

# GROWMARK FS Seedlings



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## Rumintations

By Ron Wilston, Dairy Nutrition Seed Specialist

### Cow Comfort

If there ever was a year that you want your cows to be as comfortable and as productive as possible, this may be the year!! With commodity prices that are as harsh as the winter weather, how you take care of your cows could be the difference between a good financial year and a bad one. I'm convinced that cow comfort is more important than ever in times of high input prices. When the warm weather returns, will you be ready for it in terms of cow comfort? Will you have made the improvements that you know will pay back in cow health and productivity? Now is the time to be sure that you have taken the steps necessary to keep your cows comfortable and productive.

**Check your stalls:** Make sure your stalls are in good repair and fix any broken ones. Pay close attention to the dimensions of your free stalls, making sure that the loops, brisket board and neck rails are in the right position to optimize cow comfort. Here are some quick and dirty guidelines: hoops should be 46" wide for sand and 48" on mattresses. The brisket board should be 65" to 66" from the back of the stall and no more than 4" above the curb. The neck rail should be 46" from the top of the sand and 48" from the top for mattresses.

**Bedding and mattresses:** Fix or replace any torn mattresses. Putting this off means that some poor cow is probably going to have to use it as is - most likely a young heifer. The heifer that gets that stall will probably stand rather than lay down and when she really gets really tired of standing, she will lay in the alley.

If you're using bedding in your stalls have you considered using sand? Although sand can be a challenge from a management and equipment standpoint, it has big advantages over conventional

straw and saw dust beddings, including the following:

- Sand is by nature inorganic so bacteria doesn't grow in it very well- keeping mastitis at bay;
- It molds well to the cow's body giving her a customized mattress for her comfort;
- Sand provides grit on slippery alley way surfaces- lessening slips and falls.

A study from Cook and Norlund and the University of Wisconsin show there are definite advantages to using sand over straw or saw dust assuming your equipment and management can handle using sand.

Per 100 cows on sand vs. conventional bedding

- 39 fewer lame cows
- 24 fewer mastitis cows
- Higher quality milk premiums
- 457 pounds more milk
- 5% less herd turnover

**Water and Waterers:** Water is a key ingredient in milk, making up a full 87% of its content, but often it is the most overlooked from a quality and quantity stand point. Make sure that drinking cups and water troughs are working properly and are cleaned on a routine basis. In free stall barns make sure you have enough drinking space and waterers are well distributed around the barn. Here are some guidelines to help you to evaluate your water situation:

- Dairy cattle typically require 35 to 40 gallons of water a day
- Under heat stress water needs can increase 1.2 to 2 times (Beede, 1993)
  - \* Remember you need enough water for normal consumption and peak heat stress demand

- Water in the return aisle from the parlor is a good way to increase intake as long as cow flow isn't interrupted
- 1.2 to 1.6 inches of water tank perimeter for every cow or 2ft for every 15 to 20 animals (Bicket, et al., 1997)
- Water available at every crossover (crossovers every 60 to 80 feet)
  - Crossovers should be a minimum of 12 feet wide to allow cows to drink and others to pass behind (Graves, 1995)
  - Test water at least once a year, preferably twice (Summer and Winter)

**Ventilation and cooling:** Check to make sure that your fans are working properly to provide adequate ventilation and cooling. To keep cows cool in the summer and to minimize production and health losses due to heat stress, fans should provide a minimum of 1,000 CFM (Cubic Feet per Minute) of air per cow. Fans should be mounted over head blowing down at a 30 degree angle, spaced 20 feet apart for 36" fans and 40 feet apart for 48" fans. The most heat stress can occur in the holding area so concentrate on this area first because it has the highest payback. Researchers Weirsmas and Armstrong concluded that cows cooled in the holding area give 1.7 more pounds of milk than the cows that weren't.

By taking the time this winter to fix the weak links in your production chain (when things aren't as hectic as they are the rest of the year), you will be in a better position to navigate through the high commodity pricing we are expected to face this year. Hopefully these ideas will help you to make 2008 a good and prosperous year on your dairy.

Ron

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# Seedlings

## Did my Alfalfa Survive the Winter?

By Mark Bailey, Territory Sales Manager, GROWMARK FS

Every Spring we look to the alfalfa fields for signs they have made it through the winter in good shape. One of the easiest ways to detect this is Spring “green up”. Spring “green up” occurs on established alfalfa stands as warm temperatures cause crown buds to grow and turn green. The best time to ensure a good spring green up is the prior fall. Good fall management and not stressing the plant going into winter is the key. A healthy plant going into winter has a better chance of being healthy in the spring and jumping out to a fast start.

When crown buds begin to grow in response to warm spring temperatures, it usually indicates alfalfa is off to a good start. If green up is slow, a number of issues could be happening, and your attention will be needed to determine if there is any chance to save the crop. This requires some scouting!

If you notice other fields in the area are starting to green and yours is still brown, it's time to check those stands. Depending on what you find, will help you determine the appropriate course of action.

Here are a few things to look for:

- **Heaving:** Plant roots can break essentially damaging or killing the plant. If the soil heaves much more than an inch or inch and a half, there is probably damage. Even though these plants may green up nicely and the crowns appear to be healthy, they will likely die or at best have significantly reduced yields. You must dig plants to accurately access the damage.
- **Asymmetrical growth** occurs when a portion of the plant or one side of the plant's crown greens up & the other side is dead. This may indicate that a portion of the root is dead. If this occurs, it is helpful to determine potential yield, which can be estimated by counting the number of stems in a square foot. Once stem number is determined, use the following formula to calculate yield:  **$Yield(tons / acre) = (stems/sqft \times 0.1) + 0.38$** .

Be sure to take multiple stem counts across the entire field. The “rule of thumb” when counting stems, is that over 55 stems per square ft. is a solid stand & not limiting yield. When that number goes below 40 stems per square ft., you may want to consider rotating out of the crop or inter seeding with clover or grasses to extend stand longevity.

- **Root Damage.** The best way to diagnose root injury is by digging up plants, approximately 4-6 inches deep. Winter killed roots will have a gray, water soaked appearance or a yellowish to brown discoloration and are also soft and “stringy” in appearance. If over 50% of the root is damaged, the plant will most likely die that year.

• **Insects Injury:** Several insects can affect spring green up.

◆ **Clover root curculio:** Check for root feeding damage (very apparent if this is a problem). The only cost effective solution is to rotate the field.

◆ **Snout beetle** is also a very damaging insect in certain affected counties in parts of the Northeast.

So now you've determined if you have winter injury or not. If you do, what are the choices? If the goal is to keep the field in production even though it is showing some injury, you may want to consider the following:

- \* Allow alfalfa plants to mature longer before cutting(25% to Full Bloom). Depending on how severe stand injury is, allowing plants to restore carbohydrates before cuttings will help prolong stand life.
- \* Increase the cutting height. This gives the plant more time to develop new shoots at the base of the plant.
- \* Avoid late fall cutting on injured stands. This allows for the buildup of food reserves, prior to winter.
- \* If 25% to 50% of the alfalfa plants are injured, inter seeding can be done with a no-till drill. The use of red clover or

some appropriate grasses will help to extend the life of the stand. Do not attempt to interseed more alfalfa into an already established stand.

Autotoxicity will occur.

- \* Fertilize! It is the best way to help build strength in a weak stand and keep yields up in healthy stands. It's imperative to soil test and apply needed plant food prior to first cutting, as well as in the fall for a strong, healthy plant to make it through winter.
- \* Weed control is a must. Weeds compete with alfalfa for moisture, light & nutrients. Check with your local GROWMARK FS specialist to see what weed control recommendation is best for your fields.
- \* Crop rotation. If plow down is inevitable, corn, sudax (BMR), perennial ryegrass, teff, small grains (oats, barley or triticale), annual forages (field peas / forage type small grain), etc., are all good choices depending on the needs and goals of the operation.

In my experience, the one constant year in and year out is the need for high quality forages. Each spring, we are given the chance to scout our alfalfa fields and take corrective action to meet that need. Watch your fields for Spring “green up” and be ready to take the necessary action.

Mark



Pictured from left to right...

Duane Orr – Territory Sales Manager – GROWMARK FS;  
 Brandy Jewell – GFS-Sudlersville; Billy Simmons –  
 Monsanto; Denis Shaffer – Marketing Manager – GFS;  
 Bobby Yeager, Jr. – Facility manager – GFS- Sudlersville;  
 Ernie Lepter – contest winner; Preston Greewalt – GFS  
 Sudlersville; Bill Boylan – Monsanto

## And the **WINNERS** are...



Pictured from left to right...Ralph Horchler – GFS Territory Sales Manager; Jeff O'Hara – Bellefonte GFS Facility Manager; Greg Conner – Bellefonte GFS Sales; Tom Craig – Murmac Farms & Contest winner; Clair Lamey – Murmac Farms employee; Tony Lininger – Murmac Farms employee; Adrian Robinson – GFS Central Region Manager; Shaun Heinbaugh – GFS Corn and Soybean Research Supervisor

*GROWMARK FS is proud to announce the winners of our Seed Sweepstakes. As you may recall, the Grand Prize for the Seed Sweepstakes was a 2008 John Deere Gator HPX 4x4! Winners were presented with their Gators during ceremonies the week of March 3rd, 2008. The winners are: Tom Craig of Bellefonte, PA and a customer at Pleasant Gap GFS; Herb Nobles from South Dayton, NY who purchases his seed and agronomic inputs from the GFS facility in Kennedy, NY; Ernie Lepter, of Kennedyville, MD. Ernie is a customer of Sudlersville GFS; and Eric Joiner of North Cambria, PA whose seed and fertilizer come from the Kittanning GFS location. Pictures of the winners and the festivities are pictured below. Please help us congratulate the winners of the sweepstakes, and thanks to all that entered!*



The Eric Joiner family in their new John Deere HPX 4x4 Gator, along with GROWMARK FS Kittanning employees and guests.



Pictured from left to right...

Dick Vercant, Steve Carr, Nelson Nobles, Barb Nobles, John Sluga, Andy Zalar, Herb Nobles, Cathy Szymanski, Stan Dybka, Bob Weller

# Quality Alfalfa Harvest and Storage Management

By Doug Shurtleff, Territory Sales Manager, GROWMARK FS



I love Alfalfa! Its value in Northeast milk production is paramount! Today's forage needs to deliver a profitable balance between high production in the field, and high quality for rumen health. And, it must be consistent. University research demonstrates milk production is highest with a combination of alfalfa and corn silage in the forage portion of the ration. Feeding high quality alfalfa and corn silage together in the ration produces positive associative effects, boosting the nutritional package. The digestive pattern of alfalfa fiber (NDF) and its digestible energy content is similar to that of BMR silage. The 'queen of forages' is known for her protein, however she also brings high energy and physically effective fiber to the ration increasing milk production and rumen health. Remember, quantity is good but quality is crucial! Base your goals on NDF as well as protein parameters.

Harvest management: Dad used to say; "Make'n hay is easy if ya know how." I agree, especially if you have irrigated land out west in say, Colorado? Ah, but we farm in the Northeast, so make hay when the sun shines, and make it fast. Temperature during growth affects forage quality. Cool weather tends to produce higher quality alfalfa than warm periods. Cut early in the day to maximize fast drying and capture the most sugars and starches. Dry matter loss can be 10%+ overnight in warm weather. Take the first cutting as early to bud –mid bud as possible. This means you may have to stop planting corn to cut hay. First cutting harvest affects the digestibility and milk response of the forage more than any other cutting interval – so it's important to get it right. Take the second cutting at 28 to 35 days looking for mid bud. Subsequent cuttings can extend out in interval. Allow one of the late cuttings to go into early flower to maximize the plant's root reserves. If you take a post frost cutting, leave 5-6 inches of stubble to capture snow cover.

Harvest moisture is key to silage fermentation and milk response. Target moisture levels of 60% to 65% for bunk silos. Dryer is better than wetter. Wet

forages can cause clostridial fermentation and Butyric acid formation. Ralph Ward of Cumberland Valley Lab discovered that optimum Lactic acid formation (optimum fermentation parameters) were achieved near the 60% moisture range, and deteriorated significantly as they moved towards 70% or fell below 50%.

Chop length affects compaction, oxygen exclusion and fermentation in the silo, and the effective fiber value for rumen function in the cow. The recommended theoretical length of cut (TLC) is 3/8 to 1/2 inches. Yes, size matters! Haylage varies with machinery, swath density and harvest dry matter. Check the TLC with a Penn State particle separator when you start chopping. Upwards of 20% of your sample should remain in the upper sieve of the separator. The middle sieve around 50-75% and the lower sieve 20-30%. No more than 5% of your sample should remain on the bottom pan.

Check the particle size when you begin chopping. You have one opportunity to make it longer. Once cut, storage, mixing and feeding will only reduce particle size.

Haylage is a more difficult crop to ferment than Corn silage. It has fewer naturally occurring Lactic acid microbes on the crop; is lower in sugars and water soluble carbohydrates; it resists drops in pH due to higher buffering capacity and calcium content; and it's more difficult to pack and exclude oxygen. That being said, haylage offers excellent payback

opportunities for Lactic acid bacteria inoculants. Remember, the goal is to drive lactic acid fermentation. Don't leave fermentation to chance. You have one opportunity to get it correct or risk large losses in DM, digestibility, and milk production. Use a research proven, high quality inoculant such as Biomax MP available from GROWMARK FS to help drive fermentation.

Fermentation is the conversion of plant sugars to organic acids (primarily Lactic and Acetic.) Oxygen is enemy #1 to the fermentation process. Fill rapidly to avoid excessive respiration and reduce oxygen exposure. Acetic acid bugs get the race started only as oxygen is depleted. Pack! Pack! Lactic acid bugs start working as pH drops below 5.0. Lactic acid is key to fermentation. It has ten times the acidification ability compared to acetic acid, and is a source of rumen energy. The Lactic to Acetic ratio after complete fermentation should be around 3:1. If all goes well with fermentation, the silage will biologically sleep (remain stable) until oxygen is re-introduced at feed out. Make sure the pile is covered and sealed.

Alfalfa crop silage is one of the most important ingredients in the ration. Taking the time to correctly grow, harvest and store this valuable forage will pay back huge dividends in terms of cow health and milk production. Good Luck!

*Doug*



**The GROWMARK FS – Bridgeton, NJ facility** received the 2007 Environmental Respect Award. This Awards program is an initiative established and sponsored by DuPont Crop Protection and conducted by "Crop Life" and "Farm Chemicals International" magazines to recognize and promote

environmental stewardship in farm supply retailers and distributors around the world. This prestigious award is an excellent recognition of GROWMARK's commitment to agriculture and environment in the North East. The Award was presented at the U.S. Capitol Building on July 19th and was received by Bill Volkmar, Crop Sales Specialist, and Rick Hatz, Office Manager.

*Photo, from left to right: Dave McAuliffe, DuPont Retail Account Manager, Nancy and Bill Volkmar, Rick and Bridget Hatz, Dennis Crass, DuPont National Sales Manager at the Environmental Respect Awards Ceremony.*

Across the country wheat acres planted have increased dramatically. Wheat production is the highest in ten years. There are several factors that have caused this increase, the largest being the price of a bushel of wheat. At the time that this was written, the July 2008 contract price at the CBOT was over \$12.00/bu. This is phenomenal!

When you have a crop that has the potential value of your wheat crop, you need to treat it as if it were your child. You gave it a great start, especially if you were fortunate enough to plant our FS Wheat varieties. Now we need to nourish your children and help them grow up to be adults and reproduce. By the time this publication reaches you, many acres will have had their first taste of food. The cost of plant food is significantly higher this year compared to the past. But the increase in price is far outweighed by the increase in the grain price. This is not the time to be scrimping on plant food. If you haven't already, you need to sit down and discuss your nutrition plan with your GROWMARK FS Crop Specialist. And you also need to discuss with them your plans to keep your wheat child weed, insect and disease free.

Just a few years ago, all we had to use was 2,4-D and Dicamba for broadleaf weed control and there was nothing for annual winter grasses. Many have had success using Harmony® Extra,

and now DuPont has come out with a new formulation. Harmony® Extra with TotalSol™ is a new formulation offering the same consistent broadleaf weed control including wild garlic. With the increased wheat acres, there is wheat planted in fields that do not normally receive control of wild garlic. It is essential to scout these fields and use the recommended rates of Harmony® Extra with TotalSol™. Remember, a small amount of wild garlic can ruin a whole load of wheat. For annual winter grasses, there are a couple of options. From Bayer CropScience there is OSPREY™ and from Syngenta Crop Protection, Axial™XL. Both of these products do an excellent job of keeping winter annual grasses from competing for food, light and moisture. Any weed competition is yield robbing.

Now, let's make sure that we keep these plants healthy to maturity and harvest. There should not be an acre of wheat grown this year that does not receive a fungicide treatment. You can start with a Kocide® 3000 application for early control of leaf spot and Septoria leaf blotch. You can make this application with your Harmony® Extra and early nitrogen application. The wheat will also have an agronomic response to the copper in Kocide®. As your wheat approaches Feeke's Scale 6, you should be preparing to protect the final stage of its growth. This is the time to apply either Headline® from BASF or Quilt® from Syngenta.

We must protect the flag leaf at all costs. Both of these fungicides have very good to excellent control of all of the diseases that could affect your yield from this stage to harvest. To give you the best performance of these two fungicides, they need to be applied with our proprietary adjuvant specifically designed for fungicides - PROTYX™. PROTYX™ is a unique activator adjuvant specifically formulated to enhance the performance of a wide range of both systemic and contact fungicides. In independent research trials PROTYX™, in combination with systemic fungicides, has been shown to reduce Rust and Septoria disease pressure; improve flag leaf health and maximize wheat yields when compared to ordinary surfactants plus fungicides. Those yield increases amount to 7 to 10 bushels/acre just by adding PROTYX™ to your fungicide.

You have a real financial opportunity that can be achieved by taking care of your wheat from infancy to harvest. Sure, it will take a little work, investment and a lot of worry, but the rewards are phenomenal. Talk to your GROWMARK FS Crop Specialist. It is our vocation to help you be profitable. That is what we do best! Good Luck, Good Growing and a very profitable 2008!

*Denis*

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