The dairy cow’s nutrition program has a profound effect on reproductive success. Although poor heat detection, insemination practices, diseases, toxins and other management-related problems can cause declines in reproductive performance, an inadequate ration with nutritional deficiencies and imbalances can be just as detrimental. On the other hand, a properly balanced ration can have the opposite effect—help cows show heat, be bred and then be confirmed pregnant in a timely manner.

To better understand nutrition’s influence on herd reproduction we have asked two nutritionists about the role a ration plays in a successful reproduction program and how they ensure the ration they deliver positively impacts reproductive performance.

FROM A NUTRITIONIST’S STANDPOINT, WHAT ROLE DOES A SOUND NUTRITION PROGRAM PLAY IN A SUCCESSFUL REPRODUCTION PROGRAM?

**Bethard:** Nutrition plays a huge role in a successful reproduction program. With reproduction being impacted by so many other facets of the dairy operation, it really starts with a healthy ration for healthy cows. A sound nutrition program and ration formulated by the nutritionist can lay the groundwork for good cow health. Unhealthy cows do not behave and function like healthy cows, and their reproductive performance can be compromised. This issue is often traced back to a herd’s nutrition program.

**Visser:** A sound nutrition program from the time a calf is born is very important to reproductive success. A complete ration serves as the basis for a low incidence of metabolic issues and a successful calving. Not only are healthy cows with low metabolic issues set up for a successful lactation, but this can also lead to increased reproductive success. Herds with low metabolic issues are often the ones who have few issues at calving and are able to succeed reproductively.
AS YOU BALANCE RATIONS, WHAT ELEMENTS OF THE DIET DO YOU EXAMINE FIRST THAT RELATE TO HERD REPRODUCTION?

Bethard: I tend to look at the big picture and formulate a ration that creates healthy cows. Specifically, a few ration components that influence reproduction are the types and levels of fat available, adequate availability of vitamins, minerals and proper neutral detergent fiber, along with meeting the nutritional requirements of dairy cattle (NRC-recommended levels) all play a critical role. All of these factors can provide an optimal rumen environment, which ultimately impacts cow health. A healthy rumen yields healthy cows that can achieve reproductive success.

Visser: When balancing a ration the first thing I focus on is providing the best quality forages to meet the cow’s energy and protein needs. When cows are fed a heavier forage-based diet producers can often push cows harder. Furthermore, I look at providing enough carbohydrates, and match that with protein efficiency through amino acid balancing, a component I find key to reproductive success. Another aspect of the rations I turn to is micronutrients, providing certain chelated minerals to the ration. Finally, when formulating a ration I want to ensure it is meeting a cow’s body condition goals by feeding top-end forages. This often starts with a successful transition period. I have focused on group dry cow programs balanced to moderate energy levels.

HOW DO YOU WORK WITH OTHER MEMBERS OF THE DAIRY TEAM—HERD VETERINARIANS, A.I. TECHNICIANS AND DAIRY OPERATORS—TO ENSURE HERD REPRODUCTION IS OPTIMIZED?

Bethard: When any changes take place in a herd’s reproductive program I will start to contact other members of the team to get their input on what may be happening from their standpoint. I often visit with the veterinarian to identify opportunities in the reproductive program that can result in optimal reproductive success.

Visser: Teamwork among the dairy team can often be a key component to optimizing herd reproduction. I always try to be in contact with each team member and learn what is and isn’t working well. For example, A.I. technicians are the persons evaluating herd reproduction every day and I find it extremely important to be in contact with them to gather their input. Getting the team together periodically to make sure everyone is on the same page of where we are, where we want to be and what strategies we will use to get there is a concept I like to use to ensure success.
WHAT RECOMMENDATIONS DO YOU HAVE FOR DAIRY PRODUCERS LOOKING TO ENSURE THEIR NUTRITION PROGRAM IS BENEFITING THEIR HERD’S REPRODUCTION?

Bethard: It all goes back to healthy cows. Cows that are fed a healthy ration can succeed in the herd and avoid issues that could harm their reproductive success. These issues include problems with their feet, cycling issues and cows not expressing heat. Avoiding these issues with a ration formulated to create a healthy herd can mean more days in milk through reproductive improvements.

Visser: A challenge with the reproductive parameters is that you can often be headed down a bad track before you even realize it, which makes it important to constantly evaluate all aspects of the dairy operation. You need to implement consistent monitoring programs with adequate tools to assess how animals are coping with all aspects. A big key to reproductive success is making sure all aspects of the operation are running properly, because without astute management on all ends, a good ration can mean nothing in the long run for your herd reproductively.