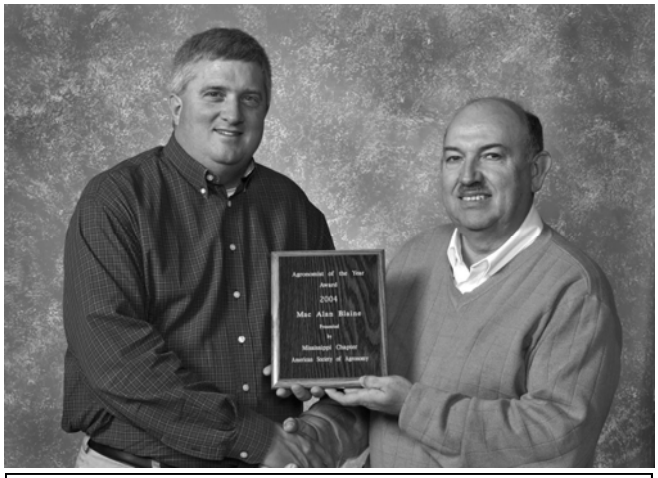
Mississippi State University Extension Service

Agronomy Notes

March 2005

Inside this issue:

Blaine receives agronomy award...



Mississippi State University Extension Service soybean specialist Alan Blaine, left, was presented with the Mississippi Society of Agronomy's Agronomist of the Year award by the organization's president David Roberts.

MISSISSIPPI STATE -- A Mississippi State University Extension Service specialist with almost 20 years' of experience working with the state's soybean producers has received the Mississippi Society of Agronomy's top honor.

Extension soybean specialist Alan Blaine was named the organization's Agronomist of the Year during the Feb. 15-17 Mississippi Crop College.

A native of McCool, Blaine earned a bachelor's degree in animal science and a master's and doctorate in agronomy at Mississippi State.

He joined the Extension service in 1987 and has worked with soybean producers enrolled in the Soybean Management by Application of Research and Technology, or S.M.A.R.T., program since its inception in 1992. S.M.A.R.T. is a total management program for soybean crop production.

Blaine has earned numerous other awards for his work with Mississippi row crop producers, including a United Soybean Board Meritorious Service Award.

Mississippi Society of Agronomy is the state chapter of the American Society of Agronomy.

Writer: Bob Ratliff

Rice
By Dr. Nathan Buehring

Well, the 2005 rice crop is closer. A lot of burndown applications have been made in the past month. Now is the time to be finishing land preparation and getting grain drills in shape to plant a good stand of rice.

A good crop starts off with a good stand of rice. To maximize yields, the stand will need to be uniform in density as well as in emergence. This will make the crop easier to manage through the growing season.

Seeding rates for rice will vary slightly between each variety. This is due to the variation in seed weight and size between the rice varieties. Table 1 lists the number of seed per square foot at specific seeding rates for common varieties that are grown in Mississippi. As a rule of thumb, approximately 65 to 75% of the rice seed planted will germinate. The optimum final stand density ranges from 12 to 20 plants per square foot. However, certain circumstances can arise where the stand is less than optimal. Some of Dr. Tim Walker's research has shown that rice stands of 7 to 8 plants per square foot can still result in satisfactory yields if managed properly (Table 2). One thing to keep in mind, is that the stand must be must be uniformly greater 7 to 8 plants per square foot across the field, not an average of the field. If there are areas in field that do not meet this stand density, the yield potential will drop significantly and you may want to consider replanting.

To achieve the optimum density, there are other considerations to make in addition to seeding rate. Optimum germination rates can result from the following: planting when the soil temperature averages 60°F or greater, seed treatment (i.e. Apron XL and Release), rolling (increases the seed to soil contact), and planting into a firm and smooth seed bed.

Lower seeding rates (~ 65 to 75 lb/A) can work if planted in optimum conditions, as mentioned above, and a uniform stand results. There can be some advantages to lower seeding rates: reduced seed cost (especially Clearfield varieties), reduces the potential with diseases such as sheath blight, and reduces the potential for lodging. One disadvantage is that a low (< 60 lb/A) seeding rate is reduced rice competition with weeds.

There have been some questions raised towards fungicide seed treatments this spring. Fungicide seed treatments are generally beneficial when rice is planted early, especially on clay soils. Fungicide seed treatments are also beneficial if the field has a history of seedling diseases. A fungicide seed treatment can increase germination by 10 to 20%, if conditions are conducive for the fungi. Fungicide seed treatments do not increase the speed of germination, like a growth regulator, or protect against diseases throughout the growing season. When selecting a fungicide treatment, protection from *Phytium* seedling diseases needs to be the primary concern. We typically do not have a lot of problems with *Rhizoctonia* early in the season. For the money, products such as Apron XL and Allegience have been doing a good job in giving us protection from *Pythium*. A lot of questions have been asked about Dynasty this spring. Dynasty has the same active ingredient that is found in Quadris. Therefore, this product will be effective on seedling diseases associated with *Rhizoctonia* and will provide little to no protection against *Pythium*.

Currently, the only recommended growth regulator seed treatment is gibberellic acid (GA) or Release. GA treated seed is recommended on semidwarf varieties, varieties with poor seedling vigor, clay soils, and early planted rice. Increased speed of germination and emergence, and a more uniform emergence have been obvious benefits of GA treated seed.

Continued, Rice page 2

Table 1. Rice seeding chart for different varieties and seeding rates.

Variety	Seed/lb	Seeding Rate (lb/A)						
		50	60	70	80	90	100	110
		Number of seed/ft²						
CL 161	20432	23	27	32	36	41	46	50
Cheniere	20524	24	28	33	38	43	47	52
Cocodrie	18743	21	26	30	34	38	43	47
Cypress	18151	23	27	32	36	41	45	50
Dixiebelle	21919	23	28	33	37	42	47	51
Francis	19302	23	28	33	38	42	47	52
Jefferson	16099	18	26	26	30	33	37	41
Priscilla	16434	19	26	26	30	34	37	41
Wells	17788	22	30	30	34	39	43	47

Table 2. The influence of seeding rate on plant density and rough rice yield.

Seeding Rate (lb/A)	Cheniere		Cocodrie		Francis		Priscilla		Wells	
	Density[a]	Yield[b]	Density[a]	Yield[b]	Density[a]	Yield[b]	Density[a]	Yield[b]	Density[a]	Yield[b]
20	8	218	7	216	7	220	7	213	8	217
40	15	227	16	230	16	221	10	225	14	233
60	21	220	21	230	19	227	16	229	22	233
80	23	225	28	227	25	225	24	232	27	228
100	33	213	29	234	34	234	31	221	31	230

[a]Plants/ft²
[b]Bushels/A

Soil and Nutrient Management
By Dr. Larry Oldham

A fundamental aspect of both nutrient management and good business management is keeping track of where the dollars are invested. In addition, documentation of nutrient application helps eliminate false leads if something goes awry with the plants.

Documentation does not have to be intricate. Soil testing results and recommendations should be maintained for each field/management area for a minimum of three years. Scale sheets of purchased fertilizers and application dates should be kept through at least two years.

With increased prices for 2005 crop inorganic fertilizers, there is more interest than ever in using organic fertilizers such as broiler litter in row crop production. If the material is purchased from another farmer or a removal contractor, the originator should keep records of where the material came from, and where it is applied at the farm scale. This is a requirement of the poultry farm's general operating environmental permit in many cases. Operators of farms where the material is applied should keep records of deliveries, application rates, and dates as good business principles.

As good business principles as more watersheds in Mississippi become involved in the Conservation Security Program, soil testing utilization and application documentation will increase. However, before that step occurs, these are Best Management Practices that every farm should employ.

Sorghum-sudangrass For High Quality Summer

Maintaining forage quality through the summer months in Mississippi remains one of the greatest challenges to pasture-based livestock production. Permanent summer grasses, such as bermudagrass and bahiagrass, generally yield very well through the summer months but lose quality very quickly, particularly during the latter half of the summer. The qualitative issues associated with warm-season grasses are generally not a large concern with mature cows, as they do not often require the best quality forage during the summer. However, when grazing young stock for marketing or replacements, the lack of quality can significantly reduce animal performance.

It is possible that summer annual grasses, such as sorghum-sudangrass, may offer one solution to this problem.

What is Sorghum-Sudangrass?

Sorghum-sudangrass is an erect, tall (4'-8') warm-season annual grass that is a cross between grain sorghum and sudangrass. It is very drought tolerant and, under Mississippi climatic conditions, can produce forage yields of 4-5 tons between June and September. The quality of sorghum-sudangrass ranges from 8-14% crude protein and 50-58% total digestible nutrients (TDN). With the new brown midrib varieties, TDN levels are significantly better than this (see section below on BMR). Sorghum-sudangrass is commonly used as a hay or silage crop but has great potential as a grazing crop.

The Brown MidRib (BMR) Trait

The Brown Midrib, or BMR, trait is caused by a gene mutation found in several summer annual grass species, including sorghum-sudangrass and corn. The trait is described as BMR because the plants that carry the mutation have a brown midrib in their leaves (the central rib that runs up each leaf). More importantly, the mutation causes a reduction in plant lignin. Lignin is a major fiber component of all plants that cannot be digested by grazing animals. As plants age, the levels of lignin increase and the quality of the plant declines rapidly. This relationship between age and quality is particularly evident in the rapidly growing summer grasses. Therefore, plants with lower lignin content are generally more digestible, and hence have better quality. The BMR mutation lowers lignin concentration in the plant between 5% and 50%, and for every 1% reduction in lignin levels there is a corresponding 4% improvement in digestibility. This improvement in digestibility results in up to a 30% increase in forage intake and animal performance. However, the cost of this improvement in digestibility is a 10-20% reduction in yield and plant vigor. Therefore, sorghum-sudangrass varieties that carry the BMR mutation must be managed with more care than the conventional varieties. In a grazing situation, the loss in yield and vigor is not as important, and is more than offset by the improvement in quality. Since the discovery of the BMR mutation, several seed companies have now introduced BMR products to the market specifically for grazing.

Fertility Requirements and Establishment

Sorghum-sudangrass will grow in most Mississippi soil types but prefers good fertility on well to moderately drained soils. Soil pH should ideally be between 6.0 and 6.5 for optimum growing conditions. Sorghum-sudangrass is very responsive to nitrogen (N) fertilizer and yields are directly related to the rate of N applied. Ideally, applications of 50 units N/A should be made at seeding, and after each grazing. Phosphate and potash should be applied according to soil test recommendations.

Sorghum-sudangrass can be seeded in May or June by broadcasting onto a prepared seedbed at 30-35lb/A, or drilling into a prepared seedbed or herbicide treated sod (no-till) at 20-25lb/A. The planting depth for sorghum-sudangrass should be ½ - 1 inch.

Grazing Management

In order to fully justify the investment in a specialty forage crop, such as sorghum-sudangrass, management should be used to optimize both quality and yield. Undergrazing can lead to a crop that is too mature and of low quality, while overgrazing will reduce regrowth potential and ultimate crop yield.

Sorghum-sudangrass can be grazed when it is 25-30" tall and should be grazed no lower than 8-12" to maximize its regrowth potential. During peak growth (July-September), the interval between grazings will be between 10 and 20 days. The most effective management practice is strip-grazing sections of the crop with a back fence to allow regrowth. High stocking densities may be required at times to keep on top of excess growth. If growth rates get too great for animals to keep up with, then an area can be removed from grazing and the excess forage made into hay. Sorghum-sudangrass may need to be put through a mower-conditioner to break up the thick stem for drying.

Prussic Acid and Nitrate Poisoning

Sorghum-sudangrass contains a compound called prussic acid that can be toxic to grazing animals. In most cases, the levels of prussic acid are well below those required for toxicity. Prussic acid interferes with oxygen transportation in the blood and can be fatal if not caught early. Symptoms of prussic acid poisoning include excessive salivation, rapid breathing, muscle spasms, staggering, and eventual collapse and death.

Prussic acid poisoning can be easily avoided by knowing the conditions that cause acid levels to rise in the plant. The formation of prussic acid is generally associated with stress conditions on the plant. Therefore, the two most common times to see toxic levels are after a severe drought and after a frost.

Continued, Forage page 5

Grazing sorghum-sudangrass during or within a week after these conditions could potentially be harmful. Prussic acid breaks down relatively quickly so if you wait a week after the stress conditions have passed the forage should be safe. Prussic acid will also break down in hay or silage made from stressed plants.

Nitrate poisoning is similar to prussic acid in that they occur during similar stress conditions, and the symptoms of the toxicity are the same. When high rates of N fertilizer have been applied and a drought occurs, the nitrate is taken up by the plant but not used, so it accumulates to high levels in the tissue. These high levels of nitrate interfere with oxygenation of the blood and can cause rapid death. To avoid nitrate poisoning, do not apply N fertilizer during a drought or during long periods of cloudy weather. Unlike prussic acid, nitrate levels do not break down over time so any hay or silage made from this forage will also be toxic. If you suspect high nitrate levels in your forage you can have a sample tested. Contact your local county extension office to assist you with this, or if you need any further information on sorghum-sudangrass.

Corn / Wheat
By Dr. Erick Larson

Dryland Hybrid Recommendations – Plentiful summer rainfall during the past two years has minimized drought stress and the usefulness of variety trials to predict corn performance under dryland conditions. Environmental conditions have allowed hybrids with unknown drought stress tolerance to perform very well in "dryland" trials the past two seasons. Thus, I recommend producers plant the vast majority of dryland acreage to established hybrids with proven drought stress performance records.

Plant density - Growers should strive for 24,000 to 32,000 plants/acre depending upon mainly upon a field's yield potential, planter row width and planting date. If a corn yield goal of 200 bu./a. (50 bu./a. soybeans or 2 bale cotton) is realistic, particularly under irrigation, then strive for 28,000-32,000 plants/acre. If this goal is unrealistic, then lower the seeding rate accordingly - generally do not exceed 28,000 plants/acre in dryland culture! Also, different row widths alter optimum plant population because it ultimately affects plant spacing. Seeds spaced closer than six inches apart increase competition for light, water and nutrients, which weakens stalk quality without increasing yield potential, particularly under stress. Thus, optimum plant population in wide rows is generally around 2,000 - 4,000 plants/acre less than narrow rows. Remember to over plant desired plant population about 5 to 10% depending upon seed germination and planting conditions. Early planted corn (soil temperature 50-55 degrees F) should be seeded about 10% thicker than normal because cool spring conditions promote higher seedling mortality and cause shorter plants at tassel, meaning more plants are needed to intercept light. Conversely, growers should lower seeding rate with later planting dates since warm soils enhance seedling establishment, taller plants are produced and yield potential decreases.

Plant uniformity - Francis Childs, 5-time NCGA corn yield contest winner and world record holder (442 bu./a.), says "Root systems and uniform stands are the foundation of high corn yields." Poor corn plant spacing and seeding depth are common problems that can affect yield potential as much, or more, than your actual plant population. Planter meter system tune-up and calibration can certainly improve planter performance, but performance also depends upon planter operation in the field. One common cause of seed distribution problems is excessive planter speed. Childs actually plants at 2-4 mph. The standard maximum performance speed for plate and finger-pickup planters is 4.0-4.5 mph and vacuum-type planters is 4.5-5.0 mph. Speeds exceeding these values can also contribute to much poorer seed spacing and less seed depth uniformity because seeds may roll and/or bounce in the seed furrow. Corn plants are extremely sensitive to plant spacing because they do not tiller or produce branches to alter their plant size. Crowded or late-emerging plants produce small ears and spindly stalks due to intense competition for light, water and nutrients with their neighbor. Corn seed is available in numerous combinations of size and shape, and this may lead to planting problems. Growers with plate-type planters should match planter plates with their seed size. Likewise, growers with an air or vacuum-type planter should match disc or drum size, and air pressure with their seed weight/size. Excessive wear to planter plates, finger pick-ups or worn vacuum/drum seals often also cause major problems - just because something worked last year, doesn't necessarily mean it will this year.

Planting depth - Many producers unfamiliar with corn seedling development plant corn too shallow. Corn seed should be planted 1 ½ - 2 inches deep. Planting depth should be set in the field during planting. This is important because soil type, seedbed condition and moisture may influence actual depth. Corn seed's inherent energy and germination process ensure emergence from depths as great as 3 inches. The origination point of the nodal root system is moved upward when corn seed is not planted deep enough. Corn seed placed less than 1 inch deep will develop nodal roots near or even above the soil surface. This potentially exposes these roots to factors such as hot, dry soil, herbicide injury, and insect predation which can significantly impede root development. This often leads to standability problems, nutrient deficiencies and even drought stress throughout the year. Birds may also cause stand loss by extracting shallow planted corn seeds.

Continued, Corn page 5

Starter fertilizer - Many corn growers utilize starter fertilizer to supplement their corn fertility program. Starter fertilizer enhances vigor, promotes earlier maturity and often improves grain yield, particularly in minimum or no-tillage systems. Starter fertilizer enhances growth primarily by providing a concentrated phosphorus supply in the root zone of young plants. Phosphorus placement is very important to young plants with small root systems because phosphorus is not mobile in the soil. Growers applying starter fertilizer in the seed furrow should apply a maximum of 4 gallons per acre in 38 - 40" width rows or 5 gallons per acre in 30" width rows, or salting injury may occur to seedlings. The most commonly used source of starter fertilizer is ammonium polyphosphate (10-34-0 or 11-37-0). Orthophosphate fertilizers are also available, but are much more expensive and seldom show any superior corn yield performance, compared to polyphosphate fertilizers in field trials.

Bt refuge - Growers can plant no more than 50% of their corn acreage in Bt hybrids trademarked YieldGard which contain the MON-810 insertion event. Growers will be required to plant an equal acreage of non-Bt corn as a refuge within a half-mile of their Bt corn. Neighbors' conventional corn does not count as refuge. The non-Bt refuge may be treated with insecticides (excluding sprayable Bt products) as needed. Thus, growers should plant their refuge as a separate block, so they may manage it separately, if infestation warrants insecticide treatment.

Prevent stand loss - Growers who wait to apply a burndown herbicide near planting greatly increase their likelihood of experiencing stand loss from cutworms. Cutworms feed on green winter weed vegetation present in fields during the early spring. If a burndown herbicide is applied near planting, cutworms present will be forced to feed on new, emerging corn plants (because the weed vegetation is dying from the herbicide application). Thus, growers should use a labeled pyrethroid before corn emergence or with the burndown herbicide to control cutworms, unless a labeled granular insecticide is applied in a band at planting. Seed treatments may require a supplemental pyrethroid application to enhance cutworm control, because they generally do only a modest job on cutworms.

Wheat

Late nitrogen application - Frequent February rainfall may have prohibited or delayed nitrogen application on some wheat acres. Wheat growers still have ample time to apply nitrogen without reducing yield potential, particularly if a first split application was applied during February. Cool February temperatures slowed wheat growth more than normal, slightly prolonging the optimum timing for nitrogen fertilization. However, the final nitrogen topdress should be applied by the time the first node appears at the beginning of stem elongation (jointing, Feekes growth stage 6). This application delivers the main nutritional needs of the crop. Growers should never apply nitrogen fertilizer to wet, saturated soil.

Look for rust – Abnormally high levels of Leaf rust and Stripe rust during late winter have been reported throughout southern areas of the mid-south. Thus, unless a hard freeze, drought or some other climatic conditions slows its development, we may see substantially more rust on wheat than in past years.

Cotton
By Dr. Tom Barber

As we rapidly approach planting in 2005, remember to consider a mixture of varieties, as far as maturity is concerned. The last two seasons have resulted in excellent yields, but we have to remember that we also had excellent harvesting conditions. By not planting all of your acreage in a full season variety you will reduce the risk of being caught by hurricanes and late season rains during harvest.

Burndown should be one of the top things on your to do list. The earlier you burndown the existing winter annual vegetation, the quicker the beds or soil will warm up for planting. By burning down early you will also ensure a good kill on the weeds in the field. Also by spraying early you will keep the existing vegetation from growing large, making it easier to kill. Keep in mind that a residual may help, especially if you have a bad horseweed problem.

Planting date: Determining when to plant requires knowledge from experience and a lot of common sense. The general Extension recommendation is to wait until the top 2 inches of soil reaches 68F with a good 5 day forecast (accumulation of 50-60 DD60's and no heavy storm systems). The hard part is determining when to start. Common sense must apply, though the long term average indicates that the last two weeks of April and the first two weeks of May are perhaps the most favorable for planting cotton. Never set a calendar date and start planting. Use soil temperature, soil moisture saturation and weather conditions as a guide. The first 24 to 36 hours a seed is in the soil is the most critical. If a cotton seed imbibes cold water (in the low 50'sF) root damage may occur and emergence will be significantly reduced. Cool and wet soil conditions provide excellent opportunities for soil-borne diseases such as *Pythium, Phytophthora and Rhizoctonia* to destroy a cotton stand. An emerged cotton seedling has a better chance of surviving adverse weather (cool front with an associated shower) than a sprouting seed. Remember - common sense must apply - look at the soil and weather and do not be handcuffed to a particular calendar date. Also it is important, especially the earlier you plant, to utilize some type of fungicide treatment. Past research has indicated that in-

Continued, Cotton page 6

furrow sprays with Quadris or Ridomil type products have produced the best results, especially with *Rhizoctonia*. The second best would be in-furrow granules, followed by seed treatments. However the introduction of new seed treatments containing strobilurin type fungicides may be equivalent to an in-furrow spray.

Seeding rates: With technology fees increasing in 2005, the general tendency is to continue to cut back on seeding rates. Remember, to do this you must pay attention to the quality of the seed and always get a cool germ test for the lot of seed that you are planting. The standard and cool germ test can be an accurate measurement of seed quality. The standard cool germ should be 80% or better and the cool germ 65% or better. The cool germ test will reflect more accurately the expected emergence under cooler and wetter conditions.

Plant for a final plant population of no less than 3 live plants per foot of row on 38, 40 in. rows and 2 plants per foot on narrow 30in. rows. Proper calibration of planters is very important. Optimum yields and crop development will generally occur at a plant population between 40,000 and 50,000 uniformly spaced plants per acre for most any row spacing. (With the exception of Ultra Narrow Rows where populations over 100,000 are needed). The more productive the soil the lower the plant population that can be tolerated, as long as spacing is uniform.

Soybeans
By Dr. Alan Blaine

Variety selection for the 2005 growing season has been nothing short of a challenge. Although the wet fall weather did affect the availability of many poplar varieties, this is much more of a recurring problem than it should be.

I realize it is difficult to plan ahead, but I do wish just one year someone would grow all they could sell of their top one or two most popular varieties. Not all of their product line, just one or two of the best.

Growing seed is not as difficult as many believe. When someone has a top performer they should attempt to produce a larger than normal allotment and if they failed to sell them they could just move them out of the bin. (This is done routinely with cotton seed). Regardless, this is not nearly as risky or expensive as some may have you believe.

I will admit that there are several tricks to growing high quality seed, but they are not that difficult. You have to be committed, but it can be accomplished. When available supplies are short, I find myself (as others) questioning the patenting of seed. I realize inclement weather exaggerated this year's problem, but if you hold a patent you need to meet demand; if not, I question the right to hold a patent.

Adoption of the Roundup Technology has been rapid and has placed us in somewhat of a vulnerable position. I am not saying that it has not been good, it has. But wide scale reliance on Roundup varieties has caused public varieties to diminish rapidly.

I have seen more interest in conventional varieties this winter than in several years, and I am sure it hinges on the recent price restructuring for Roundup Ready seed. It has taken a while but I predicted years ago that it was all about the seed, not Roundup.

Utilization of conventional varieties is an excellent rotation option. However, this option has seen little utilization. With the lack of use, having conventional varieties available at your fingertips is easier said than done.
If you feel that this is important then support your foundation seed and breeding program. We have several good programs, but they will need some encouragement and support to stay the course. Arkansas has the most newly released conventional variety on the market, and varieties out of the USDA program at Stoneville and the University of MO at Portagville are additional local sources.

Some state programs have the capability to develop Roundup Ready public varieties, but I doubt much difference will exist as far as seed cost. Honestly, any interest that might exist between Roundup Ready and conventional varieties is based entirely on seed cost.

Dr. Ford Baldwyn referred to the use of conventional varieties a couple of weeks ago in his weekly column. Use of conventional varieties offers an opportunity to grow a cheaper crop. Following several years use of Roundup Ready weed control, costs could be minimum.

Think about growing beans behind cotton. Cotton weed control programs are often weed-free in many fields. A crop of beans planted in this environment can encounter minimal weed control pressure. Conventional varieties rotated with Roundup Ready would be similar.

Hopefully your varieties are locked down, but as you make varietal choices the biggest concern you should have, in my opinion, is stem canker. It is impossible to predict if we will have a stem canker year, so you must be prepared. There are numerous diseases that can occur in any one year, but I have found that if you attempt to protect yourself against everything, potential yield is usually lacking.

Continued, Soybeans page 7

As I have stated previously, my biggest concern is stem canker. The last two growing seasons have seen more stem canker than in the past several years due to heavy rains during early seedling development. Regardless of varietal susceptibility, we observe less stem canker on Group IV's planted early, most likely due to their compressed growing season. Normally, Group V's planted prior to late April will minimize the impact of stem canker, but last year, due to above normal rainfall, that date had to be mid April or earlier. When you plant Group V's early, you hasten their maturity, similar to what we see with Group IV's. Rotation helps but it will take two years out of beans to see any significant reduction.
The best insurance is varietal resistance. Several varieties have excellent resistance packages. Pay attention to Dr. Sciumbato's numerical ratings conducted at Stoneville. Stem canker was first identified in Clay County, MS in 1973. Having a long history appears to have allowed MS to have a more virulent strain. We feel this is the case because varieties that fair well in other states are more susceptible here. In additional, susceptibility is greater in the hills than in the delta.

These ratings represent plants that have been toothpick inoculated. This may be considered a worst case scenario, but if you follow these ratings it should keep you out of trouble. The numeric ratings range from 1 to 5. Letter ratings are available also, but the numeric scale does a better job separating differences.

With soybean rust looming on the horizon we must stay focused and be prepared. With rust we do have foliar fungicides to keep it in check; with stem canker this is not an option.

Under the right conditions we have two diseases that can be potentially as severe, if not worse, than rust: stem canker and charcoal rot. Use of resistant varieties for stem canker, earlier maturing varieties, early planting and crop rotation will all help.

In the case of charcoal rot, the best option is to minimize stress. From time to time I hear comments regarding varietal differences, but this has yet to be documented. The best control is to minimize stress. This can be accomplished by the use of tillage (on some soils), irrigation, proper fertilization, adequate pH, early planting, etc; any practice that will aid the plant in avoiding extremes.

Variety selection this winter has been difficult to say the least. Due to shortages, many will plant varieties they have never grown before, but this is mainly due to the wet fall and its effects on seed quality. Group V's are tight putting increased pressure on Group IV supplies. Please do not misunderstand my comments; if you find yourself short on desired varieties turn this into an opportunity not a concern. Plant several different new varieties and this will spread your risk and possibly that new promising variety could surface. We have enough seed, just not enough of the top performing varieties. This is not the year to take unnecessary risks. Plant your highest quality seed first. Use the proper seed treatment and remember to attempt to keep replants to a minimum due to seed availability.

Upcoming in April Agronomy Notes: SOYBEAN RUST

MARK YOUR CALENDAR

MARCH

17-18, ***South Mississippi Spring Grazing School***, Mississippi State University White Sands Beef Cattle Research Unit near Poplarville, MS. For further information and registration forms, please contact your local county extension office or Dr. Richard Watson, (662) 325-5463, rwatson@pss.msstat.edu.

Plant and Soil Sciences
Box 9555
Mississippi State, MS 39762
(662) 325-2701

Dr. Michael Collins