

Ag-Bag® Advantage



A publication on management practices and tips utilizing the AG-BAG® sealed storage system

Spring 99

Feature Farmer—

Bottasso Dairy—Looks to the Experts

There is an adage that the most successful businessmen surround themselves with experts at the things they don't know so they can focus their energy on those things they do. Third-generation dairyman, Mike Bottasso attributes the success of Bottasso Dairy to such sound thinking.

Bottasso's grandfather started the dairy in 1917, and it has grown while operating continuously at the same central California valley location. With a milking herd of 700, Bottasso also raises his own replacements which brings his total herd to 1000 Holsteins. He expands his dairy business by getting the most *bang for the buck*.

With a rolling herd average of 24,500 lbs., Bottasso is an expert at running his dairy. Relying on the expertise of his custom forage harvester, Dave Phillips, he ensures he is feeding quality forages and not losing money between the field to feeding. Phillips runs the business started by his dad 31 years ago and is so committed to bagging he said it is "easier to tell you how many customers I don't bag for versus the number I do."

He noted that many dairy-men don't know how much

money they lose each day with outdated feed storage practices. While bagging pays for itself in the reduction of storage losses, the quality of the feed can be "astonishing. It is cool coming out of the bag. There is no mold. The animals are healthier and milk production goes up," Phillips said.

Bottasso agreed to a test bag about ten years ago and hasn't looked back since transitioning to only bagged forages. He feeds corn, wheat, triticale, alfalfa and winter forages. With the bags, he can get exactly the feed he wants when he wants it. Phillips noted that while bags take a bit more accuracy to feed from, the dairyman gets far greater control over his rations.

Chopping for Quality —

Monitor for Moisture Content and Maturity

Maturity and moisture content matter. Cutting at the right time is essential for obtaining the most nutrients from the crop to gain better milk production.

Maturity affects corn silage quality because it influences grain content, moisture levels and stover digestibility. A good test of maturity in corn



Chopping in the field

Photo—Phillips Silage Harvesting

Con't on page 2

Come See Us

- National Holstein Convention - Boise, ID — June 20-22
- Farm Progress Hay Expo - Rossville, IA — June 30
- Wisconsin Farm Progress Days - Lancaster, WI—July 13-15
- Empire Farm Days - Seneca Falls, NY — August 10-12
- Ag Progress Days - Penn State University Park, PA — August 17-19
- Dakotafest - Mitchell, SD — August 17-19
- Texas Dairy & Farm Show - Stephenville, TX — September 14-15
- World Dairy Expo - Madison, WI — September 29 - October 3

For high quality silage, harvest should be started between one-half to two-thirds milk line. A few hybrids show little denting, so close monitoring of the corn near harvest is essential.

At this stage, whole-plant moisture levels generally range from 65 percent to 70 percent, which is a good compromise among starch content, sugar content, stover

Con't on page 2

Bottasso Dairy

Con't from page 1

Phillips also talked with Bottasso about the benefits of using inoculants. Calling on the expertise of his nutritionist, Bottasso looked at the results of feed inoculated with Ag-Bag Plus!® and confirmed the enhanced cool fermentation process.

Without the feed heating up, micronutrients were preserved that benefited both milk production and fertility. In the rumen, “you have such a small space in which to pack the most nutrients,” Bottasso said. “The tests showed there were more nutrients available for the cow with the inoculated feed.”

These days Bottasso Dairy is filling in long-vacant bunkers to make room for more bags. Custom harvesters like Phillips have seen the improvements that come from switching to bagged feed. “We like to give our customers the best possible feed. Bagging does that. My operators like the way an Ag-Bagger® puts up a bag better than others we have tried.” He likes knowing Ag-Bag® not only sells equipment, but also provides customer service and technical support.

“Ag-Bag® is the only company in their industry that does everything. I like that.” As Bottasso has discovered, it’s expert advice that makes great business sense.

Chopping for Quality

Con't from page 1

digestibility and moisture content.

Variations from the moisture level guidelines can occur because of hybrid differences, location and weather conditions. Producers should monitor maturity and moisture content closely by using a moisture tester in conjunction with milk line development.

Timeliness of harvest is key to quality alfalfa silage. While yield increases with maturity, quality decreases. This is because the proportion of fibrous stems increases while percentage of protein-rich leaves lowers.

Relative Feed Value of Various Forages

FORAGE	CP %	ADF %	NDF %	RFV %
Alfalfa, pre-bud	23	28	38	164
Alfalfa, bud	20	30	40	152
Alfalfa, mid-bloom	17	35	46	125
Alfalfa, mature	15	41	53	100
Alfalfa-grass, bud	19	30	45	135
Alfalfa-grass, mid-bloom	15	38	55	100
Alfalfa-grass, mature	12	42	52	101
Brome, late vegetative	14	35	63	91
Brome, late bloom	8	49	81	58
Bermudagrass, early	12	32	70	85
Bermudagrass, late	8	43	78	66
Corn silage, well eared	9	28	48	133
Corn silage, few ears	8	30	53	115
Cornstalks	6	43	68	76
Fescue, late vegetative	12	36	64	88
Fescue, early bloom	10	39	72	76
Orchardgrass, early vegetative	18	31	55	109
Orchardgrass, early bloom	15	34	61	95
Sorghum-sudangrass, vegetative	15	29	55	112
Sorghum-sudangrass, headed	8	40	65	83
Wheat straw	4	54	85	51

To get the greatest leaf-to-stem ratio for the highest nutrient value, alfalfa should be cut in the pre-bud or bud stages. Sometimes, this harvest window can be short.

Each day’s delay in harvesting results in a 0.5 percent drop in protein, but a 0.7 percent increase in acid detergent fiber (ADF) and a 0.9 percent jump in neutral detergent fiber (NDF). Further studies have shown that feeding alfalfa at later stages of maturity without adjusting rations can result in up to 400 pounds of lost milk production per cow per lactation.

To make the most of crops harvested at the right maturity and moisture levels, don’t forget to apply inoculants. Forage quality cannot be increased once the crop is ensiled. However,

using inoculants helps retain valuable nutrients. With the faster fermentation and improved dry matter recovery that inoculants provide, producers have yet another opportunity to maximize herd performance.

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Nutrition in a Nutshell

by James DeMatteo, Nutritionist

A hay farmer knows that the precursor to a good rainstorm is often the cutting of a prime field of hay. This previously explained mystery is prompting more and more hay farmers to move towards hay crop silage as an alternative to dry hay.

Many of us have heard the rules of the game for years. Even so, the science of haylage making remains in the shadow of the art of reading the weather, timing the wilting, and correct length of cut so that you harvest the best possible product for the ultimate consumer - the cow.

It's not too late to make forage decisions and implement changes. I have worked with people with many years of haylage experience as well as newcomers. Sometimes I hear of people who have "never seen so much milk" since they started feeding haylage. Conversely there are those who have had the opposite experience.

This past year, I met with a couple of producers with 15+ years of experience who had some problems with their haylage. Even progressive, technically competent farmers experience problems adapting new equipment in forage harvesting. Both producers purchased new choppers, expecting to see positive results through faster harvesting. But the new choppers resulted in a clostridia problem at one dairy and an increase in displaced abomasums at another.

In one instance, the new forage choppers resulted in a finer cut on the forage, even though the cut settings

Management Action	Target	Monitor Performance
Minimize drying time.	Moisture content for proper fermentation.	Take moisture tests of "wilted" hay. Form a wide swath to increase drying rate.
Make haylage coarse enough to be good for the overall ration.	Set the theoretical length of cut at $\frac{3}{4}$ " — 1".	Final total ration particle size should provide a minimum of 5# of hay or haylage over 1.5" long. A Penn State Particle Scorer should show >10% in the top screen, 35-50% in the middle screen, and <50% in the bottom screen. Butterfat test should be monitored for healthy rumen function.
Fill bags quickly.	Minimize spots where compaction was poor.	Monitor ADIN (heat damage). Silage pH will indicate proper fermentation.
Proper dry matter content in the finished product.	35 - 45% dry matter. As you approach 30% dry matter you risk a clostridia/butyric acid fermentation problem. As you approach 50% dry matter you risk heat damage/fermentation problems.	Monitor dry matter in the haylage with the appropriate target levels to the left. Monitor ADIN (heat damage) and silage pH indicating proper fermentation
Wait to feed.	Wait 21 days until you feed fermented forages, unless using Ag-Bag® Plus inoculant.	Total fermentation needs to have occurred in order to have an ideal finished product. With Ag-Bag® storage bags, you can test the haylage before you feed it and segregate by quality.
Feed it consistently.	Feed about 2' - 4'.	Feed out with a clean bag face, to minimize oxygen exposure and re-fermentation.
Make appropriate changes.	Based on the above measurements, and ultimately how the cows perform.	Monitor performance in lactation, length of cut, butterfat, ADIN, pH and regular forage analysis.

were to be the same. The finer chopped forage was fed to the cows in the dry and fresh cow groups on the dairy. This had a direct effect on rumen health because the cows didn't have enough "scratch factor" to build a fiber mat in the rumen. As cows freshened, many had twisted stomachs. As a preventative measure, consider having your nutritionist run your forages through a forage particle scorer to decide if you want the same length as you had last year.

The second client had the common practice of waiting a specific period of time after raking to chop. With the old choppers, that amount of time seemed to work as the ideal wilt time in this climate before chopping. The new choppers dramatically decreased the time lag between windrowing and chopping, and consequently decreased the wilting time. This resulted in haylage that was stored at over 70% moisture. Alfalfa hay that is stored wet will frequently have fermentation that is far less than ideal. The pH of the

final haylage product was over 5.9, the haylage had a strong smell of butyric acid and all of the precursors to clostridia bacterial growth were present. This offensive smelling, poorly fermented haylage can decrease dry matter intake at least, and in extreme cases cause cows to die.

Also, take a look at last year's forage analysis. If your ADIN (acid detergent insoluble nitrogen-heat damage) is on the high side, look at your moisture content. You may be putting your haylage up too dry, providing air pockets that set the stage for heat damage.

In short, follow the basics. And reevaluate your management performance to decide if you did it right or if you would like to make some management/equipment changes. Plus, insure that all the managers are talking with the cows. The objective is to ensure a consistent, high-quality product is placed in front of the cows.



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PAGE 4

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*** Report Available ***

In the April 1999 issue of Dairy Herd Management, Ag-Bag International participated in the Dairy NutriTech® insert. This valuable reference is available to you at no-cost. Please call your dealer or our office and we will put this timely information in your hands.

Producers Get a Grip on costs with Ag-Bag Advantage® Farm Plan

Since the beginning of the year, dairy producers have seen how time-honored practices they thought were low-cost, end up costing them money.

In small group meetings organized by Ag-Bag® dealers across North America, producers have heard Kevin James, Ag-Bag Advantage® Farm Plan Specialist, talk about the costs of running a dairy while demonstrating this proprietary software. Developed to show the economics of the Ag-Bag® feed storage system, James uses a farmer's own numbers and demonstrates how much money they will save — savings that can be staggering.

“The response to these meetings has far exceeded my expectations,” said James. “People walk in skeptical, sometimes already committed to building a bunker, and by the end of the presentation they have scraped those plans and are ready to start bagging.”

Several of the people who have attended were bagging their forages and forgot how poor the quality of the feed was and how much feed they lost before they started bagging. James said that going through the Ag-Bag Advantage® Farm Plan got them back on track.

Many university people and nutritionists attend as well. “They must be impressed,” said James. “They are calling back to schedule meetings for their colleagues because the Ag-Bag Advantage® Farm Plan helps a dairyman see their costs accurately and make the changes needed to improve their profitability. They want their people to be giving the most accurate information possible.”

“You cannot put up better forage than you can with an Ag-Bag® system,” said James. “You take good forage, preserve it well, and you’ll see measurable results.”

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