It's Sire Summary Time... Zero in on the Information You Really Need

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This year, it happened around the middle of February, and then again in May and August. Next January, April and August it will happen again. You'll see bull lists printed in magazines, you'll receive a new issue of *Horizons* in the mail and your Genex representative will drop off a new sire directory. Either way you'll know - it's sire summary time again.

Data for traits like milk production, type, somatic cell score, fertility, calving ease and productive life are collected throughout the year on millions of dairy cows. However, analyzing this mountain of information is a big job, so scientists only do it three times a year. Performance records are adjusted for factors such as age of cow and stage of lactation, then each cow is compared with others in the same herd during the same time period.

The result is a set of predicted transmitting abilities (PTAs) for each animal. These are estimates of the genetic superiority (or inferiority) a particular individual will pass to its offspring. Genetic information is produced for both sires and cows. But, since few farms have the luxury of using genetic indexes to select a few herd replacements from a large group of excess heifers, this article focuses on using genetic information for dairy sires.

Over 30 Traits to Consider

Each sire is evaluated for milk, fat, protein, fat percent, protein percent, productive life, somatic cell score, daughter pregnancy rate, estimated relative conception rate, service sire calving ease, daughter calving ease, service sire stillbirth rate, daughter stillbirth rate, final score and 18 linear type traits. This means you can get information for 32 traits on about 800 active A.I. bulls (roughly 600 Holstein) at any given time. Nobody has time to study all of this data, so what's a sensible dairy producer to do?

A common, but incorrect, approach is to pick several important traits and apply an independent culling level for each one. For example, you might decide you'll only use bulls that are at least +1,200 Milk, +0.05 Protein percent, +1.25 Udder Composite, and +1.00 Feet and Legs Composite. This seems like a reasonable approach, but setting these levels is difficult, and the tendency for most people is to include too many traits.

How could we leave out Somatic Cell Score, or Fat percent, or Productive Life? As you keep adding traits, there will be fewer and fewer bulls that meet the criteria. More importantly, you'll probably select a bunch of bulls that are pretty

mediocre for every trait. In other words, you'll end up with a "jack of all trades" but a master of none.

A better approach is to combine information from all of these traits into an economic index. Individual traits are weighted according to their economic importance, and genetic relationships between traits are taken into consideration. The primary index is Lifetime Net Merit - this index measures the expected lifetime net profit of daughters of each dairy sire, relative to the breed average. Each breed association produces an index of its own, but for the most part these are quite similar to Net Merit, so I'll limit my discussion to the Merit Charts (open in a separate window) values provided by USDA.

For the vast majority of producers, LNM$ will be the index of choice. It considers production, health, fertility, calving ability, and functional type, with weight given to milk, fat and protein based on your bottom line - national average milk prices. About half the emphasis is on production (i.e., income), and the other half is on functional traits (i.e., expenses). Note that Somatic Cell Score is negative because we want a lower value for this trait. There is also a slight negative weight on body size - this reflects differences in maintenance feed requirements for large versus small cows.

Two alternatives are offered for unique milk payment situations. For farmers who are paid exclusively for components, with no premiums for milk volume, LCM$ would be an appropriate choice. It places more emphasis on protein yield, and excess milk volume is penalized.

On the other hand, LFM$ may be a useful choice for farmers who are paid solely for milk volume. This index places much more emphasis on milk yield, and protein actually gets a weight of zero. In other words, if you don't get paid for it, why produce it?

What about semen price? Obviously, this is a consideration, but cheap bulls are usually cheap for a good reason. In fact, if you have a good reproductive program, you will find the highest LNM$ bulls tend to be the best bargains. This will certainly be the case for virgin heifers because conception rates are quite high.

Always use your most expensive semen where it is most likely to result in a heifer calf; it will take twice as many units of semen to get a live calf from a high-producing mature cow than from a heifer. Lastly, remember there are a lot of good bulls available. Don't rely on chasing the "hot" bull with limited semen availability.

What about reliability? Reliability measures the accuracy of the genetic information for a given sire and, hence, the variability in results that you should expect when using that bull in your herd. Bulls that have been adequately progeny tested across many herds will typically have reliability values of 80 percent or higher. Although bulls shouldn't be selected or excluded based only on reliability, it can be a guide as to how many units should be purchased for a bull.

What about young sires? The genetic merit of young sires has been well documented. The average young sire from a major A.I. organization will rank slightly higher than an average proven A.I. sire, but the price will be lower, and well-managed herds will usually be eligible for incentive payments from the A.I. stud. On the other hand, the average young sire will not be nearly as good as an elite proven A.I. sire. Mating 25 to 30 percent of your herd to A.I. young sires is a reasonable strategy, but herds that pick from the top end of the LNM$ list will make much faster genetic progress.

Consider Corrective Mating

Once you've selected a top group of bulls, the job's almost done. You'll probably get good results even if you randomly mate these bulls to the cows in your herd. However, you can get some extra profit by using a corrective mating program. These programs were designed to correct faults in the physical appearance of the cow, and there's nothing wrong with that.

But the best part is most mating programs will also help manage inbreeding. Most farmers have neither the time nor the desire to scan the pedigrees of every bull and cow to search for common ancestors. A computer can do this much more quickly and more effectively. Genex provides this service through MAP (Mating Appraisal for Profit).

In summary, remember these key points and you'll have little trouble using sire summary information successfully.

Identify your selection goal.

For most producers, this will be LNM$. But producers who are paid exclusively for components may wish to consider LCM$, and those paid solely for milk volume should consider LFM$.

Identify a group of five to 10 bulls that rank as high as possible for the index you've chosen.

Check to make sure you have a few calving-ease bulls to use on virgin heifers. Plan to use the most expensive semen on your virgin heifers because you'll increase your odds of getting a calf.

Consider enrolling your herd in a corrective mating program.

You might improve functional type traits in your herd, and you'll definitely do a better job of managing inbreeding.

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