

Making a Feed Inventory

by Brian Holmes

What is a feed inventory?

Doing a feed inventory establishes your current stock of various feed ingredients on hand. The process involves determining the volume of each feed stored and then multiplying by the stored density to yield a weight of feed in storage.

For example, silage in a bunker silo has a dimension of 30' x 10' x 50'. Its volume is 15,000 cu ft. If the silage has a stored density of 40 lb /cu ft (as fed), the weight of feed in the bunker is:

$15,000 \text{ cu ft} \times 40 \text{ lb /cu ft} = 600,000 \text{ lb} = 300 \text{ T as fed.}$

There are several ways to do a feed inventory: 1) pencil and paper, 2) computer spreadsheets, 3) commercial software that integrates with your feed weighing system. There are a number of publications and software tools that can help establish your feed inventory. Some of these materials are listed below:

Dairy Freestall Housing and Equipment (MWPS-7). 2000. Pages 130-135. Tables of quantities of feeds in various storage types.

James A. Barmore. 2001. Monitoring & managing feeding, inventory & shrink. p. 75-86. In: Proceedings: Four State Applied Nutrition & Management Conference. Iowa State University, Ames, IA. Midwest Plan Service Publication 4SD11. Call 1-800-562-3618 or www.MWPSHQ.org to order a copy.

The following materials can be found at the University of Wisconsin Team Forage Harvest and Storage web page:

<http://www.uwex.edu/ces/crops/uwforage/storage.htm>

Spreadsheets

Silage Pile Capacity Calculator

Silage Pile Dimension Calculator

Bunker Silo Density Calculator

Bunker Silo Sizing Calculator - includes a section for estimating daily forage feed needs for the whole dairy herd.

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Cost of Forage Storage - look in the help section for calculators for storage areas for bags, piles, bunkers, silage bales etc.

Publications

Silage Bag Capacity

Choosing Forage Storage Facilities

Density and Losses in Pressed Bag Silos



What is inventory management?

Feed inventory management is slightly more complicated. With inventory management, you are predicting how long an ingredient will be available to feed and making adjustments accordingly. If the projected date to feed depletion occurs before a new crop comes in, you need to consider if you will reduce the rate of consumption to extend the feed ingredient, purchase more of that feed, substitute an existing feed ingredient into the ration or a combination of these choices.

How long will my feed last?

The projected time to inventory depletion is calculated as:

Feed Inventory (tons) / **Consumption Rate** (tons/day)

For example:

100 tons / 2 tons fed/day = 50 days to depletion

Will feed need to be purchased?

The projected feed to purchase (tons as fed) to meet feed needs at a given consumption rate is:

**[Inventory (tons) – Consumption Rate (tons/day)] *
Time till harvest (days)**

100 tons – 2 tons/day * 70 days = -40 tons (as fed) to purchase (*negative value means purchase, positive value means excess*)

There are a number of publications and software tools that can help establish your inventory and manage it. Some of these materials are listed below:

Managing Dairy Feed Inventory (A2945) – a University of Wisconsin bulletin available through your county extension office or off the internet at:

<http://www1.uwex.edu/ces/pubs/pdf/A2945.PDF>

Dairy Feed Inventory Planner - a useful dairy inventory spreadsheet developed by an area Michigan State University extension dairy agent. Download at:

www.canr.msu.edu/msue_thumb/articles/feedinv.htm

Instructions for the above spreadsheet are at:

www.canr.msu.edu/msue_thumb/files/feedinv/FEEDINV.pdf

Feed inventory aid to management - by Lee Kilmer, Dan Loy, Daryl Strohbahn and Dan Morrill. Iowa State University. Disaster Recovery-44 Bulletin

Available on the internet at:

<http://www.extension.iastate.edu/Publications/DR44.pdf>

When is the best time to do a feed inventory?

There is no one best time to do an inventory. Doing an inventory at different times for different reasons may be beneficial. For example, doing an inventory in:

October/November - allows you to make a projection to see if purchased feed will be needed or if consumption rate may need to be adjusted. This will allow needed purchases when commodity prices are apt to be lower in winter and will allow purchases before December 31, assisting in tax management.

February/March - allows you to make a mid-course correction prior to the harvest season. Estimates of density will be more accurate after having fed from a storage for a

while, so estimates of quantity stored will be more accurate.

June/July - allows you an early warning of inadequacy of feed supplies for the up-coming feeding season. Purchases of standing crops remain an option if deficiencies are discovered.

Anytime you are required by a lender to provide a balance sheet, a feed inventory and the feed value is needed.

Where can I get help with inventory management?

The information available from the sources in this article will be of help in doing your inventory and its management. Don't overlook the assistance available from well-trained nutrition professionals who can help you with these issues and decisions.

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