The Affects of Nutrition on Reproductive Performance

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Often farmers are plagued with the reality of poor reproductive performance in their herds. Heat detection generally is the single greatest reason for poor reproductive performance in dairy herds today. But what about those farms that are out three times a day watching for heats? Why is their reproductive program still failing? The answer may lie in nutritional deficiencies or imbalances. Outside of diseases or poor management a close look at a farmer's nutritional program might be the key to better reproductive performance.

The number one nutritional reason for poor reproductive performance is the lack of energy. At the start of lactation, cows are in negative energy balance. This is where they are putting more energy into their milk than they can consume from feed. In order to compensate for this deficiency, cows must rely on their body stores of fat. The more energy you can get into the ration, the sooner they will come out of negative energy balance. Those cows that lose a large amount (over one body condition score) will take longer to have their first estrus and ovulation. This in turn can lead into longer breed back intervals and more days open. Data today suggest that energy balance is a key in controlling the development of the eggs.

Protein is the next big factor in a cow's diet that needs to be monitored. The lack of crude protein in a ration will cause an increase in non-detectable heats as well as a lower conception rate. But most of the time, a protein deficiency is not the problem with a milking herd. It is overabundance of protein, especially degradable protein which causes most problems. The most visible affect with excess of degradable protein is an increase in number of services per conception and more days open. But the hidden affect is the conversion of excess degradable protein to blood urea nitrogen which as been linked to a major decrease in fertility.

The final area to evaluate is the role and importance of vitamins and minerals. Though these are the cheapest and easiest nutritional elements to control, they often go unchecked. There are two main minerals, four trace minerals, and one main vitamin that affects reproductive performance. Calcium deficiency can cause a whole host of problems such as uterus not returning to normal size after calving. The incidence of dystocia (trouble calving) and prolapsed uterus can increase with the improper amount of calcium. Phosphorus has an adverse affect on fertility and feed intake that may lead to energy deficiencies. As far as the trace minerals are concerned, selenium plays a key role in preventing retained placentas. Lack of selenium also may play a role in early embryonic deaths. Copper also plays a role in early embryonic death as well as reduced estrus activity. Zinc can cause many fetal abnormalities, and finally cobalt plays a role in a delayed onset of puberty. Vitamin A is the most common vitamin deficient in cows. Vitamin A is a key in healthy epithelial tissue that lines the reproductive tract. Without enough vitamin A, these tissues become inflexible and crack. This leads to an increased incidence of infections and abnormalities in the reproductive tract.

In conclusion, proper nutritional balance is just one aspect for an optimum reproductive program. To ensure cows are being bred on a timely basis, all aspects of a reproduction management program are important. These aspects include timely heat detection and insemination. At the same time, proper vaccination protocols need to be in place to prevent diseases. Don't try to target just one area and expect to see an improvement. Only a well-rounded program that includes all of these aspects will truly increase your reproductive program..