Preserving your heifer pipeline

Heifer raising can be 30 per cent of a dairy farms cost's, so it pays to have good records upon which to make decisions

THE FUTURE OF YOUR dairy lies in your replacement heifers.

As they are your future they should be a high priority in your management program. Unfortunately this is not always the case. All too often heifers are high priority at birth through to weaning, then at breeding time and finally at calving time. Through the rest of their life they sometimes lack attention.

Your heifer operation is very similar to a piece of pipe with water flowing through it. Calves enter at one end and freshening heifers exit the other. The perfect size pipe provides an adequate supply of replacements for your farm to cover your production needs, dairy sales, and culling.

At the entrance, live heifer calves born on farm keep replenishing the system. Losses or leaks along the pipe are due to death, culling or sales. The length of the pipe is determined by the age at first calving. Too many losses will result in the need to purchase replacements to maintain milk supply.

Whenever purchases are made there are always bio-security risks. Excellent heifer raising combined with minimal cow losses will result in animals for sale for dairy purposes.

If prices are good, this can be financially rewarding.

ODHIC data tells us that on average eight per cent of female calves are born dead. Stillborn birth rate in 1st calf heifers average is 12 per cent. What is your stillborn rate? In DairyCom305 you can generate a calf table showing per cent twins, per cent female and per cent males born on farm as well as your stillbirth rate.

You can find your stillbirth rate for each parity group which can be quite an eye opener. Some factors

Stillborn rate can be affected by proper calving intervention

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affecting stillborn rates are heifer size at calving, body condition, and use of A.I. versus bull breeding.

Calving time observation affects your stillbirth rate. Cows need to be monitored during Stage 1 without unnecessary stimulation which might delay the calving process.

Stage 2 begins when you see the fetal membranes at the vulva. In normal circumstances, this can last 30 minutes in cows and one hour in heifers. If no calf is presented at this time verify that there is nothing wrong with the position of the calf by doing a gentle, sanitary, vaginal examination.

At this time, abnormal presentations can be corrected and a viable outcome obtained. All too often improper presentations are left too long, resulting in a dead calf. It is a management decision to decide when to intervene and when to leave the cow alone.

It is never wrong to do a vaginal exam of a calving in progress. It is wrong to pull too early, before Stage 2 has developed, or to pull excessively with a calf puller. The goal of any pull is to never exceed what two people could accomplish by hand. You should have a dystocia and calving management protocol on farm to minimize calf death.

Pre weaning calf losses are often in the range of 10 per cent, one half of these losses are due to diarrhea and one quarter is to due to pneumonia. Post weaning losses are fewer, but now pneumonia accounts for the majority of these losses.

Calves that survive pneumonia can have life long effects, ending with poor growth and premature culling. Losses post weaning are due to culling for confirmation and reproductive reasons.

Records are usually good for stillbirth rates, but fail significantly for deaths prior to first calving. Minimum data on heifer death should include the date, ID, age and cause of death, and should be recorded at the time of death.

Six months to one year later when a heifer can't be found for vaccination, is a poor time to properly detail the history.

In order to have the age and size of your desired heifer at calving you need reference points during the pre calving growth period. The standard measure for mature body weight (MBW) in your milking herd is a third lactation cow in mid lactation.

From this body weight you can get expected body weights at key points during heifer growth.

First calf heifer weights one week after calving should be about 85 per cent of MBW. Heifer weight at pregnancy will be about 55 per cent of MBW and pubertal weight will be about 45 per cent of MBW.

As important as these targets are to realize good heifer growth you should still pay attention to withers or rump height, and body condition scores. Short, fat heifers might make the weight guidelines but certainly are not the goal.

In order to calve heifers at 24 months with an expected MBW of 700 kg., the following are your expected target weights:

- Weight at first calving 600 kg
- Weight at first pregnancy 385 kg
- Weight at puberty 315 kg

Body weight drives puberty, breeding and age at first calving. In order to achieve 24-month-old freshening heifers they have to be pregnant by 14 – 15 months meaning that you must begin to breed by 13-14 months.

To attain these ages and target weights heifers need to grow 0.8 kg per day from birth. This growth will reduce the occurrence of small fresh heifers. Small heifers have been the

biggest reason historically to holding heifers back at first breeding.

It is not breeding too young that is the problem; it is feeding them improperly after breeding. A delay in age at first calving because of a management decision, for example – bigger heifers at calving, you need to understand that this will require more heifer facilities than if you calve them out at 24 months.

If you need to calve out heifers older because they are not big enough at 24 months due to involuntary reasons, such as inadequate facilities or suboptimal nutrition then you should look at ways to correct the problem. Heifer raising costs are about 15 to 20 per cent of your total expenses. Keep this in mind as you lengthen the pipe to calve older heifers.

Every month greater than 24 months, that you freshen your heifers, requires four per cent more space for your heifer herd.

The number of heifers entering the pipe is affected by calves born per year, the ratio of heifer calves to bull calves, and heifers born dead. For every month increase in calving interval there are eight per cent fewer calves born on your farm per year.

Heifers that do not complete the program (heifer mortality and cull rate) significantly affect your ability to cull in your milking herd. The ratio of heifer calves to bull calves will be most affected though the use of sexed semen. The advantages of sexed semen on farms might be offset by the extra strain more animals could make on management and facilities.

Your milking cow cull rate will have a big effect on the demands of your heifer pipe. Cull rates greater than 35 per cent will generally require livestock purchases in order to maintain milk supply.

In our practice this past year, first calf heifers accounted for 34 per cent of calvings. This could be perceived as 34% being our herd culling rate. For the most part when a heifer calves there is a sale or cull of another animal in the herd.

Anything less than this first calf heifer calving rate might require herd purchases to be made. You can see from the example chart provided, how a 10 per cent stillbirth rate and various precalving mortality rates plus culls affects the number of heifers you have available in your replacement hard.

Does your per cent heifer calving rate = your cow cull rate? Are you a buyer or a seller? With good records you see where to put your time and energy.