Texas Rice

Texas A&M University System
Agricultural Research and Extension Center
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Web Management Tool To Help Monitor Grain Storage

http://beaumont.tamu.edu/RiceSSWeb

From planting, through maturation and harvest, farmers must keep a continuous watch to make sure their crop is protected. Yet, getting the crop out of the field and into storage bins doesn't mean the grain is safe from damage. The biggest threats to stored rice are the lesser grain borer and the rice weevil, but excessive moisture and temperature variations can also affect grain quality.

In the past, monitoring stored grain was dependant on bin managers, requiring diligence and near-constant oversight. A new computer-based tool promises to make this task much easier, according to Dr. Ted Wilson, director of the Texas A&M University System Agricultural Research and Extension Center at Beaumont, and a member of the team that developed the program.

The new tool is a Web-based grain management program called Post-Harvest Grain Management. The multi-state research team that developed the program includes Drs. Yubin Yang and Ted Wilson at the Beaumont Center, Terry Seibenmorgen, Canchun Jai and Dennis Gardisser with the University of Arkansas Division of Agriculture, Frank Arthur with the USDA-Agricultural Research Service in Manhattan, Kansas and Michael Boyd at the University of Missouri.

The objectives of the joint project are to evaluate the on-farm storage capabilities and practices of producers in the southern rice-growing region; to determine the effectiveness of controlled, ambient aeration for rice grain pest control; and to integrate new and existing aeration and pest data into a management and decision-making system. This web-based application is menu driven and user-friendly. It allows users to create different scenarios of bin and fan configurations with different initial conditions of pest infestations. It can also be used to simulate changes in grain temperature and moisture content, showing the resulting pest density and grain damage.

Funding for the project came from a USDA Cooperative State Research, Education and Extension Service-Crops At Risk grant. The team hosted a series of workshops in Missouri, Arkansas and Texas to deliver the research findings to farmers and grain storage operators.

The main pests infesting stored rice are the rice weevil and lesser grain borer. These species are primary feeders that complete development inside the kernel. Because infestations are hidden, they are often undetected until populations reach damaging levels. An important component of any grain bin management program is using low-volume ambient air (aeration) to cool the grain mass to levels that will either reduce or suppress insect population development (60˚F).

The Post-Harvest Grain Management program provides an opportunity to explore alternatives in achieving pest control in stored

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From the Editor...

Welcome again to *Texas Rice*. It is hard to believe this is our 36th issue, bringing the 4th year of production to a close. *Texas Rice* serves an important role in helping the Center deliver management information to our growers. So far, over 30,000 copies have been downloaded from the Beaumont Center website this year.

Speaking of downloads, about 1 million pages of information were provided through our web site during the previous 12 months. This is almost double the amount from last year. The Internet is obviously playing an increasingly important role in providing access to rice production and management information.

Our faculty and staff at Beaumont, Eagle Lake, and College Station continue to strive to make *Texas Rice* and the Beaumont Center web site useful to our growers and the scientific community alike. A major goal of our researchers is to continually expand the amount of information we provide. As a small step, plans for next year include placing the TRRF research/extension progress reports on the web. This will allow our rice producers to more easily access production and management information developed by our scientists, in part, through grower funding.

Every now and then, the hard work of our people comes back in the form of praise and recognition. During this month's Rice Outlook Conference, I had the pleasure of visiting with some of the rice research and extension leaders from across the U.S. The number of times people made positive comments about our web site was definitely gratifying. An even more important accolade was received by Dr. Mo Way, who was honored as the recipient of the 2004 Rice Industry Award. Mo has served the Texas rice industry for 22 years. Before then, he spent 9 years learning the ropes of rice entomology working for Dr. Al Grigarick at the University of California at Davis. Being trained by Dr. Grigarick, who was the best rice entomologist in the U.S., was a big plus for Mo and Texas. It is good to know that Texas has the top U.S. rice entomologist in our own backyard.

An additional award recipient this year is Cynthia Tribble, who received the Center's Employee of the Year Award. Cynthia is a critical part of our Center's office staff and without question has served to increase the efficiency of our team. A third award recipient was Dr. Garry McCauley, who was appointed secretary for the 2006 Rice Technical Working Group. In addition, Garry was rewarded for his hard work and dedication to the Texas A&M University System by being promoted to the rank of Full Professor. Mo, Cynthia, and Garry all deserve a hand and words of praise for their hard work.

2004 has been an interesting year for rice, to say the least. Favorable market prices this past winter were largely attributed to increasing planted acreage by over 20%. Early season rains and cool spring conditions greatly delayed planting for many of our producers and required replanting for some growers. Cool mid-season temperatures appear to have favored grain set, but also delayed development, and we saw a greater incidence of diseases than normal. The delayed development translated into fewer of our farmers producing a ratoon crop; however, overall, yields were good to excellent. On the downside, falling market prices and increased fuel and fertilizer costs definitely hurt profitability.

I hope Christmas and the holidays find you with family and friends, and in good cheer. Keep on sending me your suggestions for how to make *Texas Rice* better.

Merry Christmas,

L. T. Wilson

L.T. Wilson
Professor and Center Director
Jack B. Wendt Endowed Chair
in Rice Research

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Cover Story:
Web Management Tool to Help Monitor Grain Storage

Farming Rice

a monthly guide for Texas growers

Providing useful and timely information to Texas rice growers, so they may increase productivity and profitability on their farms.

High-Yielders Advice For the Best Ratoon Crop

In February of 2004 a group of rice farmers and consultants met with scientists from the Beaumont Center to compare notes on production practices that led to consistently high ratoon crop yields. The following article presents a summary of the comments and suggestions offered at this meeting.

Preplant

A key to producing a strong ratoon crop is to prepare the ground for the main crop early, preferably in the fall. Zero grade works well on sandy loam, but some growers argue that it does not work as well on heavy clay soils. A steeper grade allows heavy clay soils to drain better, which allows quicker access to the fields in the spring. However, a steeper grade also leads to greater yield variability from the high end to the low end of a cut.

All fields should be checked periodically for nutrient deficiencies. Most Texas soils have adequate K, but P needs to be watched closely. In field trials, Dr. Fred Turner found that omitting K had little effect on yield, but omitting P gave drastic yield reductions. If P gets low, over time, you will see reduced yield in the 2nd crop. Growers that use poultry litter or sludge generally have high P levels. Poultry litter can be particularly beneficial to improving yields during the first 4 years in areas of field that have been deeply cut during laser leveling.

With conventional tillage systems, it is better if P is incorporated to get it in the root zone, otherwise the phosphorus may not be available to the rice plants. Growers who practice no-till or stale seedbed management will need to apply P in the fall before the crop year. However, over the winter, high pH calcareous soils could tie up P.

The amount of N needed varies with varieties, and timing of the applications is an important issue. Some producers prefer to use 30 units pre-plant and 45 after flush, for a total of 75 pre-flood. It has been estimated that with each flush you loose 20 units of N. If a field has a history of stem rot, the rice producer should back off the N. High N rates promote excess vegetative growth, which aggravates the problem.

For micronutrients, soil tests may indicate a need for zinc, sulfur and manganese. Mn forms vary, some may not become available for 2-3 years, so make sure to check with your fertilizer representative. Ultra high-yielding varieties may require more micronutrients than is typically used with conventional varieties.

Seed Treatments

If using Vitavax, producers may get by with a lower seeding rate. The same is true with zinc, as it is thought to provide greater cold tolerance and protection against early disease stress. Calcareous soils respond well to zinc, as well as iron sulfate. Gibberellic acid (GA) improves seedling vigor, especially when planting early in cool weather (3/4 oz/cwt of seed was suggested for Jefferson). One grower cautioned, though, that using GA at the rate of 1 oz/cwt makes Cocodrie spindly and herbicide sensitive, especially to Command.

Main Crop Planting

Everyone agreed it was imperative to have the rice crop planted by April 15th to allow time for the ratoon crop to mature. Ideal seedling population varies with seed treatments, cultivars and environmental conditions, with suggestions ranging from 10-20 plants per ft^2. The upper end would be better for most varieties because with early planting, you have to allow for losses due to cool nights. For a high tillering cultivar or hybrid, most recommended 10 plants per ft^2. If seedling density is too high with good tillering rice, then disease pressure may cause problems. Varieties like Jefferson require 15 - 20 plants per ft^2 for best performance. On heavy clay soils, most agreed seeding rate should be increased.

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Main Crop Weed Control

Good weed control in the first crop leads to less weed pressure in the ratoon crop, as seed production is reduced and plants that reproduce by stolons can't get a foothold. Command should be used with care on sandy soils, 0.3 lb(AI)/ac on sand, 0.6 lb(AI)/ac on clay. Also, use extra caution when applying Command on sand combined with conventional tillage and planting. On sandy soil the drill can create a furrow, which can allow Command to pool up around seedling, resulting in heavy damage or death of the seedling. Many producers have also observed a high mortality rate on cut areas following Command applications. For nutgrass control specifically, Permit has proven to be the most effective control.

The stripper header on this combine cuts the rice plant just below the panicle. This makes harvest go faster, but eliminates the possibility of a ratoon crop. In the picture below, this ratoon field was cut with a stripper header in the background and a conventional header in the foreground.

Main Crop Disease Control

As is the case with weeds, disease control in the first crop is essential for a high yielding ratoon crop. Field history, variety, plant density and weather will dictate the need for disease control applications. Successful combinations mentioned were Quadris/Tilt and Propomax/Quadris. For the latter, the longer you can hold off application, the longer it lasts into the season. One recommendation was to apply fungicides at 2 inch panicle to full boot stage. Most felt Quadris was better on sheath blight than Stratego.

Main Crop Insect Control

To get high ratoon crop yield, producers must control the rice water weevil in the first crop. When we lose ICON, most think Karate will be an acceptable alternative to control weevils. Even using ICON, some producers apply a preventative application of Karate 3-5 days before permanent flood. (You can save an application cost by putting it out with an herbicide.) The loss of ICON may be a greater problem with respect to chinch bug control. For this pest, one producer recommended applying methyl parathion just after permanent flood, and go 3 passes outside of the field to get perimeter populations. This timing is especially important on heavier soils, because applying pre-flood may mean there are cracks in the ground that the bugs can hide in, making them harder to kill. The migratory nature of stink bugs requires diligent scouting to get control, especially leading up to and after heading. And the more grasses you have in and around the field, the more stink bugs you are going to see. Scout early for fall armyworms (2 – 5 leaf stage), since damage can escalate rapidly as the larvae develop. In fields sprayed early with Karate for fall armyworms, some producers saw less stem borer damage later in the season.

Main Crop Drain/Harvest

To prevent rutting, it is recommended that you drain the field 10 – 15 days before harvest. Research by Dr. Garry McCauley shows the best yields are obtained when the main crop is drained 25 days after 5% of the panicles have headed. Either way, keep the carts out of field as much as possible. To help

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alleviate the problem of rutting, some producers have switched to flotation tires, but this may not be an acceptable solution as some say they spin in the slightest mud, and leave an even bigger 'footprint'.

At the beginning of harvest, it is important to take time to check equipment for leaks, and fine tune calibrations. Make sure spreaders/choppers are giving an even distribution of straw to prevent smothering ratoon tillers. Some have found that a lower cutting height is better, as it leaves less material on the plant to promote disease, and also allows more light to reach ratoon panicles. Research by McCauley has shown increased ratoon crop yield with an 8" cutting height. It was suggested that to get a lower cut, flail mowing might be justified.


Photo courtesy of Dr. Garry McCauley

Research by Dr. Garry McCauley suggests that 8" is the optimum cutting height to encourage a good ratoon crop, and flail mowing can also be beneficial to shred and scatter the straw. However, these recommendations only apply if the main crop is ready to harvest on or before August 15th.

Second Crop Fertilizer/Flood

Opinions for ratoon fertilization varied among the meeting participants. Some suggested 90 units of N just after first crop harvest and then flooding immediately. One person had good results with putting out the ratoon N just before the main crop harvest, so that pellets don't end up sitting on top of the cut straw. It is important, though, that foliage is not wet when this application is made.

For fields planted marginally late, to have better chance for ratoon crop maturation, the following suggestions were made. Apply ratoon N in two parts, half at main crop green ring and half 10 days before draining fields. This gives ratoon panicles a jump start, and can advance maturation by a week to 10 days. It may also cut the very tips of ratoon shoots off at MC harvest, but this is not a problem for panicle development. Keep ratoon flood shallow in cool fall weather, as deep flood holds cold nighttime temperatures throughout the day, slowing down maturation. You need to monitor shallow flood closely, though, because if you lose the flood you lose your N.

Second Crop Weed/Disease/Insect Control

One suggestion was to apply Gibb and the broadleaf herbicide Grandstand 12 days after MC harvest, to jump start the crop, while at the same time reducing weed pressure.

For disease, Quadris gives good control of sheath blight, and offers *some* control of narrow brown leaf spot and kernel smut. Tilt, the preferred choice for narrow brown, is **not** labeled for use in ratoon rice. Dr. Joe Krausz suggests that farmers aggressively treat fields with a history of narrow brown with Tilt in the MC, to reduce spore population in the ratoon. Brown spot, on the other hand, does not respond to any fungicide application, suggesting that there may be other factors at work. A correlation of the occurance of brown spot to low K in the soil, and/or hydrogen sulfide toxicity (due to high organic matter), could both factor in the development of these symptoms.

It is important to scout for stink bugs as the ratoon rice approaches heading, although spider populations may keep numbers down. One producer pointed out that since ratoon yield is normally half of his MC yield, threshold numbers should be half. Karate generally gives good control of stink bugs.

Second Crop General Comments

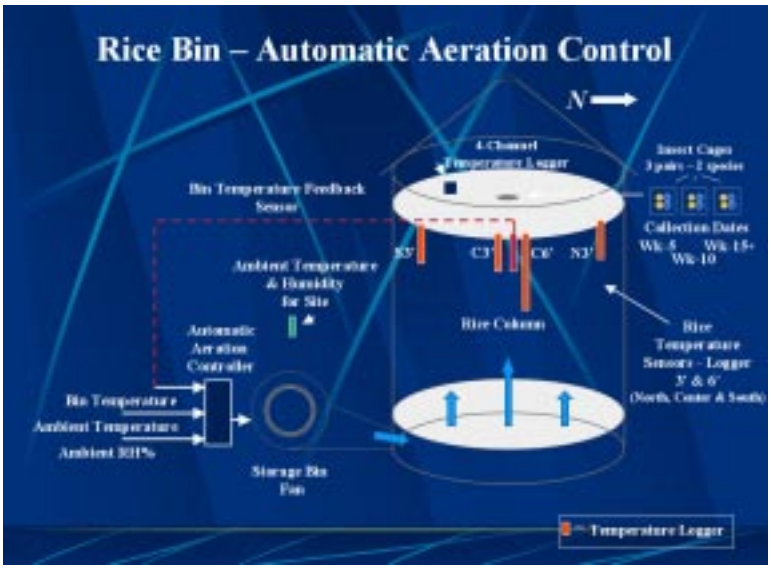
A mistake that is often made with the ratoon crop is to harvest too early. This comes about because panicle maturation is not as uniform in the ratoon crop as it is in the MC. It is important to look at the entire field, not just one or two areas. However, keep in mind that frost can drop whole grain milling yield from 50% to 30%, so watch the weather and take the crop early if severe cold threatens. *

grain. The interactive application predicts temperature and grain moisture as well as the population dynamics and damage by insects inside the bins.

The program is directly linked to a weather database for Arkansas, Missouri and Texas designed and developed by Drs. Yubin Yang and Ted Wilson at the Beaumont Center. The database is updated automatically from several weather data sources, mainly from the National Oceanic and Atmospheric Administration. The program allows users to choose historic and near real-time data (for some stations) to evaluate the effect of regional weather on bin aeration and pest populations.

Knowledge Base for Post Harvest Grain Management Program

Once a cereal crop is harvested, storage may be required for a period of time before it can be marketed or used as feed or seed. The length of time cereal grain can be safely stored will depend on its condition at harvest and the type of storage facility being utilized. Grain binned at lower temperatures and moisture contents can be kept in storage for longer periods of time before its quality will deteriorate. The presence and build-up of insects, mites, molds and fungi, which are all affected by grain temperature and grain moisture content, will affect the grain quality and duration the grain can be stored.



Aeration is the process of ventilating stored grain at low airflow rates with the purpose of maintaining a fairly uniform grain temperature throughout the bin. This prevents moisture accumulation at the top layers of the bin due to natural convection. Aeration may be used with field-dried grain or with grain that is harvested damp, then dried and cooled in a heated air dryer. In both cases, temperature and moisture content variations may exist in the grain, or the grain may be too warm to store safely. Variation in grain temperature is also caused by changes in the outside air temperature after the grain is stored. The amount of air required to change the temperature of the grain may not affect grain moisture content because of the low airflow rates used in aeration. Although bin aeration is not intended to be a grain drying system and should not be considered as such, some drying can occur when the weather is very dry and the fan is run for a long time.

Fan operation should be controlled by maintaining less than a 10ºF difference between grain temperature and average outside air temperature. Improper aeration leads to mold development. Early signs of mold growth can be detected by smelling the first air that is exhausted from storage after fans are turned on. Grain is cooled in the fall, kept at low temperature in the winter and warmed in the spring. Generally, fans can be operated when outside relative humidity is in the range of 55% to 70%. When using high airflow rates, humidity below a recommended range could over dry the grain, and humidity above the range may raise grain moisture to unsafe levels. These levels are determined by the Equilibrium Moisture Content (EMC) of the grain, a point at which the grain is neither gaining nor losing moisture. If the relative humidity is constant, then a rise in air temperature will lower the EMC. Likewise, if the temperature is constant, then a rise in relative humidity will raise the EMC. At 77ºF and 75% relative humidity, rough rice has an EMC of 11.89, while the EMC for brown rice and milled rice is 13.01 and 13.04, respectively. These numbers may change slightly with different varieties and grain types, as lipid levels in the bran effect the EMC.

It should also be noted that most moisture meters read the surface moisture of the grain. Rice just coming out of the dryer may read 13%, but after a time

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that reading could go up by 1% point or greater. This is known as the 'rebound effect', and should be considered as grain goes in to storage. Fissuring occurs when the moisture gradient between the kernel and the air is high, and moisture rapidly enters the grain.

During fan operation, air temperature should be cooler than the grain in the fall and warmer than the grain during late spring. Aeration controllers are available which automatically start and stop fans based on grain and air temperatures, and some also control on the basis of air humidity.

Minimum airflow rate for grain aeration is 0.05 to 0.2 cubic feet per minute/bushel (CFM/Bu). Grain with a low initial moisture content requires less CFM/Bu. For larger fans this will speed up the cool down process as more air is moved through the grain. Warm air rising in the center of the bin cools when it reaches the cold grain near the surface. This results in an increase in moisture content near the surface, which can lead to rapid spoilage. Crusting on the surface of stored grain is a common symptom of moisture migration. Significant migration can occur in cereal grains at moisture contents as low as 12 % w.b. (wet weight basis), if grain is placed into storage at a high temperature and not cooled.

Grain in storage is subject to moisture migration caused by differences in grain temperature. This is particularly true for grain stored in metal bins. In the late fall and early winter, stored grain tends to be

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Chemicals For Use in Stored Rice

Currently, two chemicals are labeled to prevent insect damage in stored rice. One is Reldan, which is targeted for phase-out in 2005. The other is phostoxin, most commonly used by grain elevators and mills. Methyl bromide was widely used in the past, but due to concerns about global warming and the acute toxicity of the product, its use is being phased out through action of the Montreal Protocol. The U.S. EPA filed a request in 2004 to the Secretariat for the Montreal Protocol for Critical Use Exemptions of methyl bromide, but most producers recognize that the product is on its way out, and are actively exploring the alternatives.

Here is a review of the chemicals available, and new products coming soon.

Reldan® 4E - The last sale by Gustafson to their distribution partners must occur prior to December 31, 2004. Distributors must have Reldan 4E out of their possession prior to December 31, 2005. Product in the user's possession can be applied after this date and although there is not a set time frame, the EPA will allow a "reasonable" amount of time for treated grain to clear the grain trade. They have provided us with a date of 2008 or 2009.

Gustafson has a small amount of product in their inventory. They do not want to flood the market with Reldan, but understand that some of their customers may want to purchase a quantity for future use. They will work with interested distributors who would like to inventory a reasonable amount of product before the end of 2004. They will not authorize any Reldan 4E returns as inventory must be out of their possession by December 31, 2004.

Storcide™ II – Gustafson announced recently that the label for Storcide II has been approved by the EPA. They are marketing the product as a replacement for Reldan. Storcide II will be registered on wheat, oats, barley, sorghum and rice. Storcide II will be accepted by CODEX for international export, and will offer excellent protection against the lesser grain borer, as well as the other important stored grain insects. Storcide II will be offered as a liquid-only formulation. It contains 3 ppm of chlorpyrifos-methyl (Reldan) and 0.5 ppm of deltamethrin. The formulation will be approved for use on seed, direct application to grain, for use as a top-dressing and for use as a grain bin and warehouse spray.

Secure™ - Spinosad, the active ingredient in Secure, is a new stored grain insecticide from Dow AgroSciences. Gustafson will be marketing spinosad in several formulations, currently in development. New tolerances have just been approved by the EPA for direct application to grain. Although the performance is excellent, international approvals have not been implemented. Work is being done to help achieve CODEX approval and approval from other, non-CODEX countries. This process will take from 2-4 years to achieve. Therefore, at this time, Dow AgroSciences and Gustafson, have agreed to delay introduction until we can successfully secure international tolerances and be able to market a product readily accepted by the international grain trade. We will continue to provide product updates as they come available.

Diatomaceous Earth – DE is labeled for use on stored grain, and is approved for use in organic systems. DE is the ground up shells of fossilized diatoms, mined in the Western United States. It works as a contact pesticide, by piercing the insect body and causing dehydration. The substance is non-toxic, but can be harmful to the respiratory system if inhaled. *

Members of the Post-Harvest Grain Management development team, from L to R: Dennis Gardisser, Frank Arthur, Terry Seibenmorgen, Canchun Jai, Ted Wilson and Yubin Yang.

warmer than the outside air. Warm air rises slowly out of the center grain. When this air contacts cold grain on the top of the bin it cools and increases in relative humidity and causes the top grain to gain moisture. Sometimes the temperature differences are great enough to cause condensation on the top grain. Air and grain close to cold walls or floors also cool. The air increases in humidity, causing the grain closest to the cold metal to sometimes gain enough moisture to cause spoilage.

Moisture migration is slowed by aeration, regularly forcing outside air through the grain to reduce temperature difference between the grain and the outside. The grain temperature should be within 10ºF of the average outside air temperature. During the fall, aeration is used to cool the grain and maintain moisture uniformity. In the winter, aeration is needed just to maintain moisture uniformity. Keep grain temperature as low as possible during the spring to reduce insect damage. Insects become active when grain temperature rises above about 65ºF and infestation and damage are likely when the grain temperatures are between 75 and 90 ℃, which is the optimum range for growth and development of stored-grain insects.

To summarize, good storage practices prevent grain quality loss by:

1. Keeping grain below a moisture content of ~ 12.5%, which corresponds to ~ 65% relative humidity.
2. Keeping grain temperature within 10ºF of the average monthly air temperature and below 60ºF as long as possible during the year.
3. Designing and operating an aeration system to maintain uniform grain moisture and temperature.
4. Storing only well cleaned grain. Fungi (mold) growth is minimal below 65% relative humidity and bacteria growth is minimal at even higher relative humidity.
5. Reducing the occurrence of rapid shifts in temperature, thereby controlling grain fissuring.
6. Monitoring and reacting appropriately to any changes that may occur.

Safe long-term storage moisture for grains is based on how dry it is. Grain can be stored above ~ 12% moisture content, but the risk of noticeable mold growth increases as moisture, storage time, and grain temperature increase. During storage, inspect grain weekly. Test the discharge air for off odors, any increases in temperature within the grain, and increases in moisture, which generally indicate a problem.*

Western Rice Belt Production Conference
January 19, 2005
El Campo Civic Center

Topics will include:

- Cash flow Analysis of Rice Farming
- Varietal Performance
- Varietal Survey Data for 2004
- Second Crop Management
- Disease Management
- Registering Water Wells
- Farm Policy Outlook
- Rice Market Outlook
- Weed Management
- insect Management
- Louisiana's "Ten Day Prompt Pay"

The conference will offer CEU credits towards a Texas Department of Agriculture Applicators and Certified Crop Advisor license re-certification.

For more information contact:
Brent Batchelor, Matagorda CEA, 979-245-4100
Dale Rankin, Colorado CEA, 979-732-2082
Chris Schneider, Jackson CEA, 361-732-2082

Blackbird Baiting Program Needs Grower Cooperators

Red-winged blackbirds, common grackles and brown-headed cowbirds cause an estimated $11.5 million of damage to newly planted and ripening rice in Arkansas, California, Louisiana, Missouri and Texas. Scientists at the National Wildlife Research Center of the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services program routinely work with rice producers to develop safer more effective methods to reduce bird depredations on seeded and ripening rice and to improve profitability for growers. In its 11th year in Texas, the blackbird baiting program is designed to help reduce blackbird numbers along the Texas Gulf Coast.

The sites are baited in January and February, since these months offer limited food sources available to the birds. An ideal bait site is 5 or more acres of plowed ground. The chemical used to treat the rice is the avicide Compound DRC-1339. It is a species-specific avicide, which means it is lethal to some bird species, yet has little effect on other species. For example, blackbirds receive a lethal dose when feeding on the treated rice, but a Savannah Sparrow, a common non-target species present at the sites, does not receive a lethal dose when feeding on the treated rice.

The chemical has no secondary poisoning aspects, meaning blackbird carcasses are of no danger when consumed by hawks, vultures or other predators.

Any site where the chemically treated rice is applied cannot be grazed by cattle for 365 days. However, a recent change to the chemical label allows some crops to be planted where the chemical has been applied. The plant-back intervals are: 15 days for rice, wheat, corn, barley; 30 days for sunflowers and soybeans; and 365 days for all other crops.

Those interested in participating in the program can contact T. J. Muir, at (979)234-6599. *

Throughout the fall and early winter, millions of blackbirds descend on Texas rice fields.

Photo courtesy of Dr. Mo Way

2004 Employee of the Year

This years' recipient of the Glenn Wallace Employee of the Year Award is Cynthia Tribble. Cynthia came to work at the Beaumont Center in 1999. She conducts most of her work within the Entomology and Soil and Plant Nutrition projects. Of Cynthia's many duties, she maintains databases for cotton, rice, sorghum, soybean and sugarcane statistics. She assists with proposals, interim progress and final reports. Cynthia was greatly involved in overseeing and maintaining the electronic review process for Dr. Fred Turner, in his role as the associate editor for the Soil Science Society of America Journal. She also provides technical support to Dr. Mo Way, in his research on the Mexican rice borer.

Cynthia was instrumental in preparing the web-based study guide for the Youth Rice Educational Contest. Her dedication and hard work make the contest a successful event every year. She also helps to coordinate the displays for Field Day at the Center. In 2003, she coordinated planning for the S-1010 Regional Project on Soybeans, which was attended by scientists from several states. Recently, she helped Dr. Mo Way prepare two grant proposals with the potential to bring substantial funding to the Entomology Project.

Cynthia was born in the oil-boom city of Corsicana, TX, the eldest of three. She was very active in high school with the student council, the National Honor Society, theatre and cheerleading. She attended Lon Morris Junior College in Jacksonville, but completed her education at McNeese State University in Lake Charles. In 1983, she married longtime friend Ricky Tribble and they have two sons, Brandon and Christopher. In 1988, they settled in Gilchrist, where they currently reside. Cynthia's hobbies include cooking, reading, painting and fishing.

Cynthia is an amazing example of a dedicated employee, one nominator said. "She is always friendly, courteous, professional and caring in dealing with her co-workers. She never complains and never misses a deadline". *

Dr. Mo Way Wins Rice Industry Award

The rice industry recently honored Dr. M.O. 'Mo' Way for his dedication in 22 years of rice entomology research and extension work at the Texas A&M University System Agricultural Research and Extension Center in Beaumont.

Way received the 2004 Rice Industry Award at the Rice Outlook Conference last week in New Orleans, LA. Syngenta Crop Protection, the USA Rice Federation and Rice Farming magazine sponsor the award.

When the award was announced, participants at the conference gave Way a roaring applause according to Vicky Boyd, editor of Rice Farming magazine. "Mo is so passionate about his work," Boyd said. "You have never seen someone get so excited about a glass jar with holes poked in the lid!"

Dr. James Stansel was resident director at the Beaumont center when Way was hired in 1982, and he was immediately impressed with Way's strong work ethic. "Because of his dedication and productivity, he is one of the most respected scientists and Extension personnel in the Rice Belt," Stansel said. "He has a true passion to help farmers."

According to Way, his resolve to help the farmers has grown over time. "The more I have worked in the rice industry, the more my commitment has grown," he said. "You get to know the farmers, consultants, industry people, USDA officials and fellow scientists on a personal basis. Because of my extension duties, I have a direct involvement with the industry, and that gives me concrete goals and direction. You know what you are doing has significance and can really be of benefit."

Way's responsibilities include developing integrated pest management programs for rice as well as soybeans. Way's innovative work helped prolong the use of the chemical carbofuran for rice water weevil control. "His efforts, along with other rice entomologists, paid off because the Environmental Protection Agency allowed U.S. rice farmers to use granular carbofuran for an additional two years until a suitable control alternative was available," Stansel said. "Meanwhile, he conducted research that sought biological and other alternatives to carbofuran. Data generated from these studies helped convince the EPA to register Karate Z and ICON as the first replacements and then Dimilin, Fury, Mustang Max and Prolex."

Quick to share credit for these achievements, Way says, "I've been fortunate in having a great staff of technical, clerical and administrative support. Without them, there wouldn't have been all the achievements. The people that I work with are just wonderful, and they are very dedicated to helping the farmers."

He has served on the USA Rice Federation's Environmental Affairs subcommittee since 1996. He was chairman or board member of the Rice Technical Working Group from 1994 to 1998. He is past president of the Texas Plant Protection Association and past chairman of S-300, a multi-state regional project dealing with rice insect pests.

Way is known for his frequent on-site visits to farmers' fields as well as the assistance he gives to farmers, consultants and Extension colleagues. Some of his current research includes developing rice stem borer controls. In addition, he and a graduate student are researching an easier and more accurate sampling method for the rice stinkbug. Also, Way is looking at pest pressure on rice grown under conservation tillage.

Way worked with other commodities in California while earning his entomology degrees before moving to Beaumont. He grew up in Bakersfield, California, and earned three entomology degrees, including his doctorate, from the University of California at Davis. "Dr. Way is a leader in his field in terms of interpersonal skills," Stansel said. "He is very effective at extending his knowledge, expertise and experience to other scientists, Extension personnel, producers and the public." *

State, National and International News...

No-Till Farming Lowers Global Warming Fears

COLORADO - Soil scientist Ardell D. Halvorson, of the ARS Soil, Plant and Nutrient Research Unit, and Gary A. Peterson of Colorado State University believe that switching to no-till farming, a system of cultivation in which the soil is not disturbed, will decrease the Global Warming Potential on some farms.

Soil disturbance stimulates the microbial activity that converts organic matter and nitrogen fertilizer into the greenhouse gases.

According to the researchers, farmers may be able to lower the net rate of the "greenhouse gases", known as the Global Warming Potential, that their farms emit.

The scientists found that certain activities, such as switching to no-till farming, may also increase crop yields while helping the environment.

Some gases in the atmosphere trap heat near the Earth's surface, much like glass panes trap heat inside a greenhouse. Agricultural systems both release and absorb certain greenhouse gases. The difference between the total emission and absorption of these gases helps researchers understand the Global Warming Potential.

Plants remove carbon dioxide, an important greenhouse gas, from the air and convert it to carbon-containing compounds. Carbon that stays in the soil improves soil conditions for agriculture and also "sequesters" the gas out of the atmosphere. But crop and animal residues in and on the soil are decomposed by microbes, releasing the carbon dioxide back into the air.

Nitrogen fertilizers can be converted by microbes to nitrous oxide, a potent greenhouse gas. A third greenhouse gas, methane, can be released or absorbed by soils and is also released by some kinds of livestock and animal wastes.

From Farm Press Daily

InTime Waives Technical Service Fee for Early Sign-ups

MISSISSIPPI – InTime, Inc., headquartered in Cleveland, MS, uses a combination of geospatial technologies to convert real-time aerial imagery of agricultural crops into digital 'scout' maps.

InTime scout maps depict plant-health variability within a field and have been proven useful in identifying crop variability due to soil type, disease, soil acidity, soil compaction, insect pressure, fertilizers, irrigation practices, crop cutout and herbicide misuse.

Using a process patented by InTime, these digital maps are converted to variable-rate 'prescriptions' that can be used to apply chemicals only where they're needed, resulting in reduced chemical costs and a more uniform and healthy crop.

Kelly Dupont, director of sales and marketing for InTime says "Our technicians spend a lot of time testing and adjusting field boundaries to ensure proper alignment, and with basic computer tasks associated with data collection, storage and transfer.

The optimal time to train our customers is during the winter, which is why we've decided to waive this fee for customers who sign up before January 1."

InTime has grown to accommodate many new crops, including cotton, corn, soybeans and rice.

For more information, visit www.gointime.com or contact Kelly Dupont at 1-866-843-0235.

Industry Leaders Group Shares WMP Concerns with Undersecretary Penn

WASHINGTON - A group of rice industry leaders met yesterday with Dr. J.B. Penn, undersecretary of agriculture for the USDA Farm and Foreign Agricultural Services to share the industry's concerns about World Market Price (WMP) discrepancies.

The industry group provided charts and documentation showing a discrepancy between the anticipated loan deficiency payment (LDP) received and the implied LDP that was expected as a result of market dynamics.

They argued that USDA was placing a premium on U.S. rice that was unjustified within the market. Rice industry officials attending the meeting stressed that forfeitures are likely if rice remains uncompetitive in the marketplace. The group explained that Iraqi business is of ultimate importance if USDA is to manage forfeitures.

Cuban payment terms and EU tariff issues were also discussed with the undersecretary. Penn assured the industry that USDA has attempted to adjust the WMP to reflect actual market dynamics and promised to revisit the issue in coming weeks to ensure accuracy.

Contact Ben Noble, (703) 236-1471, bnoble@usarice.com

Rice Crop Update

2004 Production Year in Review

The 2004 rice crop season was characterized by variable weather patterns across the rice belt. March was warmer than normal with average rainfall after a wet winter. Then cold weather hit in mid April with temperatures falling into the mid 40's. Heavy rains and cloud cover in May, June and July, particularly along the coastal areas of the rice belt, significantly impacted the rice crop. Mid August temperatures were among the coolest on record with temperatures falling to 60 degrees. Near record high temperatures were recorded for the last half of October.

Planting dates were highly variable across the state. Planting was very late in the eastern rice belt, but closer to normal in the western areas. There were some late plantings due to the increase in acreage, especially in the east. Planted acres increased 39% in the east while the western areas increased about 17%. The state acreage increase was 22%. The 216,810 acres was the highest acreage since 1999.

Main crop harvest was 11 days later than normal across the rice belt. Main crop yields averaged 6,231 lbs/ac (38.6 bbls/ac), slightly above 2003, but well below 2002. Yields were reported on 51,290 acres. Cocodrie was the most popular variety (59% of the total reported acreage) followed by CL161 (11%) and Cheniere (10%). The Rice Tech hybrids are becoming more popular being grown on about 4% of the acres.

Ratoon crop yields averaged 2,402 lbs/ac (15 bbls/ac dry) on 10,173 reported acres from 84 fields across the rice belt. This was higher than the 2002 and 2003 crops. Only 35% of the acres were ratoon cropped the lowest percentage since 1999. The rice belt average since 2000 is 40%.

CLXL8 had the highest ratoon crop yield (2,862 lbs/ac, 18 bbls/ac dry) on 648 reported acres from 5 fields. Cocodrie was a close second with yield of 2,691 lbs/ac (17 bbls/ac dry) from 4,159 acres reported from 30 fields. Jefferson, Dixiebelle, Cypress, XL8 and CL161 all yielded about 2,300 lbs/ac (14 bbls/ac dry). Cheniere yielded 1,983 lbs/ac (12 bbls/ac dry). Keep in mind these estimates are based on a low sample of 10,173 acres from 84 reported fields. However, they do give good perspective of general ratoon crop performance.

Total production for Texas is estimated to be a little over 14 million hundred weights, which is below 2003 and about the same as 2000-2002. Texas rice production in 2004 was about the same as 1993, but was produced on 80,000 less acres. Yields increased 21% since 1993 (1,165 lbs/ac, 7 bbls/ac dry) and 2004 was not the highest yielding year. This provides an insight into the impact of technology and crop management on the productivity of the Texas rice growers.

Conservation tillage of some type was reported on 30% of the 2004 acres. That compares to 32% in 2003 and 52% in 2002. Summer and fall weather patterns, which facilitate land preparations greatly impacts the number of conservation tillage acres.

More detailed information is available in the 2004 Texas Rice Crop Statistics published by the Texas Agricultural Experiment Station at Beaumont. *

Article by Dr. James Stansel.

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