

Dairy Grazing Newsletter – June 2007

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Canopy Closure Grazing

As dairy grazing producers you have probably come across a few people that simply cannot understand how you are able to manage your pastures and determine how much of a paddock to allocate to your herd. They also wonder why your system appears greener and grows more during the summer when compared to their dry brown looking pastures. The answers to these questions are basic plant and animal physiology.

While watching your cows graze you have probably noticed the cows chase after the most vegetative and tender plants first and then graze the least desirable plants last. In fescue and perennial ryegrass the plant will normally only have 3 live leaves on each tiller; when the fourth leaf begins to develop the leaf that formed 2-4 weeks ago begins to die. Allowing the plant to continue to grow beyond this 3 leaf stage will reduce forage quality for the cow and have little impact on increased yield. Unpublished data from the University of Missouri shows over 2-5000 pound increase in yield when plants are harvested at the 2 inches versus 4-6 inches (see below).

Cows that are on a continuous grazing system will continually graze back the new leaves that are forming every 6-10 days while leaving the forage they missed earlier to become more mature and less palatable. Over 85% of the carbohydrates are in the bottom two inches of the plant stubble. Continually removing these new leaves depletes the carbohydrate reserve of the stubble and roots weakening the plant and slowing regrowth. However in a well managed rotational grazing system the cows are removed from the paddock when the plant has been grazed down to approximately 2-2.5 inches. This leaves the carbohydrate stores in the plant stubble and roots to re-establish the new leaves. Cows are placed back on the paddock when the plant has grown 2-3 new leaves and has nearly replenished the carbohydrate stores in the plant.

Producers that manage forages in such a way will help ensure quality of forage fed to the cows as well increase yield throughout the grazing season. Producers can more efficiently run their grazing operation if they follow the 3 M's of grazing; Measure, Monitor and Manage. If a producer is unable to actually measure each and every paddock every 7-10 days then the use of the 3 leaf stage will work as well for managing paddocks on that day but not predicting where the farm where will be in 2-3 weeks. Dr. Donaghy of the Tasmania Institute of Agriculture Research suggests the use of the leaf stage or canopy closure to determine when to graze a paddock. Canopy closure, where the ground beneath the plant cannot be seen, can closely correlate with the 3 leaf stage and suggests the paddock needs grazed down to the 2-2.5 inch stage.

