

# Transitioning Calves After Weaning

## SPECIAL NEEDS

- **Developing immune system needs lots of protein and energy.**
- **Developing rumen needs time to mature enough to supply the heifers' nutritional requirements.**
- **Developing bones and muscles need lots of protein and energy in the correct proportions to grow tall, lean heifers.**
- **Immature immune system needs to face only restricted pathogen challenges in the context of limited stress.**

## IMMUNE SYSTEM

- **Provide a liberal amount of protein and energy above maintenance needs. Ask your nutritionist to help you feed for size and growth goals for your farm. The specific values for protein and energy are listed in NRC 2001, page 218.**
- **Provide an environment with restricted pathogen challenges. Coliforms and clostridial bacteria are fecal-oral pathogens. Viruses are airborne, pass sometimes in water. Parasites are usually passed by fecal-oral route.**
- **Provide management that spreads out stresses rather than stacking them. How many stresses can you name? You probably remembered changes in ration and housing. But**

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**did you think of extreme hot and cold weather, overcrowding in a pen, too large a difference between the largest and smallest heifers in a group, vaccinations and just being handled?**

- **Provide safe exposure to pathogens via vaccination to get both a primary and secondary immune response before the heifers are four months old.**

## **NUTRITION**

- **Provide a feeding program that sustains nutrition throughout the weaning period. Rumen competence is promoted by encouraging starter grain consumption and supplying free-choice water.**
- **Milk is not withdrawn until the nutrients from ruminal digestion of starter grains can provide the protein and energy needs for both maintenance and growth. Remember the three-week, five-pound rule.**
- **Provide a post-weaning ration that has a high protein and energy density. Usually this means a high proportion of grain compared to roughages (dry hay, haylage).**
- **Provide enough feed during the post-weaning period to maintain not only health but also a rapid rate of maturation.**
- **Provide a feeding program that transitions the rumen to the next ration to be fed. Roughages that will be in the next ration should be introduced two to three weeks before the**

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time when the heifer must depend fully on them for her nutrition.

## HOUSING

- **Provide pens that limit the number of heifers to five to eight calves in the post-weaning period. Or, if housed in larger groups, be certain that a competent person is present daily to identify calves in these pens that are adapting poorly to group life. Then put them temporarily into a less stressful environment.**
- **Provide enough pens in order that similar size heifers may be grouped together. If heifers are grouped so that they are about the same size the variation in growth rates within pens will be decreased.**
- **Provide enough space for the animals to walk around and lie down. If heifers are disturbed while lying down their stress level goes up. Stress is a precondition for illness and poor feed conversion efficiency.**
- **Provide a waterer that is easy to find and use. Those heifers that have never experienced group housing need adequate access to water. If the facility has a history of contagious diseases providing separate waterers for each pen may reduce morbidity rates.**
- **Provide enough space at grain and roughage feeders. If all the heifers have space to eat at the same time the variation in growth rates within the pens will decrease.**

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- **Provide housing that reduces stress. The heifers at this age need to be clean, dry and out of the wind in the winter. Adequate bedding will reduce exposure to ammonia fumes that weaken the immune system's defenses against respiratory pathogens. In addition, plenty of dry bedding helps maintain clean hair coats. Clean heifers lose much less body heat in cold winter weather than those with dirty, matted coats do. Heifers will do better if they have shade in the summer, also.**
- **Provide housing that is well ventilated. Our goal is to reduce respiratory stress. This stress may be due to excessive moisture levels, exposure to ammonia fumes and aerosolized pathogens.**
- **Provide housing where heifers can be handled efficiently for routine tasks with a minimum of stress (such as sorting, vaccinating, bedding).**
- **Provide housing with storage for frequently used supplies to improve labor efficiency.**

## **FOR YOUR INFORMATION**

**Cornell web site:**

**<https://prodairy.cals.cornell.edu/environmental-systems/facilities/calf-housing/>**

**scroll down to “Calf and Heifer Facilities” in order to choose from several publications by Curt Gooch.**

**Dr. Jim Quigley's web site:**

**[www.calfnotes.com](http://www.calfnotes.com)**

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**click on “Archives” and then click on “Weaning Management” for six interesting notes.**

**Also, back on the main menu, click on “Calving Ease” and then click on November 2000 for “Feed Bunk Space for Heifers” and June 2004 for “Feeding Space for Heifers.”**