Texas Rice

Texas A&M University System Agricultural Research and Extension Center
Beaumont, Texas

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Rice Farmers Support Research

February is a busy time for rice farmers, as they make finishing touches on their fields, and get equipment ready for the planting season. But for the 12 farmers that serve on the Texas Rice Research Foundation (TRRF) board, there are additional responsibilities that require a significant amount of time, namely, the review of research proposals and the distribution of check-off funds that rice farmers provide each year for research.

In Texas, the rice check-off program is voluntary, unlike other rice growing states where the programs are mandatory. Here, farmers have an opportunity to request a refund in December, and get their check-off money returned. The refund rate was 22% in 2003, which means that 78% of rice farmers are supporting rice research in the coming year, amounting to over $625,000. Since the program began, rice farmers have contributed nearly $16 million to fund research programs in Beaumont, Eagle Lake and College Station. This is a significant amount of the total research budget, and has played a major role in rice production and management improvements made over the past four decades.

Here's how the program works. For every hundredweight of rice sold, Texas farmers contribute .05¢ for research and .03¢ for market promotion. The Texas Rice Producers Board collects the check-off money and distributes the promotion funds to the Texas Rice Council, and the research funds to the TRRF board.

The TRRF board has 12 representatives, one from each district in the Texas rice belt, each serving 6-year terms. When a term expires, Alice Garlough, C.P.A. for TRRF, sends a notice to the county agent in that district about the vacancy. The agent distributes the information to area rice farmers, who then have the opportunity to submit their name for consideration on the board. Applications must be accompanied by 10 signatures of rice farmers within that district. Once all the applications are received, ballots are sent out to each rice farmer in the district to vote in their new (or returning) TRRF board representative.

Farmers attend Rice Field Days to get the latest research updates, and see first hand how their check-off monies are being spent.

Serving on the board is an enormous commitment, both in terms of time and responsibility. These 12 members must speak for all the farmers, and make decisions that will affect the future of the rice industry in Texas. Therefore, the process of evaluating research proposals is involved and quite rigorous.

In the fall of each year, the board sends out a 'call for proposals' to all the rice researchers in Texas. Deadline for submitting proposals is just before the Christmas break. Copies of the proposals are sent to members of the scientific review panel, appointed each year by Beaumont Center Director Dr. Ted Wilson, and to the rice industry panel, appointed by the TRRF Board.

A series of three TRRF Board meetings are held in February, with the first two involving presentations of reports and new proposals. During these presentations, applicants may be questioned about different aspects of their proposal, and called to justify budget requests. Once the board hears all the presentations, they meet again to assimilate this information with

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From the Editor...

Welcome to the March 2004 issue of *Texas Rice*. This issue begins our 4th year of production. Please remember to download yourself a copy from our website, http://beaumont.tamu.edu. Web downloaded copies are increasingly becoming the major way that *Texas Rice* is accessed. Last year, 1,264 copies of the March 2003 issue of *Texas Rice* were downloaded, accounting for about 75% of that issue; with only 425 copies either mailed or provided for walk-ins. In comparison, 2,268 copies of the Winter issue of *Texas Rice* have been downloaded so far this year, with an additional 300-600 copies expected to be downloaded later this year. This means that about 86% of the copies of *Texas Rice* are now received via the internet.

January and February are busy months for rice growers. In addition to the winter land preparation activities, a select number also find themselves busy reviewing research proposals and deciding how best to use grower check-off funds. In this issue of *Texas Rice*, our cover story addresses the role that our rice producers play in selecting the leadership to the Texas Rice Research Foundation Board, the role the TRRF Board plays in reviewing progress reports and new proposals, and how the TRRF Board works hand-in-hand with reviewers from the research community and the rice crop consultants sector in selecting proposals for funding.

While the emphasis of *Texas Rice* will largely remain the same this year, several important changes are in the works. We plan to provide greater emphasis on ongoing rice research in Texas, the U.S., and the world. The quicker we can get cutting edge research information to our rice producers, the better.

We also plan to provide articles on what our best producers do to make their crops yield so well. During the February Texas Rice Research Foundation review of research progress reports and 2004 proposals, and the follow-up meeting between researchers and some of our best ratoon crop rice growers, it became apparent that our very best growers typically produce 1,000-3,000 lbs/acre greater 1st crop yields and often over 2,000 lbs/acre greater 2nd crop yields than do our average growers. With today's prices, a 3,000 lb/acre yield advantage amounts to an increase in gross profits of about $300/acre. This is certainly nothing to laugh at!

March 10 marks the end of the first 12 months that the Beaumont web site has been on-line. Within the next few months, we will provide an overview of the Beaumont Center website, its access, and recently added features. An important goal of the Beaumont/Eagle Lake Center is to provide growers, scientists, and students with the best and most up-to-date information. One feature that will come on-line in about six weeks, is the rice crop development forecasting program. This program represents a complete rewrite of the venerable DD50 program and will provide information that will allow farmers to better manage their rice crop. The numerous improvements range from web based access, to on-line historic weather data access, to web based weather data entry, to web retrievable field profiles. These changes will make this program more readily available, easier to use, and much more useful to our Texas Rice producers.

Keep on helping to make *Texas Rice* a success by sending suggestions to lt-wilson@aesrg.tamu.edu. Looking forward to a great year.

Sincerely,

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

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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.

Early Identification Keeps Weeds Under Control

The following article is based on a presentation by Dr. Ron Strahan, Extension Weed Specialist for Louisiana State University (LSU). Dr. Strahan works in rice, forage and turf grass. He replaced Dr. Dearl Sanders, who retired in 2000. Dr. Strahan trains county agents and works directly with farmers. Dr. Garry McCauley, TAES Agronomist based in Eagle Lake, also contributed information for the article.

The goal of every farmer is to control weeds economically and effectively. According to Dr. Strahan, this can best be accomplished by 1) scouting your fields early and frequently, 2) learning to identify seedling weeds, 3) knowing the history of the field, 4) proper water management, and 5) applying herbicide at the optimum time.

Dr. McCauley adds that environmental conditions are also very important, such as soil moisture, humidity, and nighttime air temperature.

Weeds are most susceptible when small, generally around the two to three leaf stage. Therefore delayed applications may exceed the capability of the herbicides for adequate control, wasting the farmer time and money. Also, it's important to remember that the longer weeds thrive in the field, the more nutrients, sunlight and water they take away from the rice plants.

According to a study conducted at the University of Arkansas, uncontrolled barnyardgrass can cause a 70% yield loss by seasons end. In addition to yield loss due to competition, studies recently published at LSU indicate that uncontrolled barnyardgrass can also lead to increased damage from the rice stink bug, as it is a preferred host. (See Louisiana Agriculture, Winter 2004.) Sprangletop may cost growers 35% of their crop, with ducksalad and hemp sesbania following closely at 21% and 19%, respectively. The research indicated that barnyardgrass and sprangletop are most competitive in the early season. Therefore, the critical time to control barnyardgrass and sprangletop is soon after crop emergence.

In Louisiana, ducksalad and hemp sesbania are competitive in midseason, but are most susceptible to herbicides when they are small, so they should also be controlled as early as possible. In Texas, however, Dr. McCauley has not found ducksalad to be a problem in fields with an adequate stand, as the rice will shade it out early in the season. Red rice is a different story, and may cause up to 82% reduction in yield if left unchecked over the season.

For annual grasses such as barnyardgrass, fall panicum and sprangletop, Dr. Strahan has found Command gives excellent preemergence control. It also gives some suppression of ducksalad and dayflower; but has poor control on sedges, legumes and alligatorweed. Command can also be used after rice emergence (up to 2 leaf) when tankmixed with postemergence herbicides such as Arrosolo, Propanil, Clincher, and Ricestar.

Dr. McCauley points out, though, that Command can only be applied with ground equipment, so postemergence applications are dependant on dry

Robert H. Mohlenbrock @ USDA PLANTS Database

There are many genera of annual barnyardgrass, on the left is *E.colona*, also known as jungle rice, and on the right is *E. crus-galli*, the most common annual barnyardgrass found in rice fields.

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soil conditions, making this a weak link in a weed management program.

Either way, Command is an economical herbicide, with the cost ranging from $11.00 – $14.00/A, depending on the rate. It also gives growers the opportunity to control annual grasses before they compete with the rice.

Regarding Clearfield rice, Dr. Strahan noted continued success in 2003, especially with CL 161, the first Clearfield line with Newpath resistance (rather than tolerance.) He stressed that Newpath is a small weed herbicide, and gives better control on grasses than broadleaves. Newpath's main weakness is on legumes such as hemp sesbania and jointvetch. On a scale of 0 to 10 (0 = no control and 10 = weed death), Newpath rated 8 to 9 on red rice and annual barnyardgrass, but only 6 on sprangletop and 4 on fall panicum. The most important factors for success of Clearfield rice in controlling red rice is maintaining good soil moisture and proper timing of the herbicide applications.

To comply with the required two applications per season, growers may apply 4 oz preplant incorporated (PPI) or preemergence (PRE), plus 4 oz postemergence (POST) at the 3 to 5 leaf rice stage. The second option is to apply two POST applications, 4 oz at spiking to one leaf stage and 4 oz at the 3 to 5-leaf stage. Research in water seeded Clearfield rice in Louisiana suggests that applications at spiking followed by application at the 3-leaf stage gives 20% better control than application at spiking followed by a 5-leaf stage application.

Dr. McCauley's research supports these findings, and for adequate control, he recommends that the second Newpath application should be made no later than the 4-leaf stage. In either case, growers should flush to guarantee adequate moisture if no rainfall occurs within two days of application.

A test plot with red rice infestation, clearly identified as the taller plants on the far left.

University of Missouri

Fall panicum is easily identified by the prominent white midrib and 'open' seedhead. In the early stages of growth, though, it is often confused with annual barnyardgrass, but the shape of the stem makes each distinctive. Below left is a cross section of barnyardgrass, and right is fall panicum.

Howard Cormier - LSU Ag Center

If growers choose the first option, they can include Command with the PRE application for improved sprangletop control, and Prowl may be applied at spiking for improved fall panicum and sprangletop control.

Regarding Newpath control of annual barnyard grass, research has shown that application at the 1–2 leaf stage gives 95% control, but drops to 85% control at the 2–leaf stage, and only 70% control at the first tiller stage.

Growers with a history of fall panicum in their fields will be disappointed with the control provided by Newpath. Research indicates that Clincher provides the best fall panicum control, even on larger plants. However, Clincher and Newpath should not be tankmixed together due to potential Newpath antagonism of Clincher. Command gives good preemergence control and may be tankmixed with Newpath. Both Regiment and Facet give poor control of fall panicum.

Weed scientists in Louisiana have noticed increased infestations of the broadleaf weed, eclipta, in

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Clearfield rice fields. Eclipta is a crawling summer annual, which may grow up to two feet tall. The lower surface of the leaves are hairy, and the stems feel like sandpaper. In appearance, it is similar to alligatorweed but has a solid stem. Grandstand and 2,4-D give excellent eclipta control. However, farmers should check with their county agents before applying 2,4-D, as the chemical is restricted in areas with cotton.

Adult specimens of eclipta (left) and alligatorweed (right) growing in saturated soil. The two are very similar in appearance, but alligatorweed has a hollow stem, while eclipta has a solid stem and a rough, sandpaper-like texture. This is an important distinction because Grandstand will control eclipta but not alligatorweed.

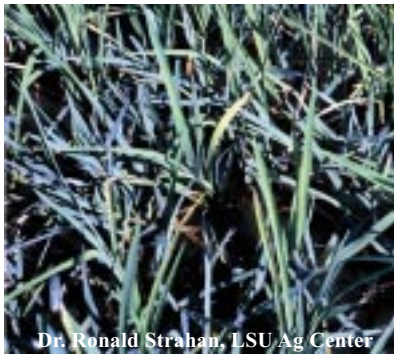
For alligatorweed, McCauley's research has shown that Facet gives suppression at the 2-leaf stage, but catching it this early can be difficult. This is due to the fact that alligatorweed rarely propagates by seeds, since the viability rate is very low. The majority of alligatorweed comes from vegetative reproduction of the stolons, so when the plants are spotted, they are generally past the 2-leaf stage.

McCauley said that Grandstand and Regiment applied one week before flood will provide suppression of older plants, but not total control. This differs from Louisiana, where Grandstand gives 80% control of alligatorweed. According to a representative for Dow AgroScience, the company that manufactures Grandstand, the difference in control is due to the fact that application rates are slightly higher in Louisiana than in Texas, and environmental conditions differ as well.

Often confused in the seedling stage, hemp sesbania (top) is distinctive because its first true leaf is simple, unlike jointvetch (below), where the first true leaf is compound. Correct identification is important because Blazer has a 9 rating on hemp sesbania and a 0 rating on jointvetch.

There is another strategy that was used in Texas last year with good success. After a preflood application of Stam/Grandstand/Permit, alligatorweed was burnt to the ground (but not killed.) After permanent flood was established, dry fertilizer impregnated with Londax was applied to the rice. Since Londax is an ALS inhibitor, the plants that came back from the burndown were severely stunted, giving good suppression of the weed. There is a new chemical on the way, which is also an ALS inhibitor, that is showing promise as a control for alligatorweed. (See *Chemical Updates* on page 7.)

To control alligatorweed prior to planting, one option is the use of glyphosate herbicides in a burndown situation. This is better than tillage alone, as cutting the plants up only serves to spread the infestation since they reproduce by stolons.



Knotgrass showing a blue appearance after nitrogen applications.

For broadleaf weed control, Dr. Strahan compared Regiment to Facet and made the following conclusions. Facet worked well on jointvetch and sesbania, while Regiment controlled these two as well as dayflower, ducksalad, smartweed and annual sedges. They both worked equally well on barnyardgrass, while Facet controlled broadleaf signal grass as well. Regiment has no residual control whereas Facet does have residual activity. Londax, on the other hand, works best under flood and has good residual activity. It also controls

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pickerelweed, bull tongue, spikerush, ducksalad and redstem. The down side of Londax is that it provides no grass control.

Clincher also works best in a flooded field, and while it doesn't control broadleaves, it gives good control of annual barnyardgrass, sprangletop, fall panicum and knotgrass. Clincher, like Regiment has no residual activity.

Aquatic perennial grasses, also known as "water bermudas", are becoming a major problem in Louisiana, as well as some parts of Texas. They are very difficult to selectively remove in rice fields once established. Control options are limited to Clincher and the nonselective herbicide, Roundup, applied prior to rice planting. Common water bermudas include knotgrass, water paspalum, brook paspalum and perennial barnyardgrass.

Knotgrass is native to South America and reproduces by stolons, rhizomes, cut stems and seed. It grows over 3 times faster than rice, and a cut stem can reproduce a new plant in 36 hours. Key identification marks include pubescence at the nodes, a long and narrow leaf blade and a solid stem. Knotgrass also has a characteristic blue appearance after nitrogen applications, and a distinct V shaped seed head. Clincher and Roundup both provide excellent knotgrass control.

Brook paspalum is also native to South America, and reproduces by seed, stolons, rhizomes and stems. Uncontrolled, it will compete all season long. Clincher has little activity on brook paspalum. However, Roundup gives good control. Identification marks are a broad leaf blade, wide in proportion to the stem, solid stem, and no pubescence.

LSU AgCenter

Perennial barnyardgrass, *Echinochloa polystachya,* is the same genus as annual barnyardgrass, but harder to control. Regiment will temporarily suppress the weed, but not totally eliminate it. Clockwise from bottom left: hairy ligule, seed head, stem and node, new bud emerging from soil, and established adult plant.

Water paspalum is usually found west of Crowley, and in some areas of Texas. It reproduces by seed, stolons and cut stems, but does not appear to compete all season long. The stem is hollow and the plants have no pubescence. Roundup will give good control of water paspalum prior to planting, while Clincher will suppress its growth.

Perennial barnyardgrass is the same genus as annual barnyardgrass, and superficially resembles knotgrass. The ligules are pubescent, as are the nodes and crown buds, and the stems tend to turn red at maturity. Regiment will only provide temporary suppression of perennial barnyardgrass, and it helps if the water is pulled down before application to get good coverage. For con-

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Dr. Ronald Strahan, LSU AgCenter

Water paspalum (left) and brook paspalum (right) are two species of 'water bermudas' that will compete all season long in rice fields. Water paspalum has a hollow stem, while brook paspalum has a solid stem. Clincher will control water paspalum but has little activity on brook paspalum.

Weeds continued...

trol prior to planting, preliminary research conducted by Dr. Eric Webster at LSU indicates that deep plowing may suppress perennial barnyardgrass but in a burndown situation, Roundup has been very erratic.

For more information on weed ID and control contact Dr. Ron Strahan at 225-578-4070 or Dr. Garry McCauley at 979-234-3578.*

Chemical Updates

The biggest news in rice crop protectants is that Molinate will be phased out by 2008 or 2009. This will eliminate the use of Ordram 15 G and Ordram 8.8 EC, as well as Arrosolo.

ICON is also on the way out, as Bayer has announced that 2004 is the last year they will market the chemical. According to a Bayer representative, the decision to let the registration lapse was purely economic. Bayer will meet with the EPA later this year when the registration expires to formalize the discontinuation of the product, and indications are that the EPA will allow 18 months for residual product to move through the system. In theory, this means farmers would be allowed to use ICON through the 2006 season; however, based on current availability, company representatives don't expect supplies to last that long. If you have questions or comments about ICON contact Bayer representatives Dr. Alan Ayers at 919-549-2885 or Mr. Greg Coffey at 919-549-2404.

Penoxsulam (DE-638) is a new broad-spectrum triazolopyrimidine sulfonamide herbicide being developed by Dow AgroSciences for rice weed control. In U.S. field trials from 1998 to 2003, penoxsulam provided good to excellent control of all annual and perennial barnyardgrass species as well as many annual rice weeds including hemp sesbania, northern jointvetch, dayflower, ducksalad, alligatorweed, Texas/Mexicanweed, smartweed, annual sedge (*Cyperus* spp), annual arrowhead, water plantain, and ricefield bulrush. Penoxsulam can be tankmixed with cyhalofop, triclopyr, propanil, clomazone, pendimethalin and thiobencarb to increase the weed control spectrum. Penoxsulam trade names will be Grasp® in the southern U.S. and Granite® in California. For more information contact Benny Martinez at 361-592-4924.*

Check-off Money continued...

the rankings from the two review panels before making their decision on which proposals will be funded. The announcement is made in mid-February and the funds are allocated in March.

Recipients are required to write a report to the TRRF board at the end of each calendar year to document progress regarding funded projects. This brings in an extra measure of accountability, and insures that the farmer's check-off monies are being used responsibly.

For more information on the Texas Rice Research Foundation or the rice check-off fund, contact TRRF Chairman Des Woods at 281-375-5562 or Texas A&M Research and Extension Center Director Dr. Ted Wilson at 409-752-2741.*

Texas Rice Research Foundation Board

Member	District	Term Expires
William Dishman, Sr. *Beaumont*	1	2008
Open *Hardin, NW Jefferson and E Liberty County*	2	
Tommy Myzell *Anahuac*	3	2004
Ray Stoesser *Dayton*	4	2006
Des Woods *Brookshire*	5	2006
Rodney Mowery *Rosharon*	6	2008
Jack Wendt *Richmond*	7	2006
Mike Burnside *Bay City*	8	2004
Layton Raun *El Campo*	9	2004
Arthur Anderson *Eagle Lake*	10	2008
Billy Hefner *Garwood*	11	2006
Hal Koop *Edna*	12	2004

Industry Profile...
Betty Kornegay at US Rice Producers Association

January 30th, Betty Kornegay retired after 28 years of dedicated service to the rice industry, leaving behind a void that will be difficult to fill.

This picture was taken at the 53rd annual Texas Rice Council meeting in January when Betty was presented with a distinguished service award. From left to right: Dan Gertson, Jack Wendt, Bill Goldsmith, Betty Kornegay, Bill Dishman Jr., David LeCompte, Dwight Roberts and Jacko Garrett.

In 1976 Betty Kornegay was looking for something to do. She had spent the past 16 years operating an industrial cleaning business in Houston with her husband. The business was very successful, with 75 employees, and facilities that covered a city block. After they sold the business, Betty wanted to work outside the home, but only during the daytime hours when her children were in school. A friend told her about an opening with the US Rice Council, so she went and talked to Bill Goldsmith, who served as CEO and President of the multi-state organization. Bill recalls, "I was very impressed with Betty's business qualifications, and felt she would serve the organization well."

Betty started the next week, with duties that included clerical work, accounting and correspondence. But her job description quickly grew as Betty showed a talent for organizing events and fundraising. Soon she was handling all the clerical duties for several Rice Council staff, as well as planning meetings and special events. "If they would have listed all these responsibilities in the beginning, I probably would not have taken the job," recalls Betty, "it would have been overwhelming."

As often happens, though, with very talented people, Betty became indispensable and took the initiative to tackle any challenges that came her way. According to Goldsmith, Betty had a special talent for interacting with people, "she had the ability to talk with industry representatives and farmers, with equal effectiveness."

In 1994, the USA Rice Federation was formed as an umbrella organization that included the USA Rice Council, the US Rice Producers Legislative Group and the Rice Millers Association. Betty was asked to serve as Executive Secretary of the new organization, which immediately tripled her responsibilities.

Betty remembers the first Rice Outlook Conference in Reno, Nevada, when all three groups met together for the first time as a single organization. She was responsible for all the reservations, catering, meeting agendas and minutes, as well as the logistics of coordinating the registration for 450 participants. "It was a tremendous responsibility," recalls Betty, "and I found myself trying to be in several places at once. I realized pretty quick that I could not be setting up the room for one meeting, while taking minutes for another!"

Still, Betty thrived in this hectic environment, and made many friends throughout the rice growing states. She had a particular fondness for farmers, and always held them in the highest respect. She recognized that the U.S. rice industry was built on the fruit of their labor, and that farmers were the foundation on which everything else was built.

In 1996, only two years after the USA Rice Federation was formed, it became apparent that there were organizational difficulties, and major differences of opinion. A group of farmers got together, and recruited Bill Goldsmith out of retirement, to explore the possibility of forming a new organization that would represent farmers exclusively. They began laying the foundation that would become the US Rice Producers Association (USRPA).

Betty was approached by Goldsmith and a group of farmers to help organize the new association due to her many years of organizational and business ex-

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Betty Kornegay continued...

perience, not to mention her tremendous network of contacts within the rice industry. In 1997, the USRPA was chartered, and in July of 1998, Betty came on board as Executive Administrator.

The next year, the newly formed USRPA participated in their first Rice Outlook Conference in San Antonio. Betty remembers it well, as the weather was bitterly cold and there was difficulty in booking meeting rooms at the host hotel adjacent to the Alamo Plaza. Not to be intimidated or discouraged, Betty contacted the local chapter of the Daughters of the Republic of Texas (DRT), the group in charge of maintaining the Alamo. She asked if USRPA could rent the facility for a reception in conjunction with the Rice Outlook Conference. At first they gave a flat refusal, as this sort of thing had never been done before. Betty persisted, though, and after a rigorous conference call where she was 'interviewed' by members of the DRT, Betty was able to book the Alamo for the USRPA reception. For an elegant finishing touch, she got 350 yellow roses donated by HEB Grocery to pass out to everyone who attended.

Over the years, there were countless events and meetings where Betty Kornegay's talent for organization and fundraising made a good thing even better. She insists that it was all just part of the job, though, and that anything worth doing is worth doing well. Betty's dedication to the rice industry came second only to her dedication to her family.

Betty is very proud of her two sons, both graduates of Texas A&M University. The oldest, Dale, owns an engineering firm, and her youngest son, Dean, is the CEO of Oxford Investment Group. Both of Betty's sons have two daughters, so she made up for her lack of girls through her grandchildren.

As a retirement gift, Dwight Roberts, CEO of the US Rice Producers Association, announced they were sending Betty on a trip to the destination of her choice. When asked where she might like to travel, Betty said, "Well I've never been to Europe, a trip on the Queen Mary might be nice." In addition to travel plans, Betty plans to take art classes at Sugarland Community College, enjoy her outdoor gardening activities, and spend much more time spoiling her grandchildren!

We offer Betty heartfelt thanks and our deepest appreciation for 28 years of dedicated service to the U.S. rice industry. *

Rice Council Annual Meeting

The Texas Rice Council held their 53rd annual meeting in Houston this past January, to update members on the achievements of the previous year.

Bill Dishman Jr. opened the meeting with the 'President's Report' and a welcome to special guests, including Jay Guerro, aid to Senator John Cornin. Bill was very encouraged with the progress industry leaders had made in the past year, especially their willingness to work together. "We are made up of different organizations that have specific goals," said Bill, "but our overall goal is the same - success for the Texas rice industry."

Dr. Ted Wilson, Director of the Beaumont/Eagle Lake Center, spoke next with an update on rice research. Wilson said that in spite of budget cutbacks, the Beaumont Center had added 4 new positions in the past 3 years - a plant physiologist, communications specialist, computer systems analyst and plant breeder. Said Wilson, "This shows the commitment that Texas A&M has to rice research efforts."

Texas Rice Research Foundation Chairman Des Woods spoke next with a review of the check-off program, and discussed the continued support by rice farmers. He said that the refund rate was 22% in 2003, indicating that 78% of the rice farmers were supporting research efforts of TAES scientists. Although most board members knew ahead of time, Des announced his retirement as chairman of the Texas Rice Producers Board, and indicated that Layton Raun will take over that position. He also took the opportunity to encourage young farmers to step up, and become more active in the leadership of the industry. Des was presented with a placque by the Texas Rice Producers Board, recognizing his 20 years of service to the industry.

Dwight Roberts, Chairman of the US Rice Producers Association, discussed the promotional efforts of their organization over the past year. They have made great strides in market development in Central and South America, and were key players in the CAFTA negotiations.

Topping off the meeting was a presentation by Milo Hamilton, founder of nopotatoes.com, an advisory and consulting service for the rice industry. Milo provided up-to-the-minute advice on the futures markets, contracts and rice stocks worldwide. Every grower at the meeting was busy taking notes! *

Golden Rice Research Targets Improved Nutrition

Golden Rice is a new type of rice whose grains contain the yellow-orange pigment beta-carotene, a plant-based source of vitamin A. Years of agricultural research went into its development, and scientists are now conducting clinical trials to test its nutritional benefits.

Rice is a food familiar to most consumers as a source of starch or carbohydrates. However, even milled rice contains protein, various essential minerals, and minor amounts of some vitamins. Unfortunately, neither white or brown rice are able to provide a dietary source of vitamin A, which is important for vision and eye health.

Vitamin A deficiency is a serious nutritional concern that affects over 250 million children in developing countries, especially where rice is eaten as a staple food crop. For the rural poor in these regions, there often is little consumption of meat or colored fruits and vegetables, which are the common dietary sources of vitamin A in the U.S. and other developed countries. To help alleviate this widespread vitamin deficiency, researchers in Switzerland and Germany decided over 10 years ago to take a diet-based approach and work to make rice a more nutritious food.

The research team used modern tools of biotechnology to insert novel genes into rice that would allow it to make beta-carotene in the grains. These genes, in essence, were a new set of instructions that told the plant how to make a different compound in its seeds. Most people are familiar with beta-carotene as the orange-colored pigment in carrots. In current lines of Golden Rice, the beta-carotene levels are less concentrated than in carrots, and thus the color of the grains is yellow-orange, or golden.

Our bodies absorb beta-carotene from foods and then convert it to retinol, or vitamin A. We currently have a poor understanding of how beta-carotene is absorbed from various foods in the human gut, and have no specific knowledge of how beta-carotene would be absorbed from rice grains. Therefore, researchers are studying how well beta-carotene is absorbed from Golden Rice, and to what extent it is converted to vitamin A. These clinical feeding trials will be conducted in China, where vitamin A deficiency is prevalent, and thus both vitamin A deficient and vitamin A sufficient children can be enlisted for the studies.

To conduct these trials, researchers will need a way to label or tag the beta-carotene in Golden Rice, so that it can be identified separately from beta-carotene that already exists in the body. To achieve this, they will grow rice in a greenhouse with a special form of water, called heavy water, that will result in the beta-carotene being tagged with a different type of hydrogen atom. Heavy water, also known as the deuterium isotope, contains a heavy, non-radioactive form of hydrogen, and is safe for use in humans.

Beta-carotene molecules contain several hydrogen atoms, and by replacing a number of these with heavy hydrogen, the beta-carotene molecules in Golden Rice will be heavier than normal beta-carotene. Specialized instruments called mass spectrometers can be used to distinguish heavier from lighter forms of beta-carotene.

After the Golden Rice is fed to study subjects, researchers will take blood samples to determine how much of the beta-carotene is absorbed from the rice meal, and how much is converted to vitamin A. They also will assess whether this absorption varies between vitamin A deficient and sufficient individuals.

Although most research surrounding Golden Rice has focused on the developing world, it's worth noting that continuing development of Golden Rice would benefit U.S. consumers in several ways. Vitamin A deficiency is not a concern in the U.S., but beta-carotene does more than just serve as a source of this vitamin. Along with other carotenoids, beta-carotene functions as an antioxidant, with potential benefits in cancer prevention and the promotion of good health.

At present, Golden Rice is not commercially available, as it only exists in a few experimental lines that are not suited for most production environments. However, rice breeders in several countries are actively working to incorporate its beta-carotene characteristic into high-yielding, locally adapted varieties, such that it can be cultivated economically in various regions. This is necessary to ensure that farmers will be willing to grow it, and that the new beta-carotene containing rice cultivars retain other taste, textural, and cooking qualities that consumers demand. As progress in agricultural research continues, scientists also hope to enhance the levels of iron, zinc, and vitamin E in future cultivars of improved rice.

For more information contact Dr. Michael A. Grusak, Plant Physiologist, USDA-ARS Children's Nutrition Research Center, phone 713-798-7044.*

State, National and International News...

CAFTA Update

HOUSTON - The U.S. rice industry has much at stake under the Central American Free Trade Agreement (CAFTA). Everyone in the rice industry should applaud the efforts of our government and industry negotiators who managed to take a set of widely divergent concerns and goals and achieve what most interested parties agree is a commendable outcome for rice producers and the rice industry on both sides of the table.

The U S Rice Producers Association (USRPA) began to build relationships with Central American importers soon after their formation in 1997. The goal was to encourage Central Americans to shift their buying preferences to U.S. rice. Because the U.S. is the only major supplier of rough rice, USRPA endorsed an accord among Central American buyers to import only rough rice, thereby displacing Asian milled product.

USRPA is not opposed to shipping U.S. milled rice to Central America, but concerned that forcing the immediate entry of large quantities of milled rice into Central American countries would have the unintended consequence of reopening the door to cheap Asian milled product as well. With Thai rice currently $150 per ton below U.S. prices, the U.S. cannot compete on milled rice into these countries, and some importers would be tempted to substitute Asian origin for U.S. rice.

At each negotiating round of CAFTA, USRPA strongly advocated that the first goal of any negotiations regarding rice should be to "do no harm" to this important market. At the same time, they repeatedly communicated to the Central American Rice Industry Association (FECARROZ) that they should be prepared to offer the United States a reasonable level of duty free access for both rough and milled U.S. rice. In addition, USRPA leaders and staff arranged several meetings and consultations with representatives of FECARROZ, the USA Rice Federation, and U.S. negotiators to seek an acceptable solution.

The consistent efforts of these organizations paid off. To their credit, our negotiators at USTR and USDA understood the need to protect these vital markets for U.S. rice. The CAFTA-4 Agreement unveiled in December won the approval of not only USRPA, but of the USA Rice Federation and FECARROZ as well. Likewise with the deal announced for Costa Rica in January.

If approved by Congress, the Agreements will establish Tariff Rate Quotas (TRQs) for Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua that will provide for duty-free access for a minimum of 343,000 MT of U.S. rough rice and 44,000 MT of U.S. milled rice annually. These quotas will grow 2-5 % annually. The U.S. rice industry will have a guaranteed market. Our customers will retain the ability to manage their imports of even greater amounts of U.S. rice each year – currently about 600,000 tons. And they retain the authority to continue to grant further tariff concessions so that these additional imports might also be duty-free.

From Dwight Roberts, USRPA

WASHINGTON - The Central America Free Trade Agreement does not taste sweet to U.S. sugar producers, is kind of fuzzy for U.S. textiles and has labor organizations in both Central America and the United States in a tizzy. But no doubt, it could add some starch to trade prospects for both milled and rough U.S. rice.

The United States, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua have completed a tentative agreement on CAFTA that may be submitted to Congress later this year. Negotiations to include the Dominican Republic in CAFTA are also underway.

"We're hopeful it will pass the U.S. Congress," said Penn Owen, Mississippi rice producer and Chairman of the International Program Committee of the US Rice Producers Association. "The president says he will sign it and we hope it will pass in those Central American countries." (There have been reports that Congress might delay consideration of CAFTA until after the 2004 elections.)

CAFTA also exposed common ground for the US Rice Producers Association and the USA Rice Federation to work together, although differences still exist. "We feel a consistent natural relationship with rice producers in all six states," Owen said. "There are times when we don't see eye to eye with the milling industry and don't care to be dominated or represented by the milling industry. But we'd much rather work with the Federation in our market development programs to utilize our best talents and strengths."

From Forrest Laws, Farm Press Daily

Home of the Texas Center for Rural Entrepreneurship

http://www.tcre.org

This new web site, developed by the Texas A&M Research Center at Overton, is a home for rural entrepreneurship news, tools, events, education, printed materials, technical assistance, links, and other services.

The site will link rural entrepreneurs with service providers, support communities by employing rural entrepreneurship as an economic development strategy; tie into national rural entrepreneurship networks; highlight rural entrepreneurs as a means of demonstrating successful practices, challenges, opportunities, and strategies to developing businesses in rural environments.

The site will also provide a forum for an exchange of rural entrepreneurship information, which will increase the effectiveness of agencies, communities, consultants, educators, and others to assist rural business developers. It will also help rural business owners compete more effectively in national and world markets.

You may register and create your unique profile. Users located outside Texas are encouraged to register and use the site. All information will remain confidential until such time as you release it for use on this site. You can designate whether you are a business (at any stage of development) or service provider.

For more information contact Dr. Greg Clary, Economist, Texas Cooperative Extension, Texas Center for Rural Entrepreneurship, Overton, TX. Call (903) 834-6191 or email g-clary@tamu.edu *

Useful Websites for Identifying Weed Species

Web Resources

USDA-NRCS National Plants Database
http://plants.usda.gov/

A&M Vascular Plant Image Gallery
http://www.csdl.tamu.edu/FLORA/gallery.htm

University of Georgia – IPM Images
www.ipmimages.org

Virginia Tech Weed Identification Guide
http://www.ppws.vt.edu/weedindex.htm

BASF Weed Guide
http://www.agproducts.basf.com/Weedguide/menu.asp

Center for Aquatic and Invasive Plants – Univ of Florida
http://aquat1.ifas.ufl.edu/

Invasive and Exotic Species of North America
http://www.invasive.org/

California Dept of Agriculture – Noxious Weed Index
http://pi.cdfa.ca.gov/weedinfo/winfo_comname-list.htm

General Weed Links
http://mtwow.org/Weed-ID-Links.htm

TAMU Weed Links
http://www-aes.tamu.edu/mary/Wdid.htm

LSU AgCenter
http://www.agctr.lsu.edu/Subjects/rice/RiceWeeds.html

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