Texas Rice

Texas A&M University System
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Update on Section 18 Regional Request for Registration of Orthene

In February, a "Regional Section 18 for Orthene to Control Rice Stink Bug" was submitted to the departments of agriculture in TX, AR, LA, MS and MO, and hand-delivered to the U.S. Environmental Protection Agency. The regional request is sponsored by the USA Rice Federation's Environmental Regulatory subcommittee. The chair of the subcommittee is Arkansas rice farmer Ray Vester and the staff liaison is Steve Hensley. Texas representatives on the subcommittee are Traci Garrett, Daniel Berglund and Mo Way. US Rice Producers Association also support this request, which was prepared by Drs. M. O. Way J. Bernhardt, B. Castro, M. Stout, J. Robbins, N. Buehring, and B. Ottis. EPA staffer Tony Britten is currently reviewing the request, and is aware that a decision on the request should be made by June 1 when early-planted rice begins to head.

The following article summarizes information submitted in the Section 18 Request.

Rice is a major commodity in all southern rice-producing states. Rice farming generates revenue for related businesses such as irrigation districts, fuel suppliers, implement dealerships, lending institutions, aerial and ground application services, agrochemical dealerships, transportation providers, food retailers, fertilizer distributors and automobile dealerships. Economists typically use a 4:1 multiplier effect for rice production; thus, southern rice farming generates at least $4-5 billion annually in revenue, which sustains many rural and urban communities in the South. Successful rice farming requires considerable economic inputs. In 2006, estimated direct expenses to produce 1 acre of main crop rice in TX is $702.83. These estimates also are representative of other southern rice-producing states.

These estimated direct expenses include insect management, which is a sizable percentage of production costs for southern rice farmers. Due to the hot, humid environment and relatively long growing season, rice grown in the South is attacked from planting to harvest by a wide array of insect pests. Most of these pests are sporadic or minor but the rice stink bug (RSB), *Oebalus pugnax* F., can be found in every southern rice field

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Photo courtesy of Dr. Mo Way


Photo courtesy of Dr. Mo Way


Photo courtesy of Jim Medley

Rice stink bug, *Oebalus pugnax* F., can be found in every southern rice field, and can cause severe damage if left untreated. Some grains might not develop at all, and those that do have the characteristic 'pecking'. In really bad years, some growers treat fields up to six times to achieve control.
L to R: egg cases, nymph and adult.

From the Editor...

Welcome to the May issue of *Texas Rice*. A lot is happening across the U.S., much of which directly impacts U.S. agriculture. Newspapers and internet sites are filled with articles that address the potential role of biofuels in solving our nations over-reliance on petroleum imports. The President is on record as stating he supports research on biofuels. Strong support by our government for biofuels could, in the long term, revitalize U.S. agriculture and much of rural America.

Earlier this week, while driving to a meeting in College Station, Texas, I listened to a radio interview discussing the use of cellulose to produce biofuels. The individual being interviewed stated that a cellulose-based biofuels industry could meet half of our country's current petroleum needs. If these estimates are even close to being correct, this suggests that large-scale biofuels production in the U.S. would go a long way in helping to secure our country's future economic security.

In sharp contrast to his support of a biofuel based economy, the President does not support current agricultural disaster relief legislation. The irony is that a strong biofuel based agricultural industry requires a vibrant agricultural infrastructure, adding credence to the need for agricultural disaster relief.

Some very interesting similarities and contrasts are present comparing the U.S. petrochemical industry with U.S. agribusiness. In the not-too-distant past, the U.S. provided all of its own petrochemical needs. This has steadily changed, particularly over the last 50 years, with our country moving from being an exporter of oils and fuel, to the world's largest petroleum importer. Today, our country's petroleum needs, and to a large degree our economic well being, is in the hands of other countries, some of which are not particularly friendly to our country.

Agriculture could easily go down the same road. Historically, the U.S. provided all of its food, feed, and fiber needs, as well as a bountiful surplus for many other countries. While the U.S. is still the world's dominant agricultural country, during the past few decades, U.S. agricultural lands have decreased at a rate of ca. 3% per decade, and while U.S. import of agricultural goods remains small compared to its total production and consumption, the increasing import of agricultural goods is an ominous trend and a portent of potential things to come. At the current rate of loss of agricultural lands, total U.S. production of food, fiber, and feed will likely begin to drop within most of our lifetimes. If this trajectory is allowed to continue, it is conceivable that the U.S. could become a major food importer before 2050.

This scenario may occur sooner than later if our country continues to allow largely uncontrolled escalating fuel prices. Reduced agricultural profitability is largely responsible for the 5% projected drop in 2006 projected U.S. agricultural productivity and the 3% projected drop in carry-over stocks. Record oil prices translate to record producer input costs which seriously weakens U.S. agriculture profitability. Record increases in fuel costs are similarly responsibility for the U.S. movement towards an inflationary situation, with the latest inflation figures pegged at 0.6%/ month. With agricultural commodity prices largely stable, this actually translates into a decrease in real dollar buying power.

A colleague of mine, who is a serious history buff, recently said a major reason for the fall of the Roman empire was Rome's loss of control of its agricultural production. Instead of maintaining food, feed, and fiber production as a national priority and an integral

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Inside This Issue

Cover Story:

Update on Section 18 Regional Request for Registration of Orthene

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.

Using Gibberellin to Increase Ratoon Crop Yield

Southeast Texas and southwest Louisiana have a relatively longer growing season than other U.S. rice growing regions, resulting in this region being favorable for ratoon rice production. Usually, the ratoon crop is harvested (second cut) about 60 to 90 days after the main crop is harvested, and its yield typically reaches about 50% of the main crop.

Historically, ratoon crops have had inconsistent stands and uneven maturation of panicles. These characters have limited ratoon-crop yield. Reducing the cutting height of the main crop, along with better ratoon crop management, has helped to increase ratoon stand uniformity. The lower cutting height, however, has also increased the developmental period of the ratoon crop.

Gibberellin (GA) is a plant hormone that promotes cell elongation and has been shown to increase plant height, internode length and stem elongation of rice. Gibberellin can stimulate seed germination and pre-emergence vigor, and it is often used as a seed treatment. GA-treated rice seedlings emerged two days earlier than untreated seedlings. Furthermore, rice plants treated with GA demonstrated increased seedling height and enhanced seedling vigor.

Since GA can promote cell expansion, it is used as a plant growth regulator (PGR) for diverse crops. For example, GA application often increases the fruit size of grapes, significantly increasing berry weight by 60% compared with untreated controls. Gibberellin has been commercially used for many years on the popular 'Thompson Seedless' table grapes for this purpose. Gibberellin also increases the number of retained ovaries in 'Carignane' grapes.

A rice panicle at the early milk to soft dough stage, when application of GA is most beneficial for the ratoon crop.

Our research suggests that GA application during grain fill of the main crop can increase ratoon-crop yield by promoting tiller vigor and earliness of the ratoon crop. The objective of our current research is to demonstrate that GA application at post-flowering to midgrain fill of the main crop increases ratoon yield in field-grown rice without significantly affecting main-crop yield.

A 4-year study was conducted from 2002 to 2005 at the Texas A&M Agricultural Research and Extension Center (TAM-AREC) located at Beaumont and at Eagle Lake, Texas. The cultivars evaluated were Cheniere, CL-131, CL-161, CL-XL8, Cocodrie, Cypress, Jefferson, Presidio, Saber, XL-6, XL-7, XP-710 and XP-723. Planting dates, fertilizer use, and other cultural inputs were essentially those recommended in the Texas Rice Production Guidelines or, in the case of the hybrids, by RiceTec, Inc.

Gibberellin treatments were applied from 3 days after peak flowering of the main crop, through the soft-dough stage. Gibberellin is commercially available for use on rice (e.g., Release and RyzUp from Valent BioSciences Corporation). The rates used were 4 oz/acre (4

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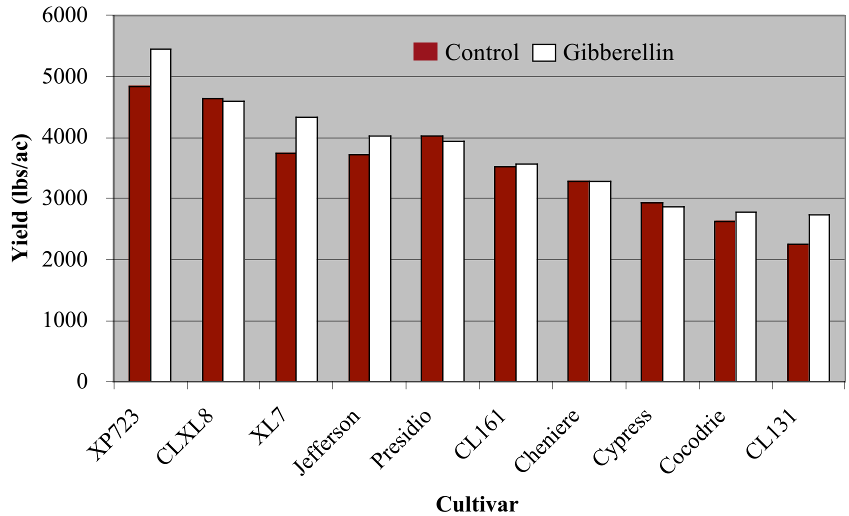
grams a.i./acre) with 0.5% (v/v) Latron AG-98 Spreader Activator from Rohm and Haas, applied using a backpack sprayer. The sprayer was calibrated to deliver 10 gal/acre. The EPA exempts GA from tolerances at the low application rates used in this study.

The 2005 Eagle Lake ratoon crop data was omitted from the data analysis because there were unusually high temperatures in the region after hurricane Rita, during ratoon crop development. The ratoon crop yields at the Eagle Lake site were consistency lower than usual for all studies.

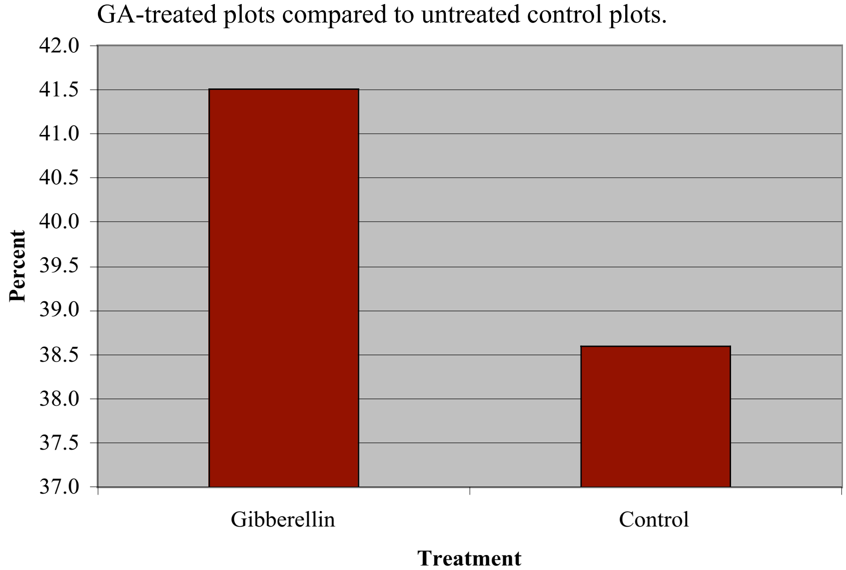
Figure1: Ratoon-crop yield of various cultivars in response to GA-treatment.



This study indicated that application of GA to the main crop of field-grown rice, during the late-flowering to soft-dough period, did not affect main-crop yield. However, our multiyear study evaluated the common cultivars grown in southeast Texas and southwest Louisiana, and found that GA increased ratoon yield significantly (197 lbs/acre). Some cultivars responded better than others. These 'good' responders tended to be very-early maturing and vigorous. For instance, the largest ratoon-crop yield increase (599 lbs/acre) due to GA was produced by the hybrid XP-723 (Fig. 1). Both XL-7 and CL-131 had ratoon-crop yield increases of over 450 lbs/acre. The results for XP-723 and CL-131 were from a single year and location, and the results for these varieties need to be verified. The XP-723, XL-7 and CL-131 were the top three cultivars for total-yield increase in response to GA application.

The ratoon crop yield as a percent of main crop yield for untreated control plots was 38.6% (Fig. 2). In contrast, GA-treated plots resulted in a proportion that was significantly higher by 2.9% to 41.5%. The highest percentage was observed in XL-7, in which the ratoon yield was nearly 50% of the main-crop yield (averaged across treatment, year and location). There was a numerical interaction between cultivar and GA treatment for the ratoon crop yield as a proportion of main crop yield (Fig. 3). The hybrid XL-7 responded best to GA application, with an increase in ratoon yield as a percentage of main-crop yield of 8.7%. The very-early maturing, vigorous cultivars or hybrids appeared to be more responsive to GA treatment.

Figure 2: Ratoon-crop yield as a percentage of main-crop yield for GA-treated plots compared to untreated control plots.



Milling data was collected on selected cultivars. The results indicated that main crop milling yield might be slightly negatively affected by GA applications when compared to untreated control plots, with a 2% drop in whole grain milling yields, and a 0.5% drop in total milling yields. The drop was

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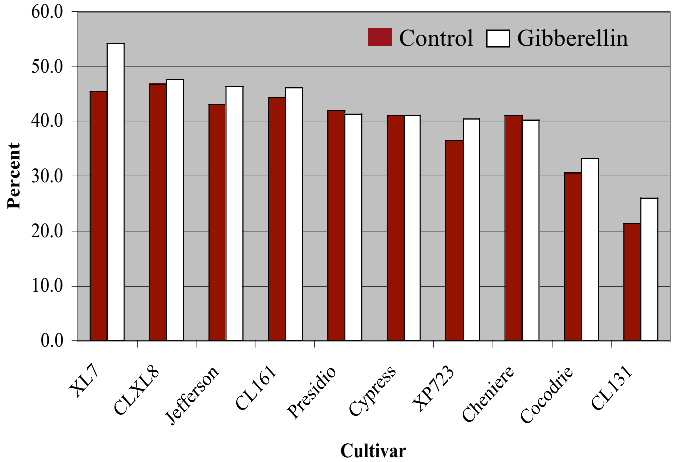
Figure 3: Response of various cultivars to GA-treatment. Ratoon-crop yield as a percentage of main-crop yield.



possibly due to a GA effect on crop maturation. In small plot research experiments all plots are typically harvested at the same time, which could penalize milling results from the GA-treated plots.

Preliminary results from a study conducted in cooperation with Dr. M.O. (Mo) Way and Luis Espino at the Beaumont Center, indicated that GA can be tank-mixed with some insecticides applied during main-crop grain filling. Under these conditions, the GA treatment can often provide a net profit for the rice producer. This study will be expanded to include additional insecticides.

In conclusion, GA applied during early grain fill of the main crop of rice, can significantly increase ratoon crop yield. Gibberellin is commercially available and considered exempt from tolerances. While the GA treatments worked well on both conventional and hybrid rice, the very-early maturing and vigorous hybrids responded better.

These treatments did not affect main-crop yield. A minor reduction in main-crop grain quality was possibly an artifact of research methodology. This gibberellin treatment has potential as a tank mix with insecticides applied during main-crop grain filling. ✻

Article by Elliott W. Rounds, Abdul Mohammed and Lee Tarpley. For more information contact Lee Tarpley at 409-752-2741 ext. 2235 or email ltarpley@tamu.edu

Regents Name McCutchen to Lead TAES

Dr. Bill F. McCutchen was confirmed today as Deputy Associate Director of the Texas Agricultural Experiment Station in a meeting of the Texas A&M University System board of regents in late May.

McCutchen has served as interim director since March 27, coordinating with the system's Office of Technology Commercialization to facilitate the development of intellectual property from Experiment Station research, with special emphasis on biological sciences.

"Dr. McCutchen has demonstrated his insight and leadership throughout his career, and that will benefit the Experiment Station as we capitalize on the technology and discoveries of our researchers across the state," said Dr. Elsa Murano, Vice Chancellor of Agriculture and Experiment Station Director.

He earned his bachelor's in 1987 and master's in 1989, both in entomology, from Texas A&M University. His doctorate in entomology is from the University of California-Davis in 1993.

McCutchen previously was the crop protection and herbicide product coordinator at DuPont Agriculture & Nutrition, Pioneer Hi-Bred. He is credited with having "the vision, innovation and leadership that propelled a new generation of dual-herbicide tolerant transgenic crops such as corn, soybeans, cotton and a new generation weed management program," Murano said. ✻

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Soybean Field Day

Mowery Farms Rosharon, Texas
June 23, 2006 8:30 am

Tour includes:
No-till Early Planting System
Narrow Row Early Planting System
HBK Research Plots

Guest Speakers:
Dr. M.O. Way, Curt and Rodney Mowery, James Thomas, Cliff Mock and Mike Perkins

Sponsored by Hornbeck Seed Co.

every year and can cause severe damage if left untreated. The adult RSB overwinters and becomes active in the spring when temperatures increase and alternate hosts (grass weeds, sorghum, etc.) begin to develop. Females lay egg masses on alternate grass hosts. Eggs hatch and nymphs begin feeding on grass grains. Nymphs molt through five instars before becoming adults. Generation time is about 3 to 4 weeks depending on temperature. When the main rice crop begins heading (in the South, generally June, July and August), adult RSBs move into rice fields. These initial adult populations represent the second or third generations following the overwintering generation. Thus, tremendous populations of adult RSB originating in surrounding pastures, grassy fields, roadsides, ditches and sorghum fields often move into rice fields that are at heading. This insect has piercing-sucking mouthparts that they insert into developing rice grains. The RSB injects saliva into the wound, which helps liquefy the contents of the grain. The insect also can transmit stylet-borne microorganisms, such as *Bipolaris oryzae, Curvularia lunata, Alternaria* spp. and *Fusarium oxysporum*, which, in combination with the feeding process, cause discolored and misshapen grains. This damage to grain is called 'peck'. Pecky rice receives a huge discount, so farmers are more apt to treat for RSB than any other insect attacking southern rice. In addition to peck, feeding punctures weaken the grains so that breakage occurs when rice is milled. This results in a decrease in percent whole grains (head rice) and an increase in percent broken grains. This also reduces rice producers' profits due to a discount for broken grains.

In recent years, RSB populations have become more numerous and damaging. For instance, in TX in 2005, rice farmers averaged three insecticidal applications on main crop rice for RSB control. However, some farmers treated as many as six times, often with unacceptable results. The cost of each application averages about $5.00/acre for insecticide (methyl parathion, pyrethroids or carbaryl) and $6.00/acre for aerial application charges. Therefore, on average, TX rice farmers spent an estimated $33/acre for RSB control in 2005. Some farmers spray six times to control RSB, which costs about $66/acre. This amount is more than most farmers spent on herbicides ($60.67) and almost as much as is spent on irrigation water ($78.71). This increasing cost for RSB control is also evident in other southern states. For 2006, farmers can expect to pay even more for RSB control because of increased material and application costs.

An important research and management question arises from the prior discussion. Why are rice farmers spraying more to control RSB? Several biotic and abiotic factors are involved. First, RSB populations are increasing. Consultants agree that current RSB population densities are higher than in the past. (40% ratooned rice is not unusually high) Sorghum is an excellent host for RSB, and sorghum harvest often coincides with rice main crop grain maturation. Thus, tremendous populations of RSB move from harvested sorghum to vulnerable rice, particularly west and south of Houston where more sorghum is grown. During the past several years, warmer and drier than normal growing seasons likely have also been conducive to RSB population build-up.

Table 1. Estimated[a] Reduction in Pesticide Use in the South Due to the Registration of Orthene for Rice Stink Bug (RSB) control.

State	Approximate acreage	% / no. acres treated 2x or more for RSB	Reduction in pesticide use (lb AI)[b]
AR	1,600,000	10/160,000	80,000
LA	500,000	50/250,000	125,000
MS	250,000	10/25,000	12,500
MO	200,000	10/20,000	10,000
TX	200,000	100/200,000	100,000
		TOTAL	327,500

[a]Assume one application of Orthene at 0.5 lb (AI)/acre replaces two applications of methyl parathion at 0.5 lb (AI)/acre per application. These estimates were provided by rice entomologists in each state.

[b]methyl parathion in lb AI given Orthene registration.

(Acreage reflects 2005 numbers when the Section 18 was submitted.)

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Reducing pesticide load is a good way to insure a healthy rice agroecosystem, which plays an important role along the Texas gulf coast.

A second problem appears to be a result of an apparently extended period of movement by RSB into rice combined with a lack of residual activity of currently labeled RSB insecticides. In general, most rice farmers apply methyl parathion or pyrethroids to control RSB. None of these products provides adequate residual activity. In a field and greenhouse study conducted by Way in 2004, Karate Z, Prolex and Mustang Max provided less than 24 hours RSB control. Tank-mixing these pyrethroids with selected oils also did not increase residual activity. In a similar conducted study by Way in 2005, residual activities 1 day after treatment with methyl parathion, Mustang Max, Karate Z and Sevin XLR Plus were not significantly different from the unsprayed check. However, Orthene (active ingredient acephate) gave 80% control, significantly higher than any other tested product, and it resulted in over 30% control of RSB 7 days after treatment. None of the tested pyrethroids exhibited any residual activity at this time. Way evaluated Orthene for RSB residual activity and found that of the tested products, Orthene provided the longest residual activity - between 5 and 9 days.

Table 1 summarizes the estimated reduction in pesticide use by state, given the registration of Orthene. These estimates are probably conservative since some farmers treat more than twice. One application of Orthene could suffice for two or more applications of methyl parathion, which is the preferred insecticide for RSB. Methyl parathion is the most popular choice because of its relative low cost. Registration of Orthene would dramatically decrease the pesticide load in the southern rice region by at least 327,500 lb AI/year.

As noted previously, some rice is treated at least 3 times for RSB. In these cases, a single application of Orthene could substitute for three applications of methyl parathion. Assume 50% of Texas rice is sprayed 3 times with methyl parathion, but only once with Orthene. Thus, an additional reduction of 50,000 lb AI of pesticide would be feasible, bringing the total amount to about 377,500 lb AI annually. Approval of the Section 18 request will reduce the pesticide load in the southern rice agroecosystem, which will directly benefit the health and sustainability of these major fresh and saltwater environments so crucial to the fabric of U.S. society.

As mentioned previously, Orthene would largely replace methyl parathion, which is much more acutely toxic. Therefore, it would greatly improve the working environment for handlers, applicators, farm workers and consultants. Use of methyl parathion, which possesses little or no residual activity, forces consultants or farmers to monitor treated rice fields soon after application to guard against rapid reinfestations of RSB.

Another important benefit of Orthene compared with methyl parathion is its lesser impact on beneficial arthropods. Methyl parathion has a much broader spectrum of activity than Orthene. Methyl parathion also is more harmful than Orthene to wildlife inhabiting the rice agroecosystem, which provides food and shelter to rodents, birds, mammals, reptiles and fish.

In conclusion, registration of Orthene would be a win-win situation: the rice agroecosystem environment and the southern rice industry would greatly benefit. Rarely does a request of this nature benefit all concerned parties, which is why the U.S. rice industry under the auspices of the USA Rice Federation with support from the US Rice Producers Association strongly recommend approval of this request. The southern rice agroecosystem environment would be exposed to at least 327,500 to 377,500 lb AI less pesticide, with associated economic benefits. *

Article by Dr. M. O. Way. For more information call 409-752-2741 ext. 2231 or email moway@aesrg.tamu.edu

Understanding the Farm Problem: Six Common Errors in Presenting Farm Statistics

Farm statistics are regularly quoted in the press and in policy circles, often in misleading ways. This, in turn, can easily lead to mistaken policies. Two examples of misleading statistical presentation include the common refrain that farm incomes are now higher than nonfarm incomes, so there is little justification, from either an equity or a social justice perspective, for funding farm programs. Another is the oft-quoted statement that 60% of farmers and ranchers never get any government support at all (Environmental Working Group 2004).

It is not just the press and advocacy organizations that present data in misleading ways. Noted agricultural economist Bruce Gardner, in a 2005 New York Times article, argued that small family farms were thriving. He cited the slowed rates of farm loss and the growth of "nontraditional" small farms sustained by off-farm income. As he noted, 90% of farm household income is from off-farm sources, and as a result, farmers now enjoy living standards above the national average.

All statements above are true – and truly misleading. The same data present a very different story when treated more carefully. Small and midsized, full-time family farms have incomes at or below the national average, and less than half of that income is from their full-time-farming activities. A large majority of this group, which accounts for over three-quarters of full-time farmers, receives government farm-support payments of some sort, and many depend on them to stay above the poverty line and to stay in farming. The largest group of farms in the United States today are so-called "rural residence farms," which are indeed thriving as Gardner points out. But they are doing so mainly because they are part-time operations with ample outside sources of income, from retirement or from full-time, nonfarm careers.

The following highlights some of the common errors in depicting the farm sector and presents a more accurate image of family farming in the United States. The analysis was based on readily available data from the U.S. Department of Agriculture's Economic Research Service.

1. Including "Rural Residence Farms," which represent two-thirds of all U.S. farms, but do not farm for a living, in the totals for the farm sector. This leads to the misleading statement that a minority of farms get farm payments. A minority of part-time farmers gets payments, but a significant majority of full-time commercial and family farmers receives farm payments. As the table on the left shows, the group with the highest proportion receiving government payments is not the "large" or "very large" commercial farms, but the "higher sales" family farmers. Some 82% of this group received government payments of some sort in 2003, while 78% of "large" and 67% of "very large" commercial farmers received payments. This is partly because the main supported

Full-time Family and Commercial Farm Operator Income, 2003

	Farming Occupation: Lower Sales	Farming Occupation: Higher Sales	Commercial: Large	Commercial: Very large	Total
Farm households					
Number	368,405	134,833	84,294	66,643	654,175
Percent of full-time & comm. farms	56%	21%	13%	10%	100%
Percent of all farms	17%	6%	4%	3%	31%
Average operator household income					
From farming (with gov. payments)	2,209	29,390	62,327	172,147	32,870
From off-farm sources	47,226	31,195	40,078	42,282	42,497
Total	49,435	60,585	102,405	214,429	75,367
Government payments	3,552	17,967	28,810	50,192	
Percent U.S. avg. household income	86%	105%	177%	371%	
Percent receiving gov. payments (1)	44%	82%	78%	67%	

Sources: USDA/ERS, Operator Household Income, for Farm Operator Households, by Farm Typology Author's calculations. (Excludes rural residence farms and "nonfamily" farms.)
(1) From USDA-ERS, "Number of Farms, Average gross cash income and government payments by program and farm typology, 2003."

While the Environmental Working Group states that only 40% of farmers got any payments at all, some 82% of these mid-sized family farmers received payments, and those payments kept them right around the U.S. average household income.

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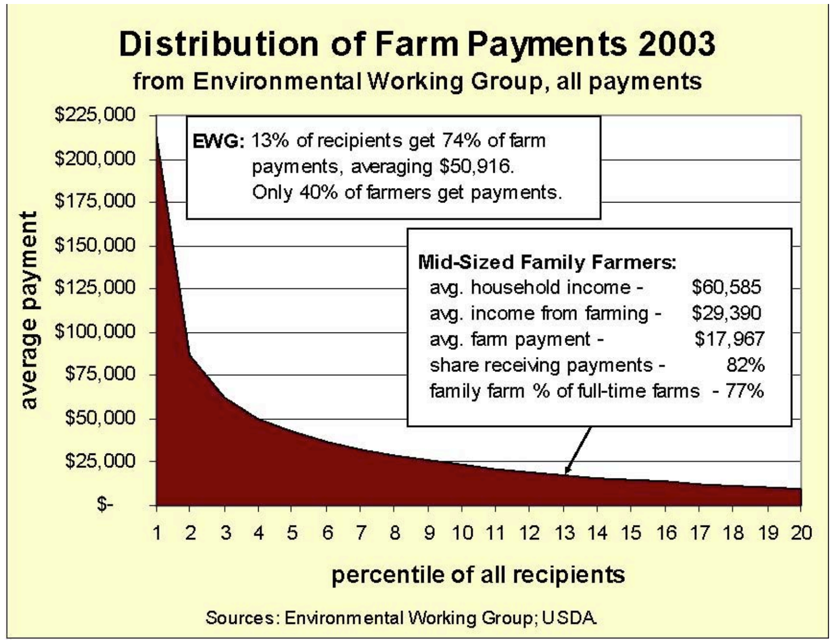
field crops are grown by the larger sales family farmers. It remains true that the only farmers who are eligible for commodity program payments are those growing a limited set of most of the largest crops; which notably exclude fruit and vegetable crops. It is also true that these programs are highly skewed, with the largest farmers receiving a disproportionate share of the benefits. But they are not nearly as skewed as some suggest. It is false to suggest that the vast majority of full-time family farmers are excluded from federal farm programs, as a significant majority receive such benefits.

2. Using averages for the farm sector as a whole when presenting income data. The accurate, but misleading statement that average farm household income is 18% higher than that of the non-farm population, is rooted in this error. Small family farmers are the large majority of farmers trying to make a living from farming in the United States. In 2003, they barely covered costs from their farming operations, and even with off-farm earnings they had incomes of only $49,435, 86% of the U.S. average.

3. Including non-farm income in analyses of farm programs. Family farm households rely heavily on off-farm income to keep their households solvent, getting more than half their incomes from off-farm activities. The majority of family farmers operate on the edge of viability, squeezed between low prices for their products and rising prices for their inputs. They stay above the poverty line by supplementing meager farm incomes with off-farm earnings. Off-farm earnings in effect subsidize farm operations for many farmers.

4. Ignoring the impact of land ownership. Farm payments are presented as going to the farmers themselves, but some go to landowners who do not farm the land. Roughly 45% of U.S. farm land is cultivated by operators who do not own the land. With nearly half of U.S. farmland leased and not owned by the farmers, it is misleading to assume that farmers are the ultimate beneficiaries of farm programs.

5. Viewing the skewed distribution of farm payments in isolation from the structure of the farm sector itself. Farm payments historically have been based on production, and some still are. Others are based on acreage. Payments are mainly skewed because land and production are highly skewed. To the extent payments remain tied to either production or land ownership, they will continue to go disproportionately to the wealthiest farmers. The concentration of farm payments, in this context, is caused primarily by the concentration of land and production in the hands of a relatively small number of large farmers. It may be necessary to address the root causes of this concentration to meaningfully address inequities in U.S. farm programs.



This graph shows how remarkably skewed farm payments are, just as EWG suggests, but not to the top 20% or the top 10% but rather the top 1% or 2%.

6. Presenting farm subsidies as going unfairly to the top 10% to 20% of farmers, who don't need it. Payments are highly concentrated, but the average, full-time, family farmer, with income around the national average, finds themselves in the top 13 percent of payment recipients with modest payments of under $18,000. Data from the most commonly cited source of on-farm subsidies suggests that the top 20% of farmers are getting an undue share of farm benefits. On closer examination, the top recipients are not farmers at all; some are cooperatives and Indian tribes, who share those benefits among their members; others are conservation trusts; some are corporations. These high payments to corporate farms may well represent an abuse of farm programs, but they are neither typical

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of farmers nor representative of a significant part of the farm sector.

Thanks to the U.S. government and some dedicated and meticulous researchers, there is no shortage of data on the farm sector, nor on the position of family farmers within agriculture. Unfortunately, there is a tendency in the media, policy circles, and even academia to misrepresent the true meaning of that data. Analyses that lump all farmers together yield misleading conclusions. So too do analyses that fail to distinguish between those family farmers working full-time on their farms and the large category of part-time family farms being run in retirement or for reasons of lifestyle. These so-called rural residence farmers do not depend on farming to make a living. Full-time family farmers do. The majority are having a difficult time earning a decent living from farming, public perceptions notwithstanding. They are squeezed between low prices for their farm products and high prices for their inputs, and they are under constant threat of losing their land to bigger farmers with more resources.

To the extent U.S. farm policy has as one of its goals to make family farming more viable, it is important to understand who those farmers are and what pressures they face. U.S. government data allows us to paint a fairly accurate portrait of present-day family farms. Misleading presentations of the data can only cloud that picture and lead to repeated errors in formulating agricultural policy. *

Article by Timothy A. Wise, Deputy Director of the Global Development and Environment Institute at Tufts University, email tim.wise@tufts.edu. Excerpted from *Global Development And Environment Institute Working Paper No. 05-02.* To view the entire paper, go to http://www.ase.tufts.edu/gdae/publications/working_papers/index.html

The Global Development And Environment Institute is dedicated to promoting a better understanding of how societies can pursue their economic goals in an environmentally and socially sustainable manner. GDAE pursues its mission through original research, policy work, publication projects, curriculum development, conferences, and other activities. The "GDAE Working Papers" series presents substantive work-in-progress by GDAE-affiliated researchers.

Scientists Mobilize Fungus to Fight Hydrilla

Even the toughest weeds have their mortal enemies. For hydrilla, it's *Mycoleptodiscus terrestris,* a fungal pathogen that attacks at the cellular level. Now, scientists' efforts to turn this fungal foe into a biological control agent could prove even deadlier to the aquatic weed.

Agricultural Research Service microbiologist Mark Jackson and U.S. Army Corps of Engineers plant pathologist, Judy Shearer, chose the fungal pathogen for its specificity and cell-wreaking attacks on hydrilla. Mark Heilman of SePRO Corp., Carmel, Ind., is collaborating with them to evaluate and commercialize the fungus as a biological herbicide.

Originally sold in the 1950s for aquarium use, the hydrilla has become a noxious weed of lakes, rivers, canals and other water systems across the southern United States. Its dense mats can clog drainage and water-intake systems, impede boating and degrade fish and wildlife habitat.

Herbicide spraying is the chief means of battling hydrilla, though few herbicides are registered for the task. Fluridone is among the most effective, but in parts of Florida and Georgia, prolonged use has brought about resistant strains of hydrilla, increasing treatment costs and impacting performance, notes Shearer, with USACE's Army Engineer Research and Development Center, Vicksburg, Miss.

Since 2000, Shearer and Jackson, with ARS' National Center for Agricultural Utilization Research, Peoria, Ill., have collaborated on developing *M. terrestris* for integration with chemical and cultural strategies to manage the hydrilla weed. In May 2003, their efforts led to a patented new method of culturing the fungus and "coaxing" it to form tiny, filamentous clumps called microsclerotia. Studies have shown that microsclerotia withstand the rigors of drying and prolonged storage better than the fungus' spores. Fortunately, they are just as deadly to hydrilla. When dusted onto potted hydrilla in aquarium trials, the microsclerotia reduced the plant's aboveground growth by 99%. Testing continues to determine which bioherbicide formulation works best. Once found, it will undergo larger-scale testing at USACE's Lewisville, TX, Aquatic Ecosystem Research Facility. *

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State, National and International News...

2006 NASS Survey

The USDA National Agricultural Statistics Service will be sending out a letter in June, reminding farmers of the importance of participating in the 2006 Agricultural Yield Survey.

The NASS letter will state, “This survey is the only comprehensive measure of U.S. crop production. The information gathered is a key component of USDA’s Crop Production report, which provides a monthly barometer of yield and production trends throughout the growing season. As we all know, conditions can change almost overnight due to weather, pests, disease and other factors. But your cooperation ensures that NASS is able to provide a timely, accurate, unbiased report on the current state of agricultural production.

Each month between now and harvest, NASS will ask you to provide your best assessment of your expected crop yields. It will take you just a few moments to respond, but your efforts will pay great dividends for all of us in agriculture.”

Survey responses will be kept completely confidential, as required by federal law. NASS safeguards the privacy of all respondents and publishes state- and national-level data only from this survey, ensuring that no individual operation or grower can be identified.

Micro Reactor Pumps Out Biodiesel

A tiny chemical reactor that can convert vegetable oil directly into biodiesel could help farmers turn some of their crops into home-grown fuel to operate agricultural equipment. “This is all about producing energy in such a way that it liberates people,” said Goran Jovanovic, a chemical engineering professor at Oregon State University, who developed the microreactor.

The device, about the size of a credit card, pumps vegetable oil and alcohol through tiny parallel channels, each smaller than a human hair, to convert the oil into biodiesel almost instantly. By comparison, it takes more than a day to produce biodiesel with current technology.

The microreactor, under development by the university and the Oregon Nanoscience and Microtechnologies Institute, eliminates the mixing, the standing time, and maybe even the need for a catalyst. The device is small, but it can be stacked in banks to increase production levels to the volume required for commercial use.

Biodiesel production on the farm also could reduce distribution costs by eliminating the need for tanker truck fuel delivery, part of the growing effort to meet fuel demand locally, instead of relying on distant refineries and tanker transport.

Farm and Agriculture Classifieds Website Launched

A new website, Farmstack.com, related to buying and selling of farm related products, has been launched for the global farming community. The site is aimed at helping agricultural companies, growers, and agricultural professionals sell their products and services locally and globally. The website allows sellers to promote their products and services along with photographs to a vast audience from the farming fraternity.

Basic listings are free of charge, whereas featured and premium listings carry a small charge. Listings by individual farmers and growers are always free. Registration on the site is completely free. Individual Farmers and growers may list tractors, implements, organic foods and many farm related products to seek buyers locally, nationwide and globally.

“Farmstack.com was created to fill the need of a quality farm listings website for the global farm related marketplace. Currently, we are running a promotion whereby FarmStack.com is offering companies to list their products and services free of charge until July 31, 2006.” said Saleem Baig, Managing Director of Farmstack.com. “The site has several categories; from tractors to farm property, fertilizers to seeds, and aquaculture to greenhouses. The website is simple, user-friendly, and an effective tool to find a buyer for any farm related product,” Saleem added.

Farmstack.com has features like a unique sign-in, private mailbox on farmstack.com, ratings for sellers by buyers, email alerts, hit counters for ads, and many others to make it a more interactive and useful experience.

Since the website was just launched in late May, there are not a great number of listings as of yet, but the site should gain usefulness as more individuals and businesses sign up.

For more information email info@farmstack.com or log on to http://www.Farmstack.com

From the Editor continued...

part of the Roman economy, Rome instead used surrounding countries as their breadbasket. As the power of its surrounding countries strengthened, Rome found itself having lost control of its food production. The demise of the ancient Roman empire should serve as a wake up call.

Paraphrasing a famous saying, those who do not learn from the past, end up repeating past failures. Logic suggests our government should do everything in its power to ensure the continuing strength of U.S. agriculture. The establishment of a national policy aimed at maintaining agricultural production as an important, integral and secured part of our nation's economy is necessary if our country is to avoid following down the same footpath that our country has taken towards dependency on other countries for its fuel needs.

From agricultural land use policy to a massive increase in federal and state funding for biofuels crop production, the U.S. needs to take a close look at where we are going.

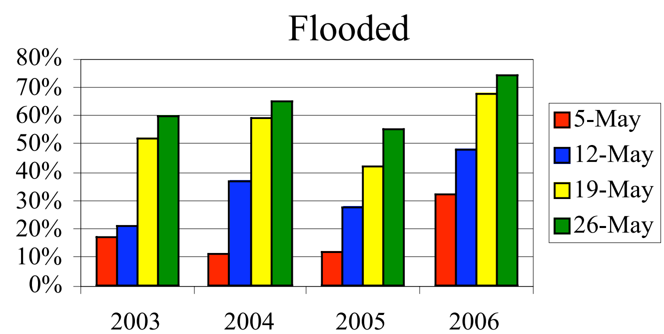
Sincerely,

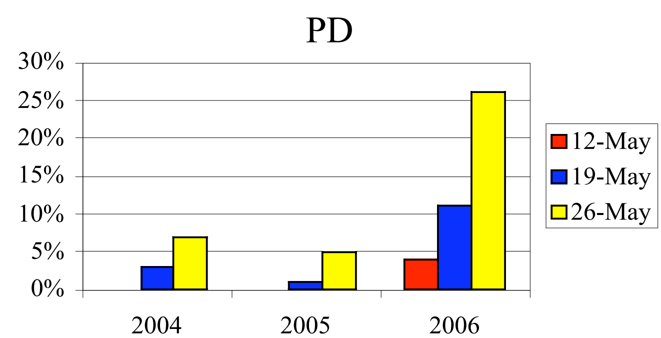
L.T. Wilson
Professor and Center Director
Jack B. Wendt Endowed Chair
in Rice Research

Rice Crop Update

As of May 26, 99% of the Texas rice crop was emerged, just a few percentage points ahead of the previous three years. Permanent flood had been established on 74% of the acreage, which was 19 percentage points ahead of 2005, and 9 points ahead of 2004. 26% of the crop had reached PD, compared 5% in 2005 and 7% in 2004. Only 1% of the acreage had reached heading.

Over the Memorial Day weekend, a fierce line of thunderstorms passed over southeast Texas. According to the National Weather Service, China, TX, 2 miles from the Beaumont Center, had 15 inches of rain over a period of 8 hours. In many research plots where the rice was not ready for permanent flood, fields were covered in water. Drain is expected to be slow. In addition, some levees were damaged due to the overload.





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