Recording Mating Details for Female Reproduction in a Seedstock Enterprise

With summer mating for spring calvings not too far away, it’s important for seedstock producers to understand how to record and submit their herd’s mating details to BREEDPLAN. The reason for this is simple - a very important trait for any maternal breed is female reproduction. Improving female reproduction through BREEDPLAN is facilitated by the Days to Calving EBV. This EBV provides a useful tool that breeders can use to improve the genetics of their females for fertility, in association with their routine management and culling strategies.

**Note:** Most, but not all, maternal breeds currently generate a Days to Calving EBVs within their BREEDPLAN analysis. All interested breeds can have this EBV analysed, however it requires an adequate number of herds and associated mating records to be submitted to BREEDPLAN before the analysis can be undertaken.

Days to Calving EBVs are estimates of genetic differences between animals in time from the start of the joining period (i.e. when the female is introduced to a bull) until subsequent calving. The Days to Calving EBV identifies sires whose daughters calve earlier in the season compared to those that calve later, or do not calve at all. Variation in days to calving is mainly due to differences in the time taken for females to conceive after the commencement of the joining period. Females with shorter Days to Calving EBVs also tend to be those that show early puberty as heifers and earlier return to oestrus after calving.

Presently, only information from natural joining programs is included in the calculation of Days to Calving EBVs. This includes only those females that have been joined naturally within a breeding season, and have not previously been included in artificial insemination/embryo transfer programs, or artificially induced to cycle prior to joining with the bull outside of such programs.

Broadly, the information to be collected in a seedstock enterprise for Days to Calving EBVs should include:

1. Joining details of all females naturally mated within the herd. This includes details of the bull/s the female was joined to and bull in and out date/s.
2. Details of all calves (dead or alive) that are born as a result of these joinings.
3. Details of all females disposed of from the herd, particularly those present at joining that were no longer within the herd by the time of the subsequent calving.

![Diagram of Days to Calving EBVs](image-url)
Following is further detail on recording mating details for the Days to Calving EBV:

1. Recording Details from Natural Joining Programs

Record each natural joining event to which a female (cow or heifer) is exposed within the breeding season whether this was the successful joining or not. For situations where females are joined to several bulls in a mating season, record all joinings for the female, not just the first or successful joining. (See consideration section for comments on multiple sire matings)

For each natural joining event within the breeding season, record the bull the female was joined to, the date she was joined (‘bull in’ date) and the date the bull was removed (‘bull out’ date). Knowing the end of the joining period is important. The joining event code to be used when recording natural joining events is ‘N’ (Natural/Paddock mating).

Ensure record management group information is recorded to identify any cow/s within a joining group whose fertility may have been affected either prior to or during the joining program due to non-genetic factors e.g. significantly different nutrition, sickness, injury. A maximum of three characters (letters and/or numbers) can be used to describe each management group.

2. Recording Calf Details

Record all calves, including dead calves that are born in the herd, with the Breed Society. Not recording all calves with the Breed Society will result in reduced accuracy of the EBV’s.

3. Recording Female Disposal Information

Record the date and reason for any female removed from the herd, particularly those present at the start of joining that are no longer within the herd by the time of the subsequent calving. The fate/disposal code information is used to determine whether females that have a joining record but no subsequent calf should be penalised for being “culled for infertility” or not penalised because they were culled for other reasons e.g. structure, performance etc. In the future, this information may also be used as part of the calculation of a Female Longevity EBV.

The codes to be used to record a female fate/disposal event are as follows:

**Culled or sold**
A  Cast for age
B  Sold surplus breeding female
C  Calving Incident
D  Disease
E  Eyes (pigment, hooding)
F  Not in Calf (i.e. failed preg test or did not calve)
G  Genetic condition
H  Horns
J  Cull unjoined heifer surplus to requirements
K  Coat type
P  Poor performance
Q  Appearance (type, colour, markings, Society standards etc)
R  Reproduction abnormality (eg freemartin, mal-formed uterus, pelvic area)
S  Structural problem (e.g. feet, legs, navel, etc)
T  Poor temperament
U  Udder or teat problems
V  Poor EBVs
W  Calved but failed to rear calf to weaning
X  Susceptible to parasites (ticks, buffalo fly worms etc)

**Died or missing**
C  Calving incident (e.g. dystocia, prolapsed)
D  Disease (e.g. pesti, 3 day etc)
M  Missing assumed dead
X  Parasites (tick, buffalo fly, worms etc)
Y  Unknown cause
Z  Accident (e.g. injury, drowned, poisoned etc)

**Note:** These disposal codes are specific to BREEDPLAN and are separate to the disposal information submitted routinely to the Breed Society. Disposal information submitted to the Breed Society cannot be used in research into better female fertility EBVs, and likewise the disposal codes submitted to BREEDPLAN will not be utilised by the Breed Society.
Important Considerations When Recording Female Fertility Information:

- Joining details for all cows in the recorded herd need to be collected in order to accurately reflect the cow fertility in the herd. Simply recording those cows that have a calf or those cows that remain on inventory in the next year is not adequate.
- Ensure that details are recorded for all heifers joined, not just the ones that calve or are added to inventory. Information on heifers is very important as many herds cull heifers that do not conceive in the first year of joining. The heifers that do not calve supply as much information to the analysis as those that do calve.
- Record the details of all joining events in which the female was involved even if the joining was unsuccessful. For situations where females are joined to several bulls in a mating season, record all joinings for each cow and heifer within the joining period, not just the first or successful joining.
- Accurately recording the fate/disposal codes of all females that leave the herd is extremely important. This fate/disposal code information is used to determine whether a female should be penalised for being “culled for infertility” or not penalised because she was culled for other reasons (e.g. structure, performance etc.)
- Herds with either a very wide calving spread (e.g. cows joined all year around) or several calvings each year (e.g. an autumn, winter and spring calving) may have difficulty collecting good quality female fertility information. Herds in such situations should contact staff at BREEDPLAN for further advice.
- Mating records from multiple sire mating groups can be utilised. The first step is to contact the Breed Society to create a multiple sire group and associated Society identifier. This will include listing the bulls used in a multiple sire mating group. The breed society will allocate a sire identifier which is then used as the ‘bull in’ for the natural joining event for all cows in the joining group. The resulting calves can still be recorded with the “actual” sire if known through DNA parent verification.

Note: Research is now underway to determine whether details from artificial insemination (AI) and embryo transfer (ET) programs could be utilised by BREEDPLAN. Breeders interested in submitting details of their AI & ET programs to assist this research are advised to download a copy of the “Collecting Better Female Fertility Data” tip sheet from the Technical area of the BREEDPLAN website.

Submitting Matings Details to BREEDPLAN

Importantly, while the details of all calves born should be recorded with the Breed Society, the joining and female disposal information needs to be submitted directly to the BREEDPLAN office. Any joining and female disposal information submitted to the Breed Society will not be included into the calculation of Days to Calving EBVs.

There are two different methods available to submit the joining details and fate/disposal information to BREEDPLAN:

1. Herds that use BREEDPLAN compatible herd recording software packages (e.g. HerdMASTER, Stockbook, CattleLink) should be able to extract the joining details from their computer program and submit the details to BREEDPLAN electronically. Herds that require assistance either entering the joining details of their herd into their software program or extracting the joinings and fate/disposal information for BREEDPLAN, should contact their software supplier.

2. A Microsoft Excel template is available for herds not using a BREEDPLAN compatible herd recording software package. The template can be accessed from the Technical area on the BREEDPLAN website or by contacting staff at BREEDPLAN.

Seedstock producers that would like further information on the Days to Calving EBV or the recording and submission of female reproduction information to BREEDPLAN contact staff at Southern Beef Technology Services (SBTS) or Tropical Beef Technology Services (TBTS).