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**PIONEER PREMIUM SEED &
TREATMENTS, CROP INSURANCE,
AGRONOMY SERVICES, FIELD DAYS,
SEED WHEAT, SEED DELIVERY, AND
PERSONAL SERVICE**

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ALFALFA SEED & INOCULANTS

Premium alfalfa is in somewhat limited quantities. If you are considering planting fall seeded alfalfa please try to let us know as soon as possible. Blended alfalfa is in good supply at present.

Alfalfa: Pioneer has a good supply of Alfalfa varieties, for fall seeding in both blends and pure lines available.

Inoculants: Silage, high moisture grain, and alfalfa inoculants are also all available. All inoculants are in good supply, but some are a special order item, so plan ahead.



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FUNGICIDE MANAGEMENT OF GRAY LEAF SPOT

The time to make decisions for fungicide management of gray leaf spot is rapidly approaching. Tasseling has already begun in Kansas. Over the next few weeks, corn in the state will be at the critical juncture for making fungicide application decisions for gray leaf spot management.

Gray leaf spot has already been found on corn this year in Pottawatomie and Harvey counties when the corn was only in the V7 stage of development. In Harvey County, the levels were well above what you would expect to find at that stage of development.

University fungicide trails reveal that final disease severity plays a critical role in the magnitude and consistency of yield response to a foliar fungicide application. The tricky part is being able to predict before the VT to R1 stages what the disease pressure will be several weeks later. To make such a prediction, you need to consider “disease risk factors” and to scout for disease.

Disease risk factors include:

1. Hybrids that are more susceptible to fungal foliar diseases will have a great response to a foliar fungicide (if disease pressure is high enough)
2. Previous crop: Because gray leaf spot survives in corn residue, the risk of disease increases

when corn is planted back into a field that was in corn the previous year.

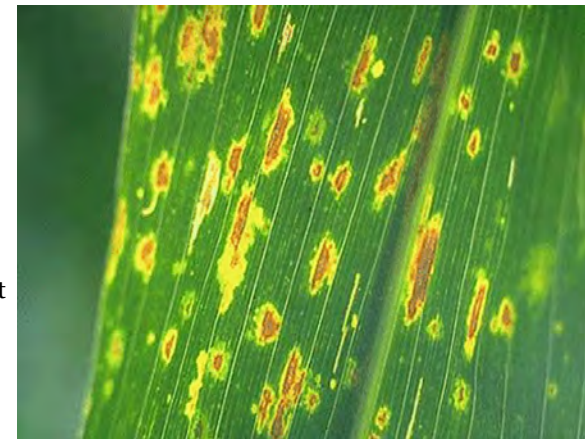
3. Weather: Rainy and / or humid weather generally is most favorable to gray leaf spot. In growing seasons when these conditions prevail, the risk for disease development increases.

4. Field History: Some field locations may have a history of high foliar disease severity. Fields in

river bottoms or low areas or surrounded by trees may be more prone to having gray leaf spot.

Begin scouting for gray leaf spot in corn about two weeks before expected tassel emergence. Gray leaf spot is characterized by rectangular lesions that are

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EFFECT OF HEAT STRESS ON CROPS

Producers in Kansas are familiar with the effects of drought stress on summer row crops. But high-temperature stress can also affect crop development and yields, and this is not always associated with drought stress. Row crops grown under full irrigation sometimes have below average yields in years when temperatures are unusually hot during the sensitive stages of crop development. If crop yields are less than expected given adequate rainfall or irrigation, look at temperatures during flowering and grain fill, which can explain part of yield variability across years.

Corn—By late July or early August, most of the corn in Kansas has been pollinated and is moving into grain filling. Within 10 to 14 days after pollination, a corn kernel can be aborted in response to drought stress combined with high temperatures. Once the kernels are at or beyond blister stage, the final kernel number won't change much but kernel weight can.

After the blister stage, yield is determined by grain fill rate and duration. Research has indicated that 72 Degrees F is the ideal temperature for grain fill in corn. The rate of grain fill usually goes up with higher temperatures, meaning that more dry matter is deposited in the grain on a daily basis at warm temperatures than at cold temperatures. The problem is that the duration of grain fill typically is reduced at high temperatures. There are fewer days available to deposit dry matter in the grain. The balance of these two responses to high temperatures determines how much yield might be reduced, if any.

 This month's topic is **CORTEVA AGRISCIENCE Identifying & Managing Gray Leaf Spot** type this into the search bar and it will show up for you. More videos can be seen @ Pioneer Seeds.

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THANK YOU FOR YOUR BUSINESS!

We want to thank all of you for planting Pioneer hybrids on your farm in 2020. The planting challenges were different this year than last planting season.

We appreciate you selecting Pioneer products for your acres and we want to continue to earn your business in the future

Mike McGinn & Family
Tye Engel & Family
Korey Carmichael & Family

Pioneer Field Day 2020 Update

You maybe wondering when the annual Field Day will be this year. With the current environment that we are all facing we do not feel that we can have our traditional Pioneer Field Day as we have had in the past.

Please be watching your email, texts, and mail for information about how this years event will be held. The format for this year is still evolving. When everything is set we will use all forms of communication to get the word out.

Plot signs are up on the irrigated corn and soybean plots west of the warehouse near Sedgwick. Nearby are dryland corn and soybean plots too. You are welcome to stop and walk the plots anytime.



TIPS FOR BETTER ALFALFA

With fall planting being right around the corner, now is the time to start making plans for your 2007–2008 hay crop.

- Field Selection** – Alfalfa requires a well-drained soil to produce top yields with high quality. This allows for less disease pressure from soil borne, stand reducing diseases such as Pythium, Phytophthora, and Aphanomyces. Field selection may be the most important decision in successful alfalfa production.
- Variety Selection** – Selecting the correct variety for your particular farm is another of the key decisions that will need to be made in order for you to have success. Make selections based on disease resistance, fall dormancy, winter hardiness, longevity, quality and yield. Give me a call for help on placement.
- Weed Control** – It is important to control weeds and grasses. Use recommended herbicides that have worked in your area. Always read and follow herbicide labels. Do not forget to check recropping restrictions from any herbicides used in the previous crop.
- Insect Control** – Scout fields at least once per week until field is well established. Insects such as beet army worms, army cut-worms, and potato leafhoppers can be devastating to small seedlings. Lack of insect control is probably the most common problem I see when establishing alfalfa stands.

- Soil Fertility** – Soil testing, well in advance of planting is highly recommended so if liming is necessary it can be done at this time. A soil pH of 6.7-7.2 is optimum. When going for maximum quality and tonnage do not skimp on fertilizer. Alfalfa is a high user of phosphorus and potassium.
- Planting Date** – Fall Seeding – Mid August – Mid September (6 weeks prior to a hard killing frost) Spring Seeding – Early April-Mid May. Alfalfa will germinate at 38 degrees Fahrenheit, and is a very cool tolerant crop containing its own type of antifreeze. But when it reaches the 2nd Trifoliolate a temperature dip to 26 degrees Fahrenheit for four hours can kill the alfalfa seedling.
- Planting Rate** – 15-20 lbs./acre. One pound of alfalfa has approximately 220,000 seeds. One pound per acre equals about 5 seeds per square feet. Alfalfa only has a 10-50% survival rate the first year, which is why we need 20-30 plants per square foot the first year. Inoculate with a Rhizobium meliloti specific for alfalfa if field has not had alfalfa in it for three years. All Pioneer alfalfa seed comes pre inoculated but retreating will only increase Rhizobium count and could only help.
- Planting Depth** – No deeper than 1/2’ to 3/4’ in sand and 1/4’ to 1/2” in medium to fine textured soils.



EFFECT OF HEAT STRESS ON CROPS CONTINUED

A controlled-environment study in Canada in the 1980’s showed that increasing the day temperature (day/night temperatures of 95/59 vs. 77/59 degrees F) reduced yield by 42%. A more recent study at Iowa State compared increases in both day and night temperatures (93/77 vs. 77/68 Degrees F) during grain fill. The higher temperatures increased grain fill rate by 19%, but cut the duration of grain fill by 5 days, resulting in a 7% reduction in kernel size and 10% reduction in protein content. It is important to remember that these temperatures were imposed during most of the grain fill period. Actual temperatures can be even higher than these, but typically do not last the entire grain fill period.

Sorghum—According to research conducted by Vara Prasad, K-State crop physiologist, and others, the two stages of grain sorghum reproductive development most sensitive to high temperature stress are flowering and 10 days prior to flowering. In their research they used controlled environments to impose a day/night temperatures regime of 104/86 degrees F for 10 day periods at various stages of plant development. High temperatures stress in the pre-flowering and flowering stages caused maximum reduction in seed set, seed numbers, and seed yields. Early seed filling periods were more sensitive to high temperature stress than later periods.

Seed yield losses during post-flowering stages were mainly due to decreases in seed size. How are high temperatures reducing yields in sorghum? Lower seed yields were not the result of decreased leaf photosynthetic rates, as the rate of photosynthesis remained constant even under continuous exposure to high temperature stress. This suggests that high temperature stress reduced seed size by decreasing seed filling duration, without an increase in seed filling rate to help compensate.

Soybean—Exposure to heat stress during flowering results in pollen sterility and reduced seed set. Lower seed set under heat stress can be caused either by problems with pollen release or by decreased pollen viability or ovule function. The impact of high-temperature stress will be different for determinate and indeterminate varieties. Indeterminate varieties (typically MG IV and below) develop flowers over a longer period to time. Plants that are stressed by heat can compensate and form new flowers and seed set later if environmental conditions improve. Also, a decrease in seed set and numbers can sometimes be partially offset by greater seed size.

In contrast, determinate varieties (typically MG V and above) flower over a shorter period of time. Stress during this period can have a great influence on reproductive development. High temperatures soon after seed-set cause abortion of embryos, leading to fewer seeds per pod. Studies at The University of Florida, have shown that reduced seed size in soybean is a result of decreased seed filling rate. In addition to the impact on seed number and size, heat stress can reduce grain or seed quality. Heat stress increased the percentage of shriveled seed and influenced seed composition. Oil concentration increased with increasing temperature with an optimum at 77 to 82 degrees F, above which the oil concentration declined.

Seed protein concentration of soybean was constant at temperatures between 60 and 77 degrees F, but increased at temperatures above 77 degrees F. Oil and protein concentration were inversely related to heat stress during seed fill. Soybean plants grown at high day (95 degree F) and high night (86 degree C) temperatures produced seed with reduced germination and subsequent seedling vigor. Greater reductions in seed germination and seedling vigor were observed with longer duration of exposure to high temperatures, especially during seed fill and maturation.

FUNGICIDE MANAGEMENT OF GRAY LEAF SPOT CONTINUED

-2” in length and cover the entire area between the leaf veins. Early lesions are small, necrotic spots with yellow halos that gradually expand to full-sized lesions. Lesions are usually tan in color but may turn gray during foggy or rainy conditions. The key diagnostic feature is that the lesions are usually very rectangular in shape.

previous crop was corn, if there is 35% or more surface residue, and if the weather is warm and humid

For resistant hybrids, fungicide applications generally are not recommended.

Current disease management guidelines suggest the following criteria for considering an application of foliar fungicide.

For susceptible hybrids, if disease symptoms are present on the third leaf below the ear or higher on 50% of the plants examined.

For intermediate hybrids, if disease symptoms are present on the third leaf below the ear or higher on 50% of the plants examined, if the field is in an area with a history of foliar disease problems, if the

2020 WHEAT TEST PLOT RESULTS

BRAND	PRODUCT	TEST WT	MOISTURE	YIELD
LCS	Chrome	58.7	11.5	64.8
AgriPro	SY-Benefit	59.1	11.6	62.5
Westbred	WB4269	58.9	11.8	71.8
Westbred	WB4303	55.3	10.6	61.2
Westbred	WB4401	58.9	11.7	74.5
Westbred	WB4458	58.7	11.5	48.8
Westbred	WB4699	59	11.4	76.1
OGI	Double Stop	61	11.6	63.1
AgriPro	SY-Bob Dole	58.3	11.2	58.8
Wildcat Genetics	Larry	58.6	11.5	66.1
Wildcat Genetics	Zenda	60.5	11.7	56.5
AgriPro	SY-Monument	59.2	11.2	84.8

HAVE SOMETHING TO SELL?

IF YOU WANT TO ADVERTISE FARM EQUIPMENT OR FARM RELATED ITEMS YOU MAY DO SO FREE OF CHARGE. DEADLINE IS THE LAST DAY OF EACH MONTH. SEND YOUR AD TO SUSANNAH.MCGINN@PLANTPIONEER.COM

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NATIONAL YIELD CONTESTS

If you are interested in entering into any of these contests please call Susannah at the office to get registered!



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Crop Insurance today offers...Lots of choices, if you want a crop insurance agent that can help you make choices from a farmers perspective contact Steve McGinn 316-284-1935

