



2011 Grass & Grain Chemical & Seed Edition

New requirements aim to improve Bt corn refuge compliance

In an effort to improve Bt corn refuge compliance, the U.S. Environmental Protection Agency (EPA) mandated new requirements as part of the Bt corn re-registration process this past fall. The Bt corn registrants are incorporating these new requirements (outlined below) into their Compliance Assurance Programs for the 2011 growing season:

- On-farm refuge compliance assessments will be conducted by an independent third-party and will be focused on (i) areas of highest risk of insect pest resistance development and (ii) growers who did not buy sufficient refuge seed from the Bt corn registrant.

- Growers found to be out of compliance with the refuge requirements (i) now have a higher probability of losing access to Bt corn if compliance is not established and maintained and (ii) will be checked more frequently by the Bt corn registrants.

- Seed bag tags will better depict refuge size requirements

Under the Compliance Assurance Program, thousands of growers are surveyed about their IRM compliance practices each year through EPA-mandated on-farm assessments. Growers who do not comply with refuge requirements can lose access to the technology. Similarly, seed dealers who do not follow through on their commitments stand to lose the ability to sell the products. "Biotechnology is an important part of modern agriculture's ability to sustainably meet the world's increasing demands for food, feed and fuel," said Chad Blindauer, Chair of the National Corn Growers Association's Trade Policy and Biotechnology Action Team. "Given the benefits of Bt products, farmers and trait providers have a duty to ensure proper stewardship to keep this technology viable and on the market."

IRM Compliance Remains Stable in 2010
The Agricultural Biotechnology Stewardship Technical Committee (ABSTC), a consortium of Bt corn registrants, recently

reported that corn IRM compliance for the 2010 growing season remained unchanged from 2009. The ABSTC also reports that the compliance assurance programs for corn borer-protected, corn rootworm-protected, and corn borer/corn rootworm-protected stacked Bt corn continue to be effective. In 2010, the majority of growers surveyed planted the required size of refuge on their farms and the majority of growers surveyed planted a refuge within the required distance for all of their Bt corn fields. Furthermore, the survey indicates that the vast majority of all Bt corn fields have an associated refuge. These findings are similar to those in the surveys conducted over the previous three years. Today, growers have more product choices offering unique IRM require-

ments which can complicate refuge planning. It is encouraging to see compliance results stabilizing, but there is room for improvement. The ABSTC is optimistic that the Compliance Assurance Program enhancements, along with collaborative IRM education efforts will help growers understand the importance of following refuge requirements and provide direction on how to meet the minimum refuge requirements for each product.

"Since the introduction of biotech traits, the vast majority of corn growers have followed refuge requirements to help protect the efficacy of this important technology," said Blindauer. "All growers must follow these requirements to help preserve the long-term value of this technology."

The ABSTC submitted the results to the EPA as part of the 2010 Bt corn IRM Compliance Assurance Program (CAP) report, which includes an annual report of the compliance results and a summary of actions being taken by Bt registrants to promote and support IRM compliance for the upcoming growing season.

IRM Refuge Calculator Helps Growers Develop Plans for Refuge Compliance

As the 2011 planting season approaches, the National Corn Growers Association (NCGA) reminds Bt corn growers that the development of an IRM plan for their farm is an essential and required part of their planning process. In addition to information provided by seed dealers and the Bt trait providers, the

NCGA has established a number of resources for growers developing IRM plans and a refuge strategy for their farm. NCGA recently launched a new IRM calculator to help clarify refuge system options and show growers how to execute the requirements properly. The IRM calculator was developed in collaboration with ABSTC companies to ensure that it reflected all Bt products available in the industry today. The IRM calculator is available at www.irmcalculator.com.

"In addition to protecting current technology, adherence to refuge requirements is important for the commercialization of next generation biotech traits," said Blindauer. "Future traits that build on today's technology will only be successful if today's technology remains effective."



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New Pioneer Hi-Bred innovation to deliver corn yield advantages in water-limited environments

DES MOINES — DuPont business Pioneer Hi-Bred launched a new generation of corn hybrids developed and tested to help deliver a yield advantage in water-limited environments, allowing growers to minimize risk and maximize productivity. These hybrids will be offered to growers under the Optimum® AQUAmax™ brand name.

These hybrids, introduced for planting in 2011, contain a collection of native corn traits that improve water access and utilization and deliver greater yields in water-limited conditions. The initial class of Optimum AQUAmax innovations will include five hybrid platforms across a range of maturities and technology packages. While the 2011 launch size is limited and primarily targeted in the western Corn Belt, the technology advancement is an important milestone toward the longer-term objective of bringing breeding and biotechnology solutions to drought-prone environments.

In on-farm, advancement and research trials, the Optimum AQUAmax hybrids show a 5 percent yield advantage, on average, over leading commercially available competitor and other Pioneer® brand corn hybrids. The performance of Optimum AQUAmax hybrids is validated through on-farm and research testing in water-limited environments throughout the western Corn Belt. From 2008 to 2010, Optimum AQUAmax hybrids were tested in 223 water-limited efficiency trials concentrated in Nebraska, California, Kansas, Colorado,

Oklahoma and Texas.

“The Optimum AQUAmax products are another example of Pioneer’s right product, right acre strategy, which focuses on optimizing productivity and profitability to our growers,” said Paul E. Schickler, president, Pioneer Hi-Bred. “This further demonstrates the research that Pioneer has dedicated to drought tolerance for more than 50 years.”

Optimum AQUAmax hybrids are developed through Pioneer’s proprietary Accelerated Yield Technology (AYTTM) system. This is a suite of tools, including molecular breeding techniques, which allow researchers to rapidly scan and identify genes responsible for increasing yields and other beneficial traits. The AYTTM system allows Pioneer to bring products with key native genes to market faster.

Within the Pioneer research network, its targeted drought program includes eight managed stress testing locations in Woodland, Calif.; Garden City, LaSalle, Colo.; Manhattan, Plainview, Texas; Kinston, N.C.; and Viluco, Chile.

“Drought is a complex issue and can affect crops differently depending on the geography and stress factors of each environment,” said Schickler. “There is no single gene or ‘silver bullet’ solution for the drought complex. Managing crops in drought-stressed environments is critically important to achieving performance results, and Pioneer continues to partner with growers to offer the best management suggestions to help maximize profit while mini-

mizing risk.”

Optimum AQUAmax hybrids are being marketed under the Optimum® brand name of the Pioneer family of traits, products and accompanying programs that

enable growers to be more productive with choices to meet their individual needs.

Pioneer Hi-Bred (www.pioneer.com), a DuPont business headquartered in

Des Moines, Iowa, is the world’s leading developer and supplier of advanced plant genetics, providing high-quality seeds to farmers in more than 90 countries. Pioneer provides

agronomic support and services to help increase farmer productivity and profitability and strives to develop sustainable agricultural systems for people everywhere.

CrustBuster/Speed King, Inc. offers planting options

The Crustbuster Twin Row 3-Point Vacuum Planting System is currently available in four models: TW 1636, TW 1638, TW 1640 and SL 3238. This Twin Row Planting System is a vacuum metered planter that plants corn, cotton, soybeans or milo seed precisely on a seed bed in a twin row configuration. Precision Planting eSet® vacuum metering components improve seed singulation and seed spacing from meter to seed trench for maximum seed placement accuracy. Motto: Every seed, every time.

Crustbuster’s parallel linkage planter opener offers unmatched in-field performance. Five pressure spring settings from 125 to 500 pounds control constant down pressure throughout its 10 inches of travel for the most stringent no-till conditions. 16 inch 4 mm twin blades have been used to increase wear life and cutting capabilities. Crustbuster’s cast planter opener blade angle is 9½°. Reduced blade angle equals less soil movement and disruption for better closing, less pull force



and tractor horsepower requirements, and less seed trench side-wall compaction for even germination and a healthy root-ball structure formation. Large two bushels-per-foot seed boxes carry double the seed as a conventional row unit seed box planter (total capacity of 50 bushels) on the 3-Point frame so that down pressure is not changed by varying seed weight on the

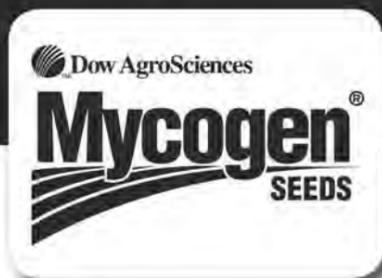
opener as you plant in the field. Two inch adjustable gauge wheels put the finishing touch on perfect and even plant emergence.

CrustBuster also offers the Twin Row SL 3238. This Twin Row planter adds 32 volumetric Wobble Slot meters and 16 more row units and enables you to have a combination twin row vacuum metered planter to plant 32 rows of corn, cotton, soy-

beans or milo in a twin row configuration on 38” wide seed beds. This unique planter can quickly convert into a solid stand grain drill for the volumetric metering of soybeans, wheat, rice and other cereal grains.

For more information on Crust Buster/Speed King’s line of Twin Row planters, Call 620-227-7106 or go online at www.crustbuster.com.

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Dow AgroSciences showcases new refuge-in-the-bag concept

Dow AgroSciences has showcased a new refuge-in-the-bag concept at the Farm Progress Show in Boone, Iowa. The concept, which is pending registration by the U.S. Environmental Protection Agency (EPA), will be commercialized as SmartStax™ Refuge Advanced™ and will provide a single-bag solution for refuge compliance in the U.S. Corn Belt as early as 2012.

"By adopting this complete, single-bag solution, growers will save time and reduce complexity related to refuge seed purchase, planning and planting," says Casey Onstot, traits marketing manager for Dow AgroSciences. "It's another example of how Dow AgroSciences continues to bring innovative technologies to market to help growers maximize their whole-farm yield potential."

Pending registration, SmartStax Refuge Advanced

will be a blend of 95 percent SmartStax seed and 5 percent non-insect-traited seed. All of the seed in this single-bag solution would be tolerant to applications of glyphosate and glufosinate herbicides.

Growers who plant Bt corn hybrids are currently required to plant a separate structured refuge of non-insect-traited seed to protect the technology from potential insect resistance. SmartStax, planted for the first time this past season, allowed farmers in corn-growing areas to reduce refuge acreage from 20 percent to 5 percent.

The Dow AgroSciences Refuge-in-the-Bag Concept will ensure refuge compliance on the acres where it is planted. Growers will be able to plant a single bag of seed to control insects and meet all refuge requirements for both above- and below-ground insect protection traits in the corn belt.

"Refuge compliance is critical — and required by law. We want to make refuge compliance simple and convenient for growers," Onstot says. "We believe that a single-bag solution will be the best way for growers to ensure they are in compliance with refuge requirements."

The Dow AgroSciences Refuge-in-the-Bag Concept submission is being reviewed by the EPA. Data supporting its registration was submitted to the EPA in 2009. Upon registration, the first commercial SmartStax Refuge Advanced corn hybrids are expected to be planted in 2012 and will be offered through Dow AgroSciences' seed affiliates, including Mycogen Seeds, Brodbeck Seeds, Dairyland Seed, Hyland Seeds, Pfister Seeds, Renze Seeds and Triumph Seed.

Wheat industry to congress: Don't cut research funding

More than 40 wheat growers, researchers, millers and bakers were in Washington last week to urge Members of Congress and the Obama Administration to protect federal investments in wheat research that return \$10 to the nation's economy for every dollar spent.

Funding for USDA programs including wheat research is under threat because of attempts to cut government expenditures and the United States' massive debt. Federal government spending on wheat research is considered discretionary spending, the type most targeted for cuts by the House Budget Committee.

Historically, because wheat research focuses on locally adapted varieties for the nation's six classes of wheat, the work

is spread among many different USDA Agricultural Research Service (ARS) locations and state land grant universities, which have specialized expertise and staff. Agriculture research funding has been essentially flat for 20 years while expenses for salaries and new technology have continued to climb. Unlike crops including corn and soybeans, wheat is disproportionately dependent on public research. Wheat is also uniquely complicated, with regional-specific varieties of six unique types, called classes, grown across 42 U.S. states. Wheat's genome is larger than the human genome.

Those from the wheat industry in Washington this week are explaining to lawmakers that investing in agricultural research is vital to continu-

ing to have an abundant and affordable wheat supply.

"We feel like it's important to come to D.C. every year to remind our national leadership just how important it is for wheat research to continue to receive this funding," said Dr. Brett Carver, wheat breeder at Oklahoma State University and holder of the Oklahoma Wheat Research Genetics Foundation chair.

"Producing a new variety takes more than a decade, and continuing to produce innovative varieties is vital for our local farmers' ability to fight pests and diseases and deliver their grain to domestic mills and export customers so consumers will have plenty of nutritious breads, pastas and cereals."

Though a number of private companies have

announced investments in wheat science in recent years, the industry is still highly dependent on public research funded by the federal government, state governments and producer-paid check-off dollars. More than three-quarters of varieties being used today came from public research programs.

"We know wheat research is a good investment because we see its returns every day on our farms," said Erik Younggren, a wheat producer from Hallock, Minn., and the second vice president of the National Association of Wheat Growers. "NAWG is eager to tell the research story and work to ensure those vital dollars continue to supplement our local check-off investments."

The fly-in this week is one of a number of efforts

members of the wheat value chain undertake together to show federal officials the importance of research to the entire economy, not just producers.

"This joint educational effort is an excellent opportunity for the industry to press upon Congressional staffers how critical federal funding of wheat research programs is to sustaining, and increasing, crop production in the U.S.," said Sherri Lehman, North American Millers' Association's director of government relations.

Wheat is vital to the U.S. and world economy and for food security. Wheat exports alone contributed \$5.9 billion to the U.S. economy in 2010, and wheat itself is responsible for 20 percent of calories consumed in the world, ac-

ording to the United Nations.

"The American Bakers Association recognizes the work of USDA's Agricultural Research Service wheat quality laboratories is vital as global demand for wheat expands," said Lee Sanders, American Bakers Association's senior vice president for government relations and public affairs.

"As re-emphasized in the new 2010 Dietary Guidelines for Americans, grain foods are part of the foundation for a healthy, balanced diet for Americans, and continuing wheat research and developing new technology in the areas of nutrition, quality and disease resistance is critical. Our unified wheat chain advocacy efforts to bolster support for USDA-ARS resources will continue to be a priority."

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The home office for Phillips Seed is located south of Abilene on Highway 15. Pictured below is Allison Phillips with her father, Don.

On Saturday morning, April 17, 2010, Allison Phillips was looking forward to taking her final test to obtain her master's degree in school counseling from Kansas State University. Allison was finishing up her first year as an elementary and middle school counselor at Chapman. She was also busy planning a July wedding to her fiancé, Jeremy Sluder, when she received a telephone call that would dramatically change her life. Allison said, "It was after 12:00 on Saturday afternoon April 17, 2010 and I had just finished taking my last test for my master's degree in counseling. I received a phone call that my father, Don Phillips, had suffered a serious heart attack while dropping off equipment at a location near Columbia, Missouri. My dad had been taken to Columbia University Hospital but the extent of his condition was not known."

Upon arriving in Columbia, Allison found Don's condition to be very serious. Despite many prayers and the good efforts of the medical staff of Columbia University Hospital Don died on April 20, 2010.

"Initially all of the things I had to deal with seemed absolutely overwhelming to me," Allison said. "My family and I prayed for strength, wisdom and for direction. Not only was I grieving the loss of my dad, but I also had to make some immediate business decisions."

Don Phillips started Phillips Seed Farms in 1982 by growing and conditioning certified seed wheat at a single seed plant at Hope. Don eventually added plants at Assaria and Tescott. During that time, the company was expanded to a "full lineup" seed company with an extensive dealer network covering most of Kansas, part of Oklahoma, and with licensed seed grower and conditioner associates in Nebraska. The seed plant operation was only one part of the business. Don also farmed and owned land with growing crops and a cattle operation. Allison added, "I had a lot going before my dad passed away, with my job, finishing up my master's and planning a wedding, but now I had three seed plants to operate, farm land and pasture with growing crops, cattle to take care of, government forms, 25 employees and a dealer network to sustain and protect from competition."

Fortunately Don had prepared a trust with two of his friends to serve as trustees with Allison. Curtis Stoffer and Brent Halepeska were two of Don's closest friends. The three of them met re-



peatedly to grasp an understanding of the operation. Soon thereafter the cattle operation was sold off, the farm ground leased and farm equipment sold. "One never knows what they are being prepared for in this game of life," Stoffer said. "I would always listen to Don and try to catch a glimpse of his vision for Phillips Seed. I just pray that I caught enough to help Allison with her company."

Allison stated, "Although my heart aches for my dad every single day, his wisdom and foresight in his estate planning has given me direction and hope. Jeremy and I made it to the altar in July as scheduled. We had a wonderful wedding. My mother has worked long and hard to help me. My husband, mom, stepdad and sister have supported me every step of the way. Curtis and Brent have been fantastic as trustees. The employees have been great. Any time I've felt overwhelmed I've asked God for additional strength and He has given it. I have felt comfort from the prayers of so many friends and family."

Phillips Seed hired Paul Tipling in July as the general manager, to oversee the operation. Dale Cross, Dan Rhine and David Morrison continue in their key roles on the management and sales team.

"Phillips Seed Farms is first and foremost in the people business, selling seed is what we do to stay in business," says general manager Paul Tipling. "That is the way Don Phillips started this business in 1982 and that is the way it continues to operate. I have really enjoyed working with Allison & the board over the last several months. Their dedi-

person who can't be replaced, but Paul has stepped in as general manager and has done an excellent job. The nucleus of the company has remained intact."

Phillips Seed Farms, Inc. is as strong now as it ever has been. The customer base continues to grow. It is a full-service seed company with wheat and soybean seed production and conditioning. The company also is a major distributor for America's Alfalfa and AgriPro and AGSECO wheat with dealers and customers in Kansas, Nebraska, Oklahoma, Colorado and Missouri. Products include proprietary corn hybrids; soybean varieties; grain and forage sorghums; seed wheat; a full line of legumes, forbs, and grasses; and seed treatments - nearly everything a seed customer might need.

Allison added, "Sometimes you don't know what you can handle until you absolutely have to. Brent and Curtis have been amazing trustees and I don't know what I would do without them. I believe that my dad looks down with a smile and is proud of the job we have done. I am confident that we will continue to make him proud as Phillips Seed continues to grow and look towards the future."

Allison and her husband Jeremy live in Abilene. The website for Phillips Seed Farms, Inc. is phillipsseed.com.

Moran named 2010 Wheat Advocate

WASHINGTON, D.C. — U.S. Sen. Jerry Moran (R-KS) received the 2010 Wheat Advocate Award from the National Association of Wheat Growers (NAWG) for his outstanding support of the wheat industry.

"Wheat producers help strengthen the Kansas economy and communities across our state, and when agriculture is successful, Kansas is successful," Moran said. "I am honored to receive this award and will continue my longtime support of Kansas farmers, for the benefits of all Kansans."

Throughout the past year, then-Congressman Moran worked on legislation to support wheat producers. He continued to champion enhanced agricultural trade with Cuba by co-authoring H.R. 4645, the Agricultural Export Facilitation Act, which would make it easier for wheat producers to sell wheat to Cuba. He also worked tirelessly to defend market-based risk management tools, like crop insurance, for agricultural producers.

"Senator Moran has been an excellent advocate for wheat, so this award is very fitting," said Jerry McReynolds,



president of the NAWG and a wheat farmer from Woodston. "We value his understanding, knowledge and support of wheat, and we look forward to working with him in his new role."

This is the sixth time Sen. Moran has been recognized by NAWG with the Wheat Advocate Award since 2000, having previously earned this award as a congressman from the Big First Congressional district. In addition to being one of only nine members of Congress to receive the 2010 Wheat Advocate Award, Moran was the 2004 recipient of the Wheat Leader of the Year Award, which is the highest honor given by NAWG.

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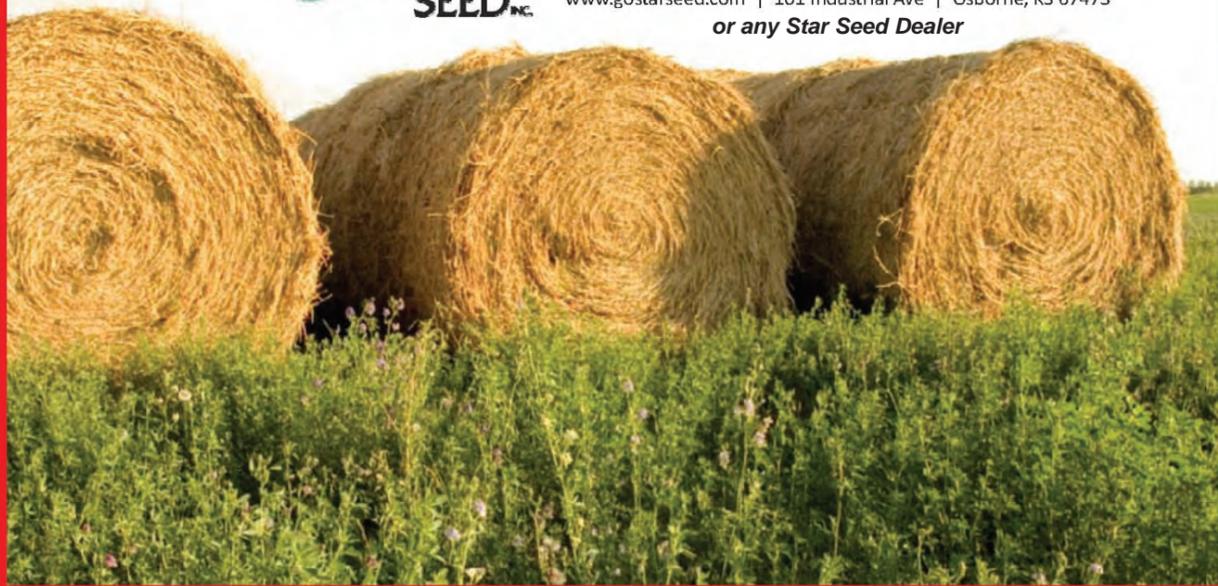
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Seed companies set for corn hybrid war

Seed for two new drought-tolerant corn varieties will be in limited release this spring. They're targeted for farmers on the western edge of the U.S. corn belt.

DuPont (Pioneer Hi-Bred) and Syngenta developed the new varieties through traditional breeding techniques — with a little advanced technology thrown in to speed the process of picking which parent plants to try.

The duo's entry into the world market could start decades of fierce competition for rain-challenged growers' business. Biotech varieties in the pipeline for future release may have an even bigger impact than today's hybrids, said Kraig Roozeboom, agronomist with Kansas State University Research and Extension.

"Either way, drought-tolerant corn could expand seed companies' markets," he said. "Continued expansion of corn acreage at the expense of other crops, such as wheat and sorghum, will mean greater corn seed sales — which is the most profitable sector of the seed market."

Roozeboom added that technology isn't the only reason new-generation corns are arriving so fast, compared to the new offerings for other standard crops. The seed industry for some time has been making larger investments in improving corn yields, largely because corn has been generating more dollars to invest. Herbicide- and insect-resistant corn varieties, for example, were earlier money-makers.

Market factors have been pulling agriculture toward increased corn production, Roozeboom explained. If nothing else, corn remains the primary base for U.S. ethanol manufacturing. World consumption of animal protein has been on the rise, too, increasing demand for feedgrains.

The agronomist said that so far, the best ways to address those market forces are to:

- * Get more acres into corn production, including land that has been considered marginal, due to limited precipitation.

- * Reduce the risk of corn crop losses while also increasing average yields in water-limited production areas, such as central and western Kansas.

"Untimely rains or dry conditions can have a big impact in our state — sometimes causing substantial yield reductions or complete crop failures," Roozeboom said. "Corn is more sensitive to the timing of rainfall than Kansas' other major row crops."

Annual rainfall in the state ranges from more than 40 inches in the southeast to an average 16 inches on the western border, he said.

Without timely rains, however, even southeast Kansas can have moisture problems, because during mid-summer, the shallow topsoils there can dry out in a couple of weeks. The area has a dense clay subsoil that limits corn roots to a narrow band of topsoil. Other subsoils may have moisture, but crop roots can't effectively reach them.

In contrast, much of western Kansas has deep silt loam soils with high water-holding capacity. So, despite the area's sparse rainfall, successfully grow-

ing dryland corn is possible, so long as enough stored soil moisture is available to complement limited rainfall during the growing season.

Roozeboom said that as global temperatures continue to rise, ongoing improvements in cropping systems may also be necessary to maintain and expand corn acreage and production. High residue, no-till production systems have already been essential for the success of dryland corn in more arid environments. Cropping systems that conserve both water and soil will become ever more important for sustaining long-term production.

"Of course, moisture problems aren't as big a worry for irrigated farms," Roozeboom said. "However, irrigated farms with limited well capacity could also reduce their risks if the new-generation hybrids perform as advertised. Water is a scarce resource that is getting scarcer."

What's Coming?

Syngenta, the world's No. 3 supplier of corn seed, announced its initial drought-tolerant Agrisure Artesian hybrids last July. Syngenta Biotechnology scientists developed the Agrisure Artesian platforms in conjunction with the company's (U.S) Midwest and California breeders, who conducted the field testing. The Switzerland-based company will sell its new seeds for 2011 under the Garst, Golden Harvest and NK brands.

DuPont announced its five hybrid platforms in early 2011. It tested them from 2008 to 2010 in 223 water-limited efficiency trials concentrated in California, Colorado, Kansas, Oklahoma and Texas. The company's agribusiness arm, Pioneer Hi-Bred, will sell the drought-forgiving seeds this year under the Optimum AQUAmax brand.

Both companies and Monsanto, the world's top seed seller, are now developing genetically engineered corns. Their aim is more predictable drought resistance, plus greater yield potential, Roozeboom said.

In developing its drought-tolerant seed, Monsanto has been collaborating with Germany's BASF, the world's leading chemical company, in a \$1.5 billion partnership. Monsanto's first drought-resistant biotech corn is now going through the federal regulatory approval process required for gene-modified products in the United States.

DuPont announced this month that its biotech challenger won't be ready for the market until later in the decade. A Syngenta spokesperson has said its competitor will require "years."

Roozeboom pointed out, however, that the seed companies will still have room for further improvements.

"Drought itself is a complex subject. And corn's ability to handle dry conditions involves a number of genes," he said. "Beyond that, drought-tolerance alone simply addresses the problem of having to produce in a water-limited environment. Kansans know that heat can be just as damaging. Both water availability and heat stress also can depend on or interrelate with soil type, pests, nutrient levels and each farmer's management practices."

LG Seeds sales territory expands farther into Kansas

Jamie Peter recently joined LG Seeds as a new Resource Manager covering the counties of Atchison, Brown, Clay, Cloud, Doniphan, Douglas, Geary, Jackson, Jefferson, Johnson, Leavenworth, Marshall, Nemaha, Osage, Ottawa, Pottawatomie, Republic, Riley, Shawnee, Wabaunsee, Washington and Wyandotte in north east Kansas.

Jamie presently resides in his hometown of Randolph. His background includes 17 years in the Ag Retail Business in both

sales and management. Some of his previous positions include location manager, agronomy manager and custom applicator.

Jamie says, "LG Seeds is a great company that cares for their employees and puts pride in delivering the best products and service in the industry to the growers."

Earlier this year, Kyle Klein also joined LG Seeds as a new Resource Manager covering the counties of Barber, Barton, Edwards, Ellis, Ellsworth, Harper, Harvey, Jewell, Kingman,

Kiowa, Lincoln, Mitchell, Osborne, Pawnee, Phillips, Pratt, Reno, Rice, Rooks, Rush, Russell, Sedgwick, Smith, Stafford and Sumner in central Kansas.

Kyle resides in his hometown of Dodge City. He received his Bachelor of Science degree in Agriculture, majoring in Agronomy, at Fort Hays State University. His background includes chemical, fertilizer and seed sales.

Kyle says, "LG Seeds allows me to get to know my growers and build relationships with them. LG also al-

lows me to focus on what I enjoy most — selling seed."

With extensive backgrounds in agriculture, sales and management, both Jamie and Kyle bring a diverse array of experience and a wealth of knowledge to LG Seeds, its dealers and its customers.

LG Seeds, based in Elmwood, Illinois, is a producer and marketer of corn, soybean and alfalfa seed. LG Seeds operates throughout the U.S. Cornbelt. For more information, call (800) 752-6847 or visit www.lgseeds.com.



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Right hybrid selection, best practices improve corn stands in high residue

DES MOINES — Selecting the right hybrid, modifying planting practices and choosing a suitable planting date can help improve stand establishment in high-residue fields, say experts from Pioneer Hi-Bred, a DuPont business. While many factors come into play, Pioneer experts say early-planted, high-residue, corn-on-corn field environments tend to experience considerable emergence stress especially in cold, wet springs. "For corn-on-corn situations, there's a lot of disease potential, especially in no-till or minimum-till environments," says Scott Heuchelin, Pioneer research scientist and field pathologist. "The source of disease often resides in the previous season's crop debris on the soil surface. When moisture and warmer temperatures increase in the spring, fungi have the opportunity to further colonize crop debris and release more spores into the field environment." "For growers planting into high-residue environments, hybrids with strong high-residue suitability ratings and high stress emergence scores provide a good starting point for maximizing productivity," says Imad Saab, Pioneer research scientist.

The company's high-residue suitability ratings factor in hybrid performance on several key traits, including stress emergence scores, northern leaf blight, anthracnose, gray leaf spot and Diplodia ear mold. Ratings may vary by geography, depending on the relative importance of these traits in target environments. "Regional input plays an important

role in assigning and characterizing trait scores," Saab says. "The majority of Pioneer® brand hybrids are rated as suitable (S) or highly suitable (HS). Pioneer actively selects against traits that contribute to poorly suited ratings (X)." Incorporating residue through tillage can help minimize disease potential, especially for seedling, stalk and foliar pathogens, Heuchelin says. Once incorporated into the soil, residue begins to break down as mites, arthropods, bacteria, nematodes and other fungi degrade and consume it as well as the pathogen's means of reproduction. The exceptions are the corn rusts, which have nothing to do with residue. Their spores typically blow in from growing regions to the south. "Rotation is a key strategy to manage disease from one season to another," Heuchelin says. "Many growers may be moving fields out of rotation because of commodity prices, but the risk for disease in corn-on-corn fields is much higher. During a two-year rotational cycle, spores in residue tend to lose viability between host crops due to degradation. Growers who choose not to rotate and use no-till or minimum-tillage should consider high-residue suitability ratings in their hybrid selection process." Excess residue also influences soil temperature and can keep soils from warming quickly. Saab encourages growers to pay close attention to near-term weather forecasts and avoid planting ahead of cold weather events that would cause seed to remain in saturat-

ed cold soils for extended periods before emergence. High-residue fields could suffer adverse effects due to compounding factors from cold, wet springs during and after emergence. Modifying planting practices may be another viable solution to manage residue. Saab says row cleaners, for example, can help growers sow healthier stands. "In the spring, the ground needs as much sun as possible to warm up," Saab says. "Residue can hold water and prevent warming of the soil, thereby slowing emergence. Planting when the soil is too wet also can result in compaction, which we

know can cause stand loss and non-uniform emergence. A properly working row cleaner helps the soil warm faster and removes physical barriers such as residue clumps."

Poor residue management can jeopardize yields. Pioneer has data showing that extremely high-residue situations, if left unmanaged, affect both the number and uniformity of emerged plants. "Uniformity tends to lend itself to higher yields," Saab says. "From our experience, if a plant is one leaf stage behind its neighbors when the corn is knee-high or below, it can lose a third or more yield

at harvest depending on growing season conditions." Once a seedling lags behind, Saab says overshadowing occurs from neighboring plants, which can result in a runt plant. "It won't capture as much sunlight to photosynthesize," he says. "It'll be shorter, thinner and the ear likely will be much smaller and with fewer kernels. Uniformity has become a more important concern as more growers place hybrids into stressful conditions early in the season and other factors — like residue — add more challenge to emerging plants."

To learn more about

best management practices for high-residue environments or high-residue suitability ratings, visit www.pioneer.com or contact a local Pioneer sales professional. Pioneer Hi-Bred, a DuPont business headquartered in Des Moines, Iowa, is the world's leading developer and supplier of advanced plant genetics, providing high-quality seeds to farmers in more than 90 countries. Pioneer provides agronomic support and services to help increase farmer productivity and profitability and strives to develop sustainable agricultural systems for people everywhere.

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Growers have the opportunity to make their acres more profitable when they use both MYCOGEN® brand seed and Dow AgroSciences crop protection products on their operation. The 2011 Grower Rewards program will offer growers up to a 10 percent cash rebate on eligible MYCOGEN brand seed and Dow AgroSciences crop protection purchases. "We are pleased to offer this savings opportunity to both long-time customers and new customers who are using industry-leading products from Dow AgroSciences," says Chris Garvey, general manager for Mycogen Seeds. "As a partner with Dow AgroSciences, Mycogen Seeds offers many top-performing seed products that are a part of the Grower Rewards program." By simply choosing products from the most complete seed, trait and crop protection portfolio in the industry, growers can earn cash back on their input pur-

chases. Qualifying for the program is easy. Purchase a minimum of \$25,000 of participating products, which must include at least 60 bags of any combination of corn or sunflower seed from Mycogen Seeds, and a minimum of \$5,000 of qualifying Dow AgroSciences crop protection products. Then start earning cash back on additional purchases.

The Grower Rewards claim form, seed invoices and crop protection invoices must be submitted to Dow AgroSciences by Sept. 15, 2011. For complete information about the Grower Rewards program and to see a list of all eligible products, visit www.DowGrowerRewards.com. Growers can contact their local Mycogen Seeds or Dow AgroSciences sales representative with questions or for additional details about the program.

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U.S. soybean farmers to see checkoff in action

Did you know one of the largest livestock operations in Mexico, PROAN, feeds 100 percent U.S. soybean meal to its 18 million hens, 6,000 dairy cattle and more than 20,000 sows each year? And 10 soybean farmers get to tour this state-of-the-art facility annually, thanks to the soybean checkoff.

This is just one of the stops on the agenda of U.S. soybean farmers participating in the United Soybean Board's (USB's) and soybean checkoff's See for Yourself program. Now other soybean farmers have the same opportunity to see checkoff-funded programs in action – for free – as this year's See for Yourself (SFY) session opens for applications.

"The program allows farmer-participants to see their checkoff dollars at work and meet their end users," says checkoff farmer-leader Rick Stern, a soybean farmer from Cream Ridge, N.J. "It is an eye-opening experience for farmers to see the various ways their soybeans are being used both domestically and abroad."

USB is inviting any soybean farmer interested in learning about checkoff programs in the U.S. and Mexico to apply to participate in the fourth year of SFY, which will run July 25-30, 2011. Participants will do everything from learning about biodiesel uses in St. Louis, where the USB is based, to touring one of the largest animal operations in Mexico, the second-largest international customer for U.S. soybeans. Among the many other things they will see and do over the jam-packed week are the following:

- Discover the new and innovative ways soy is being used by the industrial sector
- Watch demonstrations of maintenance vehicles using biodiesel
- Tour livestock facilities that use U.S. soybean meal as their primary feed source

- Walk through an aquaculture farm that uses U.S. soybean meal as its primary protein source

- Learn about Mexico's thriving aquaculture sector and U.S. soy's role

- Sample vast variety of soyfoods from Mexican retail markets

- Explore a soybean and palm oil refinery that utilizes the latest industry technology

"Participating in SFY is a great way to learn about the many ways our checkoff continues to provide a return on our investment," says Stern, who also chairs USB's Audit & Evaluation program, which sponsors SFY. "It allows us to see that our real customers are beyond the elevator and to witness how those customers use our soybeans." Another important aspect of the program is the opportunity for participants to spend time with their USB farmer-leaders – many of whom will be participating as well – to let them know what they think about what they're seeing.

"It's one more way USB can audit and evaluate the value of farmers' checkoff investments," Stern says.

Participants need no particular knowledge or experience with USB or the checkoff to qualify, just a desire to learn. Applications must be received by April 1, 2011.

USB is made up of 69 farmer-directors who oversee the investments of the soybean checkoff on behalf of all U.S. soybean farmers. Checkoff funds are invested in the areas of animal utilization, human utilization, industrial utilization, industry relations, market access and supply. As stipulated in the Soybean Promotion, Research and Consumer Information Act, USDA's Agricultural Marketing Service has oversight responsibilities for USB and the soybean checkoff.

For more information on the United Soybean Board, visit us at www.unitedsoybean.org

Study finds sorghum bran has more antioxidants than blueberries, pomegranates

A new University of Georgia study has found that select varieties of sorghum bran have greater antioxidant and anti-inflammatory properties than well-known foods such as blueberries and pomegranates.

Researchers measured polyphenolic compounds, which naturally occur in plants to help fight against pests and disease, and found that the black and sumac varieties of sorghum have significant levels of antioxidants. Many fruits also contain these compounds, they said, though sorghum bran may prove to be the richest and cheapest source.

"Since most human chronic disease states are associated with chronic inflammation and high oxidative stress, a food ingredient such as sorghum bran could potentially make certain processed foods better for a healthy diet," said study co-author Diane Hartle, director of the UGA Nutraceutical Research Laboratory and an associate professor in the College of Pharmacy.

Hartle and her colleagues, whose results appear in the current issue of the *Journal of Medicinal Food*, measured the degree to which extracts from four different varieties of sorghum reduced inflammation in mice. They found that black and sumac varieties showed significantly higher levels of polyphenolic

content and antioxidant levels than the two low-tannin varieties tested, which did not reduce inflammation.

The authors found that levels of polyphenolic compounds in the high-tannin sorghum varieties ranged from 23 to 62 mg of polyphenols per gram. For comparison, blueberries contain approximately 5 mg of polyphenolics per gram, while pomegranate juice contains 2 to 3.5 mg per gram.

The U.S. is the largest producer of sorghum in the world. Most of the sorghum grown, however, is a low-tannin variety that is fed to cattle and poultry or used to manufacture ethanol to fuel cars. "High-tannin sorghums can be of greater economy to manufacturers because of the current cost of berry and fruit sources of similar plant-based chemicals," said study co-author Phillip Greenspan, associate professor in the UGA College of Pharmacy.

High-tannin sorghum bran products have not been available in supermarket foods until recently. The researchers said they hope to generate interest in sorghum bran or its extract as an additive to food and beverages. Sorghum bran extract could be added to a variety of foods and beverages as a liquid concentrate or dried powder. The Great Plains area of the U.S. is the

largest worldwide producer of sorghum, and the researchers said that the combination of its low price and high antioxidant and anti-inflammatory properties will make it widely useful as an inexpensive and nutritional food additive.

The researchers have already experimented with adding the extract to apple juice to make it an affordable alternative to pomegranate juice and other antioxidant-rich products. "We're hoping that some company decides to extract this bran and pull these chemicals out and put the extract into a beverage that can help you fight disease rather than promote disease," Hartle said.

Study co-author James Hargrove, associate professor in the UGA College of Family and Consumer Sciences, added that high-tannin sorghum has more antioxidant phytochemicals than other brans such as rice, wheat and oats, whose phenolic content and antioxidant values are low. He and Hartle said that the use of sorghum can become a way to reintroduce a quality food to many products that now use bleached, refined flour.

"Sorghum bran not only provides the fiber but gives you a real medicinal punch at the same time because it delivers a lot of other chemicals that a berry would give you," Hartle said.

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| 2,4-D LV4 | 2.5 gal/gal | \$18.96 | *Harness Xtra | 5.6 2.5 gal/gal | \$41.38 |
| Accent DF (closeout) | 10 oz/oz | \$30.00 | Headline | 2.5 gal/gal | \$345.48 |
| Aim EC | qt/ea | \$187.64 | *Hero | 1 gal ea | \$15.14 |
| Ammonium Sulphate | 51 lb bag/ea | \$12.95 | *Intro | Bulk/gal | \$19.96 |
| Ammonium Sulphate | 2.5 gal/gal | \$19.90 | *Intro | 2.5 gal/gal | \$23.24 |
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| *Atrazine 4L | 2.5 gal/gal | \$11.98 | *Lariat | 2.5 gal/gal | \$23.08 |
| *Atrazine 90DF | 25 lb/lb | \$2.86 | *Lumax Enhanced | 2.5 gal/gal | \$56.74 |
| Authority Assist | 1 gal/gal | \$258.18 | *Mustang Max | 1 gal ea | \$172.68 |
| Authority First DF | 5lb/lb | \$57.94 | Option (closeout) | 30 oz/oz | \$9.00 |
| Authority MTZ | 6.25lb/lb | \$15.98 | Pasturegard | 2.5 gal/gal | \$56.00 |
| Authority XL | 5lb/lb | \$45.26 | Prefix | Bulk/gal | \$43.34 |
| Balance Pro (closeout) | 45 oz/oz | \$5.50 | Prefix | 2.5 gal/gal | \$46.68 |
| Beacon (closeout) | 1.33 oz pak/ea | \$35.00 | Prowl H2o | 2.5 gal/gal | \$36.14 |
| *Bicep II Magnum | Bulk/gal | \$30.00 | Quilt | .5 gal/gal | \$164.20 |
| (closeout) | | | Rage D-Tech | 2.5 gal/gal | \$25.32 |
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