DEFINE & IMPROVE YOUR HERD'S FEED CONVERSION RATIO…

The well-established use of milk component pricing (dollars paid per pound of butterfat and milk protein) in the USA emphasizes the value of milk component yield. Recent increases in forage and feed ingredient prices confirm milk producers (and their advisory teams) must get the most milk component yield and value out of each pound of a lactating cow's dry matter intake (DMI). This, in effect, defines feed conversion efficiency (FCE).

To remove any ambiguity on how the FCE is calculated (either uncorrected milk vs. fat corrected milk, or energy corrected milk yield), a more direct, user-friendly, on-farm comparison would be the amount of DMI required to make a pound of butterfat and milk protein, combined. This is an on-farm Feed Conversion Ratio (FCR) for the dairy herd.

This approach is in line with other segments of the livestock industry, where FCR's are calculated to benchmark efficiency (e.g. finishing beef cattle from 8.0 to 6.0; finishing pigs from 3.5 to 2.5, or broiler chicks from 2.3 to 1.7). In common with all livestock, a lower number ratio in FCR measurements is desirable.

Calculating a herd's FCR: A herd FCR for cows in milk is easily calculated. For example, a herd with an average daily milk yield of 36 kgs @ 3.7% fat and 3.1% milk protein has a milk component yield of 36 x (3.7 + 3.1)/100 = 2.45 kgs of butterfat and protein combined. If the herd has a daily intake of 23.0 kgs of dry matter, the FCR is calculated as 23.0/2.45 = 9.38 kgs of DMI to make 0.5 kg of milk component yield.

On a herd basis, the FCR's found on commercial dairy farms will range from:

- ***13.0 (a poor FCR; too much expensive DMI to make 0.5 kg of milk component yield)***
- ***8.0 (a very good FCR; making the best use of DMI for 0.5 kg of milk component yield)***

The first step for [dairy] owners, managers and nutritionists is to benchmark the herd to establish its FCR. The real challenge comes in ensuring the herd FCR is at least 10.0, and preferably much better (closer to 9.0). An FCR of less than 8.0 is unlikely on a herd basis, as it would indicate excess body weight and condition loss in the milking herd.

The FCR is an easy benchmark for both dairy producers and their advisory team (where the dairy has a team in place) to calculate and set improvement goals. With regular use, it enables the producer (and their team) to quickly see how forage quality, ration alterations and environment/management changes can impact FCR and their bottom line.

Not unexpectedly, there is a strong relationship between FCR and income over feed costs (IOFC). The lower FCR herds have the better IOFC. The incentive for improving the FCR is real. With a lactating cow's TMR dry matter costs around 26¢/kg, and current milk component yield values around $8/kg for milk protein, a 0.5 reduction in FCR (say from 9.9 to 9.4) is worth up to 50¢/cow daily.

Improving the herd FCR: There are many rations and cow management factors that positively influence FCR. One of the most important is overall ration digestibility. This encompasses making top quality forages (with the correct volatile fatty acid profile to conserve nutrients and minimize feedout losses), cut at the right growth stage so high NDF-d values and rate values (kd % hr) are achieved for high inclusion rates into lactating cow rations.

Managing out sub-acute rumen acidosis will also be important. Here, attention to detail on forage dry matters, TMR refusals, actual vs. calculated DMI per pen, along with timely TMR feeding schedules, TMR push-up routines, forage particle length, ration scratch factor, correct corn grist sizes, (dry vs. high moisture corn), the balance of fermentable starch and sugars in the rumen, the hygienic quality of the TMR, (minimizing molds and mycotoxins), cud chewing and adequate stall lying time will all be important.

Keep a focus on reproduction, whether you operate the dairy alone or work with a team, with the herd days-in-milk as close as possible to 180. Heat abatement is needed to maintain a good FCR in the summer, with clean fresh water available at all times. As fall approaches, check milk cow barn lighting intensity and duration at cow level, preparing for shorter day length in winter.

FCR is a quick and useful on-the-spot tool for producers and their teams to benchmark change and progress. Since it uses related cost (TMR dry matter) and income (milk component yield and value), it is closely related to IOFC, but is not a replacement for it.

(Edited from an article by Tony Hall, Lallemand; Presented Eastern Dairybusiness – September 2011)

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THE TEAM FOR RESULTS

Winter Coats!

A recent study showed an increase in average daily gain when calves were provided with coats (up to 0.6 kg/day with coats). Here are a few tips to use calf coats effectively and maintaining a calf's environment:

- Give priority to smaller/younger calves. Smaller calves have greater potential to lose body heat, because the ratio of surface area to body mass is much greater than for a larger calf.
- Make sure calves are dry before putting on calf coat. Putting a coat on a wet calf will only trap moisture and not allow the calf to dry.
- Calf coats should be washed and dried between calves, to aid hygiene and disease control.
- Use enough bedding to insulate calves from the ground. Bedding must be dry and clean. Research shows that deep straw bedding is more effective than wood shavings at maintaining calf growth and weight gain during cold weather, which is critical to successful calf management!

Ask about Renaissance calf coats today for results!

Importance of Good Ventilation in Fall & Winter

Ventilation systems in dairy barns help maintain a comfortable environment to keep cows healthy and productive. Cows continuously produce heat and moisture. Therefore, a ventilation system is necessary to constantly exchange warm, humid air inside the barn for cooler, drier air outside of the barn. This exchange must occur regardless of outside temperature or weather conditions. Fresh outside air is required even on a cold, windy night to reduce moisture accumulation inside the barn. Good air exchange also removes nuisance odors and manure gases that can have negative effects on animal health and performance.

Most ventilation problems associated with dairy barns are due to inadequate design, construction, and/or operation of the facility. Dairy barns are usually designed, built, and managed for the convenience and comfort of the producer or worker. However, for wellbeing and productivity, cows require a different physical environment than humans. Most cows are comfortable and can maintain high levels of productivity between 5-25° C, if the relative humidity is not too high. They are also much more tolerant of temperatures below this optimum range than above. Cows are still productive at temperatures far below -7° C, if they are kept dry and sheltered from the wind. Most wintertime productivity problems are the result of animals being shut inside poorly ventilated barns rather than cold temperatures. Review ventilation in your livestock facilities before winter sets in. It pays dividends.

(Edited from an article by Ms. S.W. Gay, Virginia Tech Extension)

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