

Dairy Sense: Keeping the Dairy Right Sized

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Image by Gerd Altmann from Pixabay



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Production perspective:

Dairy operations need to be “custom tailored” to the resources available as there is no cookie cutter approach to managing the business. However, regardless of the dairy's herd size, there is one key theme that applies to everyone, a land base that matches the number of cows and heifers in the herd. Examining cash flows from 2019, dairies ranging in size from 40 to 1200 milking cows were struggling with inadequate forage inventory. The acreage owned and rented does not match the forage needs of the herd. The result is excessive feed costs from purchased forage and grain and breakeven costs exceeding \$22.00/cwt for the dairy enterprise. To be competitive in today's

economy requires a land base right-sized for the dairy herd including cows and heifers.

A rule of thumb for dairy operations is 1.5 to 2.0 acres per cow, which includes the youngstock. Even on herds utilizing custom heifer raisers, acreage may still be limited for the cows and the reduced heifer numbers raised on the home farm (Table 1). This is not a sustainable model and the cash flow plans are reflecting costs that are too high and not competitive. Last year in 2019, several challenges negatively impacted herd performance and are possibly going to derail any chance of improvement for 2020.

Forage quality, both corn silage and haylage, were not the best due to lower than ideal fiber digestibility. This has been reflected in lower milk production than expected and as a result lower milk income. Due to rainfall at undesirable times last spring, quantity of small grain silage was compromised, and corn was planted very late. Even though most farms are utilizing double cropping as a forage source, the yields were extremely low. The tonnage for small grain silage on an as fed basis ranged from 2 to 10 tons/acre. Farms that are doing a good job typically are in the 6 to 8 tons/acre range. The farms with extremely low tonnage have extremely high unit costs. In most cases, the small grain silage was harvested late, and quality was not ideal for lactating cows.

Another common thread observed on herds of all sizes relates to heifer numbers. With the popularity of sexed semen and the low prices for cattle, more heifers are staying on the farm. This is turning into a liability because they require feed, which is draining the limited inventory. When evaluating heifer rations for the cash flow plans, it is no coincidence forages needed are not matching the forages purchased. Heifers are being short changed due to cash flow issues.

Drilling down further, age at first calving is being extended beyond the recommended 24 months. The percentage of first lactation animals is getting close to 50 percent of the milking herd, when the range should be around 38 to 40 percent. First lactation animals do not perform to the level of mature cows and are another liability to the herd because of reduced milk income.

Profitability relies on having a solid foundation from which to build. Emphasis is usually on forage quality, which is important, but quantity probably is the more significant factor in many situations. Relying on purchased forage and grain to compensate for inadequate or inefficient home raised feed production is a formula for disaster. This coupled with a large heifer inventory is putting a strain on the whole farm system. The best way to determine severity of the problem is to do an intensive cash flow assessment including numbers from both the financial and production side of the operation. Now is the time to determine the best course of action to take advantage of an improved milk price for 2020.

Table 1. Animal units compared to acreage harvested for crops (owned and rented land) for an Amish producer.

| Animal | Number | Bodyweight, lbs. | Anim |
|---------------------------|--------|------------------|-------------|
| Milk cows | 44 | 1300 | 44.0 |
| Dry cows | 7 | 1350 | 7.3 |
| Calves < 6 months | 5 | 250 | 1.0 |
| Heifers 7 to 12 months | 5 | 600 | 2.3 |
| Heifers >12 months | 10 | 900 | 6.9 |
| Horses/mules | 12 | 1100 | 10.0 |
| Total animal units | | | 71.5 |

Total animal units: 71.5

Total harvestable acres: 57.0

Acres per animal: 1.25²

Note: A custom heifer raiser is used for some of the replacement animals.

¹The milking herd average bodyweight is considered the standard bodyweight of 1.0. Example: dry cow bodyweight of 1350 divided by 1300 equals 1.038 times 7 dry cows equals 7.3 animal units.

²Recommended acres per animal is 1.5 to 2.0.

Action plan for evaluating the whole farm system

Goal – Complete a cash flow plan for the whole farm

Step 1: Using Penn State Extension's Excel spreadsheet, complete a year end analysis for 2019 on both a cash and accrual basis.

Step 2: Compile income for the dairy and other sources including crop sales or other farm income (custom work, hogs, birds etc.).

Step 3: Compile expenses for the dairy, crops, feed, overheads, family living, and loan payments including principal and interest.

Step 4: Include accounts payable. The usual areas are feed, seed, fertilizer, and vet expenses.

Step 5: Work with the appropriate consultants to discuss the farm's breakeven cost comparing the whole farm to the dairy and crop enterprises.

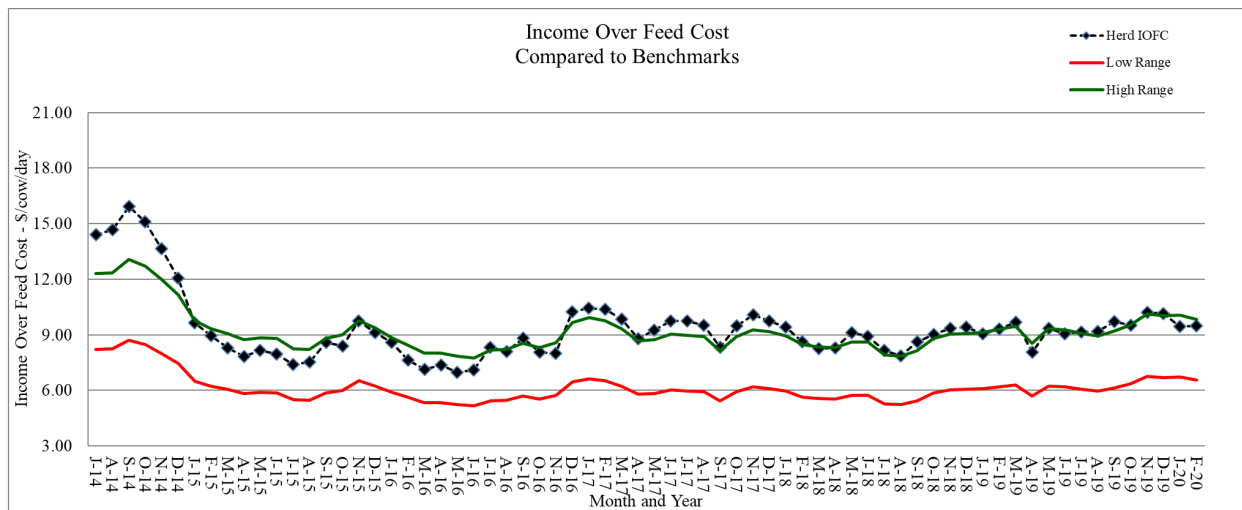
Economic perspective:

Monitoring must include an economic component to determine if a management strategy is working or not. For the lactating cows, income over feed cost is a good way to check that feed costs are in line for the level of milk production. Starting with July

2014's milk price, income over feed cost was calculated using average intake and production for the last six years from the Penn State dairy herd. The ration contained 63% forage consisting of corn silage, haylage and hay. The concentrate portion included corn grain, candy meal, sugar, canola meal, roasted soybeans, Optigen and a mineral vitamin mix. All market prices were used.

Also included are the feed costs for dry cows, springing heifers, pregnant heifers and growing heifers. The rations reflect what has been fed to these animal groups at the Penn State dairy herd. All market prices were used.

Income over feed cost using standardized rations and production data from the Penn State dairy herd.



Note: February's Penn State milk price: \$19.29/cwt; feed cost/cow: \$6.91; average milk production: 85 lbs.

Feed cost/non-lactating animal/day.

