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Dairy Newsletter

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NY Dairy Farm Business Summary 2005

Each year, Cornell Cooperative Extension collects dairy farm business information from producers across New York State. The table below shows selected business factors for 74 herds with 300 cows or more. The first column is the average for these 74 farms and the top 20% column are data for herds with the highest rate of return on all assets without appreciation.

In general, 2005 was a profitable year for these producers. The average rate of return on equity without appreciation was 9.2%, while the top producers earned 18.4%.

There is no single item that stands out to indicate what makes some dairies more profitable than others. The top 20% of producers had about 110 more cows, sold more milk per cow and per worker and had lower costs than the average dairy. Top producers also had lower capital investment per cow ($6,335 vs. $7,040) and lower machinery and equipment investment per cow ($980 vs. $1,203) compared to the average producer. Feed cost per hundredweight of milk sold was lower for the top 20%, but this was partly due to higher milk production per cow, in fact total feed cost per cow was only $26 less for the top producers. There was a much larger difference in labor and machinery cost per cow ($75) than there was in feed cost between the top producers and the average producers.

These NY dairies were profitable in 2005, however, less so than in 2004 because of somewhat lower milk prices in 2005 vs. 2004 (a record year for milk prices). The most profitable producers milked more cows, produced more milk per cow, and controlled costs, and made better use of capital than the average producer.

The producers who participate in this survey do so voluntarily; therefore they may not represent a random sampling of all herds in NY.

Selected Management and Financial Characteristics of 74 Large NY Dairy Farms 2005[1]

Item	Average	Top 20%[2]
Number of cows	711	821
Worker equivalents	16.1	17.7
Milk sold/cow, lb	23,721	24,347
Milk fat/cow, lb	848	882
Milk protein/cow lb	702	728
Milk sold/worker, lb	1,049,357	1,129,147
Hired labor/cwt	$2.82	$2.62
Hired labor % of milk sales	17.7%	16.6%
Purchased feed % of milk sales	26%	24%
Purchased feed/cwt	$4.13	$3.93
Feed and crop expense/cwt	$5.15	$4.91
Total farm operating cost/cwt	$14.63	$13.79
Interest cost/cwt	$0.64	$0.53
Farm capital/cow	$7,040	$6,335
Machinery & Equipment/cow	$1,203	$980
Asset turnover ratio	0.66	0.76
Gross milk sales/cwt	$15.93	$16.30
Dairy cattle sales/cow	$252	$267
Dairy calf sales/cow	$67	$55
Labor and mgt. income/operator	$111,199	$238,373
Rate of return on equity w/o apprec.	9.2%	18.4%
Rate of return on all capital w/o apprec.	7.5%	13.4%
Debt/cow	$2,901	$2,286
Debt to asset ratio	0.40	0.35

[1] Dairy Farm Business Summary New York Large Herd farms, 300 cows or larger, Karszes et al. 2005. E.B. 2006-03. Dept. Appl. Econ. Man. Cornell Univ. Ithaca, NY

[2] Top 20% based on rate of return on all assets without appreciation

Economic Value of Pregnancy in Dairy Cattle

De Vries (J. Dairy Sci. 89:3876-3885) used a bioeconomic model to estimate the value of pregnancy in dairy cattle. The effects of stage of lactation, stage of gestation, lactation number, milk yield, milk price, replacement heifer cost, probability of pregnancy, probability of involuntary culling, and breeding decisions were considered. A general Holstein herd in the United States was used as the model. The average value of a new pregnancy was $278. The value of the pregnancy increased with days in milk in early lactation, but decreased with days in milk later in lactation. The average cost of a pregnancy loss (abortion) was $555. As would be expected, the later in gestation the loss occurred, the higher the cost. Sensitivity analysis showed that increased probability of pregnancy, an increased persistency of milk yield, and smaller replacement heifer cost had the greatest impact on reducing the value of a pregnancy. The value of pregnancy was actually negative for high producing first-lactation cows when persistency of lactation and probability of pregnancy were increased. Breeding was delayed when the value of pregnancy was negative. Changes in milk price, absolute milk yield, and probability of involuntary culling had less effect on the value of pregnancy. The value of pregnancy and optimal breeding decisions for individual cows were greatly dependent on the predicted daily milk yield for the remaining period of lactation. An improved understanding of the economics of pregnancy may show the importance of getting cows bred and assist in breeding decisions.

Feeding calves in cold weather

If you read the popular press, you have seen several articles on the need to increase the amount of milk or MR fed to calves during the cold. The tables in the articles are based on the 2001 NRC calf model using the temperature adjustment factors. So as one inputs a temperature that is colder, the model increases the energy requirement for the calf, and thus increases the amount of milk or MR needed to meet that energy requirement. If the calf was maintained in a cold room with no bedding (i.e. on rocks or concrete), the outputs from the model are close to correct. So, the theory is all well and good. However, under good management the calf would be heavily bedded with straw, dry, and out any drafts. Its micro-environment is not as cold as the macro-environment that it is in.

We have done two cold weather trials looking at the effect of bedding type and amount of MR fed (average temperatures based on temperatures recorded hourly for 56 days were 21 ºF). In each, the bedding type was much more related the calf performance than the amount of MR fed. Straw bedding (~150 lb per calf over 56 days) resulted in more calf gain (9.0 lb with a conventional MR program and 4.6 lb with the Pinnacle MR program over 56 days) than did dried, hardwood shavings (~175 lb per calf over 56 days) as bedding in 4 by 8 foot pens over gravel in an unheated barn. As the amount of MR was increased calf gain increased during days 1-21, however, starter intake was depressed. This combined with poor feed efficiency during days 43-56 resulted in no difference in calf weight by day 56 or calf gains from day 1-56 because of MR amount fed.

In cold weather, bed heavily, use straw if possible, and make sure the calf is dry and free from drafts. If you choose to increase the amount of MR fed, do not exceed 1.3 lb of a conventional 20-20 MR or 1.8 lb of Pinnacle MR, so not to depress starter intake and utilization. Only increase to these amounts of MR for the first 2-3 weeks of the calf's life. Feed the recommended rates of 1 lb of a conventional MR and 1.5 lb of Pinnacle MR from 2-3 weeks of age to weaning.

Do not feed hay to neonatal calves

I think we all know this, but do we all practice what we know. We recently fed 0, 2.5%, and 5% chopped grass hay (16% CP and 51% NDF on a DM basis) with an 18% CP (as-fed basis) starter to calves fed Pinnacle MR and weaned at 28 days. Calf gain declined linearly from 1.41 to 1.17 lb/day and starter intake declined linearly from 2.44 to 2.05 lb/day from days 1-56 as the amount of hay fed increased. Efficiency of gain got worse as the amount of hay increased. Even when feeding small amounts of good quality hay before and just after weaning, calf performance was compromised.

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