

## Key messages

- › 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:

- › select the best cows and bulls to breed better cows and bulls
- › prove which bulls are superior by progeny testing
- › select cows to cull
- › select cows to dry off
- › aid in the control of mastitis

In 2006/2007 there were about 8055 dairy farms in Australia of which 55% participated in herd recording (Australian Dairy Herd Improvement Report 2006/2007).

## 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 and an annual report which summarises the performance of the herd for the season.

The herd test report contains:

- › 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

This report is useful when making decisions on breeding and management of the herd.

## 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 milk 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*

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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*

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There is a significant per cow milk production difference between herd recorded and non herd recorded farms. In 2006/07, it is estimated the average per cow production from farms that herd record was more than one third higher than those that do not (Australian Dairy Herd Improvement Report 2006/07, Australian Dairy Industry In Focus 2007). However, it is not simply the herd recording causing the increase. Better management decisions made through the use of herd recording data will boost productivity.

Herd recording provides a number of general management benefits. It:

- › allows more accurate decisions about which cows to dry off, using individual milk production at the time. In some herds, individual cow cell counts can be used to selectively apply dry-cow therapy and therefore reduce veterinary costs.
- › allows the use of progeny test (PT) semen. PT semen is cheaper and the average genetic merit of PT bulls should be higher than the average of proven bulls already available.

- › allows 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. Herd recording is useful to determine if this is a weakness in herd management.
- › provides 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 can be closely examined using data collected through herd recording and published in an InCalf Fertility 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*

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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.

Herd recording achieves genetic improvement by:

- › allowing bull companies to identify high genetic merit cows and bulls to produce and prove the next generation of higher genetic merit bulls,
- › allowing dairy farmers to select high genetic merit bulls to produce replacements,
- › allowing dairy farmers to select high genetic merit cows to produce replacements and
- › allowing dairy farmers to select low producers for culling.

For further information on herd recording services available in your area, contact your local Herd Improvement Centre.