Calving induction is a technique used to make cows calve prematurely. The corticosteroid hormone used to induce calving, mimics the normal signal which occurs around the time of calving to trigger the birth of the calf.

Induced calving can be used to bring "late" cows back in line with the rest of the herd, while also gaining an extra months' production from "late" cows at the start of the season. Candidates for induction should be at least six months, but preferably seven months or more pregnant. Induction has a role in helping to maintain a compact calving pattern. It should be used in a planned manner on late calving cows.

Calving induction is a complement to a good mating management program, it should not be used as a substitute for poor management. If mating management is poor (for example, poor heat detection, poor nutrition, reproductive disease, low fertility bulls) then cows that are induced to calve early one year will often be brought back in line with the rest of the herd only to be replaced by another group of late-calving cows in the following year.

The main rationale for the use of calving induction is to increase the interval from calving to mating start date. To maintain a seasonal pattern, all cows should be calved 40 days prior to the onset of the next mating. As the calving to mating start date interval increases, the chances of a cow becoming pregnant in the first 30 to 60 days of mating also increases. Calving induction allows farmers requiring a two month calving period to mate their herd for as long as five months, hence reducing the number of empty cows.

If all cows are to be calved by the end of September, then cows due to calve in October are induced to calve in early September. Those due to calve in November and December are induced to calve by the end of September. This projected plan of action can be modified depending on existing and developing seasonal conditions.

Calving induction may also be used in cases where it is expected that the calf may be large relative to the cow, or in cows which have abnormalities of the birth canal, for example, a previous fractured pelvis.

Technique

From the list of cows and their expected calving dates, identify possible candidates for calving induction (this should be done before drying off). Before induction is considered cows should be at least six months pregnant, and in good health with no previous history of metabolic or infectious disease (for example, milk fever, salmonellosis, mastitis).

Cows requiring calving induction need to be in good condition, as they lose weight more rapidly after calving when compared with non-induced cows. Cows to be induced should calve in one condition score above the remainder of the herd. Give preferential treatment to cows requiring induction.

Single injection method

Cows are examined by a veterinarian and then injected with a corticosteroid hormone. These will calve a variable time later, most around eight to 14 days post injection.

Two injection method

Those not already calved after the first injection are given an injection of prostaglandin nine days after the first injection. Most calve 24 to 36 hours after this second injection.

To help prevent milk fever, place the induced cows in a paddock where green feed is restricted and feed causmag (60 to 120 grams per cow per day) on hay from the time of the first induction injection until several days after calving. Start milking cows when they are adequately bagged up, even though they may not have calved.

Once they start to bag up, apply black ointment to the teats at each milking to reduce the risk of photosensitisation (sunburn).

Watch them closely for any sign of illness. If they develop sunken eyes or look sick, a veterinarian should be called immediately. Prompt treatment will save cows which otherwise may die.

At the time of calving watch them closely. Some smaller calves can be malpresented and cows may need some assistance.

Retained afterbirth, although it occurs commonly, is not regarded as a major problem. Cows with retained after-
Calving induction in dairy cows

Problems associated with the use of calving induction

Milk fever
Adequate preventive measures should be taken to control milk fever in induced cows.

Retained foetal membranes
A large proportion of induced cows retain their foetal membranes.

Photosensitisation
Photosensitisation (sunburn) may occur. It is generally not severe but it is advisable to apply black ointment to the teats prior to calving to block out the ultra violet rays from the sun and prevent sunburn.

Maternal deaths
Maternal deaths can be the result of severe infection following depression of the immune system by the hormone used in calving induction. A veterinarian should be called at the first sign of sickness or dehydration. Early intensive treatment usually leads to recovery.

Calf mortality
A larger number of induced calves are born dead, compared with non-induced calves. Some live induced calves are too small to rear or sell, and these should be immediately destroyed in an humane manner.

Production
Induced cows brought forward by 35 days, give a potential production gain of 24.5 kilograms (assuming cows are producing 0.7 kilograms of milk fat per day).

Reproductive performance in the following season
Conception rates and intercalving intervals for induced and non induced cows are generally similar in the following season.

Limitations
Heifers can be induced to calve, but subsequent milk yield can be very poor. Induction is not recommended in heifers unless they are close to calving and fully "bagged up". There is a high risk involved in using this technique on very old cows because they are more prone to milk fever and other problems. The shorter the duration of pregnancy at the time of induction, the greater the likelihood of poor milk production. It is desirable that cows be over seven months pregnant before they are induced.

Animal welfare aspects of calving induction
Premature calves that cannot be reared should be humanely destroyed at birth. Calving induction is a useful management tool, but it is not without its problems. The welfare aspects of this procedure must be well managed.

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