MEASURE AND MANAGE

Growing Degree Days 2000

Date	Growing Degree Days			Weather Conditions	
	2000	1999	1998	2000	1999
May-01	172.3	207.4	280	sunny, cool	warm
May-05	248.8	287.9	370	hazy, hot	rain, warm
May-10	373.8	361.2	489	rain, cool	sunny, warm
May-15	442.7	431.4	585	sunny, cool	sunny, warm
May-25	579.5	572.3	723	cloudy, cool	rain, hot
May-29	640	732.5*	850		warm

Agri-Food Laboratories is recording Growing Degree Days (GDD) for 2000.

- *In 1999 Cutting had begun on or around May 26-29.
- To date, May 25, the accumulated value stands at 580 GDD's. This is comparable to 1999, when the total GDD's for that year, to May 25 was 663. By comparison, in 1998, the total was 815.
- The reason for the difference in rate of accumulation between the last two years can be attributed to a night warming effect. Degree units add up much more quickly when nighttime temperatures remain above 15^{o} C, and daytime temperatures reach the mid to upper twenties.
- The "optimum accumulation" is designated to be ~ 650-700 GDD's.
- This year, the accumulation pattern is similar to last year, in that cool nights have hindered the rate at which we have totaled GDD's.
- Early in the spring, we had experienced less rainfall, or fewer rain days than in 1999. This current week, has altered that. Cool weather favoured grass growth, but increasingly warm temperatures have enhanced alfalfa growth.
- The period from May 10 to May 25 was cooler than last year and the accumulation of GGD's, as a result, was much slower. These conditions did however, bring the grasses along much more quickly.
- Environmental conditions have a profound impact on forage quality. Temperature, soil moisture and rainfall have been found to be of varying importance in the production of fibrous structural components, associated with digestibility.
- Favourable growing conditions result in less digestible forage. Different forage species respond to different weather and soil conditions. Forages such as corn, which yield one crop per growing season, are affected differently by weather patterns than multi-crop forages such as alfalfa. Mild to severe stress on crops will restrict yield, but increase digestibility.
- Different regions throughout the province have experienced different growing environments over the last year. This has affected the quality of the crops and the performance of the animals being fed.
- The interactions between forage types, hybrids, environmental conditions, and management practices, contribute to the anomalies that have been apparent in the last

year. Forages of seemingly high quality have not generated the production responses that were expected.
- The conventional battery of tests available, while suitable for characterizing forages, seem to fall short of explaining some of the production problems.

- In an effort to better equip nutritionists in formulating rations, Agri-Food Laboratories will be offering, as part of a diagnostics or evaluation package, a series of tests applicable to the CPM DAIRY Program.
- This package will be comprised of standard wet chemistry values for dry matter, crude protein, ADF, NDF, macro minerals. As well, invitro data on disappearance rates for protein and carbohydrate fractions will be available, and insitu starch disappearance rates.
- This package will be denoted as the DIGESTIBILITY MODEL INPUT Package (DMI).
- More information regarding this will be available in the very near future.

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