

CornSouth



November 2007

The Southern Gold Rush

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Contents

- 4 Editor's Note**
Goin' for the gold
- 5 Corn Fertility Tips**
Tailor soil fertility programs to fit Southern corn production dynamics
- 8 Corn – The Way To Go**
Preferred rotation partner is profitable once again in Southeast operations
- 10 Eating An Elephant**
A Louisiana inland grain elevator manager recalls the phenomenal 2007 corn crop
- 12 Heads Up**
Proper corn head adjustments improve combine efficiency and maximize the crop
- 17 Beating The Odds**
Easter freeze, dry June and July rains rocked Alabama's '07 corn crop
- 18 White & Yellow Gold**
Corn and cotton rotation makes good sense for Mid-South farmers
- 20 Rollin' On The River**
Grain elevators and barge lines kept Southern corn moving in and out as efficiently as possible
- 22 Surprise Attack**
Nematodes that live in the soil can damage corn roots and decrease yields
- 23 Winter Maintenance Checklist**
Prolong longevity of your combine

Cover photo by Tommy Horton.



PHOTO BY DOUG WILSON

CornSouth

Goin' For The Gold...

Like the “forty-niners” who sought their fortunes in the gold fields of California during the 1800s, Southern farmers decided to “go for the gold” themselves when the ethanol-induced corn prices shot up. Corn acres across the region increased from 1,920,000 in 2006 to 4,035,000 in 2007. If you accept the premise that a corn farmer in the Midwest is a corn farmer, and a corn farmer in the South is a cotton or peanut farmer growing corn, then you realize that Southern producers had to get up to speed on topics from corn hybrid selection to harvest techniques.



The infrastructure supporting the Southern grain industry also had a lot of head-scratching to do. Questions ranged from “How are we going to get all of this corn unloaded in a timely manner at the elevators?” to “Where are we going to store it, and how are we going to deal with the shipping logistics?”

As the 2007 season progressed down South, the stories and wise-cracks flourished, too.

- A couple of brothers who had grown a good many corn acres in the South were asked what their secret was to making such high yields every year. One of the brothers smiled slyly and in a conspiratorial whisper said, “We’ve got good land, we pour the fertilizer to it, and we tend to stretch the truth from time to time.”

- One farmer recounts his worst nightmare – the day the elevator told him they had “lost” three truckloads of his corn. At the end of the day they attributed the loss to a computer glitch and reported that the misplaced corn had been “found” after all. Whew!

- A Southern grain elevator manager’s declaration heard during the height of corn harvest: “I don’t want to ever see a piece of corn on the cob or eat another bowl of corn flakes. In fact, from now on I’ll be frying my catfish in flour!” (It had been a long month).

On a more serious note, many practices and strategies related to corn production don’t translate into the South from the Midwest because of differences in climate, pest spectrum, crop rotation, equipment familiarity and grain infrastructure. Thus, with the support of John Deere and Syngenta Crop Protection, One Grower Publishing proudly brings you *Corn South* – a publication that specifically addresses issues relevant to the Southern corn industry.

EDITOR

If you enjoyed this issue of *Corn South* and would like to see more issues in the future, please contact Lia Guthrie at lguthrie@onegrower.com, Carroll Smith at csmith@onegrower.com, call (800) 888-9784 or send your comments to 5118 Park Ave., Suite 111, Memphis, TN 38117.

Southern Corn Acres 2006-2007

State Area Planted for All Purposes

	2006	2007
	1,000 acres	1,000 acres
Alabama	200	300
Arkansas	190	560
Florida	60	75
Georgia	280	530
Louisiana	300	750
Mississippi	340	980
Tennessee	550	840

Total 1,920 4,035

June 2007
Source: Agricultural Statistics Board
NASS, USDA

Corn Fertility Tips



PHOTO BY CARROLL SMITH

Tailor soil fertility programs
to fit Southern corn
production dynamics

By Erick Larson

Monitor nitrogen and other nutrient needs to
maintain high yields.

Has the Corn Belt moved South? Grain markets have dictated a monumental shift in crop acreage in the last year with Mississippi corn acreage exceeding cotton acreage for the first time since 1958. Other Southern states have followed suit with substantial acreage increases as well.

However, despite harvesting record irrigated corn yields and remarkably good dry-land corn yields considering the extremely dry 2007 season, there are limitations with corn production in this region. Corn is best utilized in the Mid-South in a scheduled crop rotation system. This rotation strategy will improve total crop productivity 10 to 20 percent compared to monoculture cropping and also disrupt cumulative pest and weed problems.

These rotational benefits generally diminish every year after the first year in a rotation system. Rotational benefits may be sustained in a two-year rotation, particularly if the field has been continuously cropped for a long time.

However, yields will gradually decline and pest problems substantially increase the longer corn is grown continuously. This reduces potential gross return, while substantially increasing potential risk and/or input costs. Thus, I do not suggest growing corn in the same field more than two consecutive years.

High Yields And Fertility Needs

Corn grain yields in the South have increased well over 50 percent during the past 10 years. To consistently reap the rewards from improved corn genetics, production systems and management proficiency, we must adjust our soil fertility programs to support higher corn productivity. Producers generally do a very good job of addressing corn nitrogen needs, but other nutrient needs are frequently not addressed.

Soil Sampling Is A Must

Following are some tips for establishing a sound fertility program for Southern corn production.

- Soil testing is the foundation of a sound fertility program, which is essential for successful crop production.
- Soil testing recommendations eliminate guesswork, allowing growers to address nutrient limitations with appropriate fertilizers before problems arise.
- Your fertilizer expenses are reduced, and the crop grows off better! With fertilizer prices higher than ever, we cannot afford to over-apply nutrients.
- More frequent or annual soil testing is required when rotating crops, compared to continuous cropping because crop nutrient needs may differ substantially.

Addressing Fertility Issues

The first fertility issue, which should be addressed before any other supplemental nutrients are applied, is low soil *pH* (below 6.0).

- Low *pH* will substantially restrict nutrient availability and greatly stunt crop growth (resulting from increased availability of toxic elements) when it is below 5.5.
- Applying and incorporating lime during the fall is normally necessary to allow *pH* neutralization before the cropping season begins.
- Phosphorus deficiency often occurs following cotton or soybeans because corn requires double the amount needed for cotton or soybeans.
- Potassium deficiency often occurs following a high-yielding soybean crop, since 70 bushels per acre soybeans remove about 100 pounds of potassium from the soil.
- Delay application of potassium on low CEC or sandy soils until spring because of leaching problems.
- Potassium deficiency is sometimes associated with no-tillage systems where uneven soybean residue distribution during combine harvest (windrowing) causes uneven nutrient recycling.
- Sulfur, magnesium and zinc deficiencies are also becoming more common at today's high yield levels.
- These nutrient requirements, except for sulfur, can be proactively addressed by a sound soil testing program.
- Plant tissue analyses during the crop season will indicate sulfur availability and will be helpful in confirming plant uptake for all nutrients.

Erick Larson is the Mississippi Extension corn specialist with Mississippi State University in Mississippi State, Miss.

Corn – The Way To Go



Preferred rotation partner
is profitable once again
in Southeast operations

By Amanda Huber

Mike Newberry kept corn in the rotation program with peanuts and cotton because of the benefits to both crops.

The fact that corn is a good rotation partner for peanuts, with regard to fertilization and disease management, is well known to Southeast growers. Now, thanks to the ethanol boom, corn is being looked at as a profitable rotation partner as well.

Dewey Lee, the University of Georgia's Extension agronomist in grains, says the increase in demand and the reduction in carry-over supplies has significantly improved the price of corn.

"Prices have increased to a point that growers see that they can grow corn profitably," Lee says.

"The main reason for the increase in acreage is due to the demand for ethanol, and the primary feedstock for the current and new ethanol plants is corn."

Corn Works For Many Reasons

According to Lee, rotation schemes including corn vary greatly, but corn works in rotation programs for many reasons.

"Corn works well in that the major production practices and timing of these practices during the growing season do not conflict with other crops such as peanuts and cotton," he says. "The grower is able to use his time efficiently."

Another reason corn is beneficial in a peanut rotation can be found on a fundamental level: it is a grass crop.

"Any grass crop such as grain sorghum, millet, corn or bahia-grass works well," says John Beasley, University of Georgia Extension peanut agronomist. "The primary reason is that grass crops typically don't host the same diseases legume crops host."

Grass crops, such as corn, sorghum and bahiagrass, help reduce the severity of diseases caused by *Rhizoctonia solani*, as well as *Cylindrocladium Black Rot*, white mold and leaf spot diseases.

"Disease pressure is typically lower following a long rotation that includes a grass crop like corn, meaning a grower could potentially extend his fungicide spray interval, reducing fungicide costs," Beasley says.

Lee says that herbicides used in corn, such as atrazine, can also help control some of the resistant weeds found in cotton.

Benefits Below The Soil Surface

Other benefits of a corn/peanut rotation can be found below the soil surface.

"Grass crops have a more fibrous root system that improves soil tilth," Beasley says. "Grass crops are typically well fertilized, and peanuts are very efficient at utilizing the residual fertilizer."

When planting peanuts behind corn, Beasley recommends that growers should always soil sample to determine the nutrient levels

and *pH* following a grass crop.

"Additional fertilizer may not be needed on their peanut crop following a grass crop, but only soil sampling will determine this."

Although corn is an alternate host for the peanut root-knot nematode, it is less affected than peanut. Therefore, planting corn should help to reduce populations of peanut root-knot nematode, though perhaps not as fast as when a non-host such as cotton is planted.

Lee says nematodes that cause yield losses in corn are as follows in order of severity: sting, stubby root and root-knot.

"We encourage growers to use a labeled pesticide at planting such as Furadan or Counter to suppress nematode activity if they are aware of a nematode history in the field," he says.

Corn Rotation Part Of Producer's Success

Mike Newberry, an Arlington, Ga., producer, has kept corn in his rotation scheme because of the production benefits, even in years when corn wasn't too profitable.

"Our rotation is peanuts, cotton then corn, and it's been a long-term rotation that

we think has worked well for us,” says Newberry, of Hillside Farms. “At times, we have had a field or two that we put in corn for two years.”

Newberry says there are many reasons corn works well in his rotation program.

“We think it’s kept us away from having a major problem with reniform nematode in cotton, and corn is an easier crop to destroy the residue before planting peanuts,” he says. “Also, we have all irrigated land, and, whereas cotton and peanuts are like watering the same crop, by then the irrigation on corn is generally done.”

Irrigation dictates how much of each crop is planted. Newberry says he normally plants about 250 acres of each crop, with variations from year to year because of irrigation. To help with water management, Newberry uses Irrigator Pro, an irrigation management tool developed at the National Peanut Research Laboratory in Dawson, Ga.

“We use Irrigator Pro on peanuts, corn and cotton, and it has probably saved some irrigation passes, especially at the tail end of the season,” he says. “Most of us would tend to water if we had any doubts. It helps to fine-tune our irrigation program.”

Although he had not had time to determine exact numbers, Newberry hopes the 2007 corn crop is in the 230-bushel range, which would be a couple of bushels better than ever before.

As for equipment needs, Newberry says much of the equipment used in cotton is also used in corn.


“Everything is planted in a strip-till environment, so we use the same tillage implement. We use the same equipment to put out nitrogen and also the same sprayer,” he says. “We have to use a grain combine to harvest.”

Newberry says he recently purchased a used John Deere 9510 combine and also a grain cart to meet harvest needs, which this year included helping a neighbor.

Timing Is Everything

Whether corn is new to the production system or it has been a part of the rotation for many years, there is always room for improvement in production systems.

“It is very important that growers know the growth stage of the crop and apply such inputs as fertilizer, herbicides, irrigation and fungicides by the proper growth stage to receive the maximum benefit of the input in order to maximize the yield impact,” he says.

With corn acreage nearly doubling in one year, there is sure to be somewhat of a learning curve on corn. However, the benefits of a peanut/cotton rotation and the price are factors worth considering. 



Growth Stage Management Guide

- **Before emergence** - Apply starter fertilizer at planting. To improve slow germination and growth in cool soils, band fertilizer near the row. Avoid salt injury from banding too close or placing fertilizer in the row. At-plant insecticides minimize early infestations.
- **Two-leaf stage** - Check for early insect infestations such as chinch bugs, worms, billbugs, etc. Early weed control is essential. Apply pesticides timely and at the correct rate.
- **Early whorl** - Cultivation too close or too deep from this stage on will destroy some of the permanent root system, and moisture stress limits root development. Limit over-the-top herbicide applications. Shield sprayers or direct spray applications improve weed control. Several days of waterlogged conditions may result in severe plant loss. Also, fertilizer applications are critical to yield potential.
- **Mid whorl** - Nutrient uptake is rapid, and deficiencies from this stage on can seriously reduce growth and yield. This is a period of high nitrogen demand; apply side dressing (15"-24"). Flooding after this stage is not as detrimental, but plants broken over at this stage or later will not recover.
- **Late whorl** - Moisture or nutrient deficiencies at this stage will seriously reduce yield, and irrigation is critical if moisture is limited.
- **Tasseling** - Moisture stress at this stage will delay silking more than tassel emergence and pollen shedding. Moisture demand is approaching 1/3-inch of water per day, and irrigation is critical at this time.
- **Early silk** - Moisture stress or nutrient deficiencies may result in poor pollination and seed set. Maintain irrigation.
- **Blister stage** - Plants continue to take up soil nitrogen and phosphorus, but most of these nutrients are being supplied from other plant parts. Water is crucial for proper grain fill.
- **Milk Stage** - Kernels begin to turn yellow or white, and the inner fluid is a milky white.
- **Soft Dough** - Starch is accumulating, and unfavorable conditions or deficiencies such as potassium will result in unfilled kernels and "chaffy" ears.
- **Hard Dough or "Dent" Stage** - Kernels denting as result of starch drying at top of the kernel.
- **Physiological Maturity** - Most kernels are dented and "black layer" formation is complete. Irrigation should cease. Moisture is between 30-35 percent.

Source: Georgia Corn Diagnostic Guide, Georgia Cooperative Extension Service

POINTERS

Why Farmers Are Switching To Corn

- **Corn is a good rotation partner for peanuts.**
- **Price increase allows Southeast farmers to grow corn profitably.**
- **Production practices don't conflict with peanut and cotton timing.**
- **A grass crop, such as corn, typically doesn't host the same diseases legume crops host.**

Eating An Elephant



PHOTOS BY KEVIN HARPER AND CARROLL SMITH

A Louisiana inland grain elevator manager recalls the phenomenal 2007 corn crop

By Kevin Harper

From left, clockwise: Unloading grain onto the pod at the Wisner elevator; trucks lined up throughout the day during harvest; on Aug. 23 they began dumping corn at a nearby airstrip.

You can eat an elephant, as long as you take one bite at a time. You can't put an elephant in a snuff can. Two statements. Simple, yet very profound, and two that were repeated to me many times over for the past few months during the 2007 corn harvest.

I am the manager of a small inland grain elevator owned by Lansing Trade Group in Wisner, La. I sit here in my office on an October day, reflecting on all that took place during the months of July, August and September. Looking back, it seems like a blur. Many days we worked 15 to 20 hours, and we did this for 12 weeks. You almost get to the point of running on autopilot. And occasionally, even the autopilot would need a break.

Our 2007 grain season began in 2006, when corn prices began to climb. Basis levels were good, fertilizer prices were decent, and farmers began to look at corn as profitable for the coming year. We "booked" or forward contracted a fair amount of corn, more than we bought in 2006, but nothing out of the ordinary. Three dollars has always been a magic number where farmers began to sell. Three dollars came and went, and then \$3.20, \$3.30, \$3.50, \$4.00, \$4.40. All of a sudden, our storage space was full, basis levels got weaker, and a large crop was in the making.

When we realized early in the year what the corn situation would be at harvest, we began to look for storage alternatives. We settled on a "pod" or ground pile that has four-foot retaining walls and a tarpaulin for a cover. The construction began in late May. The contractor worked diligently between the rains to get the work completed.

The rains? Yes, it was raining more than normal and was much cooler. The coffee shop talk was “What would this do to our corn crop?” We would soon find out.

Securing ‘Jumbo’

My main concern with the pod was the tarp and how we would get it on top of the pile of corn. There were four sections, each weighing 1,000 pounds. I talked to several people all over the corn-growing areas about the procedures for pulling the tarp. All had similar answers with slight variations.

One man I talked to was an elevator manager in southern Illinois who had several pods. His advice was very helpful, but what he told me when I asked about the crop conditions in his area made me a little nervous.

He said that the growers in his area had an appraisal formula that they used every year that was within 10 percent of actual yields once the crop was harvested. His number was well over 250 bushels per acre. In the past I have used the same formula to help make an educated guess at yields, and it is typically within 10 percent for me as well. So, I decided to make a couple of appraisals, just for the fun of it. The first appraisal I did was 223 bushels per acre. I didn’t think that could be true, so I took another. It was 215.

At this point, I began to take samples of different fields and varieties. The numbers were phenomenal – 180 to 240 bushels. Our climate – flooding rains in the early spring, drought that can hit at any time, extreme heat during pollination and diseases – does not normally allow us to make these yields. Or so I thought. I was wrong. Bad wrong.

The first field that was harvested and delivered to our elevator yielded 248 bushels per acre. Now if it sounds as if I am not happy with the yields we were getting, the opposite is true, as I farm corn as well. I was tickled over the yields that were being reported. What was weighing heavily on my mind was the storage space we had here, which was already booked over capacity, and the fact that most farmers only had 100 to 130 bushels per acre contracted.

If we represent 25,000 acres, and the yields are at least 50 bushels per acre better than the farmers had projected, that would mean 1,250,000 bushels extra I had not counted on. Where in the world would this corn go, and how would we dump it all in a timely fashion?

Beware Of The Herd

We began the harvest as we do every year, with a few farmers starting early, and the bulk of the crop getting ready and being harvested at the same time. Prior to this season,

our biggest one-day total was about 150,000 bushels dumped in a day. We averaged over 200,000 per day for over five days.

The wait time was less than two hours, trucks were getting dumped quickly and everything was going fine. We knew the storage wouldn’t hold out much longer, but we were expecting barges or rail cars to load at any time. Only they arrived too late.

On Aug. 23, we began dumping corn on the ground at an airstrip that we leased. We used dump trucks to get it out of the elevator and to the airstrip as fast as they could load out, while continuing to dump at the elevator. This gave us an additional three days before we filled up on Aug. 26. The snuff can was full. We took in no corn that day, and only shipped out to our offsite locations to try to gain back some space in our tanks.

Dumping corn on the ground is fairly easy. Getting it back up is a different story. We used two front end loaders and a conveyor on the back of a tractor. As long as the rains held off we would have very little grain loss. The five-day forecast seemed favorable, with the obligatory 20 percent afternoon showers on most days.

However, on Sept. 12, while listening to the radio, I heard the word hurricane. Generally when we hear hurricane, we have a few days to prepare. Humberto built up off the southwest coast of Louisiana and went from nothing to hurricane status in 16 hours, which is record time for a hurricane to form.

On Sept. 13, our entire crew was on top of the airport pile when the rain arrived that



Kevin Harper often left the elevator at midnight only to return at 7:00 a.m. Pictured below, the crew worked diligently to cover the corn before the rains came, while Steve Houston and Misty Bible took grain samples and kept the trucks rolling through the elevator as fast as possible.

morning. We were pulling tarps, frantically trying to get the corn covered when the deluge hit, soaking us to the skin. The corn was rained on for a minimal time before we got the tarps in place.

We were able to finish the airport cleanup on Monday of the next week. Our only remaining serious obstacle was the 150,000 to 200,000 bushels we had on the ground at the elevator. We were able to get that up in a week’s time, loading it and dumping it back into our bins.

After The Dust Settled

When the harvest was completed, we had handled nearly 4 million bushels of corn. We did so by doing our homework prior to the season and working as a team during the busy times. Many nights we left at midnight, only to return at 7 a.m., ready to start all over again. Our bodies were exhausted, and our minds were drained. But, somehow, we managed to make it through the season with no major arguments, fights and injuries.

I don’t know if we will ever again see this type of corn crop. The Lord blessed us with good prices, good growing conditions, good attitudes and good harvest weather. I was also blessed with an excellent crew. Even when things got difficult, they continued to work as diligently as possible to accomplish the tasks at hand.

2007 – the year we ate the elephant – was an experience that I will never forget. 🐘



Heads Up

The purpose of a corn head, which comes in 6-row, 8-row or 12-row configurations, is to pull down the stalks, snap off the ears, get them into the combine for threshing and leave the trash and stalks on the ground.

According to Seth Crawford, marketing manager, John Deere Harvester Works, the company has just introduced its new 600C Series Corn Heads into the marketplace this fall. He says the new corn heads will improve material handling, reduce grain losses and provide a full line of residue management options.

However, there are still many of the older corn heads out in the fields harvesting four million plus acres across the South. Ron Moron, John Deere Harvester Works, says making the proper adjustments to the corn head will improve the efficiency of the combine and maximize your corn harvest.

Corn Head Adjustments

1. Check the corn head row unit points or “snouts” and make sure all points are set level, and their height is adjusted to fit the conditions of the corn. If you have sections of the field where the crop is down, set the snouts about 1/2-inch to one inch off the ground so they can lift any stalks that are down or leaning over.

2. If you use your corn head season after season or purchase a used corn head, check the stalk rolls. If they are badly worn, consider replacing them. The stalk rolls play a big part in determining how much trash the corn head will take in. The stalk rolls have to be aggressive enough to strip away as much of the stalks and leaves as possible, allowing less trash to enter the combine.

3. Check your deck plates, which snap off the ears of corn. If they are badly worn, consider replacing them.

“How much the deck plates are wearing is based on yields and how many acres are being harvested,” Moron says.

4. Make sure the gathering speed is proportional to the speed at which the combine is moving. If it’s not, you’ll begin pushing stalks over and pulling them out by the roots.

“The John Deere combines have a feature that allows you to adjust the gathering speed from inside the cab,” Moron says. “The base gathering speed is determined by the drive sprockets inside the oil pan on both the left hand and right hand side of the corn head. Check to see which size sprockets are currently installed and check your operator’s manual to see if the configuration is right for the ground speed that you will be harvesting your corn.”

5. Check the tension of the gathering chains.

“If the chains are too loose, they will not convey the ears to the cross augers fast enough,” Moron explains. “If they are set too tight, they will stretch prematurely.”

6. Adjust the position of the corn head’s cross auger to match your crop condition.

“In the South, for example, because of the heat and stress that can affect the corn crop, the ears may be smaller than those in the Midwest,” Moron says. “If this is the case, you can adjust the cross auger down lower to create better contact with the ears and move them as fast as possible. Not making this simple adjustment to the auger can have a drastic affect on preventing grain damage from occurring in the corn head as well as helping determine how well your combine will do at threshing the corn.”

7. Set the deck plates according to the recommended spacing.

“The rule of thumb for all corn head manufacturers is to set the deck plates tighter in the front than in the rear,” Moron says. “In the last two or three years, most manufacturers include hydraulically-adjusted deck plates as a standard feature that can be operated from within the cab. But remember, both the combine and the corn head need that feature for them to be compatible.”

Moron points out that these adjustments apply to the older series corn heads as well as the new 600C Series Corn Heads.

“The difference,” he explains, “is that the new series is more forgiving. You don’t have to spend as much time making adjustments, allowing the operator to maintain faster ground speeds and be more productive.”

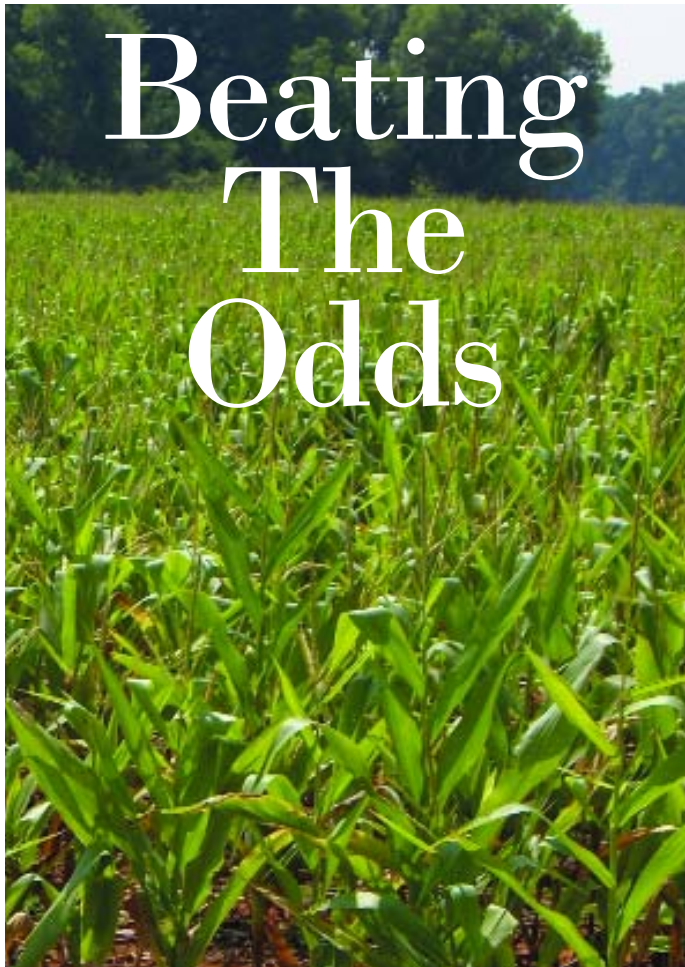


PHOTO BY AMANDA HUBER

Proper corn head adjustments improve combine efficiency and maximize the crop

By Carroll Smith

1. Corn head row unit gathering shield and point raised in service position.
2. Corn head row cross auger conveys ears to the combine's mouth.
3. Adjustment device allows quick adjustment of the gathering points.



Beating The Odds

PHOTO BY CHARLES BURMESTER, AUBURN UNIVERSITY

Easter freeze, dry June
and July rains rocked
Alabama's '07 corn crop

By Carroll Smith

Having suffered from the Easter freeze and drought conditions in May and June, much of Alabama's corn was very short.

POINTERS

What diverted disaster in 'Bama?

- Late planted corn and replanted corn took advantage of July rains.
- New hybrids may be more adjusted to Southern climates.
- Some corn acres were under irrigation.

In recalling Alabama's 2007 corn crop, one producer said, "I made half as much as I needed to, but twice as much as I thought I would." That simple statement pretty much sums up the sentiments of many of the state's farmers this year.

"We got our corn planted, then it was hit by the Easter freeze here in north Alabama," says Charlie Burmester, Extension agronomist at Auburn University. "Close to 75 percent of the corn had to be replanted after that happened."

The Alabama agronomist notes that the replanted corn had moisture and came up pretty quickly, but the weather conditions in May and June were extremely dry. Most of the corn tasseled when there wasn't any rainfall at all. The Research and Extension Center in Belle Mina registered 1/2-inch of rain for June.

"A lot of the corn was very short, but in July we did receive our normal 3 1/2 to 4 inches of rain," he adds. "Even though most of the corn had tasseled, the rain helped fill out some of the ears and add weight to them."

Burmester says the way some fields looked, farmers were estimating about 30 bushels/acre. That's how bad it was. However, the corn did better than expected. Burmester estimates that dryland corn averaged about 60 bushels per acre; a few fields that received a timely shower averaged about 90 to 100 bushels.

Despite these less than spectacular numbers coming out of Alabama, Burmester says the state's farmers are doing a good job.

"They have grown corn for several years here, and if the farmers get the water, they can grow the crop," he says.

Farmer With Large Cotton Profile Tries Corn

North Alabama farmer Bill Bailey, who typically plants cotton, is trying to work corn into his rotation. In 2006, he planted 1,500 acres of cotton and no corn. In 2007, he had 950 acres of cotton and 550 acres of corn.

Like many of the state's farmers, Bailey had to replant his corn after the Easter freeze got it.

"Our corn was eight inches tall, and we had to replant it all," he says. "The dryland corn went from 45 bushels to 110 bushels, depending on which area we were in. Our irrigated corn was exceptional – over 200 bushels per acre."

Bailey says despite his 2007 experience, he plans to plant corn again in '08.

"We'll plant corn next year but not as many acres because it will be dryland," he says. "It's a big gamble on the red land that we work here in the Tennessee Valley to plant dryland corn. We had the majority of our pivots in corn this year, but we have to rotate out next year, so there will be more cotton under water."

The Significance Of Improved Hybrid Genetics

Paul Clark, who also farms in north Alabama, has been on a 50/50 cotton/corn rotation for eight years. He had planted about half of his corn crop before the Easter freeze and afterwards planted the rest of his corn acres plus approximately 60 percent of the acres that he lost.

"The replanted corn and the late planted corn turned out better than the corn we didn't replant," he says. "We have some irrigation so our yields were all over the board, averaging about 90 bushels."

When asked if improved corn genetics may have played a role in yields not being as bad as they could have been, Clark says, "There's no question. The hybrids are a lot more suited now to the heat and the drought. I think everybody was amazed."

Clark also has noticed that his cotton crop does much better behind corn, so it's a real plus to have it in his rotation.

"I don't think it's a good idea to plant corn behind corn in the South," he says. "We're going to do what we've been doing in the past – rotate. My cotton is generally 150 to 200 pounds better behind corn."

Clark emphasizes that he definitely will continue to grow cotton.

"We're equipped for cotton and like to grow it," he explains, "as long as cotton is economical for us." ♪



White & Yellow Gold

Corn and cotton rotation
makes good sense
for Mid-South farmers

By Carroll Smith

Tom Cotton, whose Louisiana corn field is being harvested above, averaged 200 bushels of corn/acre and 1,452 pounds of cotton.

In the 1980s under the first Farm Bill, you couldn't plant corn or other program crops without giving up the benefits of the cotton base," says Al Ater, who farms in east-central Louisiana. "We only had a cotton base, and not much of that, so we grew cotton and soybeans – a non-program crop. I was slowly going broke."

Realizing the benefits of rotating crops, Ater and other farmers approached Louisiana Congressman Jerry Huckaby who served on the Ag Committee and asked him to include in the new Farm Bill the ability to get cotton benefits yet have other alternatives to plant, such as corn, even if it didn't go toward building a base.

"They did change the law so we could plant corn," Ater notes, "and during the past 17 years I've tried to plant half cotton and half corn. Corn has been a lifesaver."

In 2007, the Louisiana farmer bumped up his acreage considerably, planting 3,100 acres of corn, 3,260 acres of cotton and 400 acres of wheat.

Overcoming Early Challenges

According to Ater, the three main challenges of growing corn "back in the day" were finding corn hybrids suited to the South, grass control and no market – corn was cheap. Today, with corn acres increasing exponentially in the region, seed companies are developing more hybrids that fit the Southern environment.

"Before we had the Roundup Ready hybrids, there was nothing you could do about Johnsongrass in corn," he says. "Now the Roundup Ready varieties – both cotton and

corn – have made grass control so much easier. In 2007, about half of my corn was RR and the other half was Bt/RR. I also plant RR cotton varieties.”

As prices increased and more people in the area started growing corn, Ater’s market situation also improved. He stores the grain in tanks on his farm and works off the March markets through local brokers who have developed a niche market.

“They sell the grain throughout the year to chicken processors and feed mills and places of that nature instead of sending it down the river,” Ater explains.

Tips For Success

From the vantage point of a Southern farmer who has had a lot of experience growing corn on large acreage, Ater offers a few tips that have worked for his operation. He says one of the most important factors to consider is timeliness.

“Plant your corn on time and fertilize it on time,” he says. “Weather can be a big factor, but we try to do this if at all possible. In fact, our goal for everything that we do on the farm is to have enough manpower and equipment to do it in one week. I like to get things done at the optimum time.”

Another key to success in Southern corn production is hybrid selection.

“We plant five different hybrids,” Ater says. “In 2007, we averaged 160+ bushels of corn per acre and 1,100+ pounds of cotton.”

And last but not least, have a marketing plan in place.

“Know what you are going to do with your crop and market it before you do it,” he says. “From watching the markets in the past, I think the best time to sell corn is between December and April. Unless something weather-related controls it, that will be the high of the year. We try to book at least

100 bushels per acre.”

Although Ater says there aren’t many “first-timers” as far as people growing corn in his area, many farmers are expanding their corn acres.

“If this amount of corn acreage stays intact,” he says, “farmers may also want to consider investing in more on-farm corn storage this winter.”

Non-Irrigated, Minimum Till

Farther south of Ater’s operation, Tom Cotton grew 650 acres of corn and 700 acres of cotton near Jonesville, La., with no irrigation. In 2007, he averaged 200 bushels of corn/acre and 1,452 pounds of cotton in a corn/cotton rotation that has been 100 percent minimum till since 1993.

“Minimum till makes our heavy soils so much more productive,” Cotton says. “I’m an experimenter, so I built an 8-row rig that rows up the ground and subsoils right behind all four tractor tires to keep those rows from getting compacted.”

Cotton also attributes his high dryland yields to good soil – mostly Dundee silt clay loam – and timely rains. He also relies heavily on his crop consultant, Richard Griffing of Griffing Consulting in Harrisonburg, La.

After using the system for many years, the main benefits Cotton says he realizes from a corn/cotton rotation include:

- Increased yields
- Harvest flexibility
- Nematode suppression in cotton
- Weed control

“Anyone who grows corn after corn after corn is going to have grass problems,” Cotton says. “But if you rotate to cotton, you can take out the grass.”

POINTERS

Benefits Of A Corn/Cotton Rotation

- Planting continuous corn may lead to disease and weed problems.
- Research indicates that yields increase for cotton following corn.
- On better soils, the economics of a corn/cotton system show that it’s a good rotation.
- Corn is not a host to the reniform nematode.
- In a multi-year study when cotton followed corn on slit loam alluvial soils, we reduced the nitrogen rate by as much as 30 pounds.

Source: Dr. Rick Mascagni, LSU AgCenter

“On the other side, you have some weeds in cotton, such as tie-vines, that can be taken out with atrazine in corn,” he adds.

“We also put out Sequence herbicide – a premix of Touchdown and Dual MAGNUM – on RR corn, which cuts the grass down to almost zero.”

Looking To ‘08

As far as tips for Southern producers who are planning to expand their corn acreage or perhaps trying corn for the first time, Cotton encourages them to stay informed about the newest hybrids, make sure planting is uniform, consider plant populations, use a fungicide and control the grass.

The Louisiana farmer’s own plans for the upcoming season still include a rotation strategy with a little different crop mix. Cotton says at this time he plans to plant about 350 acres of beans (fertilizer prices are predicted to increase and \$9 beans are just too attractive!), 200 acres of corn and the balance of his acreage in cotton.

“We have got the best cotton market that we have had in several years,” he says. “I think there will be a lot more cotton planted in 2008.”

Tom Cotton, left, and Al Ater have both realized benefits from a corn/cotton rotation on their respective operations in east-central Louisiana.



Rollin' On The River

Grain elevators and barge lines kept Southern corn moving in and out as efficiently as possible

By Carroll Smith

Corn pours into a barge at the Bunge elevator located in Mayersville, Miss., on the bank of the Mississippi River.

As early as last year, the large grain elevators along the Mississippi River system across the South were expecting a tidal wave of corn in 2007. But when it actually hit, even they were surprised by the magnitude of grain that flowed into their facilities once harvest began.

“The earliest indications that the corn crop would be larger than normal occurred in November and December (2006) as farmers started booking large amounts of corn in a favorable market,” says Jim Brady, district manager with Bunge in Pine Bluff, Ark. “The realization that the crop would be over 2.5 times the average came with the March 30 USDA acreage report. The fact that yields would also be significantly higher was not apparent until after harvest started, and farmers reported that yields were better than expected.”

With the large crop size, Brady anticipated the need for more storage, more barges and more staffing to keep the crops moving in and out as efficiently as possible.

“To meet the demand, we temporarily relocated key personnel from northern facilities to the South in order to load barges 24/7 at some facilities,” he explains. “We also hired additional temporary help.”

In anticipation of the large Southern crop, Bunge shipped out all of its wheat inventories and old crop beans and corn to make certain that its storage space was empty before harvest. In addition to those measures, more traditional and nontraditional storage was added.

“We purchased a record amount of barges ahead of harvest and bought spot barges in July to ensure that we had enough barges at the beginning of harvest,” Brady says. “We worked with the barge operators to do what we could to ensure timely switching of barges.”

Shipping & Handling

“We also worked with the Army Corps of Engineers to make sure river closures for dredging were timed to periods outside of harvest,” he adds. “To provide multiple options for our inland facilities, we made more domestic sales during the harvest time period than we did in 2006.”

Transportation Under Pressure

According to Brady, Bunge deals with all of the large barge operators.

“The operators performed well when taking into consideration that demand for barges was extraordinarily high,” he says.

Jerry Knapper, assistant vice president of planning and analysis with Ingram Barge Co. in Nashville, Tenn., says the obvious difference in the South’s corn harvest this year was that more of that region’s acres had been planted to corn.

“The thing that nobody could prepare for – farmers, barge lines or grain companies – was the incredibly long stretch of dry weather we had,” he says. “There just weren’t any harvest weather-imposed interruptions.

“Once the grain began to come out of the field, it just didn’t stop,” adds Knapper, who works for the largest barge operator in the nation. “Transportation, whether it was truck or rail or barge, could not keep up with the breakneck pace that took place in the South during corn harvest season.”

When asked if there is anything the barge line plans to do differently in 2008 if the corn acres remain high in the South, Knapper says

nobody can forecast what to expect.

“In terms of the barge fleet and the number of barges available, I don’t see that changing much,” he says. “It’s more a matter of what kind of grain production we are going to have, what harvest conditions are going to be and is export demand going to be in place next year to accept the grain when it’s time to roll.”

The Cost Of Doing Business

When Bunge ramped up its personnel and the Southern corn harvest exploded, the grain company had to ante up to cover the increase in expenses.

“We had additional payroll costs, and barge rates were on average 30 percent higher,” Brady says. “The actual cost of barges reflects a higher variance from 2006. We incurred more demurrage charges due to staging barges as well as the impact of the new demurrage schedule that was implemented in September of 2006.”

Bunge even offered farmers a higher price for their corn if they would store it themselves until January.

“Prices in January reflected the market-driven carry that was significant due to the supply push,” Brady says. “The Southern discount was wider before harvest than it had ever been in the past. The discount remained at a record level during harvest.

“The Southern discount was a significant portion of the carry as well as the historically high average barge freight for the harvest



Bunge elevator manager, Bud Grady, pictured with bookkeeper Mrs. Bernice Sheppard in Mayersville, Miss., says the highlight of the season for him was the opportunity to handle such a large amount of grain. “The new technology and the speed of the elevators these days is amazing,” Grady says. “We were able to handle the bulk of the corn crop in the month of August.”

time period,” he adds.

Despite the frantic pace of buying, selling, storing, shipping and handling the phenomenal 2007 Southern corn crop, Brady feels like Bunge had prepared as well as possible for the 2007 harvest.

“Our employees did an extraordinary job and worked many hours so that we could serve our farmer customers as efficiently as possible,” he says.



PHOTOS BY LIA GUTHRIE

Surprise Attack

Over the past few years, farmers have become more cognizant of the detrimental effects of nematodes on their cotton crops and the options that are available for managing them. But they may not be aware that nematodes like corn, too.

In Arkansas, Terry Kirkpatrick, Extension plant pathologist, says the Southern root-knot nematode that infests cotton and soybeans in Arkansas also goes to corn. With more corn being planted where these nematodes exist, the plant's massive root system is going to exacerbate the problem because it's increasing a major pathogen on other crops that follow corn, he explains.

"In Arkansas, we also occasionally find stubby root and lesion nematodes," Kirkpatrick says. "I suspect that the increasing corn acreage in our state is going to increase the incidence of lesion nematode, which historically has infested corn in the Midwest."

The simplest way for a farmer to determine if he has a nematode problem is to take a soil sample for predictive purposes in the fall or late summer after the corn crop is harvested. During the season, damage such as discoloration, stunting and reduction in stalk diameter and root weight is sometimes misdiagnosed as herbicide injury, disease, micronutrient deficiencies or the result of harsh environmental conditions such as drought.

Kirkpatrick says it's a good idea to take a sample right then to determine if nematodes might be a part of the cause. As far as nematode management options, Kirkpatrick is optimistic about Syngenta's corn seed treatment nematicide in development.

"We had some in a test plot this year and numerically there was a yield increase where we used the treated seed," he says. "I'll run the statistics on it and repeat the test to be sure, but the highest yield in each rep was the one that had the treated seed."



PHOTO COURTESY OF UNIVERSITY OF ARKANSAS EXTENSION SERVICE

Nematodes that live in the soil can damage corn roots and decrease yields

By Carroll Smith

Arkansas's Terry Kirkpatrick says the Nematode Diagnostic Lab at Hope charges a nominal fee of \$10 a sample. Photos, below right, show a field of corn stunted by root-knot nematode and roots infected with root-knot nematode.

Georgia Weighs In

Bob Kemerait, Extension plant pathologist at the University of Georgia, says the majority of the state's corn acreage is infested to some degree with nematodes that will affect corn.

"The Southern root-knot nematode generally favors the sandier soils where a lot of our corn is grown," Kemerait says. "We have other nematodes that affect corn as well, such as stubby root, sting and Columbia lance." The Georgia plant pathologist says one option for minimizing the impact of Southern root-knot and stubby root nematodes is to grow peanut in rotation with corn. Although peanut and corn are both affected by the peanut root-knot nematode, peanut is not affected by the Southern root-knot, stubby root or Columbia lance nematodes. "Our nematicide options are slim," he adds. "In Georgia we have ignored the impact of nematodes on corn for too long. Farmers are going to be more aware of what nematodes are costing them and more anxious to take advantage of an economical nematicide that facilitates nematode management. A seed treatment for nematodes would be well received, like it has been in cotton, if it is effective and economical." ¶

Corn Seed Treatment Nematicide

The main corn nematodes in the Southern geography include root-knot, stubby root, lance and sting. To help manage these pests, Syngenta is developing a seed treatment nematicide for corn, which will include the same active ingredients being used in Avicta Complete Pak for cotton.

"This product has activity on all of these nematodes and will be a nematicide, fungicide and insecticide package," says Dr. David Long, technical crop manager with Syngenta. "A complete package for early season pests in corn. We're hoping to receive the registration from EPA in 2008, so we can do large demonstration trials."

Long says the seed treatment's winning combination will be return on investment, ease of use, a complete package and proven active ingredients. The company is working to have the corn seed treatment available for the 2009 growing season.





Garret Stuart of Rolling Fork, Miss., checks the adjustment on the deck plates in the corn head row unit. Once harvest season comes to a close, be sure to give your combine a thorough going over.

Winter Maintenance Checklist

PHOTO BY MIKE JAMENSDORF

By Paul E. Sumner

Proper winter maintenance is vital to maximum life expectancy of a corn combine. When harvest is over, do a visual inspection of all bearings, chains, sprockets, pulleys and belts. Make a list of those components that need to be replaced. Loosen belts and chains to relieve tension.

When performing the combine inspection this winter, start with this partial checklist covering the major parts of a combine.

- ◆ Blow off any dirt and debris with an air hose.
- ◆ Check all lights and look for cracks in the belts.
- ◆ Check chains for wear and lubricate. Replace every other year.
- ◆ Check feeder house chains and elevator chains.
- ◆ Check all bearings for signs of fatigue.
- ◆ Check the feeder house floor for wear. It may need to be replaced or rebuilt.
- ◆ Check the concave for excess wear.
- ◆ Inspect the cylinder bars for straightness and wear.
- ◆ Check the conveyor auger bearings for wear and dryness.
- ◆ Check fountain and unloading augers for wear.
- ◆ Check walkers and walker bearings for cracks and general wear, or check the rotors. Look for excess wear and check the alignment and bearings.
- ◆ Check the total condition of the straw chopper (hammers, knives, shell, rotor). Weld any and all cracks.
- ◆ To prevent fuel tank corrosion, drain any water that has collected in the bottom of the tank and then completely fill the tank with clean diesel fuel.
- ◆ Change fuel filters.
- ◆ Change engine oil and filter, then operate to coat engine with clean oil.
- ◆ Disconnect the battery and store in a warm, dry area. Coat all of your electrical connections with a corrosive preventative.
- ◆ Check cooling system's rubber hoses for integrity.
- ◆ Flush the coolant system. Replace with water and antifreeze at a 50/50 mixture. Operate until the mixture has fully circulated through the engine.
- ◆ Change hydraulic filter and check fluid level.
- ◆ Wash and wax.
- ◆ Stock up on replacement parts and keep the most important, although less obvious, tool on hand – the combine manual – that explains how to take parts off and put them back together.

Paul E. Sumner is an Extension engineer with the University of Georgia in Tifton, Ga.