Fetal programming, also known as “developmental programming,” has been a hot topic for a number of years now. When we consider fetal programming from a nutritional perspective, we think of the lasting impacts gestational maternal nutrition has on calves. I have often heard farmers and ranchers say, “If you take care of your cows, they will take care of you,” and this certainly rings true.

We often think about fetal programming during late gestation. Naturally, we begin thinking about the upcoming calving season after last year’s calves are weaned. During the last trimester, we know that nearly 70 percent of fetal growth occurs. However, for a calf to be able to grow at an exponential rate during that time and remain healthy (also equating to increased performance and profitability) during its postnatal life, giving the calf a head start early on during gestation will be most beneficial.

Unfortunately, the nutritional focus during early pregnancy often gets put on the back burner. There’s a lot to keep up with in late spring and early summer! Cows and bulls are turned out on grass, we’re busy with breeding and we get caught up baling forages to feed cows over winter. You may think the cows are doing just fine from a nutritional perspective. But, they (and their developing calves) might be missing out on more than you realize.
Get with the (fetal) program
Although fetal nutrient requirements during early and mid-gestation are minimal (making up less than 12 percent of the cow’s total requirements), from a production standpoint, the beginning of gestation occurs at a time when a cow’s nutrient requirements are greatest due to the increased demand of lactation.

During early gestation (up to approximately day 90 in cattle), the placenta and many vital fetal organs are developing. The placenta is responsible for carrying all of the nutrients and oxygen to the growing and developing calf. It also transports waste products away. Placental formation is crucial in early gestation in order to optimize vascularity and nutrient transfer to maximize blood flow for the calf’s overall growth. Placental measurements have been recorded when cows are restricted during early gestation. The restriction of nutrients has been reported to have negative impacts later in gestation, even if they are fed to meet their requirements during late gestation. The results of restricting nutrients early on included smaller placenta sizes and decreased blood flow to the calf (Vonnahme et al., 2007, 2013).

The calf’s organs develop at the same time as the placenta during early pregnancy. Cells are dividing, and this early formation of the organ system is crucial to the calf once it is born. These developing organs, such as the lungs and gastrointestinal tract, are not only necessary for survival, but also for production purposes such as reproductive organs and the development of muscle cells. Nutrient restriction to the cow during this phase has been researched and reported to have negative impacts on organ development and productivity later in the calf’s life. Restricting the cow is restricting the calf’s genetic potential. Genetic selection occurs when making mating decisions, but you can program the calf during gestation to help your genetics be more profitable by providing ideal growing conditions. You have worked too hard for many generations in your herd to take a step back in calf performance potential just because your cows are not provided with the necessary nutrients during gestation.

In order for these vital organs to develop properly and to maximize your calves’ genetic potential, make sure gestating cows don’t run short of critical nutrients like macro and trace minerals, vitamins and protein. These nutrients will generally need to be delivered to the cow in ways beyond simple pasture forages. An easy way to ensure that these nutrients are provided to them is through a self-fed supplement such as CRYSTALYX® Brand Supplements.

A simple way to provide supplementation
As cows are being artificially inseminated and bulls are turned out, the drought monitor keeps climbing toward red in many parts of the country. We need to keep in mind that this can be a stressful time of year not only for us, but also for our animals. Consider what your cows are consuming and whether they might benefit from supplementation, starting now through early gestation and beyond. CRYSTALYX Brand Supplements are a simple solution to making sure cows are not only consuming the nutrients they need for themselves, but also for the calves by their side and in utero.

Let’s face it — the summer months are a busy time for us all. Whether time is spent getting things done around the farm or ranch, catching up with friends and family, or just trying to stay cool, you may not be giving as much attention to your cows out on pasture as you need to be. Your cows can’t take any time off during critical early gestation. Put out a self-fed CRYSTALYX barrel and it will be available to cows around the clock. Minimize time and labor and give yourself peace of mind. Your cows will essentially be taking care of themselves so they can raise a better-performing, more profitable calf to ultimately take care of you.


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