

The benefits of herd recording

Technote 7

HIGHLIGHTS

- Herd recording provides useful information to assist farmers in making herd management decisions.
- Accurate genetic selection and culling decisions can be made by using herd recording data.

The major objective of herd recording is to obtain information to:

- control mastitis
- improve reproductive performance
- select cows to cull
- select cows to dry off
- select the best cows and bulls to breed better cows and bulls
- prove which bulls are superior

In 2014 there were about 6314 dairy farms in Australia of which 48% participated in herd recording (Australian Dairy Herd Improvement Report 2014).

What does herd recording provide?

Herd recording (milk recording or herd testing) measures the production of individual cows in the herd. Each cow's production is usually recorded at regular intervals of 4 to 8 weeks throughout lactation.

On herd recording (test) day, a sample of milk from each cow is collected to:

- measure the volume of milk
- test the fat and protein percentages
- determine the individual cow cell counts (ICCC)

Farmers receive a herd test report after each test day, regular updates to farm management software packages and an annual report which summarises the performance of the herd for the season.

Contents of Herd test report

Herd test reports vary between service providers. Some common reports include

- Summaries of the best and worst performing cows and highest cell count cows,
- Herd trends in production, cell count and comparisons with local averages,
- Cow identification, calving date, days in milk, breed, age and sire,
- The daily production of milk, fat and protein and the protein and fat test percentage on the day of recording,
- The estimated production of milk, protein and fat and the average fat and protein test percentage in the lactation to date,
- A production index which enables more accurate comparison between cows in the herd despite differences in age, stage of lactation and time of calving and;
- A measure of the cow's mastitis level as measured by the Individual Cow Cell Count

These reports are useful when making decisions on breeding and management of the herd.

Other reports such as milk pregnancy diagnosis and metabolic disease warnings are available in some regions.

How herd recording affects production and management

Improving the genetic merit of the herd, through culling low producers and choosing replacements from higher producing dams, has long been considered a key benefit from herd recording. Research and practical farm experience show that major gains come not only from improved genetic merit but also from improved management.

Using the production index (PI) to rank cows

Many factors affect the level of production of individual cows and make it difficult to determine individual cow performance based on actual production figures.

The production index (PI) adjusts actual production figures to account for age, stage of lactation and time of calving. This process removes the most important factors which cause variation between individual yields.

The PI compares animals within a herd. For example, a PI of 105 indicates that the animal is 5% more productive than the herd average of 100. The PI can only be used to compare animals within a herd. Due to the variation in management between herds, cows in different herds can only be compared using Australian Breeding Values (ABVs).

Herd recording and general management

Effective decisions made through herd recording are thought to explain the estimated 40% difference in milk yield (L) between herd recording and non herd recording farms (Australian Dairy Herd Improvement Report 2014).

Herd recording provides a number of general management benefits. For example, it:

- fosters more accurate decisions about which cows to dry off, using individual milk production. In some herds, individual cow cell counts can be used to selectively apply dry-cow therapy and therefore reduce veterinary costs.
- enables the production level of first-calf heifers to be assessed to see how well replacements are being reared. Poor management of young stock from birth to calving often results in low production from first-calf heifers.
- provides a third-party audit of stock inventory and information to sell and purchase dairy cattle.
- stimulates the interest in the performance of individual cows. Fluctuations in individual production may warn of health problems.
- Provides electronic data so that the farmer can analyse the herd's production records in any way desired. For example, the herd's reproductive performance and mastitis control can be closely examined using data collected through herd recording and published in the Dairy Australia Fertility Focus Report and Mastitis Focus Report.

Many herd recording farmers will use farm management software to record further details

relating to individual cows. Examples include cases of mastitis, lameness and other disease, mating details, preventative health treatments, workability scoring and calving ease records. This data provides farmers and industry with an increased capacity to analyse herd management contributors to farm productivity.

Herd recording and genetic improvement

The data collected through herd recording is used to calculate Australian Breeding Values (ABVs). ABVs are used to estimate the genetic merit of both cows and bulls.

Farmers use the Genetic Progress Report to monitor the effectiveness of bull choices over the past decade. The Genetic Progress Report uses Cow ABVs which are calculated using data from herd recording.

Farmers can also use individual cow ABVs to select high genetic merit cows to produce replacements.

Heifers can be genotyped at an early age to identify which heifers should be reared as replacements in the milking herd. In situations where surplus heifers are available, genotyping makes good sense to accurately identify candidates for sale.

For more information

DataGene Client Services

Ph 1800 841 848

Email: abv@datagene.com.au

www.datagene.com.au

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