

Feeding Management of The Postpartum Cow

James E. Nocek
Spruce Haven Research Center, Union Springs, NY
and
Chr. Hansens Biosystems, Milwaukee, WI

INTRODUCTION

Physiological changes during the transition period have a critical influence on postpartum cow health, nutrient utilization and production performance. Enhancing dry matter intake (**DMI**) is the most critical factor, and will hopefully be complimented by proper amounts, availabilities and balance of major nutrients. Carbohydrate nutrition in particular is a critical component in regulating energy intake and rumen health. Subclinical acidosis may go undetected in even well managed herds. It is critical to recognize the signs.

EARLY POSTPARTUM COWS (4-5 WEEKS)

Dry Matter Intake

The most critical challenge in the first few weeks postpartum is insuring cows consume adequate nutrients to sustain high levels of production without seriously depleting their body stores. Most management strategies allow comingling of fresh cows, mature cows and first calf heifers into the same high group. In essence there is a loss of identity of the early postpartum cow and/or first calf heifer which require special nutritional considerations in order to maximize potential during lactation. When evaluating the intake of the high group, a variety of factors need to be considered: 1) the proportion of cows that are <30 days in milk (**DIM**) and 2) the proportion of first calf heifers. Knowing what these cows are eating is critical before we can determine whether they are eating enough. Prediction equations have been developed to estimate DMI (Kertz et al., 1991 and **NRC**, 1989). Intake at 5 weeks postpartum is about 50% higher than DMI during the first week of lactation. The rate of increase in DMI during lactation is a primary factor that dictates both energy intake and balance. Kertz et al. (1991) developed prediction equations for each of the

first five weeks postpartum. Equations incorporate body weight, 4% fat corrected milk (**FCM**) and DIM as variables. Into each equation was incorporated a standard differential for DMI between first calf heifers and mature cows (-1.3 kg/d).

A popular strategy for increasing DMI in early postpartum cows includes development of a small rotating group. This group contains 10-15 cows, 2-3 weeks postpartum. The objective is to provide a low stress environment and carefully attend these cows regarding prompt treatment of metabolic diseases, cow comfort and a specific nutrient program suited to their needs.

Protein

Typical high producing dairy cow diets contains 18 to 18.5% crude protein (**CP**), of which 35-40% is undegradable intake protein (**UIP**) and 60-65% is degradable intake protein (**DIP**). **NRC** (1989) recommends high producing cows receive a diet containing 17-18% CP, 35% UIP and 65% DIP. Because intake is depressed and protein is required for body condition mobilization, transition cow diets in the first 4 weeks postpartum should contain approximately 18-18.5% CP to compensate for the intake depression. A slightly higher percentage of UIP (approximately 38-40) is fed to compensate for any potential depression in microbial yield in providing essential limiting amino acids.

Recent research from Iowa State (Crawley and Kilmer, 1995) showed that feeding a diet containing 12% CP and 33% UIP during the dry period resulted in higher milk yield compared to cows fed a 15% CP and either 30 or 39% UIP from either blood meal or soy product