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1995 USDA Sire Evaluation Changes

This publication discusses the 1995 USDA Sire Evaluation Report and its impact for dairy producers.

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The January 1995 USDA Sire Evaluation Report incorporates changes that will not only increase the accuracy of prediction for cow and sire evaluations, but also includes a base change. Major changes included:

1. new Mature Equivalent Factors,
2. adjustments incorporated for days open,
3. and the genetic base year changed to 1990.

Let's discuss each change and look at how these changes will effect the 1995 proofs.

Mature Equivalent Factors and Days Open Adjustments

New Mature Equivalent Factors (ME) have been estimated by USDA. The previous factors were estimated in the late 1960s. Dairying has seen significant change since the late 1960s: feeding of a Total Mixed Ration, total confinement, better environmental monitoring, as well as computerized feeders, to list a few. These changes have resulted in increased production on younger cows as well as reducing the seasonal variation in milk production.

For example, the differences in milk production between fall and summer freshening cows has decreased since the 1960s. This is in part due to providing a more consistent feeding system all year around rather than pasturing, as was common in the 1950s and 1960s. New ME factors will also more accurately account for production differences among cows due to age, season of calving and lactation number.

Days open adjustments will also be made on the records. Cows with long days open will have records adjusted downward, and cows with short days open will have a record adjusted upward. Therefore, if a

cow is open for 300 days, her record will be reduced since she was not pregnant during the lactation. This change has been discussed for quite a few years and is needed. Similar records on cows that calve every 365 days should not be considered the same as those that calve every 18 months.

The actual changes in bull proofs due to the new ME and days open adjustments are difficult to predict on an individual sire, but USDA estimates the average sire will decrease by 300 lbs of milk. Sires could decrease by smaller or larger amounts depending on the distribution of their daughters by age and season of freshening, as well as distribution by lactation number and breeding efficiency. These adjustments will increase the accuracy of the evaluations and that is what is most important!

Base Change

A change in the genetic base does not increase the accuracy of the evaluations. It merely changes the evaluations to reflect the expected genetic potential of the sires and cows given today's genetic base. The genetic base will set the average genetic evaluation of all cows born in 1990 to zero. The previous base was set in 1985. Since the genetic potential of cows has increased from 1985 to 1990 the sire values will decrease.

Each breed will have its own base so the changes will be different by breed. The average decrease as calculated by USDA for each breed is given in *Table I*.

Table I. Expected decrease in sire proofs due to the base change.

| | <i>Milk (lb)</i> | <i>Fat (lb)</i> | <i>Protein (lb)</i> |
|----------------------|------------------|-----------------|---------------------|
| Ayrshire | 320 | 14 | 14 |
| Brown Swiss | 404 | 16 | 13 |
| Guernsey | 503 | 22 | 16 |
| Holstein/Red & White | 941 | 32 | 26 |
| Jersey | 626 | 28 | 20 |
| Milking Shorthorn | 446 | 15 | 14 |

The decrease should be of little, if any, concern since any sire evaluation can only predict (1) the difference among sires, and (2) the rank of one sire compared to another. The actual values are irrelevant.

The base makes no difference in your sire selection procedures. Always pick sires from the top of the list or at least in the 80th percentile or higher, and you will be getting the best genetics available.

The total change in sire proofs, taking into account the new ME factors, days open adjustments and the base change, will be substantial. The average active A.I. Holstein sires will average +1000 lbs M, +36 lbs F and +34 lbs of protein. This is substantially less than the average in January 1994 which was +1,992 lbs of milk, +65 lbs of fat and +58 lbs of protein -- but remember a bull with +1000 lbs of milk in the 1995 base is similar to +1,992 lbs of milk in the 1990 base.

The January 1995 sire and cow evaluations will be more accurate and a producer need not worry about the base change since selecting sires from the top of the list gives you the best genetics possible.

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