grazing off /100cows (weeks)	4.5	1.5

Table 3 Financial Comparison

	Split Calving	Spring Calving
Feed, N and grazing \$/cow	137	84
Feed, N and grazing \$/ha	320	179
Extra income for split calving	38 135	
Extra cost for split calving	13959	
Cash surplus benefit	24176	

Conclusions

Split calving farms are larger and produce more milk solids per cow and per ha than spring calving farms. They also spend more money on feed, nitrogen and off farm grazing which should be offset by a winter premium for a split system to be viable.