

Early pregnancy in heifer calves

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The main objective in developing replacement heifers is to have them reach puberty well before the first breeding season. Having gone through several estrous cycles improves their chances of becoming pregnant in the first 20 days of that breeding season – on the first day if estrus synchronization and timed artificial insemination are used – and delivering a live calf in the first 30 days of their first calving season. In turn, they have more time to recover from calving and the nutritional demands of their first lactation while still growing as a 2-year-old and should rebreed earlier in the second breeding season as compared to heifers that calved later the first time. However, there can be some negative consequences that come from perusing that objective and one example is heifers that breed before they are weaned.

There are several management practices that can be employed to ensure that objective is reached for as many heifers as possible. They include providing adequate nutrition, selecting older and/or comparatively larger heifers for replacements, and selecting based on genetic indicators of early puberty. Selecting replacement heifers based on genetics for early puberty leads to the point of this article –heifers can become pregnant too early.

Scrotal circumference (SC) at yearling is often used as a selection criterion that relates to serving capacity – the number of cows/heifers the bull can breed in a defined calving season. But, it can also be used to select for early puberty. A larger SC at 12 months of age indicates that a bull is closer to achieving, or has achieved, sexual maturity. That trait is fairly heritable (i.e. it passes from one generation to the next relatively well) and the heifers that bull sires should also reach sexual maturity earlier than heifers sired by a bull with a smaller SC at yearling. So, using SC to evaluate a bull's serving capacity also influences the age at puberty for the heifer calves he sires.

Selecting for larger SC bulls and continuing to keep heifers that breed early has inevitably led to a shift toward earlier maturing heifers in most breeds. For producers that use heterosis as a management tool, that shift has likely been more dramatic and seen earlier. Those are all good things as they relate to managing reproduction in both first-calf and mature cows. In fact, many producers have successfully used early maturing genetics to reduce the cost of developing replacement heifers. But, as mentioned above, heifers attaining puberty and getting bred before they are weaned is a negative consequence of shifting to earlier sexual maturity over several generations.

Pregnant feeder heifers are costly to manage and that added cost often negates any positive economic margin that might have existed when a heifer, or group of heifers, was purchased. Even if the pregnancy is detected early, the cost of treating them, decrease in feed efficiency and decreased carcass quality dramatically decreases profitability. Feedlot operators indicate that the incidence of pregnant feedlot heifers has increased and that is reflected in how much

they are willing to pay for feeder heifers. When feeder heifer pregnancies occur more frequently in a geographic region, it decreases the value of all the feeder heifers sold in that region unless they are marketed as guaranteed open. In fact, more feeder calf sales and marketing alliances have adopted the requirement for a prostaglandin injection as part of the heifer weaning protocol and loads of feeder heifers are marketed as available for pregnancy check.

Retaining and developing heifers that became pregnant prior to weaning is also costly to cow/calf producers. The incidence of finding third-trimester pregnancies during timed artificial insemination seems to have increased in recent years. It is difficult to manage these heifers through calving and they have a higher likelihood of calf and heifer mortality. Even if calving is successful, it creates a cow and calf that are no longer in synch with the calf crop and herd, respectively.

Several approaches can be used to avoid added cost in replacement heifer development and decreased revenue for feeder heifers. Like every other cattle management issue, having a defined calving season makes it easier to avoid early pregnancy in heifers. Removing herd sires after a 45- or 60-day breeding season should avoid heifers from the current calf crop being bred by the mature bulls. Castrating commercial bull calves at, or relatively soon after birth, should eliminate heifers being bred by bull calves. But, special care should be taken to ensure that the castration method used fully removes both testicles.

Seedstock producers who market bulls will need to be more conscious about the possibility of bull calves breeding heifer calves prior to weaning. One possible solution is for producers that manage multiple breeding groups to sort cows into a separate group(s) depending on whether they have a bull or heifer calf at side. Since that is not a viable solution for producers with one breeding group, who are operating in extensive range conditions, or need to make breeding decisions based on the service sire, implementing pregnancy diagnosis and/or administering prostaglandin as part of the weaning protocol will help avoid issues with heifers being pregnant too early.

Managing heifers that attain puberty earlier than they have in the past has made raising replacement heifers a bit easier and, in some cases, less expensive. However, with that genetic improvement, early pregnancy seems to be more of an issue than it has in the past. Feedlots, stocker operators and cow/calf producers can all be negatively impacted by heifers becoming pregnant before they are weaned. But, steps can be taken in any of those production scenarios that will reduce the frequency back to a rare occurrence.