



# Texas Rice

Texas A&M University System Agricultural  
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Beaumont, Texas

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## Water, Water Everywhere?

With severe water shortages predicted for Texas over the next fifty years - legislators, farmers, government agencies and consumers have been working overtime to try and resolve the problems. With the passage of Senate Bill 1 back in 1997, the Texas Water Development Board (TWDB) was charged with the task of creating regional water planning groups across the state. These 16 groups will make recommendations to the TWDB where they will be melded into one water plan for all of Texas. The groups consist of farmers, consumers and water specialists from each region.

On a more local scale the State Legislature has also passed enabling legislation for Groundwater Conservation Districts (GCD). Senate Bill 1911 set up several of these groups on a temporary basis, which will be renewed this session. There are four other counties that have requested legislation to enable GCD's in their area, which Rep. Robby Cook (D-Eagle Lake) has on the agenda for this session. Once the enabling legislation is passed, the areas can then vote to put the GCD in place. These local districts will make recommendations to their regional planning groups for incorporation into the state plan.

The beauty of this system is

that it provides for local control and input in formulating the state water plan. It is truly a grassroots solution to a statewide problem. Already the Regional Planning Groups have outperformed all expectations, especially considering the innovative plan devised between the Lower Colorado Region K and South Central Texas Region



L (which includes San Antonio). Under their proposed plan San Antonio will pay to build four reservoirs within Region K that will capture flood waters from the Colorado river. An estimated 330,000 acre feet of water will be stored for use in times of drought for both regions. Water conservation measures paid for through a surcharge by the metropolitan users in Region L, will include research on water efficient rice varieties, canal lining and laser leveling as a means to conserve water in the more ag based Region K. When needed, San Antonio will

have 150,000 acre feet available to them, with the remaining 180,000 acre feet staying in Region K.

Not surprising, Region K includes the four counties of Rep. Robby Cook's District 28: Bastrop, Colorado, Fayette and Wharton. Cook is sponsoring legislation this session, HB 1629, that will allow the LCRA to put the San Antonio/Lower Colorado plan into action. Although Cook was involved in the plan from the beginning, he refuses to take credit, and instead points to the dedicated volunteer work of the Regional Planning Groups.

Successful water planning requires a strong agricultural component if the interests of agriculture are to be considered. Robby Cook serves this role as a fourth generation rice farmer now in his third term in the Texas House of Representatives. Born and raised in Eagle Lake, Cook has served on the House Natural Resources Committee as well as Vice Chairman of the Rural Caucus of the Texas Legislature. He was awarded Freshman Legislator of the Year in 1998, due to his tireless work and enthusiasm in representing his constituents.

Robby was born into a farming family and being the oldest of three boys, he worked every summer helping his dad, Bob, bring in the rice harvest. During high school he played football, baseball and track. He credits his mother, Pat, with the patience and stamina to take care

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## From the Editor...



Welcome to the April issue of *Texas Rice*. The cover story for this issue is based on an interview with Robby Cook. Robby is a rice farmer and a Representative in the Texas State Legislature where he champions the interests of agriculture. Much of the information provided by Representative Cook is extremely relevant, given the increasing importance of water to rice and to our state. Robby's pending wildlife and environmental legislation could provide funding that would greatly increase the ability of Texas A&M University to develop superior rice varieties and rice management programs, while at the same time documenting the benefits of rice production to the economy, water quality, wildlife and environmental stability of the Gulf Coast.

This issue's *Monthly Guide* article provides information on early season rice growth and development. Major points that are discussed include how to avoid cold stress injury by timing planting dates based on soil temperatures, how poorly timed herbicide applications can compound cold stress injury, and how to time permanent flood to maintain rapid early season plant growth while suppressing weed abundance. The *Researcher in the News* section, provides an overview of Anna McClung, and her role as the Center's rice plant breeder. Anna discusses several exciting changes to the USDA component of the Center's rice breeding program. The *Grower Profile* section provides an overview of Robert Bauer and his family's contribution to the rice industry. Robert is a leading figure in the rice industry. Robert says he is stepping down as President of the Texas Rice Improvement Association and plans to retire from rice production, but he will undoubtedly continue to remain actively involved with the Texas rice industry.

With this issue, the *High-Yielder's Tips* column becomes a regular part of the newsletter. This month's column summarizes useful information provided by Mike Burnside of Bay City. Mike's yields are consistently some of the best in the nation, and during the last couple of years they have approached 12,000 lbs/

ac dry weight for the combined main crop plus ratoon crop. Future *High-Yielder's Tips* columns will include information not only from Mike but from other high-yielders as well.

As we continue to develop and expand the newsletter, there will be additional sections that are brought aboard. An addition to look forward to in next month's issue is a *Rice Crop Update* section. This section will provide information on crop acreage by variety, and stage of crop growth for different regions of the state. It will also provide detailed data on the progression of crop growth for different areas of Texas.

*Texas Rice* is available as a printed-copy via the mail and as an electronic copy via email. If you would like to receive an electronic copy, please send your email address to me at [lt-wilson@aesrg.tamu.edu](mailto:lt-wilson@aesrg.tamu.edu). If you know of someone who you think would like to receive a copy of the newsletter, send me their name, address, and if possible their email address. Please continue to send your suggestions so we can continue to improve the newsletter.

Sincerely,

Ted Wilson

Professor and Center Director

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an interview with Representative Robby Cook

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# Farming Rice

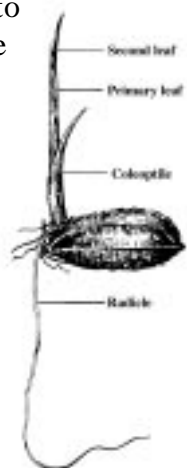
## a monthly guide for Texas growers

*This is the second in a series of articles that will be published throughout the year. Our intention is to provide useful and timely information to Texas rice growers, so that they may increase productivity and profitability on their farms.*

### Early Season Growth and Development

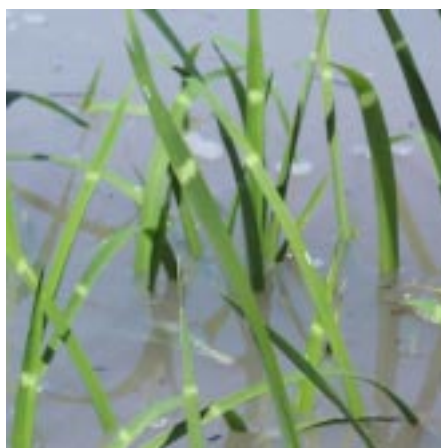
#### Seedling Survival

Upon germination, the rice seedling is in a race for survival. It must rapidly develop a strong root system to draw water and nutrients from the soil and a strong leaf system to produce carbohydrates from the sun's energy to sustain itself. The stored food supply from the seed used by the developing seedling is depleted at about the three-leaf stage. If the root or leaf system has developed too slowly, the seedling becomes weakened, reducing its chances for survival. Weakened seedlings are more susceptible to unfavorable temperatures and to soil microorganisms, further reducing their chances for survival. Micronutrient deficiencies can appear suddenly at this stage as the young seedling first becomes dependant on the soil for its nutrients.



to 88°F. As temperatures rise beyond 88°F, seedling growth slows, and injury can occur above 94°F.

Extremely early plantings of rice are particularly subject to cool temperature seedling injury. Cold temperature injury is shown in the following photograph. Soil temperatures had been above 70°F when a cool spell dropped temperatures to 58°F for one night. The



white band was the leaf material just under the soil surface when the temperature dropped below 60°F, which prevented chlorophyll development. As temperatures warmed, later developing tissue formed chlorophyll normally. Cold stress can also cause a pale green condition in the field, which can be mistaken for nitrogen deficiency. (If the field is a uniform pale green then it is cold stress, if the levees are darker than the cuts and the fields are spotty, then it is low nitrogen.) Heat degree hours can be used to determine recovery from cold. To overcome the impact of low temperatures requires the same

number of daily degree hours above 78°F as occurred below 60°F. Plants in cold stress are very susceptible to herbicide injury, so it is best to let fields recover from cold stress before applying herbicides. If the newest developing leaf has normal green color, then the plant has recovered from cold stress, even though the older leaves will remain pale in color. The following data summarizes tests conducted over several years. The dates represent cool, moderate and warm conditions at planting and give an approximation of seedling survival.

Seedling Survival		
Planting Dates	Mid March	64%
	Mid April	78%
	Mid May	72%

#### Salt Damage

Dry blowing winds can cause a concentration of soil salts to accumulate on the soil surface (top 1 mm) in the fields and levees, especially in sandy loam soils. The seedlings are discolored at the soil line and older leaves show burning from the tips moving inward. Damage is more severe where soil is compacted and if the concentrations are high enough, it will desiccate the entire plant. High saline irrigation waters contribute most to the salt build-up, but excessive nitrogen applications may also aggravate the problem. Flushing will help wash away the salt if fields are drained quickly. Do not let ponded

## Seedling Growth continued

water evaporate from the field, as this will leave the concentration of salt behind.

### Tillering

After seedlings become established tillering is initiated. This is generally at the 5 leaf stage but some varieties may tiller earlier. In fact, a project led by Ted Wilson is evaluating varieties that begin tillering at the 3 and 4 leaf stage, as a potential for higher yields. There is also the potential for saving water by flooding earlier, thereby reducing the number of flushes.

Plants compensate for population competition by producing more tillers in sparse stands. There is a misconception that flooding stops tillering. Flooding will only stop tillering if the water is too deep or too cold. As long as 1/2 of the plant is above water, tillering is not affected. Good nutrition is essential during this stage.

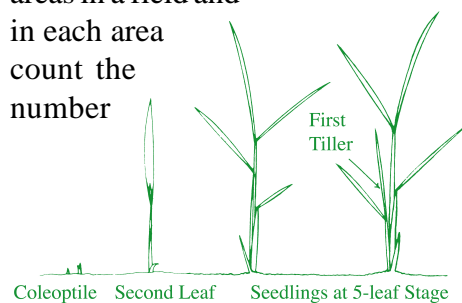
### Early Season Water Management

Early season water management should provide adequate soil moisture for rapid growth of the rice seedlings and maintain high nitrogen fertilizer efficiency. Young rice plants grow well under alternating moist and dry soil conditions, but denitrification (conversion of soluble nitrogen to nitrogen gas) can seriously reduce the soil's nitrogen level under these circumstances. If possible, growers should keep the soil saturated to decrease germination of sub-surface weed seeds, while reducing salt damage in areas subject to such problems.

### Permanent Flood

Permanent flood should be delayed until the rice plants are actively tillering and are tall enough for 1/2 of the plant to remain above

water. Because the number of tillers that a variety produces varies greatly, fields should be monitored to make sure the rice is at the proper stage to initiate permanent flood. Typically, this means the young rice plants should have an average of 2 tillers. This is counting the main stem plus 2 additional tillers. A good way to determine tiller abundance is to select six representative areas in a field and in each area count the number



of tillers on 10 rice plants.

The morphology of the rice plant changes when it is grown under flooded conditions. The root system becomes more shallow and all drought tolerance is lost, therefore the plant can quickly become stressed if flood waters are lost. Another change occurs within the plant cells. When rice fields are flooded the soil becomes largely anaerobic. To compensate for the lack of soil oxygen, specialized cells called aerenchyma enlarge to allow for air movement from the above ground tissues to the root system. If the plant later becomes stressed for water, the enlarged cells can shrivel and collapse, compromising the structural integrity of the plant resulting in loss of yield.

Keeping a constant flood is especially important from PD through heading as the plant requires a large amount of water during this time. To conserve water one should maintain permanent flood at the minimum depth necessary to con-

trol weeds, which is about 2" at the highest part of the field. Maintaining freeboards can help capture rainfall, thereby reducing the use of irrigation water.

### DD50 Rice Development Advisory

A major aid in predicting rice development is the DD50 Rice Development Advisory Program. DD50 was originally devised by Jim Stansel, and converted into a computer program by Jack Vawter. This program uses current daily maximum and minimum temperatures and historical weather data to calculate useable heat units for each day. These heat units are accumulated from seedling emergence and used to predict various crop growth stages. These predictions may then be used to estimate crop progression, and to schedule production practices such as fertilizer, insecticide and fungicide applications.

To take advantage of the program call your extension agent with the following information: 1) your county; 2) date of seedling emergence; and 3) variety. The agent will enter this information into the computer and get a printout of predicted stages of development and a disease rating. It is important to use the information as a guide, and not a replacement for regular monitoring of the field. Once an estimate is given for panicle differentiation, random sampling of the plants should be taken to confirm that PD has occurred, and it is time to apply fertilizer. \*

*This article resulted from an interview with Dr. Jim Stansel, with information also provided by Ted Wilson and Fred Turner. If you have any questions contact Jim at either [j-stansel@tamu.edu](mailto:j-stansel@tamu.edu) or at (409)752-2741 ext 2258.*

## Researcher in the News...

*Born in El Paso, Anna is a native Texan who has spent her professional career working to help U.S. farmers.*

Being the youngest of four children, Anna grew up under the watchful eyes of two sisters and one brother. The family moved to Houston when she was still very young, where her mother worked as a secretary for the railroad company. Anna's father worked in Africa as a commercial pilot for an oil company, and later helped train pilots in WWII. As a budding young scientist in elementary school, Anna was interested in astronomy more than botany, and went so far as to tell her 5<sup>th</sup> grade teacher that plants were boring.

In 1972 Texas A&M received funding for the David G. Eller Oceanography and Meteorology building, which influenced Dr. McClung to attend college there and major in oceanography. In her junior year she changed direction and decided to major in plant breeding, which meant 22 hour workloads in her final semesters. While in school she met a young plant pathology major named Mike McClung, who she later married after returning to A&M for her Masters degree. She finished her BS in 1977 and signed on for a 6 month student training program on a cattle farm in Germany. Anna returned to A&M in 1978 to begin work on her Masters degree and studied breeding for disease resistance in corn with Dr. A.J. Bockholt and Dr. Richard Fredrickson, finishing her degree in 1980.

It was during this time that she first visited the Beaumont Center on a field tour with other graduate students in Dr. Fredrickson's program. It was the middle of summer and blistering hot when they toured the research plots. Anna remembers seeing a worker in the field doing crosses with rice and thinking that was a tough way to make a living. Little did she know fate would bring her back a decade later, to do that very same work.

Looking for a change of scenery, Dr. McClung decided to pursue her Ph.D. degree in plant breeding of



## Dr. Anna Myers McClung

durum wheat at North Dakota State University in Fargo. In 1983, she joined Allied Signal in Syracuse, NY to establish a corn-breeding program to develop nitrogen-use efficient hybrids. The program was a success, and less than 4 years later she had varieties going into advanced field trials throughout the Midwest. Unfortunately, Allied Signal decided they were no longer interested in agricultural research and they closed the laboratory.

After that Mike was promoted to sales manager with the hybrid corn company that he worked for and they were relocated to Michigan. However, within a

### Spotlight on Support

*Dr. McClung currently has a staff of four full-time and two part-time employees*

Jodie Cammack joined the USDA-ARS Rice Research Unit in 1997 after working for 16 years for the Texas Agricultural Experiment Station in the Rice Breeding Program. His duties include overseeing the daily operations for the program and using specialized software packages to track pedigrees, make field books, collect and analyze data, and produce summary reports. Jodie is also in charge of the crossing program and growing out F1 progeny in the greenhouse.

Pat Carre is a Research Technician II with the Texas Agricultural Experimental Station and has worked with the Rice Breeding program since 1992. Prior to that he worked in Water Management and Weed Science for over ten years. Pat graduated from Lamar University with an Associates Degree in welding. His duties include field preparation, cultural management, application of herbicides; equipment operations and maintenance; and purchasing.

Rick Boyd joined the Rice Breeding Program in 1997 after working 15 years in the pipeline industry. He is in charge of irrigation of the field program and filling over 100 seed requests for germplasm each year. He is also involved with field preparation, cultural management, seed packaging, and harvesting.

Cullen Minter recently joined the program in 2000 after receiving a B.S. degree in Agronomy from Texas A&M University in 1999. He participates in all aspects of the program including field preparation, application of fertilizer and pesticides, data collection, greenhouse projects such as the crossing program and updating data files.

Joel Pace is working part-time while attending college at Lamar University. He will graduate in December with an Associates Degree in Human Resource Management. Joel has been in the department for 4 years counting the summers he worked during high school. He assists in seed packaging, field preparation, harvesting, processing and greenhouse projects.

Nick Spence is a student at Westbrook High School and works part-time through the co-op program. He assists in all aspects of seed and field preparation. \*

## Researcher continued

year the research program that Dr. McClung had been with at Allied Signal was purchased by an Italian conglomerate called ENI and Anna was asked to move to Princeton, N.J. to re-start the breeding program in corn. After 4 years with ENI, history repeated itself and the research program was closed.

In July of 1991 Anna accepted the USDA-ARS rice geneticist position at the Beaumont Research Station that was opened with the retirement of Dr. Charlie Bollich. Anna worked with Dr. Bollich for over a year learning about rice breeding, as all her previous experience was in wheat and corn. She also interacted closely with Dr. Bill Webb, the USDA-ARS cereal chemist on the station, who shared his extensive knowledge of rice quality with her. After Dr. Webb's retirement in 1996, Anna became the Research Leader for the USDA-ARS program at Beaumont.

Many of the cultivars developed at the Beaumont station before Dr. McClung joined the program were well known for their excellent agronomic potential. Up until that time, blast disease had not been a serious threat to growers. Although fungicides were available, they were expensive and not always effective. In 1991 and again in 1993, Texas had unprecedented levels of blast disease in producer fields. Working closely with the station pathologist, Dr. Toni Marchetti, Dr. McClung launched a major push to improve the level of disease resistance in the Texas germplasm base and in new cultivars.

This led to the development of the long grain cultivar Jefferson which was the first variety to utilize a blast resistance gene (*Pi-z*)

from a medium grain parent. When this gene was added to the *Pi-k<sup>h</sup>* gene, which is in many of our long grain cultivars, it provided resistance to all but one of the races of blast known in the U.S. Because Jefferson also had improved levels of tolerance to sheath blight disease, it was expected that the use of fungicides would likely not be necessary and would reduce production costs to farmers. Shortly after that, Dr. McClung released Madison which was the first deployment in a semidwarf background of the broad spectrum *Pi-ta<sup>2</sup>* blast resistance gene that is found in tall cultivars like Katy, Kaybonnet, and Drew. Most recently came the release of Saber, which is the first U.S. cultivar to utilize the blast resistance gene, *Pi-b*, which was derived from a Chinese cultivar. Saber also has the highest levels of tolerance to sheath blight of any semidwarf long grain commercial cultivar and appears to have very stable milling yields like Cypress. Hence, Dr. McClung and colleagues have endeavored to utilize the natural genetic diversity in rice germplasm to decrease production costs for farmers.

Dr. McClung has also developed three specialty rices: Dixiebelle, Cadet and Jacinto. Specialty cultivars are frequently grown under contract and can command a market premium which may increase profitability to farmers and help reduce their production risks. Cadet and Jacinto were developed in cooperation with Dr. Bill Park (TAMU, Department of Biochemistry) and an industry partner. These cultivars possess a unique processing and cooking quality that is desired by the Euro-

pean market. They are the first examples of rice cultivar development using marker-assisted selection. Genetic markers developed by Bill Park were used throughout the breeding process and allowed development of these cultivars in 5 years instead of 7-12 years.

As a result of this research, genetic markers for amylose content are now being routinely used by the Rice Quality Lab to provide more accurate evaluation of cooking quality in rice for all of the public breeding programs. In cooperation with Bill Park's lab, the USDA team (McClung, Christine Bergman, Shannon Pinson and Bob Fjellstrom) is transforming what has been a conventional varietal development program into a molecular breeding program that uses genetic markers to stack desired genes in specified combinations. Within the next few months, the group will host a technology transfer workshop to the public rice breeding community, so these programs can also utilize this new technology - further benefiting the rice industry worldwide.

Anna lives near LaBelle with her husband Mike, who works for a Houston based company that sells plant science equipment. They have two children - Molly (12) and Garrett (10). When asked about her hobbies, Anna refers back to her children -with such a busy research career there is little time for anything else. She does enjoy birdwatching, music and the arts. Encouraged by her daughter Molly's interest in fine arts, she is hopeful that this will provide common ground for them throughout the teenage years that lie ahead. \*

## Grower Profile...

# Robert Bauer and Sons: Continuing the Tradition of Farming Rice in Texas

When George Bauer returned home in 1919 from his service in the army, his father-in-law provided him with acreage to begin farming rice and raising cattle. George's family had come from Illinois and had a farming background in corn and beans. The research station at Amelia had been operating for over a decade, and rice farming in Texas was just beginning to gain momentum. By 1940, George was firmly established in the rice industry, and considered one of the areas most successful growers.

In the spring of 1941, it was apparent that the Beaumont Station had outgrown its original location and more land was needed to begin producing foundation seed. Researchers met with A.H. Boyt, President of the American Rice Growers Association in Beaumont, D.W. Edwards who was manager of the Texas Public Service Farms Company and a few local producers – including George Bauer. The land for the Experiment Station was financed by this group, which became the nucleus of a non-profit organization known as the Texas Rice Improvement Association (TRIA).

On July 9, 1943 the charter was granted and TRIA became a voluntary non-profit association, formed primarily for the purpose of producing and distributing seed of improved varieties, and giving financial support to research dealing with rice improvement. In 1960 George Bauer was nominated by his peers and began his service as a TRIA board member. He served continuously until 1972, when he finally lost his battle with bone cancer.

George's son Robert began farming in 1945, following in the tradition his father had started over two decades earlier. In 1976 Robert took his father's place on the TRIA board, and has served as president of the association ever since. In 1949 Robert married Mary

Heiner and they had 5 children – Jack, Marilyn (deceased), Carol, Janet and Linda. They have 15 grandchildren ranging in age from 2 to 27, and one great-granddaughter.

The oldest of Robert's children, Jack, also farms rice like his dad and granddad before him. Jack started farming in 1969, a year before he was married. His wife Christie is a nurse at St. Elizabeth in Beaumont. They have 3 children – Gerald, Sherri and Jennifer, and one granddaughter. Jack's son Gerald is a fourth generation rice farmer, who started his



Gerald, Jack and Robert Bauer

operation in 1992, the year he graduated from high school. Gerald acquired his Associates Degree in Diesel Mechanics from Lamar University, a skill he often relies on in the farming business.

All told, the Bauers farm roughly 1300 acres each year, divided between Robert, Jack and Gerald. They farm separately, but consult often on matters of production and variety selection. Their rotation includes one year of rice and two years of cattle. They raise



Christie and Mary Bauer

Hereford/Brahma x Angus calves for market and keep roughly 1000 head of brood stock. Recently, they have experimented with a new variety of Bermuda called *Jigs*. This variety is distinct in that fresh cut tops can be scattered out and rolled down where it will take root - thus eliminating the need for sprigging equipment. For the cattle they also raise bahiagrass, winter rye and oats. As for rice varieties they grow Jefferson, Cypress, Cocodrie - and this year will add the new release Saber.

Robert is stepping down as President of TRIA this

continued on next page

## Bauer and Sons continued

year, and will leave farming to his son and grandson. He will continue to be active as a board member and major stockholder of Gulf Coast Bank, president of the Coastal Cattle Association and president of the East Chambers County Agricultural Historical Society (ECCAHS). The ECCAHS museum in Winnie was made possible by a generous donation from Mr. and Mrs. F. G. Leonards. They have equipment on display from the turn of the century and provide information about the long history of agriculture in this area. The museum is located at the Texas Rice Festival complex and is open for tours by appointment. For more information contact Marlo Hunt with the Winnie Chamber of Commerce at (409)296-2231.

As for innovation, the Bauers were the first producers east of Houston to acquire laser-leveling equipment back in 1984. They own 2 complete rigs, which are shared between them, and occasionally contract out to other growers. They also participate in the Jefferson County Rice Integrated Pest Management (IPM) Program, as Jack serves as chairman of that steering committee. The program was conceived in 1997 when Jefferson County producers met with representatives of the Texas Pest Management Association (TPMA) and the Texas Agricultural Extension Service. They recognized the need producers in the Eastern zone had for a scouting program based on IPM principles, and implemented the project in 1998.

A producer may enroll any portion of their land in the program, for roughly \$10 an acre, and a scout will evaluate the crop for pests, disease and nutrient deficiency throughout the growing season. The IPM program is coordinated and run by Kelby Boldt, with input and training from Research Station scientists such as MO Way, Fred Turner, Arlen Klosterboer and Toni Marchetti. The program has been successful in making marginal fields profitable, as well as reducing unnecessary use of pesticides and fertilizers. For more information about the program contact Kelby Boldt at (409)835-8461.

With regard to the future of rice farming in Texas, Robert believes the outlook is good. With the continued development of improved varieties and strong legislation to secure affordable water rights, Texas farmers can continue to play a major role in worldwide rice production. \*

## Marketing News

*Highlighting buyers, processors and distributors*

### **Doguet's Rice Milling Co. Beaumont, Texas**

Doguet's is locally owned and operated, with 20 years experience in the rice industry. Mike Doguet and Debbie Doguet Robbins inherited the business in 1997 from their father, Darby. The business includes the drying, storage and milling of rough rice; marketing rice for other farmers; and rice farming. Their family brands include Doguet's, Budget, Jasmine, Golden Eagle and Red Wing Rice. The company also buys and processes organic rice, which is handled in accordance with the strict guidelines enforced by the Texas Department of Agriculture. They buy long and medium grain rice and also do some parboiling. For more information call (409)866-2297 or check their website at [www.doguet's.com](http://www.doguet's.com)

### **American Rice Inc. (ARI) Freeport, Texas**

Rising from the coastal landscape, this facility is the only rice mill in the U.S. capable of loading bagged and bulk products directly onto ocean vessels from its milling facility. An integrated rice production facility, Freeport ARI is one of the largest in the U.S. with 600,000 ton capacity for processing and milling. In addition ARI can store 125,000 tons of bulk milled, rough and bagged rice. Both a parboil mill and white rice mill are fully utilized as quality selected rice arrives by rail, truck and barge. John Carroll oversees the procurement of rough rice at the Freeport facility. For questions call him at (979)233-8248 ext. 219

### **Riley Foods International Washington, Texas**

Based out of Chappell Hill, Riley Foods International is a new company but has a long track record in rice. The owner, George Shapley, retired from a major food company where he acquired 21 years experience in buying rice and other grains. His company purchases organic paddy and milled rice, wild rice, other cereal grains, and a wide array of vegetable crops. Riley Foods currently deals mostly with Arkansas and California producers, but is interested in working with Texas growers. For more information call (979)337-9711 or (281)361-7538.

# High Yielder's Tips

For this month's "High Yielder's" column we traveled to Bay City to visit with Mike Burnside. Mike has consistently produced extremely high yields as the following chart illustrates. He emphasized, though, that every year is different and every field is different, so things that work well for him may not work for everybody.

**Q:** Beginning with planting, what contributes most to your high yields?

**A:** Well it actually starts before planting. I work my fields in the fall and through the winter to assure a good quality seedbed at planting time. I work the soil down to 4" or 5" for deep root mass development.

The base fertilizer is incorporated into the soil just before or at planting. For early planting I recommend using Gib with a fairly heavy seeding rate (75 – 90 lbs for Cocodrie and 100 – 110 lbs for Jefferson).

**Q:** Any other planting "secrets" for higher yield?

**A:** Well there is one other thing I believe makes a big difference and that is planting levees. In general, 10% - 15% of a field is in levees. That amounts to a lot of rice at the end of the season. I usually order 25 lbs. of extra rice to replant the levees after they are pulled, going from bar ditch to bar ditch. This will make a big difference in yield not just for your first crop but for the ratoon crop as well.

**Q:** Mike, what are the most important factors for seedling management?

**A:** First, monitor your fields regularly and get an accurate date for seedling emergence. You'll need this information later when determining PD using the DD50 Program. I put down a pre-emergence herbicide such as COMMAND, and then may apply another herbicide before permanent flood for those weeds that escaped the first pass. It's important to keep the fields clean.

**Q:** What about early season water management?

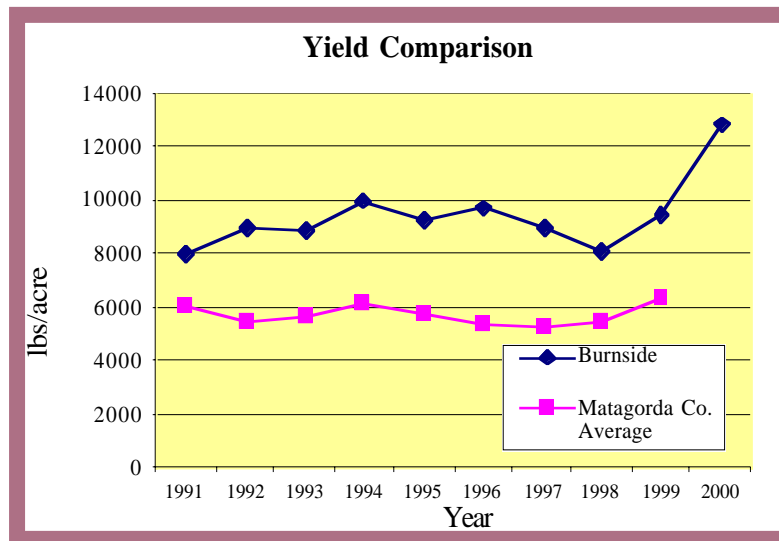
**A:** Once seedlings are fully emerged and the first flush-

ing waters have been used up or evaporated, watch closely so that seedlings don't dry out. This stresses the plant and increases your N loss. I have a multiple inlet system on most of my fields. That means you can get water on and off in a hurry, and you don't get nutrients washed to the bottom of the field from the water all coming in at one spot. I establish permanent flood once the plants are tillering well, maybe 3 – 4 tillers per plant. If your fields have been leveled well, you shouldn't have trouble maintaining a uniform water depth. Check your fields daily and make sure there is enough water.

**Q:** What about fertilizer schedules?

**A:** Most years I apply 1/3 N at planting (knifing in fertilizer works best to keep it in the soil longer), 1/3

just before permanent flood on dry ground, and then the remaining 1/3 at PD. Some years I may have to add another application if I've lost N to the air, or a levee busted from a flood right after application, or some other unforeseen situation. It's important not to let the plants starve for N leading up to PD, or you'll hurt your yield.



**Q:** You mentioned the DD50 Program for determining PD, explain that.

**A:** The program is set up through the county extension agents. If you call and give them your variety and seedling emergence date they can give you an estimate of when your plants will be at PD. Now that doesn't mean you take the date for gospel, you use it as a guide. Check your fields with a pocket knife in hand to determine PD for your exact location.

**Q:** What source of N do you use?

**A:** Right now I use ammonium sulfate or urea. I want to get the rigging to apply anhydrous ammonia because it stays in the ground longer. You don't lose it to the air as quickly - if the application is correct, that is 4" to 6" deep in moist soil. \*

*This interview was conducted by Ted Wilson, Jim Stansel and Jay Cockrell. Please call the Beaumont Station at (409)752-2741 if you have questions or comments.*

## Water continued

of the family, the farm, and play taxi driver to accommodate all his activities. After high school Robby attended college in San Marcos at Southwest Texas State University. He returned home to Eagle Lake before the end of his senior year to pursue an opportunity to buy farmland in Colorado county. He married his high school sweetheart, Mary Kay Dornak of El Campo, who also came from a farming background.

Early on Robby was very much involved in community issues. He participated in the DuPont Rice Leadership Program, which he credits for developing his interest and enthusiasm for public service. He was a member of the Chamber of Commerce and the Lions Club. Later he went on to serve on the Texas Rice Council and served as



Rep. Robby Cook

president of the local American Rice Growers Association. In 1991 Robby was elected to the Eagle Lake City Council, then went on to serve as mayor for 2 years.

Towards the end of his term as mayor he learned that his friend Rep. Robert Saunders was retiring after serving 16 years in the Texas House. Robby called Saunders on the

phone to try and convince him to run for another term. The result of that conversation was quite different than Robby anticipated. Instead of convincing Saunders to run again, he was encouraged to fill the position himself, but there were concerns to be addressed before he could make that commitment. Robby knew that the family farm had to come first. He went to his partners, his father Bob and his younger brother Billy, to discuss the feasibility of entering a career in state politics. They were very supportive of the idea, and assured Robby they could take care of the farm while he was away. His dad pointed to the necessity of having quality legislators that understood the needs of rural areas, and assured Robby he was up to the challenge.

So it was in January of 1995 that Robby Cook threw his name into the ring for State Legislator from District 28. Through support from his wife Mary Kay, his parents and brothers, he is able to spend half his time in Austin, and the other half at home in Eagle Lake. All told the Cook family farms 2200 acres of rice in Colorado and Wharton counties. The morning of this interview, Robby was on a tractor planting rice. His daughter Jenna (14) and his son

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## Pest of the Month

### Chinch Bugs:

*a potential problem on seedling rice*

The adults are black with white markings and the nymphs or immature stages are



orange, black, and tan. Adults enter rice fields from surrounding vegetation and suck the juices out of young rice. Typically, adults and nymphs can be observed on rice shoots near ground level. In addition, these pests can be found feeding on rice roots and shoots below ground level. Normally chinch bugs are more of a problem in heavier soils. Damage includes yellowing and/or stippling of foliage, stunting and death. Sometimes affected seedlings will produce more tillers resulting in a squat, “bushy” appearance.

Dr. Olga Mejia-Ford, while a graduate student working under Dr. M.O. Way’s supervision, researched the chinch bug problem in Texas rice and discovered the following:

- 1) Chinch bugs survive as well on rice as sorghum, which is a preferred host.
- 2) Generation time is about 2 months (egg to adult under early spring conditions).
- 3) Timely flushing or flooding causes some drowning, but survivors simply move up plants. Feeding on foliage above shoots causes much less damage than feeding on shoots near ground level. This is why levee rice generally suffers more damage than paddy rice.
- 4) Chinch bug damage in combination with other stresses, such as drought or herbicide injury, results in much greater plant mortality than expected.
- 5) Chinch bugs can be effectively managed with Icon 6.2FS, Karate Z, Sevin XLR Plus and methyl parathion. Be careful when using Sevin XLR Plus or methyl parathion – these insecticides interact with propanil (Icon 6.2FS and Karate Z do not).
- 6) Chinch bugs can cause unacceptable plant mortality and damage when adult populations approach 1 per plant. \*

*Part of Olga’s Research Assistantship was paid by TRRF. We thank Texas rice farmers for supporting this research. If you have questions contact Mo Way at (409)752-2741 ext. 2231*

# National and International News...

## Farmer Alliances

AGRISURF - Farmers who establish production coalitions have a better chance of success in the modern, global agricultural industry, according to a North Dakota State University extension specialist, Rudy Radke.

Radke said the evolving nature of agriculture, the global marketplace and the impact of biotechnology and picky consumers can overwhelm an individual grower. The strength of a group carries more weight than the power of an individual, he said. Contact: Bob Boehm, (800) 292-2680, ext. 2023

## Death Taxes Threaten Farms

WASHINGTON, D.C. — Many family farms are at risk unless death taxes are repealed, Congress was told by the American Farm Bureau.

“The impact of death taxes, with rates as high as 55 percent, is so severe that their imposition can destroy farm businesses,” AFBF President Bob Stallman testified before the House Ways and Means Committee. Stallman said, “Eliminating death taxes is the top tax priority of the American Farm Bureau Federation. Public opinion polls show that seven of 10 Americans think that death taxes should be repealed. Now is the time for Congress to eliminate death taxes.”

## ‘Measured’ Introduction Planned for CLEARFIELD\*

RESEARCH TRIANGLE PARK, N.C. — BASF announced that it would scale back commercial introduction of its CLEARFIELD Production System for rice for one year. Originally, it was due to be introduced in limited quantities this

spring.

“We recognize that this seed variety marks the entrance of BASF into the food industry,” said Chad LeBlanc, BASF market manager for rice. LeBlanc said the marketplace is very sensitive to new food products because of current consumer concern regarding bio-engineered crops, even though CLEARFIELD is not derived from transgenic technology. For information, call Gary Kreckmann at (919)547-2916.

## Trade With Cuba

PLANET RICE—A broad coalition of U.S. farm, port, medical, and religious groups has written a letter urging U.S. President George W. Bush to implement last year’s law allowing food and medicine sales to Cuba, Reuters reported on March 29. The law that eased the 37-year-old trade embargo against Cuba called for the rules to be in place by late February. “We are still waiting,” said Audrae Erickson, a director of the American Farm Bureau Association. Cuba was formerly the top export market for U.S. rice.

## Rice Genome Map: Science Triggers Global Controversy

PLANET RICE - A virtually complete map of the rice genome was announced last week by Syngenta, and Myriad Genetics, a Utah, USA-based biotechnology company.

Rice is the second plant to be mapped—the Arabidopsis weed was first—but is the first *food* crop to be genetically mapped. Understanding rice genes can greatly speed development of improved varieties. But the rice genome mapping has also brought great contro-

versy. Some scientists, NGOs, and governmental organizations are concerned that giant international corporations are gaining control over the world’s food supply.

The Asian Wall Street Journal reported, on Jan. 29, that, “Syngenta, which began its project in September 1999, quickly raced ahead of the public-sector International Rice Genome Sequencing Project, which isn’t scheduled to complete its work until late 2004.” Researchers involved in that project said they hoped Syngenta would make its data freely available—but the company indicated it would restrict access for the time being.

## European Exporter List

USA RICE FEDERATION – USA Rice’s Hamburg office maintains U.S. Exporter lists for European companies interested in importing U.S. rice. Staff are currently updating the lists of U.S. specialty and organic rice exporters. To include your company name on the exporter list contact Beatrix Rueckert in the Germany office at 49-89-5432-9988 or [beatrix@usarice.com](mailto:beatrix@usarice.com)

## Junior Water Rights

USRPA Rice Times - At the Senate Natural Resources Committee hearing on Thursday March 29, Senator Buster Brown, R-Lake Jackson told fellow committee members and a packed committee hearing room full of people that it was his intent to remove language which would change the current law regarding Junior Water Rights. This leaves Junior Water Rights intact for all of Texas. The substitute bill will be debated and amended on April 3, 2001 in the Senate Chamber at 2:00pm. For information see [www.usriceproducers.com/](http://www.usriceproducers.com/) \*

## Water continued

Taylor (11) also help out on the family farm, when they are not busy tending their FFA show goats.

Cook is a member of numerous service organizations including the Coastal Conservation Association, Ducks Unlimited, the Knights of Columbus, Alliance for a Clean Environment, Habitat for Humanity, the Texas Farm Bureau, the Texas Rice Industry Coalition for the Environment and the Colorado County Economic Development Organization. During the 77<sup>th</sup> legislative session Cook served as Vice-Chairman of the House State Recreational Resources Committee, a member of the House Local and Consent Calendars Committee and Vice-President of the Texas Conservative Coalition.

Also, as reported in our last issue, Cook testified in January before a Subcommittee of the House Appropriations Committee to support funding for his HB 3277, *Agricultural/Wildlife Environmental Research Initiative*, otherwise known as the "Ag Duck Initiative". If funded, this initiative will provide research money to establish a high-yielding water efficient rice variety, and create a position for a Wildlife Biologist and a Wetlands Environmental Scientist.

When asked who has contributed most to his success, Robby had a long list of supporters. He credits his dad for teaching him the importance of community service and a strong work ethic, as well as how to succeed in rice farming; his longtime friend Steve Balas for unwavering support and encouragement over the years; his brother Billy who has taken care of their farming partnership when duties call him away to Austin; and his wife Mary Kay for her untiring devotion and support. Robby said his youngest brother Ronnie, who works in home construction in San Antonio, will even come in a pinch to help them get rice in the ground or in the bins.

And finally, Cook believes a legislator can only be as good as the people they have behind the scenes. He feels fortunate to have Mona Ray at the Eagle Lake office; and in Austin, Lisa Craven, Amber Pearce and Amy Loos. He cites their extreme dedication and endless enthusiasm, often under difficult circumstances, in bringing about positive change for the constituents of District 28, and the people of Texas. \*

## Web Resources

Rice On-line

<http://www.riceonline.com/>

Rice Journal

<http://www.ricejournal.com/>

Appropriate Technology Transfer to Rural Areas

<http://www.attra.org/>

Consultive Group on International Agricultural Research

<http://www.cgiar.org/>

RiceFax

<http://www.ricefax.com/>

AgNic System Engine

<http://www.agnic.org/>

Texas Agricultural Extension Service

<http://texasextension.tamu.edu/>

Texas A&M Agriculture Program

<http://agprogram.tamu.edu/>

Soil Quality Institute

<http://www.statlab.iastate.edu/survey/SQI/>

Agricultural Research Service (ARS)

<http://www.ars.usda.gov/>

ARS at Beaumont Station

<http://usda-ars-beaumont.tamu.edu/>

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