

Personal Column

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Crop Production Agent

What are some guidelines to follow with planting your soybean crop?

Well, some places around north central Kansas are waiting for moisture while others have been fortunate to receive some. Producers are busy this time of year moving equipment, planting along with other spring tasks, so be careful out there and be aware of this most precious commodity....our American farmer!

After considering the effects of genetic yield potential and the environment, **planting date** is one of the primary management practices under the farmer's control that can highly influence soybean yields. In recent years, Kansas producers have been planting soybeans slightly earlier. However, in past growing seasons, the "50% planting date" mark was achieved at a similar time, the first week of June, statewide.

Soybeans can be planted over a wide range of dates, including May 5 to June 30, depending on which part of the state you live in. For northcentral Kansas, generally the planting window is May 5 to June 10, but it also depends on adequate soil moisture conditions, as germination and emergence could be reduced and/or delayed in cool soils that are less than 60 degrees F. According to our KSU Mesonet Weather Data Library stations in Jewell, Mitchell and Osborne counties, the average 2" soil temperature in the last week for the three locations is 62° F. while the 4" average soil temperature is 60.5° F. So we should be good for planting now.

The **maturity group** of a soybean variety is also an important component of your cropping enterprise. The recommended maturity varies across Kansas by the area of the state. Generally, for northcentral Kansas, group three is the recommended maturity group.

Ultimately, weather patterns dictate soybean yields, especially under dryland conditions. There is no guarantee that any certain planting date will always work out the best when it comes to soybean yields in Kansas. In fact, the distribution and amount of rainfall and the day/night temperature variations around flowering and during the grain filling periods have large impacts on defining soybean yield potential. Thus, when the risk of drought stress during the growing season is high, diversifying planting dates may be a good approach to consider.

When planting early, seed should be treated with a fungicide and insecticide. Selecting varieties with resistance to soybean cyst nematode and sudden death syndrome is also advisable. Do not plant into soils that are too wet or until soil temperatures are close to 60 degrees F. We definitely don't have any problems with that right now as indicated earlier. But, if planted into soils cooler than 60 degrees F, seedlings may

eventually emerge, but will have poor vigor.

In drier areas of Kansas and on shallow soils, yields have been most consistent when planting soybeans in late May to early June. By planting during that window, soybeans will bloom and fill seed in August and early September, when nights are cooler and the worst of heat and drought stress is usually over.

The **optimum seeding rate** is one of the most influential factors for increasing soybean profitability as seed cost is one of the most expensive inputs. Soybean seeding rate, row spacing, and planting date are all tied together. The final number of seeds per linear foot of row decreases as row spacing narrows. For example, at a target population of 105,000 plants per acre and 85 percent germination, 30-inch rows will need twice the number of seeds per linear foot as 15-inch rows (6 vs. 3 seeds per linear foot). Seeding rate will need to increase at later planting dates to compensate for the reduction in the growing season since more plants are needed to increase early light interception and biomass production. Seeding rates generally range from 80,000 to 140,000 seeds/acre with the average around 110,000 seeds/acre depending on your yield environments. In summary, adjusting seeding rates reduces risks of yield losses especially in low yielding environments, while limiting higher seed costs especially for medium and high yield environments. Furthermore, soybean plant populations above the optimal plant populations increase the risk of lodging and disease development without adding a yield benefit.

The optimum **planting depth** is from 1 to 1 1/2 inches and be sure to use an **inoculate** to ensure adequate nodulation which provides approximately 50-60% of the total nitrogen demand.

K-State Research and Extension has an excellent publication, "[2024 Soybean Management](#)", that is available ONLINE or at any of our Post Rock District Offices. The publication is an excellent resource that provides detailed information on variety selection, planting, fertilization, insects, weed control and harvesting.

For further information on soybean production, contact me at any Post Rock Extension District Office in Beloit, Lincoln, Mankato, Osborne or Smith Center.

Post Rock Extension District of K-State Research and Extension serves Jewell, Lincoln, Mitchell, Osborne, and Smith counties. Sandra may be contacted at swick@ksu.edu or by calling Smith Center, 282-6823, Beloit 738-3597, Lincoln 524-4432, Mankato 378-3174, or Osborne 346-2521. Join us on Facebook at "Post Rock Extension" along with our weekly "Ag News Roundup" that is emailed to our ag listerv. If you would like to be included, simply email me. Also remember our website is www.postrock.ksu.edu and my twitter account is @PRDcrops.