

### HOW RIGOROUS IS YOUR FEED INVENTORY PLAN?

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Feed inventory planning and management is a foundational business activity for any dairy or cattle feeding operation. It is equally important for hay or feed commodity growers and sellers. Our farming ancestors did it for centuries, and for most of us who grew up on the farm it seems intuitive. That can make it tempting to take a casual seat-of-the-pants approach to feed inventory planning and management. Yet the importance of this foundational activity deserves more rigor. Our advantage today is that we have access to information, spreadsheets, and software resources to help us plan, assess, analyze, and manage our feed inventories.

#### Tally Up Your Feed, Forage, and Animal Requirements

Get started by conducting a feed inventory assessment as the first major step. Whether you use software, spreadsheets, or a notebook, there's some work to do here. Think of it as a tally of all your feed on hand. This is the starting point for your feed inventory planning and utilization decisions that will follow.

The first important feed inventory metric is tons of each individual feedstuff on hand. Include conserved forages such as hay and silage, plus commodity grains, concentrates, minerals, etc. Include pasture inventory when available. Moisture content is essential to estimate dry matter tons of feed inventory, especially with conserved forages. Take your feed inventory assessment to the next level with feed quality analyses, especially important for conserved forages since they represent the largest and often most variable ration components.

The next phase of feed inventory planning is to determine the usage rate and how long you expect or need each forage or feedstuff to last. Ideally this should be done concurrently with ration formulation planning. Dry matter and forage quality analyses of your feedstuffs are very important in this phase. Ration changes along the way should trigger updates to your feed utilization plan.

Planning your feed purchases is a logical next step. Once you build your ration and feed utilization plan, you can calculate how much of which feedstuffs you'll need to purchase throughout the upcoming feeding period. Plan the timing of those purchases based on historic and anticipated market conditions, cash flow, feedstuff quality and availability, and feed expense recognition for tax planning.

Once you've settled into rations, it's a good idea to re-assess your feed inventories. By early winter, most dairy operations settle into rations based on new crop forages, and feed commodities on hand or available locally. This is a good time to re-assess forage and feed inventories, and verify the utilization rate of each feedstuff. Re-affirm how long each feedstuff will last and whether changes or substitutions to your rations should be contemplated.

#### Your Feed Inventory Plan Leads To Your Cropping Plan

Your feed inventory should be considered as you develop your crop growing plan. Forecast your total needs for each forage and feedstuff for the next full feeding period (typically the full year feeding period from one harvest to the next). Subtract your anticipated ending inventory of individual feedstuffs, then add back an amount you'd like to carry over. Build in 'safety stock' when forecasting future needs to accommodate the inevitable variation in growing season yields, harvest and storage losses, etc. These calculations help you plan the amount of each feedstuff to grow. Let prior 3-5 year average yields be your guide for acreage planning. Crop rotation and manure management will be considerations.

Crop yields and resultant feed inventories change from one growing season to the next. It's a good idea to assess growing conditions for likely crop yields during the growing season. Advance knowledge of a short crop can

stimulate your planning for alternative crops and feed purchases to make up for the anticipated shortage. Advance knowledge of surplus feed inventories can give you more time to take advantage of cash sales opportunities for surplus feeds or forages, perhaps even before harvest. That will be especially important when deciding whether to harvest a field, versus sell a standing crop in the field.

Feed Inventory Assessment and Planning Schedule	
<b>October</b> Post-harvest Feedstuffs Inventory	Analyze DM and feed quality of conserved forages Ration adjustments based on new-crop forages Identify feedstuff surpluses and shortages Finalize a purchasing plan for short feedstuffs
<b>Dec-Jan</b> Mid-winter Inventory	Affirm utilization rates after rations settle into new crop forages Adjust inventory utilization expectations through next harvest Create next season's cropping plan if you haven't already
<b>March</b> Spring Inventory	Finalize adjustments to cropping plan before planting Decide crop substitutions for earlier harvest if needed Review pasture contingency plan in case of drought Predict range of carryover feed volumes depending on growing season outcomes
<b>July</b> Inventory Forecast for Upcoming Year	Forecast crop yields based on growing season to date Forecast feedstuff inventories for the upcoming feeding cycle Predict short/surplus feedstuffs for early purchase/sell decisions

## Getting Through Forage Shortfalls

If you've planned well, and identified purchased feed needs early, you shouldn't have so-called 'emergency' forage feed needs during the winter and early spring. But unplanned emergency forage needs can occur when feed inventory runs out during a difficult growing season, just when you might be counting on pasture or timely new crop harvest that doesn't materialize as planned.

Getting through a droughty growing season has ramifications to pasture yields and may require 'emergency' feed purchases. However, the larger concern can be reduced overall forage yields that leave you with a shortfall of planned forage inventories for the entire upcoming feeding period, typically a full year through the next season's harvest. In these situations the three main alternatives are to feed fewer animals, purchase more feedstuffs, or change your cropping plan to harvest new crop forages earlier during the next growing cycle.

Crop substitutions should be considered for earlier harvest in feed inventory shortage situations. A well-planned crop substitution can offer earlier harvest and relief from purchased feeds, but often carries a yield or quality penalty, essentially kicking the feed inventory can down the road. Inclusion of alternate forages will dictate ration changes that could further change your feed utilization rates. Be sure to factor these changes into your feed inventory plan. Weigh the cost and timing of cash outlay for feed purchases versus the alternative of crop substitutions for earlier harvest. Your feed inventory planning process should include tools and information resources that help you evaluate these trade-offs and risks. These resources can help you make well-informed decisions about crop and feed substitutions.

## Feed Inventory Assessment and Planning Questions

- How many tons of each forage or feed commodity do you have?
- What is the dry matter content and feed quality of the forage and feed commodities you have on hand?
- What is the utilization period for each forage and feedstuff in your inventory? How long will each need to last?
- How many animals will you be feeding? What is the inclusion rate of each feedstuff in the expected rations, and total feed needs through the entire feeding period?
- How long will each feedstuff last at the planned feeding rate?
- Can you forecast any shortages or surpluses for individual feedstuffs?
- Are there substitutions you can make within your feed inventory, to take advantage of surplus forages or feedstuffs?
- How much additional purchased feed will be needed to finish out the feeding period you anticipate?
- What is the best purchase timing and availability for the specific feedstuffs needed to make up feed inventory shortages?
- Will surplus feedstuffs be carried over for the next feeding period or next year, versus generating cash flow during the current period?
- How many tons and which feedstuffs will you carry over into the next feeding period? (presumably the next year)
- How many tons of which feedstuffs will you need to grow and harvest during the next growing season, considering anticipated feed needs in the feeding period following your next growing season?
- Have your built 'safety stock' into your feed management plan to provide a cushion against feed spoilage, waste, delayed or reduced new crop harvest?

## Share The Load of Planning and Implementation

Share your feed inventory management plan with family members, select employees, your nutritionist, and crop advisor or seed representative. Involve these people in the development of your feed inventory management plan and cropping plan. Seek information from knowledgeable individuals when considering crop or feed substitutions with which you don't have experience.

Consider the right level of rigor for your feed inventory planning. Benefits of good planning can include fewer feed inventory surprises, earlier recognition of feed surpluses or shortages, more time and opportunity to sell or purchase feed, fewer more gradual ration changes, and more effective crop planning. All these potential benefits can help you manage the overall productivity of your operation.

### A Few Helpful Resources

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

<http://www.uwex.edu/ces/crops/uwforage/FeedInventory-FOF.htm>

<http://www.uwex.edu/ces/crops/uwforage/FeedInventory-FOF%20Formatted%202011-3-12.pdf>

<http://extension.psu.edu/animals/dairy/news/2011/feed-inventory-tracking-underutilized-but-critical>

[http://msue.anr.msu.edu/news/feed\\_inventory\\_planning\\_for\\_dairy\\_herds](http://msue.anr.msu.edu/news/feed_inventory_planning_for_dairy_herds)

<https://www.msu.edu/~thomasc/feedinv/FEEDINV.XLS>