Integrated Pest & Crop Management

Timely Harvest Important in Drought Stressed Corn

By Bill Wiebold

Using a yield trend line for the past 30 years, I calculated that corn yield for Missouri in 2012 should be should be about 141 bushels per acre. The August USDA estimate for Missouri is only 75 bushels per acre, a yield reduction of 47%. Harvest has just begun, so time will reveal the accuracy of the 2012 estimate. Regardless, 2012 was and continues to be one of the more challenging years for corn in Missouri. Most Missouri farmers are understandably disappointed in their corn yields and cautious to sink additional expenses into the crop.

However, timely harvest is essential to harvesting as much of the yield as possible even if it results in increased drying or aeration costs. Corn stalk quality is often poor in a drought year, and poor stalk quality leads to increased preharvest and harvest losses. There are several reasons for poor stalk quality in drought years, and these reasons probably differ among fields in 2012. Several disease-causing fungi (e.g. charcoal rot) grow fairly well on heat and drought stressed corn stalks. Potassium uptake is important for stalk quality, and K uptake is often reduced from dry soils. Stalk diameter of drought stressed plants is smaller than normal. Lateral cell expansion was limited because of reduced turgor pressure. Finally, many plants died earlier than normal and this allowed saprophytic fungi to attack dead cells and break down cellulose and other structural compounds.

Regardless of the reason, poor stalk quality leads to stem breakage (Figure 1). Breakage often occurs below the ear making is difficult to gather ears into the combine. Recently, the remnants of Isaac and several cold fronts have brought rain to many parts of Missouri. In addition, high dew points have resulted in heavy dews and fog. Rains, dews, and fogs keep corn stalks damp for many hours. Warm temperatures, even mid 70s, along with damp plant tissues stimulate fungi growth. These fungi break down stem tissues and weaken the stalk. Even stalks with small ears become susceptible to breakage. Winds, especially those associated with late summer storms, add to the breakage.

Poor corn stalk quality and stem breakage are common following drought stress.

Stem breakage increases with time and harvest delay. So, timely harvest, as soon as fields are dry enough to withstand combine and wagon traffic, is important to reduce harvest losses. Harvesting a larger portion of the low yields common this year may outweigh additional costs often associated with an early harvest.

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In This Issue

Crop Insurance for Wheat

By Ray Massey and David Reinbott

The drought of 2012 has more people talking about crop insurance than I can remember. Folks with crop insurance are asking about the details of managing their crops to insure that they don't negate their insurance contract. Folks without crop insurance are rethinking their decision. And now comes wheat planting season with the question of whether or not to insure.

This summer's drought may impact individual decisions to plant wheat and whether or not to insure it. Hopefully recent rains will provide the soil moisture necessary to plant a fall crop. But crop insurance is purchased before the crop is actually planted and before soil moisture conditions at planting are known. What happens if a farmer purchases crop insurance for wheat and then finds that the ground is too dry to plant the wheat with any hope of germination? This might be a prevented planting event that is insurable, but not necessarily. In order to receive an indemnity for prevented planting several conditions must be met and the specific documentation must be provided to prove the conditions were met.

First, the prevented planting must occur after the sales closing date for fall planted crops, which is September 30 this year. Prevented planting cannot be claimed for any cause of loss prior to September 30, 2012.

Also, there must be evidence that insufficient soil moisture for germination of seed or progress towards maturity at the final planting date – not just when you planted the wheat. Final planting date for MO counties north of the Missouri River is October 31; for counties south of the Missouri River, it is November 15. Farm records and newspaper reports are not acceptable evidence of insufficient moisture. Acceptable documentation would include local weather forecasters' reports and university records of weather conditions. The U.S. Drought Monitor can be used as supporting evidence but not as sole evidence. The insurance provider will take into account whether other producers with similar characteristics also were prevented from planting their crops. In short, prevented planting payments on insured acres may occur but be prepared for a thorough study to prove that it was a natural phenomenon that caused the problem.

How does insurance treat wheat that is planted but results in a poor stand because of poor soil moisture conditions? In this case insurance would consider the crop insured and treat it as a production problem that needs to be managed but can earn an indemnity if yields are sufficiently affected.

Besides soil moisture conditions at planting, atrazine carryover is a concern that could affect crop insurance. If a farmer would like to plant wheat following corn but is concerned that atrazine is still present in the soil, crop insurance has no good option for him. Planting wheat into soil with atrazine is not a generally recognized good production practice and therefore not covered by insurance. If the farmer goes ahead with planting wheat into soil with atrazine carryover, damages would not be covered by insurance. Don't purchase insurance for wheat when you are concerned that you will not be able to plant or that production will be negatively impacted due to atrazine carryover.

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Soybean Rust Not Expected to Damage Soybean in Missouri During 2012

By Allen Wrather

Asian soybean rust has not yet been found in Missouri this year, and this is good. I don't expect rust will cause any damage to soybean in Missouri even if it does develop this year because the growing season is almost over. Rust has developed on soybean in Missouri during September and October in previous years when spores were moved from the southern USA to our state, but the disease did no damage because the soybean crop was almost mature by then. Rust spores may have been moved from the southern USA to Missouri last week by tropical storm Isaac. As a result, symptoms may be found somewhere in Missouri in about 2 to 3 weeks. However, there were few spores in the south available for movement north because this disease has not been a serious problem on soybean in the southern USA this year. In 2009, soybean rust was severe in the southern USA, and a tropical storm moved spores from there to our area around September 11. Diseased plants were found in southeast Missouri about two weeks later. This is not the situation this year. I expect some symptoms of rust may be observed on Missouri grown soybean in September or October this year but do not expect any damage. Please call me if you have questions about this situation. I am most accessible by calling my mobile phone, 573-379-0259. More information about the spread of rust in the USA is available at www.sbrusa.net.

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Drought Impact on 2013 Crop Insurance

By Ray Massey

To add insult to injury, the drought's effects on this year's yields will affect next year's insurance. Low yields reduce your Actual Production History (APH) yields that determines your level of protection.

Low yields in 2012 will reduce 2013 APH yields on many farms. However, there are two factors that could potentially reduce the size of the APH yield declines. The first is that that a producer can request to have any yield in the yield history replaced by 60% of the T yield. The T yield is specific to a crop in a county. Table 1 shows 2012 non-irrigated corn, soybean and grain sorghum T yields for Missouri counties. In 2012, some farms will have yields below 60% of the T yield. These farmers should request to have their actual yield replaced by 60% of the T yield.

To illustrate, take a farm in Saline County where the T yield for corn is 154 bushels per acre (see Table 1). If the farm has a yield below 92.4 bushels (154 bushel T yield x 60%), that farm could ask to have its actual yield replaced by 92.4 bushels per acre. This substitution will limit yield declines.

Take a Saline County farm with a 10-year yield history where the historic yields exactly equal the county averages in each year. This farm would have had a 2012 APH yield of 154 bushels per acre. If this farm has a yield below 92.4 bushel yield in 2012, a 92.4 bushels yield could be used in the APH yield calculation, resulting in an a 2013 APH yield of 148 bushels per acre. This farm's APH will decline by 6 bushels between 2012 and 2013. Using a lower actual yield than 60% of the t yield would result in more of an APH yield decrease.

The second factor limiting APH yield declines is that there is 10% limit on a decline in the APH yield from one year to the next. Take the Saline County farm with a 2012 APH yield of 154 bushels per acre. The 2013 cannot be below 138.6 bushels per acre (154 APH yield x 90%).

While APH yields will decline, the Trend-Adjustment Endorsement will be available in 2013. This endorsement will act to increase yields used in guarantee calculations in the recognition that average corn and soybeans yields have increased over time.

Table 1 is on pages 101 & 102...

Note: this is an adaption for Missouri of an article written by Gary Schnickey of the University of Illinois

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Drought Impact on 2013 Crop Insurance

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Table 1. 2012 Crop Insurance Transition Yields

County	Corn	Soybeans	Grain Sorghum
Bushels per acre			
Adair	131	39	82
Andrew	136	43	74
Atchison	147	47	72
Audrain	122	40	95
Barry	114	25	55
Barton	125	20	78
Bates	123	26	78
Benton	105	32	75
Bollinger	128	35	69
Boone	119	38	84
Buchanan	141	42	77
Butler	127	34	53
Caldwell	108	34	69
Callaway	119	39	85
Camden	97		
Cape Girardeau	143	34	82
Carroll	140	41	79
Cass	119	34	72
Cedar	104	21	71
Chariton	141	42	81
Christian	114		
Clark	137	40	78
Clay	145	41	75
Clinton	130	42	69
Cole	131	38	77
Cooper	129	40	81
Crawford	71	32	55
Dade	116	26	78
Dallas	99		
Daviess	115	36	80
DeKalb	112	37	72
Dent	71		50
Douglas			40
Dunklin	122	26	57
Franklin	135	40	70
Gasconade	116	37	73
Gentry	123	38	75
Greene	117	25	
Grundy	119	37	82
Harrison	124	38	72
Henry	95	24	76
Hickory	97	30	66
Holt	155	47	75
Howard	143	41	78
Jackson	128	38	79
Jasper	121	25	78
Jefferson	126	40	67
Johnson	115	34	67
Knox	138	41	82
Laclede	109	29	55
Lafayette	148	45	70
Lawrence	116	22	61
Lewis	132	42	88
Lincoln	117	38	81
Linn	121	38	78
Livingston	124	37	92
McDonald	114		
Macon	138	41	88
Madison	114	26	55
Maries	91	29	71
Marion	138	43	85
Mercer	130	39	72
Miller	108	34	69
Mississippi	158	34	65
Moniteau	108	36	71

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Drought Impact on 2013 Crop Insurance

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Table 1. 2012 Crop Insurance Transition Yields *(continued from page 101)*

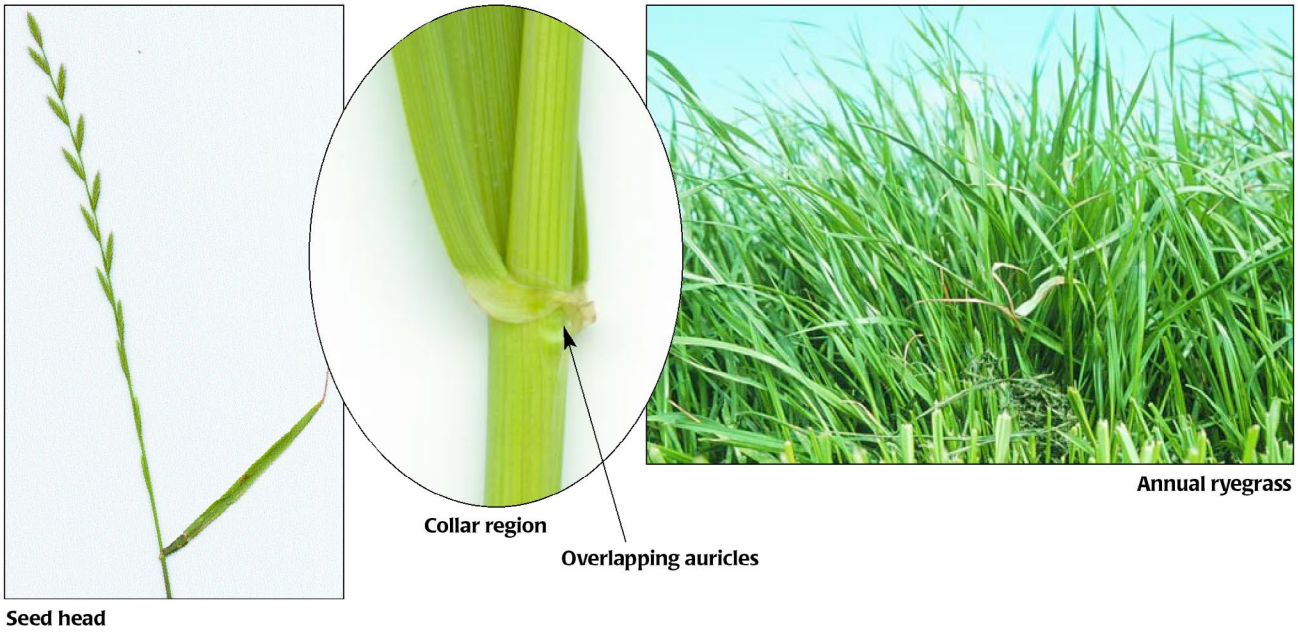
County	Corn	Soybeans	Grain Sorghum
Bushels per acre			
Monroe	127	41	88
Montgomery	118	40	89
Morgan	109	36	76
New Madrid	145	34	59
Newton	100	25	57
Nodaway	131	44	72
Osage	133	40	80
Pemiscot	124	34	56
Perry	145	34	76
Pettis	115	35	75
Phelps	71		
Pike	122	38	88
Platte	139	42	80
Polk	99		
Pulaski	109		
Putnam	132	39	82
Ralls	126	40	94
Randolph	124	40	81
Ray	141	39	69

County	Corn	Soybeans	Grain Sorghum
Bushels per acre			
Ripley	145	34	68
St. Charles	143	45	78
St. Clair	107	27	75
Ste. Genevieve	138	34	73
St. Francois	108	32	57
St. Louis	137	41	
Saline	154	46	71
Schuyler	132	38	82
Scotland	136	41	82
Scott	159	34	54
Shelby	132	42	98
Stoddard	132	34	56
Sullivan	117	36	77
Vernon	125	26	80
Warren	132	40	77
Wayne	145	35	61
Webster	117		
Worth	131	38	78
Wright	114		

Forage of the Month: Annual Ryegrass (*Lolium multiflorum* Lam.)

By Rob Kallenbach

Annual ryegrass is increasingly being used for fall and winter pasture, particularly in southern Missouri. Annual ryegrass is easy to establish and, under ideal conditions, capable of producing 2,000 to 3,000 lb/acre of forage within 60 days of planting. If you manage to leave a 3- to 4-inch stubble, total season yields can approach 13,000 lb/acre in southern Missouri. Annual ryegrass retains its forage quality well over winter. In a vegetative state, annual ryegrass is often more than 18 percent crude protein and has acid detergent fiber (ADF) levels of less than 26 percent. As a result, all classes of livestock produce well on it. The drawbacks to annual ryegrass are a lack of winter hardiness, particularly from unadapted cultivars, and annual establishment costs.

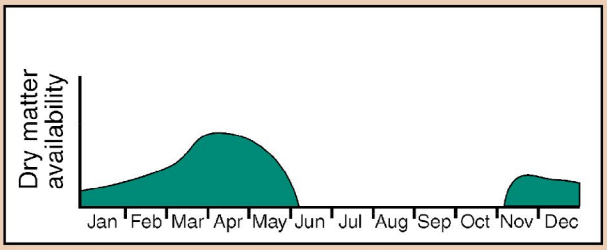


Annual ryegrass

Seed head

Origin: Southern Europe
Adaptation to Missouri: Best adapted to southern Missouri.
Growth habit: Nearly sod-forming annual bunchgrass.
Blade: Rolled in bud, bright green, upper surface dull, prominently ridged, lower surface smooth, glossy, keeled, smooth margins.
Sheath: Smooth, split, green, pink at base.
Ligule: Obtuse, membranous, ~1/15 inch long.
Auricles: Overlapping, pointed, blunt and distinct.
Seed head: Flat, awned, spikelets alternate edgewise up stem.
Fertilization: 75 lb N/acre at establishment. Apply an additional 40 to 60 lb N/acre in late February and again in early April. Phosphorus and potassium to soil test.
Timing of production: 60 percent of growth from Feb. 1 to May 1.

When to begin grazing: When the grass reaches 6 to 8 inches in height.
When to cut for hay: Early boot stage, typically in late April.
Lowest cutting or grazing height: 3 inches
Fall management: Grazing possible in late fall if a 4-inch stubble is maintained throughout winter.



Yield distribution of annual ryegrass in Missouri.

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Unusually dry soil profiles might harm fall wheat growth

By Bill Wiebold

Winter wheat planting in Missouri is only a couple of weeks away. The number of wheat acres in Missouri has fluctuated widely during the past 5 years from a high of 1,250,000 in 2008 to a low of 370,000 in 2010. Although the acreage will still be far below the nearly 3 million acres of wheat planted in the early 1980s, wheat planting in fall 2012 might be larger than in the past several years. Grain prices remain high and some farmers might use winter wheat for a quick source of forage.

Several factors have contributed to the general decline and the fluctuation of wheat acreage in Missouri, including price competition from other crops, winter survival and diseases. But, fall weather also influences the number of acres planted and the emergence success of those acres that are planted. Dry fall weather can cause poor emergence because soils do not hold enough water to drive germination and emergence to completion. In the recent past, some falls growers have had to resort to irrigation, if available, to establish a stand.

Missouri is familiar with dry falls. The usual scenario that develops is dry soil in the upper several inches, but adequate moisture deeper in the soil profile. In that scenario, wheat seeds are planted in dry soil, but a small amount of rain is enough to stimulate germination. If the rapidly elongating seminal roots find moisture, seedlings will survive, grow, and prepare for winter.

This year an unusual scenario is likely to occur. The 2012 drought involved a large number of days of high evapotranspiration. Hot temperatures combined with low humidity and fast wind speeds literally sucked water from plants. Where ever crops were grown, the soil profile is extremely dry. Crop roots are excellent as exploiting soil for water. As deep as crop roots grew this summer, the soil profile has little to no plant available water.

Recent rains have wetted the top layer of soil in many locations in Missouri. So, the scenario this fall may be adequate moisture in the top several inches, but dry soil deeper in the soil profile. Most Missouri soils wet slowly. A 0.5-inch rain may only wet dry soil to about one inch in depth. Each rain event helps alleviate the potential problem, but it may take nearly 8 to 12 inches to wet the soil deep into the profile.

If this second scenario remains, wheat will be planted into soil wet enough to allow germination and emergence to proceed. Unfortunately, crop roots will not extend into dry soil, so rooting depth may be shallow. A shallow root system means that wheat plants will be highly affected by fluctuating dry and wet periods. Most of the tillers necessary for high yield are initiated during the fall. Roots need to supply enough water to the plant for the plant to remain healthy and capable of producing tillers. A shallow root system combined with intermittent dry periods may reduce tiller numbers.

Wheat plants also need to acclimate during cool fall weather, so that they can survive winter temperatures. Young wheat seedlings can be harmed by temperatures slightly less than 32°F, but acclimated plants can survive temperatures as cold as 0°F. Plants suffering from even minor drought stress may not be able to prepare for winter, increasing the likelihood of winter kill.

As we learned during the summer, our soils vary widely in their water holding capacity, even within a field. So, variation in wheat plant health will be visible if soil profiles remain dry. Unfortunately, there is little a person can do to rectify the scenario. Conservation tillage increases water infiltration and reduces runoff, and this might lead to deeper water percolation. Managing wheat to reduce soil compaction and produce a healthy root system will enable plants to better withstand short periods of dry weather.

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Late Season Soybean Diseases

By Laura Sweets

This year has been a challenging one or soybean production in Missouri. Drought and heat have had a major impact on the crop. However, there are still some biotic diseases showing up in fields across the state. Plants may still be showing symptoms of late season Phytophthora root rot, sudden death syndrome (SDS) and Cercospora leaf spot/blight as well as of the soybean vein necrosis virus that has been so prevalent this season. Charcoal rot is being reported from most areas of the state. This is also the time of year when anthracnose and pod and stem blight may show up on maturing soybean plants. Losses from soybean cyst nematode continue to be a problem. This would be a good year to sample fields for SCN.

Yield losses from these various late season diseases will vary depending on when symptoms began to occur, number of plants infected, severity of disease in infected plants and weather conditions from now to harvest. In some cases although yellowing of the upper nodes may be quite widespread and spectacular in a field, damage is limited to the uppermost leaves and pods so yield loss should be minimal. In other cases, especially with sudden death syndrome, the entire plant may have been killed prematurely. If large areas of a field are thus affected, yield losses will be greater. Although it is too late in the season to do much to control these diseases this year, management strategies to prevent or minimize these diseases next season are also given below.

Late Season Phytophthora Root Rot

Wet conditions after planting regardless of planting date increase the likelihood of Phytophthora root rot. Phytophthora may cause seed decay and seedling blight but it can also cause symptoms later in the season as plants move into reproductive stages of growth. Infected older plants show reduced vigor through the growing season or die gradually over the season. Lower leaves may show a yellowing between the veins and along the margins. Upper leaves may yellow. The stems show a characteristic brown discoloration that extends from below the soil line upward and even out the side branches. Eventually the entire plant may wilt and die. Withered leaves remain attached even after the plant dies. Preventive measures are the main means for managing Phytophthora root rot. Select varieties with race-specific resistance, tolerance or a combination of the two, plant in good seedbed conditions, tile to improve drainage, take steps to reduce compaction, rotate crops and use an appropriate fungicide seed treatment.

Sudden Death Syndrome

Symptoms of sudden death syndrome (SDS), caused by a strain of *Fusarium virguliforme*, may appear several weeks before flowering but are more pronounced after flowering. Foliage symptoms begin as scattered yellow blotches in the interveinal leaf tissue. These yellow blotches may increase in size and merger to affect larger areas of leaf tissue. Yellow areas may turn brown but veins remain green giving the leaves a striking appearance. Infected plants may wilt and die prematurely. Severely affected leaflets may drop off the plant leaving the petiole attached or may curl upward and remain attached to the plant. Root systems may show deterioration and discoloration of lateral roots and taproot. When split open, internal tissues of the taproot and stem may show a light gray to light brown discoloration.

Management options for SDS are somewhat limited but should include planting varieties which have performed well where SDS has been a problem, improving drainage in poorly drained fields, avoiding compaction, staggering planting dates, delaying planting until soils are warm and dry, avoiding continuous crop soybean, maintaining good crop vigor, avoiding crop stress including stress from soybean cyst nematode and harvesting fields with SDS in a timely fashion.

Septoria Brown Spot

Septoria brown spot causes small brown spots on the unifoliolate and lower trifoliolate leaves. The individual spots may run together forming irregularly shaped brown blotches on the leaves. Infected leaves may yellow and drop prematurely. Brown spot usually starts on the lower portion of the plant. Under favorable weather conditions (warm, wet weather), the disease may move up through the plant. Brown spot was evident in many Missouri soybean fields earlier this season. But late season rains can trigger a reoccurrence of Septoria brown spot. Symptoms move up through the canopy of soybean plants. Lower leaves may show heavy spotting, yellowing and dropping prematurely. Upper leaves may also show spotting and yellowing. Some fields which have a yellow cast from the road may be showing symptoms of Septoria brown spot rather than SDS.

The fungus which causes this disease, *Septoria glycines*, survives in infested residues left on the soil surface. Fields with continuous soybean production are more likely to show damage. Planting disease-free, good quality seed of resistant varieties, rotating crops with at least one year

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between soybean crops and maintaining good plant vigor should reduce losses from Septoria brown spot.

Cercospora Leaf Spot and Purple Seed Stain

Cercospora kikuchii can infect soybean seeds, pods, stems and leaves but is most commonly found on the seed. However, this year we are seeing some cases of leaf spot or leaf blight caused by this fungus. Infection is primarily occurring on the uppermost leaves and begins as reddish purple to reddish brown, angular to somewhat circular lesions on the soybean leaves. These lesions may coalesce to kill larger areas of leaf tissue. The uppermost trifoliolate leaf and petiole may be blighted and brown. One striking symptom of this disease may be the premature yellowing and then blighting of the youngest, upper leaves over large areas of affected fields. In most fields, the symptoms have not progressed down the plants more than one to two nodes. Pods at the uppermost node may develop round, reddish purple to reddish brown lesions. This pathogen may also infect seed causing purple seed stain. Infected seed show a conspicuous discoloration ranging in color from pink to pale purple to dark purple. The discoloration may range from small specks to large blotches which cover the entire surface of the seed coat. Temperatures of 82-86°F with extended periods of high humidity favor disease development.

At this point in the season control of Cercospora leaf spot and purple seed stain is not feasible. It is important to remember that since this fungus can infect the seed, seed from heavily infected fields should not be used for seed. If infected seed must be planted, seed lots should be thoroughly cleaned and an appropriate seed treatment fungicide used. Rotating soybean with crops other than legumes will also help reduce Cercospora leaf spot and blight in future soybean crops.

Colletotrichum species

Colletotrichum truncatum and several other *Colletotrichum* species cause anthracnose of soybean. Typically, anthracnose is a late season stem and pod disease of soybean. Symptoms occur on stems, pods and petioles as irregularly shaped, light to dark brown spots, streaks or lesions. Eventually black fungal structures may be evident in these lesions. Anthracnose may also cause tip blight. The tip blight phase of anthracnose causes a yellowing or browning of the uppermost leaves and pods. The blighted tips may dry up and die prematurely. Anthracnose is favored by warm, wet weather, and the tip blight phase of anthracnose is most likely to occur after a rainy period.

Again, at this point in the season control of anthracnose is not feasible. This fungus may also infect seed so seed from heavily infected fields should not be used for seed. If infected seed must be planted, seed lots should be thoroughly cleaned and an appropriate seed treatment fungicide used. Rotating crops with at least one year out of soybean will also help reduce anthracnose.

Pod and Stem Blight

Phomopsis longicolla and the other *Diaporthe* and *Phomopsis* species that cause pod and stem blight and Phomopsis seed decay can survive in infested crop residues, in the soil and in seed. Symptoms usually develop on stems of plants during later reproductive stages of growth.

Pod and stem blight infected plants may be stunted and their stems discolored. Black pycnidia or fruiting bodies of the cause fungi develop on the lower portion of the main stem, branches and pods as plants reach maturity. The pycnidia may be limited to small patches near the nodes or may cover dead stems and pods. On stems, pycnidia are usually arranged in linear rows while on pods they are scattered across the pods. The fungi may grow through the pod walls and infect the seed causing Phomopsis seed decay. Infected seed is usually oblong in shape, somewhat shrunken or shriveled and covered with a white mold growth.

Although prolonged periods of wet weather during flowering and pod fill favor the development of pod and stem blight, the rains since Labor Day have been enough to trigger low levels of this disease this year. If wet weather continues through harvest, levels of Phomopsis seed decay may increase.

At this point in the season control of pod and stem blight is not feasible. Management options include rotating crops with at least one year between soybean crops and planting disease-free seed.

Soybean Cyst Nematode

Symptoms of soybean cyst nematode (SCN) range from no obvious symptoms to subtle differences in plant height and vigor or unexpected decreases in yield to severe stunting and discoloration of plants or dead plants. Foliage symptoms may include a yellowing of leaves from the margin inward or a general yellowing of leaves. But such foliage symptoms are also caused by a number of other factors including root rot diseases, nutrient deficiencies, herbicide injury and compaction, so foliage symptoms should not be used to diagnose SCN.

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Late Season Soybean Diseases

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Plants with SCN may have poorly developed root systems, if plants are carefully dug up, females may be evident on the roots. The females appear as tiny (smaller than nitrogen-fixing nodules), whitish to yellow to brownish, lemon-shaped structures on the roots. Symptom expression may be more severe if plants are subjected to other stresses such as moisture stress, nutrient deficiencies, herbicide injury, insect damage or other diseases.

Charcoal Rot

Symptoms typically begin to develop as plants move into reproductive stages of growth. Infected plants are less vigorous and have smaller leaves. Leaves may turn yellow and wilt. Leaves eventually turn brown and have a dry appearance. The taproot and lower stem develop a silvery gray to light-gray discoloration of the epidermis (outer layer of the soybean stem). The epidermis may flake or shred away from the stem, giving the stems a tattered appearance. Fine black specks or microsclerotia may be evident in tissues below the epidermis and eventually in epidermal tissues. Symptoms may develop on scattered plants, in circular to oval patches in a field, in drier areas of a field or across much of a field. Charcoal rot is favored by drought conditions so may be more prevalent than usual in much of Missouri this season. Management options for charcoal rot include rotating crops, maintaining good crop vigor to help reduce losses from charcoal rot and irrigating properly from just before bloom to pod fill.

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Weather Data for the Week Ending September 26, 2012

By Pat Guinan

Station	County	Weekly Temperature (ºF)						Monthly Precipitation (in.)		Growing Degree Days‡	
		Avg. Max.	Avg. Min.	Extreme High	Extreme Low	Mean	Departure from long term avg.	September 1-26	Departure from long term avg.	Accumulated Since Apr.1	Departure from long term avg.
Corning	Atchison	76	44	86	33	61	-1	1.49	-1.40	3638	+381
St. Joseph	Buchanan	74	51	85	38	63	+1	1.31	-2.46	3892	+652
Brunswick	Carroll	75	45	84	32	60	-2	3.18	+0.27	3796	+511
Albany	Gentry	75	42	86	29	59	-2	0.79	-2.28	3694	+511
Auxvasse	Audrain	76	48	83	36	61	-2	1.78	-1.89	3897	+564
Vandalia	Audrain	74	48	83	35	61	-1	0.75	-2.84	3865	+582
Columbia-Bradford Research and Extension Center	Boone	75	49	83	37	62	-1	1.76	-1.74	3863	+444
Columbia-Capen Park	Boone	77	47	85	34	61	-3	1.64	-1.82	3734	+201
Columbia-Jefferson Farm and Gardens	Boone	75	51	82	39	63	0	1.66	-1.76	4011	+582
Columbia-Sanborn Field	Boone	76	53	84	40	64	0	1.68	-1.84	4220	+681
Columbia-South Farms	Boone	75	50	83	37	63	0	1.73	-1.78	4007	+584
Williamsburg	Callaway	75	48	83	35	61	-2	2.20	-1.70	3913	+639
Novelty	Knox	72	46	81	36	59	-3	3.56	+0.28	3605	+391
Linneus	Linn	74	46	83	33	60	-2	4.65	+1.63	3737	+568
Monroe City	Monroe	73	46	81	34	60	-2	2.76	-0.74	3749	+476
Versailles	Morgan	77	51	86	38	64	0	2.41	-1.37	4207	+707
Green Ridge	Pettis	76	51	82	35	63	0	2.63	-1.54	4023	+719
Lamar	Barton	77	55	86	45	66	+1	6.66	+2.02	4164	+511
Cook Station	Crawford	76	48	89	34	62	-2	5.33	+1.39	3745	+254
Round Spring	Shannon	77	47	88	35	60	-4	3.73	+0.07	3607	+249
Mountain Grove	Wright	76	51	86	37	63	0	4.27	+0.06	3822	+490
Delta	Cape Girardeau	79	50	87	37	64	-2	4.11	+0.92	4034	+179
Cardwell	Dunklin	82	54	91	45	67	-1	4.20	+1.36	4317	+144
Clarkton	Dunklin	82	52	92	42	66	-2	3.15	+0.05	4328	+215
Glennonville	Dunklin	81	53	90	43	67	-1	3.11	+0.07	4340	+253
Charleston	Mississippi	80	52	89	41	66	-1	3.82	+0.93	4289	+396
Portageville-Delta Center	Pemiscot	82	55	91	46	68	0	3.15	+0.03	4545	+403
Portageville-Lee Farm	Pemiscot	81	54	90	44	67	-1	4.96	+1.77	4493	+382
Steele	Pemiscot	83	54	92	44	68	-1	2.38	-0.52	4583	+434

‡Growing degree days are calculated by subtracting a 50 degree (Fahrenheit) base temperature from the average daily temperature. Thus, if the average temperature for the day is 75 degrees, then 25 growing degree days will have been accumulated.

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