

Soybean Planting and Replanting Decisions

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After many weeks of dry weather, most beans are still in the bag while many of the early planted beans have had a rough start.

As a rule of thumb, if there is very little to no soil moisture, it's best to wait for better conditions to plant soybeans. We still have several weeks of optimal soybean planting dates before we need to rush planting.

Soil Moisture

Currently, 100% of Virginia is in a drought with limited soil moisture and more sunshine in the forecast. While farmers are feeling rushed to plant their crops, we can maximize yield in soybeans planted through mid-May. It is better to plant into good conditions than to plant early into suboptimal conditions, as this will likely lead to a reduced plant population, uneven emergence, and increases the likelihood of replanting.

Soybeans can be planted into dry soil, which is often termed "dusting them in". In these situations, soybeans will wait for moisture to germinate, but the likelihood of seed death and reduced germination increases. If a light rain comes and provides enough moisture to begin swelling but not enough to germinate, the seed will die. If the soil temperature reaches 95 degrees, germination potential can decline quickly. And if a heavy rain occurs after planting in hot and dry conditions, the soil may crust, limiting emergence. While these risks increase, it is also possible for a nice steady rain to provide the moisture needed for emergence. With all things farming, it's a gamble, but the recommendation is to wait for optimal conditions to plant soybeans.

Freeze Damage

Many of the early planted soybeans across the state have spotty stands, and may even have freeze damage. Temperatures below 32 can damage soybean leaves, and the colder it gets and longer the freeze, the more severe damage is expected. If both cotyledons are dead, the soybean is dead and should not be counted when assessing stands.

The images below show soybean plants in Doswell, VA killed by the freeze event on April 21. This field was planted two weeks prior, emerged quickly due to the unseasonably warm weather in mid-April, but have now been mostly killed. Growers with soybean fields killed by freeze such as these should consider replanting if the remaining plant population is less than 75,000 plants per acre or large patches of the field are dead. Replanting should not occur in the current dry conditions but should wait until after a rainfall event when there is adequate.



Image 1. Frost damage to a soybean seedling, killing the seedling (left). Three soybean seedlings killed by frost damage in a row (right). Photos courtesy of Dr. Joseph Oakes.

Soybean Stand Counts

The best way to assess a field and make an educated replant decision begins with knowing the remaining plant population. There are several ways to do this, but the traditional way uses a known length of row based on the row spacing to easily calculate the plants per acre, following the simple steps:

1. Measure 1/1000th of an acre based on your row width (Table 1). For example, with a 30-inch row spacing, measure out a length of 17 feet, 5 inches in one row.
2. Count the number of living soybeans in the measured area.
3. Repeat this process at least 10 times across the field to capture the variability. Randomly select the locations and avoid selecting rows that do not represent the section of the field.
4. Average the counts and multiply the average number of plants by 1,000 to find the plant population per acre.

Row width (inches)	Row length representing 1/1,000 th acre
36	14 ft, 6 in.
30	17 ft, 5 in.
20	26 ft, 2 in.
15	34 ft, 10 in.
10	52 ft, 3 in.
7.5	69 ft, 8 in.

Table 1. Row length that represents 1/1,000th of an acre for each common row spacing.

Replant Decisions

Soybean emergence can be slow in suboptimal conditions, it is best to wait until the field has had moisture for 10-14 days before assessing the stand and considering a replant. Research has found soybeans can maximize yield with as few as 50,000 plants per acre (Southern US) to 75,000 plants per acre (Northern US) through the ability to increase branching in low population environments. However, in order for fields with low plant populations to maximize yield, it is important to have an even stand (no large gaps) and stay ahead on your weed control. If a replant is necessary, consider the herbicide labels for any pre-emerge products used to ensure that any residuals will not interfere with a replant. Repair planting can be used to replant patches of the field, while a complete replant may be needed in more severe situations.

For more information on replanting soybeans, visit the factsheet published by Science for Success at: <https://soybeanscienceforsuccess.org/2025/05/21/soybean-plant-stands-is-replanting-necessary/>

To view the current Virginia drought map, visit <https://www.drought.gov/states/virginia>

Questions? Feel free to reach out to [Dr. Joseph Oakes](#) and [Dr. Carrie Ortel](#).