

GRAZING PASTURE MANAGEMENT

TECHNIQUES FOR MEASURING THE RATE OF HERBAGE GROWTH

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Herbage growth rate information for your farm is essential for planning grazing decisions. You need growth rate data to plan rotation lengths, calculate stocking rates and to make other management decisions such as when to apply fertilizer or to feed additional supplements.

In a drylot situation the tonnage and quality, and the rate at which stored feeds are used can be measured. Pastures are different because both the quantity and quality of the forage can change significantly through time, and this will affect the way the pastures are used. It is important that good records describing the supply of pasture are available so that the herd feeding program can be planned.

Herbage growth rates describe the average rate at which new plant material accumulates and is expressed in terms of pounds of dry matter per acre per day (lb DM/a/d). It is more correct to describe the increase in plant material mass as net herbage accumulation (NHA) since some plant material decays during the period over which growth rates are being estimated.

For planning purposes growth rates for 2-4 week intervals are required to reflect changes in seasonal conditions. Very little data

1. Difference in herbage mass between pasture assessments

If herbage mass (see our last column) is being assessed on a regular basis then an estimate of NHA can be obtained from the paddocks not grazed between assessments by dividing the difference between the readings by the number of days between the measurements. For example, if the herbage mass on paddock 1 was 1000 lb DM/a on May 1 and 1560 lb DM/a on May 15, 560 lb of DM has accumulated in 14 days to give an average NHA rate of 40 lb DM/a/d. An average monthly value can be obtained by completing these calculations across several paddocks.

2. Difference technique with exclusion cages

For this method 2-4 cages to exclude livestock or other wildlife grazing an area of pasture are required, along with a lawnmower (with a catcher) or clipping shears and a quadrat (1.5-3.0 ft² enclosed within a rectangle formed from steel rod or wood). The site(s) selected for the cages should be representative of the pastures and soils on the farm. If a lawnmower is used the cage sized may be 9-18 ft², for quadrat 1.5-3.0 ft² is adequate for different sites, and pasture types, in Pennsylvania has been published and unfortunately, most of that which shows only seasonal (spring, summer and fall) yields. However, farmers can develop their own herbage growth database inexpensively over 3-4 years using one of the difference techniques described below.

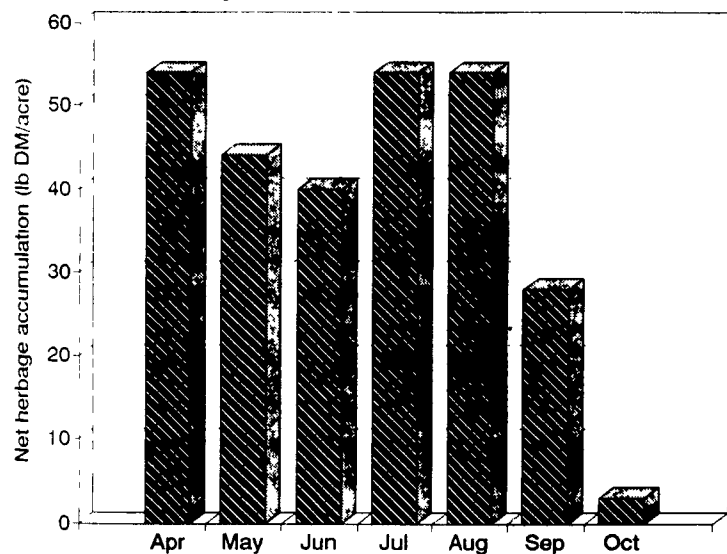


FIGURE 1: Net herbage accumulation rates, measured by the difference technique, on the grazed area of the medium stocking rate treatments (1.3 cows/acre) during the 1990 grazing season.

In the near future computer simulation models will make it possible to quickly estimate NHA values for individual farms, providing local rainfall, and air temperature data is available. Soil temperatures at 4" would be an additional benefit. If you do not already collect this information, which is useful for making a host of other farming decisions, start today. A rain gauge, and thermometer are inexpensive to buy and can be located near to a route you walk each day (e.g. on the way to the barn) so that taking readings is not an inconvenience.

Collecting pasture growth rate data using the difference between paddock scorings is the simplest way to begin estimating NHA values for your farm. You may already have pasture scoring records for previous months from which NHA can be derived. If not, why not take note of paddocks not grazed between farm walks from now on and do the few simple calculations necessary to derive NHA values. You will find these really useful for feed budgeting the subject discussed in our next column.

ate. The herbage at the selected site is trimmed to a fixed height (2-3") and is excluded from grazing by the cage until sufficient herbage has grown to make a cut worthwhile (2-3" over a 2-4 weeks). The regrowth is then harvested to the original cutting height (make sure that this has noted down somewhere during the first trimming) and the herbage material collected is dried to determine the DM production. Lets assume, an area 2 feet by 4.5 feet (1 square yard) is mowed and that 0.25 lb DM has accumulated

over 30 days. The NHA will be (0.25 lb DM x 4840 square yards per acre)/30 days = 40 lb DM/a/d.

One of the problems encountered with grazing is that NHA rates may be very different between months within a grazing season and between years. The NHA in June 1991, for example, was substantially lower than for the same month in 1990 because of differences in rainfall and temperatures. For this reason growth rate data should be collected over several years to obtain an average figure which can be

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used for planning purposes. Several years data will also help you to assess the risk associated with different grazing plans. The NHA rates recorded at Penn State during the 1990 dairy cow grazing study are shown in Figure 1. The data relate to the grazed portion of the predominantly orchard grass sward and were obtained under a high level of nitrogen inputs. The accumulation rates in July - August are probably 30-50% higher than the long-term average because of the good rainfall during these months.

Wolff Pledges Pa.'s Help On Food Labeling

HARRISBURG (Dauphin Co.)

— State Agriculture Secretary Boyd E. Wolff said the Pennsylvania Department of Agriculture will support the U.S. Food and Drug Administration's (FDA) efforts to improve food labeling.

Wolff pledged Pennsylvania's help after meeting with top FDA officials and agriculture secretaries from other major agricultural

states.

"There are growing numbers of products whose manufacturers make labeling claims relating to cholesterol, fat content, and other matters of great interest to consumers," Wolff said. "If we want to maintain high consumer confidence in food products, we must make sure the labels tell the truth."

"It is also important that there

be national uniformity to food labeling because modern marketing of agricultural products takes place without regard to state borders."

The federal Nutrition Labeling and Education Act of 1990 makes major changes to food labeling so that consumers can better judge food ingredients, health claims, and nutritional information.

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