

Feed Inventory: Determining what you have and what your farm needs



A critical component of dairy farm management is balancing whole herd feed needs with available supplies of forages. Now, after corn is harvested is the best time to establish your feed inventory and determine the feeding needs for upcoming year. As a minimum a feed inventory should be conducted once a year, after corn harvest is complete, but ideally it should be conducted 3 to 4 times/year to determine if the actual feed disappearance rate is matching the expected or planned disappearance rate.

Why worry about a feed inventory?

The simple answer, so you don't run out of feed.

The more complex answer: so you can balance feed inventory with animal numbers (current as well as any expansion plans), production goals and determine if your supply is adequate, if feed can be sold or if you need to purchase feed. Knowing in late fall/early winter that you will need to purchase a specific feed allows you to locate said feed earlier as well as set aside funds for the purchase. Not planning ahead may lead to running out of feed and not being able to purchase haylage or corn silage later in the spring or summer months.

Feed inventories and feed value, may also be needed in tax preparations, for financial documents and FSA forms.

What's involved in a feed inventory?

1. Determine feed needs:
 - a. Number of animals
 - i. Current total - every animal on the farm (lactating, dry, heifers, steers, bulls, boarders...)
 - ii. Potential growth - do you plan to expand or sell a large group of animals in the next 6 - 12 months?
 - b. Feeding rates - how much are you feeding/head/day?
 - c. Time - how long does current feed need to last?
2. Determine current feed inventory
 - a. Determine for all types of storage units/feed types (silos, agbags, baleage, dry hay...)
3. Determine the balance
 - a. Is the available supply adequate?
 - b. Can forage be sold?
 - c. Does forage need to be purchased?

How to calculate feed inventory?

There are lots of tools available to help calculate feed inventories. These include: worksheets, spreadsheets, commercial software that integrates with the feeding system, some ration programs calculate feed needs and there is always the pencil and paper method.

A few key formulas to know:

- How much feed is in my bunker silo?
 $\text{Height} \times \text{length} \times \text{width} = \text{cubic feet}$
- 22 $\text{Cubic feet} \times \text{packing density (pounds of silage/cubic foot)}$

= pounds of silage

If your density is calculated as "dry matter" your pounds of silage = pounds of silage on a dry matter basis. If your density is calculated "as-fed" your pounds of silage = pounds of silage on an as fed basis.

- How long will my feed last?
 $\text{Feed inventory (tons)} / \text{consumption rate (tons/day)}$
- Will feed need to be purchased?
 $[\text{Inventory (tons)} - \text{consumption rate (tons/day)}] \times \text{time until harvest (days)} = \text{feed available}$

Feed Management:

- Does the quantity of feed remaining match the number of days (or months) until harvest? If you are calculating for corn silage or haylage make sure to include time for fermentation of feed. If you the amount of feed does not match the number of days until harvest or past fermentation of silage you need to think about what other options are available.
- 1. Always double check your math.
- 2. Work with your nutritionist to reformulate the rations
- 3. Evaluate cow and heifer numbers - are there animals that could be sold?
- 4. Is grazing an option?
- 5. Do you need to buy feed - earlier is better.

· Bunk management - don't lose any of the valuable feed you have!

Take Home:

- Feed inventory is an important part of whole farm management as herds increase in animal numbers and feed higher forage rations.
- Many worksheets and spreadsheets are available and can be useful tools in this process.
- Calculating your feed inventory multiple times a year can assist in balancing the feeding rates, animal needs and the quantity of forage available.



Online resources:

www.ansci.cornell.edu/pdfs/DetForageInventory.pdf - Includes information on upright silos, tables with approximate dry matter capacities as well as example calculations.

www.cornell.edu/dm/index.html provides worksheets to determine dairy herd forage needs and estimate forage inventories.

www.whminer.com/dairy.html Feeder tools version 2.1 has multiple worksheets available to estimate tower silo and bunker silo inventories.

www.uwex.edu/ces/crops/uwforages/storage.htm
http://www.uwex.edu/ces/crops/uwforage/sil_bag_cap.htm A great resource for people looking to calculate forage inventories and using Ag Bags.

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