

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

GREEN STEM SYNDROME IN SOYBEANS

Green stem syndrome in soybean is a condition where the stem remains green while the seeds are mature and ready to harvest. In parts of the state, there are many fields of soybeans with brown pods but green stems (Figures 1, 2, and 3). A hard freeze will kill the leaves and stems, but it still may take a while for the leaves to drop if leaves are still green.

Producers can either harvest these soybeans now if the seed moisture is dry enough, or wait until the leaves have dropped and the stems have dried down. In most cases, it would be best to harvest sooner rather than later to reduce losses from shattering and lower seed quality. Harvesting beans before the leaves have dropped can be messy and gum up the combine, but at least the yield level will be maintained. Harvesting soybeans with green stems can be challenging. Make sure harvesting equipment is sharp and in top condition, and take it slow in the field.

Causes of green stem syndrome
What causes this unusual situation? It is most likely due to a combination of early-season stress, low pod counts, and improved late-season growing conditions.

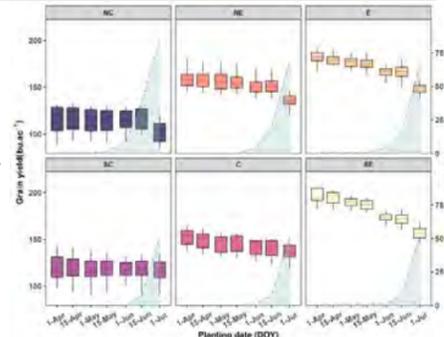
In a "normal" growing season, soybeans will accumulate carbohydrates and proteins in the leaves and stems up until seeds begin to form (R5). The leaves provide the photosynthates needed by the newly-formed seeds as they begin filling. As the seeds continue to get bigger, their need for photosynthates will eventually become greater than what the leaves can provide through photosynthesis. As this occurs, the plants will move carbohydrates and nutrients from the leaves and stems into the seeds. This can be referred to as "cannibalization" of the vegetative tissue (rapid senescence and defoliation), but it is a normal process. This eventually causes leaves to turn yellow and drop, and stems to turn brown and die.

The fewer the number of seeds, due to abiotic or

biotic stresses (this season mainly due to the dry/hot conditions), the lower the demand for photosynthates produced by leaves and stems. If demand is low enough, the leaves and stems are never "cannibalized" for their carbohydrates and protein. As a result, the leaves and stems will remain green longer than normal, even up through physiological maturity of the beans. Late-season rainfall can make the problem worse by keeping the plants alive after the seeds have dried down. It will take either a frost or chemical desiccant to kill the leaves and stems in this situation. If the leaves are still green and intact when pods have turned brown and have reached 13-14% moisture, it is usually an indication of mid-season stress around flowering/pod set and low yield potential – at least relative to the amount of foliage produced.

What can be done for harvesting purposes?
Eventually, freezing temperatures will kill the leaves and dry down the stems. Otherwise, the utilization of desiccants to kill leaves and drop the stem moisture down is a viable option, but only if the producer wants to harvest the field soon, before a freeze is likely to occur. If the stems and/or leaves are still green when the field is harvested, the best option is to harvest slowly and make sure the harvesting equipment is sharp and in excellent condition.

We recommend scouting your field right before harvest to better understand what environmental conditions led to the green stems. As always, make sure to time your harvest for the optimum seed moisture content in order to maximize the final grain volume to be sold.



Planting dates after mid-May decreased yields in eastern Kansas (Figure 2). In the central and south central regions, corn yields remained stable from early to late planting dates (April 1 to July 1), but significantly increased the risk of frost damage, with effects on yields, after June 15.

The north central region presented similar corn yields for rain-fed conditions when planted early (April 1) until late-planted times. After June 1, the frost risk increased up to 25%. Thus, late May/early June dates combined both adequate yields with low frost risk.

Similar scenarios are reported for the northeastern area, with corn yields under rain-fed conditions remaining stable but increasing the risk of freeze damage for mid-June planting dates (20%).

Comparable to the northeastern area, in the southeast region, corn yields were reduced with delays in planting date, with the major frost risk defined after June 15.

Summary
Opportunities for increasing yields and/or the number of crops per year were demonstrated mainly in the central and south central regions, either by:

- Delaying planting date to early- to mid-June (without any clear yield penalty) and including a cover crop for spring time (before the summer crop option), or
- Planting early (April), allows harvesting the crop by mid-September, following up with a winter crop option

This information is critical to re-evaluating the final planting dates and redefine the planting window for corn in Kansas.

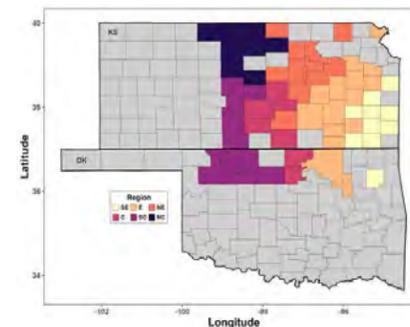
CORN PLANTING & FROST RISK IN CENTRAL & EASTERN KS

More Kansas farmers are using late-planting dates to diversify production risks; however, final planting dates for crop insurance eligibility provide a limit for late planting. Planting corn later in the season increases the chances of receiving late-summer rains and reduces the effect of heat stress during flowering. The lack of information about late planting makes it difficult to make management decisions concerning this practice.

A recent study was conducted at Kansas State University with the following objectives:

- Define corn-yield environments based on grain-yield levels and stability over time.
- Explore different combinations of hybrid maturity by planting date and the effects of these combinations on final corn yields.
- Quantify the season-ending frost-risk effect of delaying planting dates on yield.

Two sources of information were summarized for this study: a field study conducted to obtain detailed life cycle (crop phenology) data for corn, and crop simulations to transfer the approach to other regions. Corn yield environments were defined by grouping the mean yield and its corresponding standard deviation based on 30 years of weather data (Figure 1).



Results
Corn yield environments were defined across the state considering the optimal combination of hybrid maturity and planting date. The groupings were defined by clustering the mean yield and its corresponding standard deviation based on 30 years of weather data (Figure 1). Greater yields were attained with long-maturity hybrids (comparative relative maturity, CRM > 100).

FREE SOYBEAN CYST NEMATODE TESTING THROUGH K-STATE

Soybean cyst nematode (SCN) is a major problem in soybean fields throughout eastern and central Kansas. As of January 1, 2020, SCN was identified in 59 Kansas counties that produce >85% of Kansas soybeans. It is important to monitor SCN levels regularly to determine if management strategies, such as variety resistance and crop rotation, have been successful.

Immediately following harvest is the best time to check fields for SCN and start planning for next season. Confirming the presence of SCN and determining population levels is the basis for a successful integrated management program.

To make that process easier, the K-State Plant Disease Diagnostic Lab is now offering **free SCN testing for Kansas producers**. Detailed instructions for collecting and shipping samples to the K-State Plant

Disease Diagnostic Lab can be found in this recent eUpdate article: https://eupdate.agronomy.ksu.edu/article_new/free-soybean-cyst-nematode-testing-is-available-through-ksu-plant-disease-diagnostic-lab-518-3

Remember, your results will only be as good as the sample that you send to the lab!

You can also check out this short, informative video from the lab: Soybean Cyst Nematode-SCN Sampling 2022, <https://youtube.com/b6Eo0is110>.

Please note that the Plant Disease Diagnostic Lab will be closed from 12/26/2022 through 1/2/2023.

For more information, feel free to contact us at the K-State Plant Pathology Department at clinic@ksu.edu or call -1-785-532-5810

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PIONEER 2023 INFINITY PROGRAM



For 2023 Pioneer is continuing the Platinum, Gold, and Silver levels. Benefits and qualifications for each are listed. It's not too early to start planning for 2023.

Silver Level

QUALIFIERS

Invoice & Payment by Feb 24th 2023

BENEFITS

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BERKELEY 8X6 PUMP w/trailer. \$1000. 316-772-0147
1200 FEET OF GATED 8" PVC PIPE. 620-386-0569

WESTERN LAND ROLLER TAILWATER PUMP. SINGLE PHASE MOTOR 5 HP. 316-650-2678

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Steve McGinn
316-284-1935

UPCOMING AG MEETINGS AND SCHOOLS IN 2023

January 23rd - No-Till on the Plains—Wichita—www.notill.org

February 15th-17th — Women Managing the Farm Conference— Call 785-532-4016 to learn more

FOR THE FOLLOWING CALL 785-410-5009 OR REGISTER ONLINE AT KSCORN.COM/EVENTS

January 13th — Kansas Corn School—Salina, Hilton Garden Inn 8:30 am

January 26th — Kansas Corn Symposium—Salina, Hilton Garden Inn 12 PM

January 27th — Kansas Commodity Classic- Salina, Hilton Garden Inn— www.KansasCommodityClassic.com

February 2nd — Kansas Corn School—Virtual event at 6 PM



THE LENGTH OF THE KANSAS SUMMER GROWING SEASON

The summer growing season length for warm-season plants is defined as the number of days between the last spring freeze and the first freeze for warm-season annual plants, planting should generally be delayed until after the final freeze of spring due to the risk of plant injury. The first freeze of fall typically kills summer annual plants. The summer growing season length for warm-season plants is defined as the number of days between the last spring freeze and the first fall freeze. For warm-season annual plants, planting should generally be delayed until after the final freeze of spring due to the risk of plant injury. The first freeze of fall typically kills summer annual plants and forces warm-season perennials to go dormant.

The summer growing season length varies greatly across Kansas due to a substantial climate gradient from northwest to southeast. The average summer growing season length for warm-season plants in Kansas is 176 days, as measured at our Kansas Mesonet stations. Recently the state average was 193 days, almost 20 days longer than typical.

Also, despite several late-May freezes, the average final spring reading of 32 degrees F or less was April 18th, a week later than the climatology average of April 11th. Last fall freezes averaged two weeks later than the climatological average of October 28th.

Interestingly enough, with freeze date averages only suggesting a seven-day lengthening of the growing season, there was a wide range depending on location. This result likely stems from the fact that many of the early freeze locations had a very late fall freeze (mid-to-late November). For example, Cheyenne County had a summer growing season of 131 days (26 days less than the climatology average) with a last spring freeze in May and a first fall freeze in September. Meanwhile, Sedan in Chautauqua County had a summer growing season for of 231 days (28 days more than the climatology average), with a last spring freeze in April and the first fall freeze in November. That is a 100-day difference across Kansas!



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CORN SILAGE PERFORMANCE AND EVALUATION

Type this into the search bar to find it.

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PLANTER TEST STAND

Get your meters calibrated and repaired. We have a planter test stand for checking the accuracy of vacuum, finger pickup, and Kinze brush meter units.

This is something that we suggest should be done on a planter at least every other year. Contact Mike, Tye, or Korey for details and to schedule your test. We would really like to do these this winter instead during the spring rush.

Pricing is \$20/row before December 31st, \$25/row before March 1st and / \$30/row after March 1st.



MERRY CHRISTMAS AND HAPPY NEW YEAR!

As we approach the end of another year, we would like to take this opportunity to say Thank You for the business that you have given to us this past year. We appreciate your loyalty and friendship that you have shared with us. We want to continue to earn the opportunity to build a lasting relationship with you.

From all of us at Wildcat Agri-Services we want to wish everyone a Merry Christmas and a happy, healthy, and prosperous 2023!

