

continued from page 1

Corn Rootworm damage as well as providing crop safety for over-the-top applications of Roundup herbicide. It is also Processor Preferred for ethanol production.

5595VT3 is an exciting new hybrid that will dominate its maturity at around 105 days. It features unmatched yield potential, strong stalks, superior grain quality and test weight and good stress tolerance. 5595VT3 produces grain-dense, energy-rich feed with yield stability over a broad range of environments and responds to high input management. Plant where damage from European Corn Borer and Corn Rootworm is expected.

6296VT3 is the new benchmark for yield at approximately 112 days to maturity. It features incredible yield for maturity, rapid emergence and early plant growth and fast grain dry down. 6296VT3 has excellent fiber digestibility, yield stability over a broad range of environments and is good under stress. Plant where damage from European Corn Borer and Corn Rootworm is expected. 6296VT3 has big, girthy ears and should be one of the first to go in the ground. It is also Processor Preferred for ethanol production.

6898GT is our premier late-season silage hybrid at around 118 days. It offers extreme tonnage with a strong defensive profile. Staygreen and overall plant health is impressive. 6898GT is tops in whole-plant and fiber digestibility and milk return/acre. Plant where damage from European Corn Borer is

expected and really push the population for maximum yields.

Whatever the situation, GROWMARK FS and FS Seed Corn Hybrids have the right product to fit your needs. In fact, did you know that in multiple grain head to head comparisons of the newest FS hybrids versus leading competitive hybrids, FS hybrids have a clear yield advantage - out yielding the competition 79% of the time with more bushels of grain? FS hybrids also have better standability than the competition-achieving higher stalk rankings in two out of every three comparisons.

Our newest FS hybrids also have a substantial advantage in silage yields versus the leading competitive hybrids. In fact, FS hybrids out yield the competition 77% of the time for silage tons. And more importantly-FS hybrids outperform the competition for milk return per acre 3 out of 4 times.

GROWMARK FS is fully committed to bringing the best hybrids to your farm. To do this, our Research and Development group runs the most comprehensive evaluation program for hybrid selection in the East. Across 90 locations each year, we have over 8000 individual small plots and 1200 farm scale strips to ensure that our hybrids will do their best on your farm - it's our regional advantage!

Mark

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GROWMARK FS Seedlings



Volume 8 • Summer 2009

Field Sales Agronomist Added



GROWMARK FS is pleased to announce the addition of Dean Collamer to our staff as a Field Sales Agronomist. Dean will be working across all areas of GROWMARK FS territory and adds another valuable resource for the customers of GROWMARK FS.

Dean was most recently with Honeywell's ammonium sulfate marketing group as an agronomist for 12 yrs. He coordinated field research projects throughout the eastern half of the US and Canada, developed marketing, advertising and sales aid materials, developed/delivered presentations and provided agronomic support to salespeople, growers, crop needs dealers and consultants. Previously he was with Prolawn Products as turf fertilizer product manager for three years. Prior experience includes six years with Agway, Inc., Syracuse, NY as their fertilizer agronomist and three previous years as a fertilizer blend plant manager. Other experience includes crop consulting for two years in Geneva, IL with Taralan Corporation and a year as the cooperative extension ag. program leader in central NY, Herkimer County. During summers following sophomore and junior years at Cornell, he worked as a crop technician for on-farm projects and at various research stations.

Dean holds a B.S. degree from Cornell University where he majored in Agronomy and a M.S. degree in Plant Science from the University of New Hampshire.

He grew up in eastern NY in Cambridge, a small town northeast of Albany. There he gained work experience on three dairy farms during high school and college years. His family owned and

operated a woodworking business where they manufactured a wide variety of shaped wood products.

Dean is active in industry and academic organizations. He was a member of the Certified Crop Adviser steering committee that designed and created the CCA program. Dean was a charter member of the NY State CCA Board. In the Northeast region, he is a regular participant in Northeast Branch Agronomy Crops and Soils chapter including the annual meeting, its Board and various committees. Additionally, he is a member of the American Society of Agronomy, NY State Agribusiness Association, PA Agronomic Education Society, PennAg Agronomic Products Council, PA Young Farmers Association and Cornell Alumni Admissions Ambassador Network.

Dean lives in Hanover, PA, is married and has two children. His wife Patty is on the faculty at Harrisburg Area Community College and adjunct faculty at York College (of PA). Daughter Karina is 23 and a 2008 graduate of Temple University. Son Brice is age 19 and this fall will be a sophomore engineering student at Virginia Tech. The family enjoys bicycling, skiing/snowboarding and vacations in coastal Maine.

New FS Hybrids for 2010

By Mark Guttendorf, Corn Product Development Mgr.

Fall is fast approaching and we will soon have a chance to find out how we fared with the seed corn selections that were made last spring. Up to now, much of the Northeast has been experiencing a much cooler and wetter growing season than usual. So the best hybrids this year, those that "float to the top" both figuratively and literally, may be determined in part by how well they handle the extreme weather we've had this year.

Technology continues to advance at a rapid pace in the seed industry. Traits providing herbicide tolerance to Roundup (glyphosate) and protection against major insect pests like European Corn Borer and Corn Rootworm are now the norm. Currently, multiple modes of action are being stacked into hybrids to minimize the chances of any insect resistance developing down the road. Also, broader-spectrum weed control options providing tolerance to different families of chemistries are on the horizon. In the not so distant future, genes that improve water and nitrogen use efficiency could likely be the standard. It's certainly an exciting time in the seed industry, but product purchasing decisions sure seem to be more complicated than ever.

Regardless of the current trait situation, we still need to sift through all the possible new base genetics every year to identify those adapted best to our environment here in the Northeast. Recently, we added 4 exciting new hybrids to the FS line for the 2010 planting season: 5099VT3, 5595VT3, 6296VT3 and 6898GT. We feel that each one should improve the bottom line for those growers where the maturity and end use fits.

5099VT3 is our new yield pacesetter and comes in at approximately 100 days to maturity. It offers exceptional yield potential, fast grain dry down and strong performance under drought. Both fiber and whole-plant digestibility are first-rate, putting more milk in the tank. 5099VT3 boasts YieldGard VT Triple technology so it is protected against European Corn Borer and

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Fall Weed Control Benefits and Herbicide Product Ideas

By Dean Collamer, CPAg, CCA-Field Sales Agronomist

The need and popularity of fall herbicide applications has increased over the past several years and is expected to grow going forward. There are a number of key reasons associated with this practice, rooted in the agronomic benefits.

- Improved control for tough perennials such as field and hedge bindweed, hemp dogbane, poison hemlock, Canada thistle and pokeweed
- Needed often in no-till where winter annuals, biennials and perennial pressure is significant from weeds like chickweed, dandelion, henbit, purple deadnettle, annual bluegrass, purselane speedwell and shepardspurse.
- Can reduce or eliminate the need for a spring burndown herbicide
- An integrated weed management strategy using multiple modes of action to slow the evolution of herbicide resistant weeds.
- Helps produce drier and warmer soils earlier at planting next spring
- Can improve overall control for glyphosate resistant species like marestalk
- Reduced insect, disease (and rodents in the case of orchards) in weed-less fields
- General trend for less tillage

The best activity on existing weeds from fall-applied herbicides occurs when daytime temperatures are > 60-65 F and > 60% of the green leaf remains on the target weeds. For winter annual control, apply any time after early October for satisfactory results. In the case of dandelions, the most effective timing is after a frost and when dandelions are still mostly green. When pushing late into the fall, note that almost all fall-applied herbicide labels mention that applications should NOT be made to frozen ground. So you're temporarily out of business on these applications until the soil has thawed. Also bear in mind the soil type and landscape position of a field when prioritizing fields for a fall herbicide application. Avoid fields that are excessively well drained and also those fields located on a flood plain or otherwise have a tendency to experience flooding conditions.

When applying, remember that glyphosate combinations need adjuvant ammonium sulfate (AMS) and additional nonionic surfactant (NIS) if specified on the label.

A tough perennial in some locales is wirestem muhly. But due to its warm season perennial growth habit, it is not controlled well chemically using fall-applied herbicides. After early September, glyphosate control of wirestem muhly drops off based on Lingenfelter and Curran's 1997 Pennsylvania work. So in-season applications usually produce more satisfactory WM control.

By far, the most popular fall herbicide choice is a tank mix of glyphosate + 2,4-D. This combination is economical, controls one of the broadest weed spectrums of all the fall-applied options and allows for rotational flexibility the following spring. It's hard to argue with this strong list of advantages. But there are other newer active ingredients and products that have been added recently to the set of fall treatment

options in many states. See the table below for registered states. These are good materials with each having certain strengths. For instance, Canopy EX has great residual control into the following spring so if one of the primary goals of a fall application is avoiding a spring burndown application, Canopy EX should be a consideration.

State Registration Status (2009) for Selected Herbicides Suitable for Fall Application in GROWMARK FS Territory Y = Yes, product is registered; N = Not registered.

Product	MD	DE	NJ	PA	NY
Valor	Y	Y	Y	Y	N
Gangster	Y	Y	Y	Y	N
Authority	Y	Y	Y	Y	N
Canopy	Y	N	Y	Y	N
Autumn	Y	N	Y	Y	N
Enlite	Y	Y	Y	Y	N
Envive	Y	Y	Y	Y	N

Fall applied herbicides, like those applied at other times during the year, need to include an adjuvant for improved performance during mixing/application and/or when deposited on weeds. These are specified on the herbicide label; not just added on a whim. Probably the most crucial adjuvant for fall or whenever glyphosate comes into the discussion is dry spray grade ammonium sulfate, usually indicated on herbicide labels as AMS. Its primary role is to condition the spray tank water so that glyphosate retains its herbicidal activity. In addition to AMS, GROWMARK FS has a unique line of adjuvants labeled and packaged under the FS brand. For fall, the main products of consideration are FS MaxSupreme, FS Transform, FS COC Supreme, FS Interface, FS 90/10 and FS MSO. Selecting the most suitable adjuvant depends on the desired herbicide(s). But regardless of the individual herbicide or tank mix needed, there is a GROWMARK FS adjuvant tailored to the job.

Like most successful weed control, the prescriptive approach of identifying the target species, selecting the most effective product(s), an understanding of rotational restrictions, hitting the ideal timing, and choosing the most effective application rate(s) is essential for satisfactory field results. The FS Crop Specialist brings this to a grower as just one of the value-added benefits that can contribute to overall enterprise profitability. Take advantage of the opportunity, especially if fall herbicide application is a practice you haven't used before and discuss where fall weed control might be beneficial to your operation.

Dean

Forage Quality More Important Than Ever

By Ron Wilston, Dairy Nutrition Seed Specialist

In today's volatile milk market minimizing risk has reached all new levels. Over the past couple of years we have seen record highs and lows for milk. With these new low prices the question has come up time and time again what can I do to lower my cost of production? Although the answer to that question can be as varied as individual farms are, the broad answer is to continue to improve forage quality. I have observed on many farms the switch from rations that were 50 to 55% forage on a dry matter basis to ones that are 60% forage or greater. That change helps to minimize off farm purchases of feed thus reducing cost in most cases, but it also puts a bigger demand on the quantity and quality of the forages and on farm grains.

Forage quality has probably been written about in more dairy related articles and publications than any other topic, and yet I still see a lot of opportunity for improvements in this area. Forage quality starts at the soil level and works its way up. Everything from pH, to fertility, to seed selection, to crop protection, to harvest timing, inoculants and preservatives, and storage, as well as, feed out play a role in forage quality. Given the timing of this article let's focus on inoculants and preservatives

Inoculants and preservative both can play an important role in quality as well as quantity preservation of forages. The trick is to know where to use inoculants and choosing the one that is right for the job, and where and when to use preservatives.

Let's start with the basics of all silage fermentation. All forages whether corn, hay crop, or small grains have native bacteria on them that will ferment the forage. The problem is the type and the quantity of the bacteria you harvest on any given year or crop for that matter can change. For example there are two main types of bacteria; aerobic (need oxygen to survive) bacteria and anaerobic (don't need oxygen to survive) bacteria. If you want to make a good compost pile and lose dry matter (dead cows, rotten silage etc...) you want to encourage aerobic bacteria by continually stirring the pile to add oxygen. If you want a good fermented crop you want anaerobic bacteria. Anaerobic bacteria are not all the same either, some produce only one organic acid (homofermentors) while others produce two organic acids (heterofermentors). The homofermentors

like *L. Plantarum*, which is the species of choice for most silage inoculants, has hundreds of strains, each with its own set of characteristics – similar to stud bulls. They may all be Holstein bulls but each has a set of unique characteristics. Like bulls are chosen for feet and legs while others may be chosen for type, etc... bacteria may be chosen for its vigor or its ability to reproduce quickly and so forth. *L. Plantarum* produces primarily lactic acid, the organic acid of choice for dairy cows and preserves more dry matter than other bacteria. Other species like *L. Buchneri* (which is a heterofermentor) produces both lactic acid and acetic acid plus give off CO₂. When CO₂ is released, dry matter is being lost. Acetic acid is a better stabilizer of silage than lactic acid which means less molds and yeast growth at feed out, but it is not well received by cows.

So what does all of this mean in terms of quality, quantity and overall risk management for your herd? The bottom line is that if you don't inoculate your forages you are leaving the fermentation up to the native bacteria, which is primarily made up of heterofermentative bacteria. This means dry matter losses may be a lot higher than they could be if you used a bacterial inoculant. Stated simply it is quantity loss. Along with quantity loss, heterofermentative bacteria produce more acetic acid which as we have already discussed is more stable but is not the preferred acid of dairy cows – may be considered quality loss. Leaving the fate of your silage up to the "luck of the draw" in terms of the bacteria that are present to ferment your crop is risky at best.

As rule of thumb when you are looking for a quality fermentation, homofermentors like *L. Plantarum*, *Enterococcus faecium*, and *Pediococci*, separate or in combination are what should be used.

If you have an oversized bunk face, frequent silage cave offs, or just an ongoing heating problem in your silages, using a heterofermentor like *L. Buchneri* (an acetic acid producer) or a *Lactococcus lactis* (a formic acid producer) alone or in combination with another bacteria, should help to keep your silage more stable. Heterofermentors should be used when stability is the number one goal as they are good antifungal agents.

If *Clostridia* or *Enterobacteria* are the main

concern, especially with hay crop and small grain silages, bacteria that drop pH quickly and below 3.8 (terminal pH at which *Clostridia* spores stop growing) should be used. Examples of these bacteria would be *Pediococcus* or *Enterococcus*. Note that inoculants should never be used in place of good management. Don't willingly put up haylage or small grain silages too wet – less than 35% dry matter.

The use of preservatives seems to be on the rise, especially propionic acid on silages. (Other preservatives would include Sodium Benzoate and Potassium Sorbate.) The use of preservatives on fermented crops should be limited to extremely dry forages, moving of forages (refilling silos etc.), or farms with extreme mold and yeast problems. The use of propionic acid on forages outside those conditions can be a problem as propionic acid does nothing to enhance the fermentation of forage. In other words with propionic acid you are back to relying on the native bacteria on your farm to ferment your forage and as discussed early that maybe a risk to high to take. Propionic acid should be used in forages only when a good antifungal agent is needed as it does a great job with the management of molds and yeast. The best use of preservatives is in dry hay. As a mold inhibitor in dry hay propionic acid is hard to beat.

In summary knowing where and when to use inoculants and preservatives is part of a quality forage risk management plan. Gone are the days that we can accept 20 to 30% dry matter losses in bunk and drive piles. Gone are the days when we can accept manure spreader load after load of molding, rotten silage as part of our standard operating procedure on any size farm. With the volatile milk and grain markets, we as an industry have to put more emphasis on having close to zero spoilage on our farms, especially as that home grown forage becomes a bigger piece of the dairy ration

For more information on silage inoculants and preservatives contact your local GROWMARK FS sales representative. We can help you develop a whole farm forage management plan.

Ron



GROWMARK FS Research and Hybrid Corn Development.

What's the difference? A Genuine Northeast Distinction!

Globally Positioned... Regionally Focused!



By Doug Shurtleff, Sales and Research Supervisor

Have you noticed there seems to be a whole bunch of "seed people" running up and down the farm lanes anymore? Last fall, while at an appointment with a farmer, I encountered close to a dozen different catalogs piled atop the office desk. GROWMARK FS was invited there to discuss Precision Planting options for a yet to be delivered new corn planter. We discussed seed corn genetics and technologies for the farm's crop plan next spring, and forage quality goals as well. He suggested I drop off the hybrid recommendations with the FS seed guide and the R&D information requested at the house. "I've got enough 'stuff' on my office desk right now as it is", he stated. I agreed!

With all the seed marketing catalogs piled on desks, kitchen tables and counter tops throughout the Northeast, ask yourself what all those new numbers and trait packages and treatment combinations and digestibility rankings mean for you, in your business, on your soils, in your climate, for your management goals. Also ask yourself a few more questions. How are those numbers derived? Where are they researched and developed? Can I have confidence in recommendations for the specific needs and goals on my farm? Are there differences between companies I could use as parameters to assist in management decisions? Let's whittle that seed catalog pile down a bit and investigate GROWMARK FS Research and Hybrid Corn development. What's the difference? It's in the genuine Northeast distinction. GROWMARK FS; Globally positioned and Regionally focused.

First, a bit of history: The FS Northeast Hybrid Corn Development program has been in place for over 30 years. Year in and year out we've had more test plots over larger geography within our market area than any other competitor. We believe we have the most comprehensive product evaluation program in the Northeast and Mid-Atlantic regions. Today, we have growing on your farms exclusively in the Northeast, close to 100 locations of testing (individual farm cooperators), approximately 8000 replicated small plot trial test entries (preliminary germplasm), **Small plots are 2 row plots, approximately 1/500 acre each, with up to 3 replications containing hundreds of experimental hybrids. These plots require specialized research equipment for planting and harvest. Also, 1200 farm scale strips (with more advanced genetics) encompassed within 8-15 acre research designed strip-trials. Strip trials encompass the final stage of experimental hybrid commercialization or rejection, specifically research designed with tester or check strips and commercial FS and competitor checks. These trials are planted directly in production fields using the farmer's equipment. These trials are spread out from the Eastern shores of the DelMarVa Peninsula, throughout New Jersey and

Pennsylvania, across Western New York thru the Finger Lakes, to the Champlain and Mohawk Valleys. If you farm in the Northeast, GROWMARK FS has done hybrid research there. Over the years, national brands have come into the region with the idea of capturing an easy market within this progressive region, but discovered the hard way the unique challenges of this environment. Every one of their established breeding stations has since been closed. Other "new" brands continue to pop-up which have little or no local testing behind them. The result being, many competitors take a shotgun approach in throwing products out and seeing what sticks. They leave you, the farmers, to sort it out. The truth is, genetics developed and hybrids selected out of mid-western programs, often do not respond or perform predictably in our area. Allow me to whittle that pile a little more...

Let's discuss regional distinctions: Our diverse Northeast environment necessitates more demands for wider product adaptability and consistency as compared to a mid-western's relatively flat maturity zone, stress uniformity, and predictability. FS develops a broader range of hybrid maturities grown in a single county in our area, due to the diversity of elevation and micro environments, than in whole states of the Corn Belt. We haven't the luxury of endless table top fields of deep dark prairie soils, stretching to the horizon in a jig-saw puzzle pattern. Our soils and micro-environments can be imperfectly drained and droughty. Fertility can be lacking and diseases can be more intense. Less than one percent of everything evaluated each season ever gets into the FS Brand bag. We do not have a one size fits all philosophy. If specific genetics fit best as silage or as grain or for a certain region, we know it before it's brought to market! The dynamics of our market, the unique stress, the diversity and required adaptability is what separates FS from the rest in hybrid development specific to our region. Simply put, it certainly makes risk management sense to utilize products developed specifically for the environment we farm in.

Let's examine a unique FS silage research program. I started with the silage R&D program 18 years ago this past March. It doesn't seem possible that some of my colleagues could be that old! Hmmm... Back then we were evaluating and selecting genetics via "the cow's gut" and dairy research long before being "silage specific" was cool. Our program lead the way for tailoring the hybrid genetic selection process to "fit the rumen" while not expecting the "rumen to fit" or adjust to a mid-western developed grain style product. It still does! How many seed companies with catalogs on your desk or kitchen table truly have a Northeast silage specific research hybrid evaluation program? That is an excellent whittling question! Furthermore, in support of providing

silage excellence, GROWMARK FS utilizes multiple portable chopper units and field labs. These tools allow us to target ideal, pre-scouted whole plant dry matters for performing silage quality analysis at the optimum time. Even though we keep the relative maturity spread of an R&D strip test very tight (within about 5 RM days), scheduling, weather, and equipment can interfere with optimum quality sampling. Team FS takes that variable out of the equation with our Mobile Chopper Lab. We can harvest the trial for yield as scheduling allows while maintaining quality sampling excellence. Speaking of the forage quality sample, I believe you'll discover distinctive differences here as well. After chopping, the sample is homogeneously blended and separated into sub samples of green in-weights for dry matter analysis back at the FS crops lab, or vacuum bag sealed for shipment to Cumberland Valley Analytical Services Lab. We'll likely collect close to 1000 samples for analysis this year. GROWMARK FS also has a unique analysis philosophy. Only FS utilizes multiple lab evaluation methods. Ask your nutritionist if they'd trust a seed company developing silage hybrids via investment in analysis including; Milk 2006, wet chemistry, IVTD, NDFD, in Situ (in the live milking cow) total DM digestibility, milk lbs/ton DM, milk/100cwt, milk return /acre, feeding value rank analysis, as well as yield, %DM, and the usual agronomic evaluations on a report. Challenge the other seed catalog distributors to provide you with such in depth analysis of their products. Also today, GROWMARK FS is evaluating BMR (Brown Mid Rib) genetics. We're also looking at genetic differentiation of starch availability and rates of starch digestion dynamics within hybrids. We believe starch composition could be the next frontier for dairy nutrition similar to fiber digestibility. In technical support to the marketplace is Ron Wilston, FS Dairy Nutrition Seed Specialist. Ron helps assure our team is heading in the right direction by playing a consultative role between producers, nutritionists and our Research and Development group. Now wouldn't you say the FS silage program whittles the pile down a little?

FS Grain Corn development for a competitive Northeast market: What has most impressed me about GROWMARK's R&D program within the past few years has been our global positioned ability to regionally focus. For instance, we can exploit all the advantages being local emphasizes, while bringing to the marketplace the best products that work in our region from around the world. Let's continue to whittle, shall we...

National seed companies require a significant volume of sales to justify a specific product for market adaptability. GROWMARK FS can produce an excellent "niche" for a distinct market or local situation. Today, GROWMARK

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FS has access to every major corn breeding program in the United States. We can offer and access trait packages beyond the scope of some of our national competitors. This allows us trait and genetic diversity which further strengthens our distinct regional advantage. We are also evaluating grain genetics for ethanol production and highly fermentable starch. When products come into ethanol plants and pass their premium quality fermentable starch parameters, that corn processes into ethanol more efficiently and that value is passed back to the grower in a premium. The FS hybrid grain development program has and will continue to release superior grain and technology traited products that when stacked up to and statistically evaluated against all the major players, are highly competitive, day in and day out! Do not mistake side by side market evaluations for replicated small plot trials or research designed strip tests. FS puts side x sides out as do our competitors. However, their side x side comparisons are often utilized as on farm evaluations to justify genetics already selected and developed for a Midwest market to be sold in our region. That's called the "shotgun" approach. And, while you're whittling away at that catalog pile, ask about the protocol for the data or "side by side" information you're presented with. Ask for statistical significance by either volume or design. All product performance information is not created equally.

The real FS distinction secret: I believe the most important factors for the value and success of this program lies not just in its global position or its regional focus or the time honored leadership in the industry. It is more than the multiple testing methodologies and superior protocols. It supersedes excellence in regionally advantaged product risk management and competitiveness. Our strength truly lies within our people! I've been with some of these folks for nearly 20 years now. I can tell you the commitment to the team, the product line, the grower and the service that goes with it is bar none! Our strength lies in understanding the very marketplace we raise our families, work and some still farm in today. This very region we call home is where our development program has flourished now for over 3 decades. I will challenge any competitor, (and please don't get us wrong; we fully appreciate how keen the competition is within the Northeastern Agricultural market) to match their program against ours. I'll bet you'll be hard pressed to find professionals who better understand their market, their products, and your needs today, than the GROWMARK FS Team.

Hey, I realize there'll be a bunch of seed catalogs piled up on the kitchen table this fall. We at GROWMARK FS are excited and proud of the FS Research and Hybrid Corn Development Program. Let's whittle that pile down together as we demonstrate for you that the difference is a Genuine Northeast distinction. Globally Positioned and Regionally Focused.

We'll see ya at the kitchen table.
Doug

Reviewing This Season's Wheat



By Shaun Heinbaugh Soybean and Small Grain Product Manager, GROWMARK FS, LLC.

The perfect storm!

Total precipitation from April through June was well above the long-term average in most areas of the Mid Atlantic region. In fact, according to the National Weather Service's station in Baltimore, the April through June period in 2009 was the second wettest ever measured, with rainfall reaching almost 20 inches! If you can remember back to the spring of 1889, then you'll recall the wettest ever measured, with precipitation reaching nearly 22 inches.

In 2009, the ongoing rains caused humid, wet conditions during the growing season and the environment for cereal diseases was ideal. While a host of foliar diseases were present on the wheat crop, Fusarium head scab was predominant and widespread across Pennsylvania and much of the Mid Atlantic region. As a result, wheat yields ranged from below average to good, while test weight and grain quality were poor in many areas.

What's wrong with my wheat?

Large volumes of wheat have been sold at a discount or worse yet rejected for unacceptable mycotoxin levels, limiting the end-use of the crop to livestock feed or waste. Elevated mycotoxin levels in wheat are the direct result of Fusarium head scab. Fusarium is a fungal pathogen that produces DON (deoxynivalenol) which can cause health and reproductive problems in both livestock and humans.

Where does Fusarium head scab come from?

While we most often associate Fusarium with head scab in wheat, this group of fungi can also affect corn and grass type species and overwinter in their decaying residue on the soil surface. Wheat fields following corn and minimum tillage which does not incorporate corn residue are at a higher risk for head scab (DeWolf and Lipps, 2003). Fusarium can also be blown in by wind or rain from surrounding areas.

Can I prevent Fusarium head scab?

Sorry, there's no silver bullet for Fusarium head scab. Wheat varieties suited for this region offer only little to no resistance against head scab. The bottom line with Fusarium head scab is the timing of rainfall. The infestation of the disease is most closely related to rainfall between flowering and the soft dough stage of the crop. Growing several wheat varieties that differ in flowering times can help to reduce the risk of a widespread infestation. Avoiding wheat after corn and using tillage can help, but won't fully prevent the problem. Some foliar fungicides like Tilt, Folicur, and

Proline can offer some suppression, but timing is absolutely critical and the optimum application window is short.

Can I save scabby wheat for seed?

I love a bargain as much as the next guy, but common sense should factor in at some point in the decision making process. Planting bin-run seed can be a very risky and unprofitable proposition. Seed that is not disinfected properly can harbor Fusarium colonies, not to mention many other seed-borne pathogens that can cause a disaster in the field. If you're trying to save a buck and it costs five, it's probably a bad idea!

Seed should be professionally grown, professionally cleaned, professionally treated, and professionally tested! Custom seed cleaners that use only screens and air cannot separate seed well enough to produce the highest quality seed. This lower quality, low cost seed could be the most expensive seed you've never paid for.

I have yet to see a trial indicating that bin run seed has outperformed professionally grown certified seed. In many cases it's not even close. Buying certified seed insures that careful attention has been given to eliminate seed-borne diseases and weed seed that can exist in bin-run seed. Certified seed insures greater genetic uniformity, has been inspected in the field and in the bag, and germination tested for quality assurance. Certified seed also offers access to the most elite germplasm. Play it smart. Reduce your risks. Maximize your yields. Buy certified seed.

Additional publications that cover identification and management of scab and other diseases affecting seed quality are available online:

Diseases Affecting Grain and Seed Quality in Wheat

John E. Watkins & Larry J. Prentice 1997
Available online:
<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2234&context=extensionhist>

Field Crop Disease Facts: Fusarium Head Blight

Erick DeWolf & Pat Lipps 2003
Available online:
http://www.wheatscab.psu.edu/PDF/Fusarium_Head_Blight_.pdf

Shaun