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Forage Allocation System for Dairy Producers-- Using a Forage Inventory and Allocation Worksheet

This NebGuide provides a worksheet to organize your forage inventory and properly allocate forages of different qualities to various groups of cows.

Rick Grant, Extension Dairy Specialist

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Importance of Forage Quality

Properly feeding high quality forage to the dairy herd improves the profitability of the dairy enterprise. A dairy herd demonstration program involving 28 herds in Nebraska illustrated the importance of feeding high quality forage. Herds which improved forage quality over the two-year program produced 30 percent more milk yearly, with over 8 percent less feed cost compared with those herds that failed to feed high quality forage. University of Wisconsin research indicates maximum milk production can only be achieved when excellent quality forage is fed. As forage quality declines, milk production typically falls even though more grain is fed.

Importance of Forage Allocation

Of equal importance to harvesting high quality forage is proper allocation of forage to various groups of cows: high, medium, and low milk producing groups, dry cows, heifers and calves.

Properly allocating high quality forages to cows with the greatest needs for protein and energy, and allocating poorer quality forages to dry cows and heifers, optimizes use of high quality forages and results in the most profitable feeding system. During 1991, a demonstration herd program with 14 Nebraska dairy herds compared milk production between those herds that used a forage inventory and allocation system and the stage average DHIA increase. From 1991 to 1992, the DHIA average milk production per cow for Nebraska dairy producers increased by 1.2 percent. Demonstration herds that

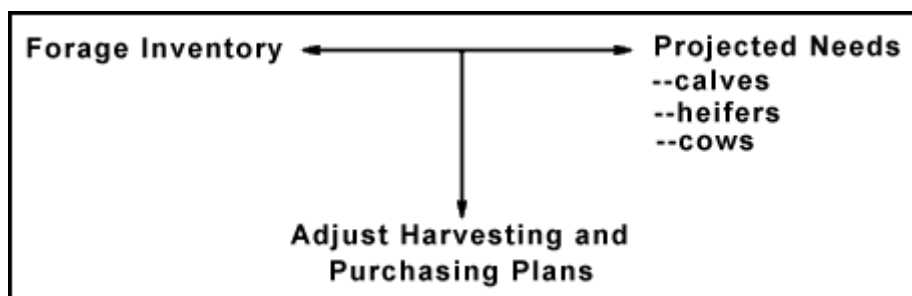
adopted a forage allocation system improved milk production by 3.4 percent.

Use of Forage Inventory and Allocation Worksheet

A Forage Inventory and Allocation worksheet (*Table I*) should be used throughout the forage harvesting season. The ultimate purpose of keeping an accurate inventory of forage is to mesh your forage harvesting, purchasing, and allocation with your dairy feeding and grouping system. If the following steps are taken successfully, you will create your own unique, profitable Dairy-Forage System.

1. Test each separate lot of forage and list it on the worksheet. For example, test forage after each cutting, and test within a cutting, by field, if differences in forage maturity and quality exist. Remember: forage testing is necessary for proper ration formulation.
2. Identify each lot of stored forage. Identify lots of forage based on quality (determined by forage analysis). For hay, use tags or labels. For silage, identify cuttings in an upright silo using egg cartons or colored plastic blown into the silo between cuttings. Be sure to take representative forage samples at ensiling for later use in ration formulation.
3. Carefully log information in inventory worksheet. This allows you to locate and then allocate proper forage quality to a specific group of cows such as calves, heifers, dry cows, and lactating cows of various production levels.
4. Determine the quantity of forage you expect to feed to your herd during the following year.
5. Adjust harvest goals for each cutting based on results of previous cutting.
6. Evaluate the amounts and qualities of stored forage to:
 - a. determine the quantity and quality of forage you may need to purchase at the end of harvest season,
 - b. achieve your goals with respect to formulating rations for different groups of cows, and
 - c. determine what hay you can best sell or purchase.
7. Create a complete forage-based feeding system. Properly allocate forages to cattle groups to optimize use of high quality forages. Step 8 gives examples of how forages might be allocated to the milking herd.
8. Run preliminary rations. Using information from your worksheet, you can plan and account for quality of forage, tonnage of forage, or limited quantities. If the supply of a particular forage quality is limited, predict when the supply will run out, and have several alternative feeding scenarios already formulated.

Figure 1. Continuously compare your forage inventory to projected needs to have a successful dairy-forage system.



One scenario might involve a limited quantity of relative feed value (RFV) 180 alfalfa hay. Three potential options would be: 1) limit the pounds fed daily, 2) use it up and buy more hay of equal quality, or 3) if this high quality of hay is no longer available, buy a lower quality hay and try to compensate with concentrates or byproduct feeds. Economic conditions, hay prices, commodity feed prices, and

other factors may dictate the alternative you eventually select, but at least you already have formulated several alternate feeding options.

In summary, as the harvest season progresses, compare your forage inventory to your projected needs, and adjust forage harvesting and purchasing plans accordingly as outlined in *Figure 1*. By carefully completing the worksheet in *Table I* as the forage harvesting season progresses, you will naturally have an organized, well thought-out forage feeding system.

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TABLE I. FORAGE INVENTORY AND ALLOCATION WORKSHEET:

199 Harvest Season

List below all currently available forages. Leave unknown answers blank and write “P” under “Field ID column” if the forage was purchased.

[illegible]

*For home-grown forages, insert your estimate of the current market price of that quality of forage in the "Market Price" column.

**If a certain forage must be included in ration.