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MANAGEMENT OF LATE-PLANTED SOYBEANS

In previous writings, the yield and economic advantages of early planting of early-maturing soybean varieties in the midsouthern U.S. have been touted. However, in years when planting is delayed by weather events or stands are lost to events such as flooding, soybeans will necessarily be planted in a later planting window.

This article will deal with the ramifications of later planting of soybeans. The items addressed are based on the fact that later-than-normal plantings in the midsouthern U.S. will require a management strategy that is different from that for earlier plantings.

An important practice that should be evaluated with delayed planting is the maturity group (MG) of the variety or varieties that will be planted on the late-planted acres. Using the [SOYMAP](#) resource as a guide in this decision is recommended (Click [here](#) for details about how to use SOYMAP and links to the accessory resources for this tool). This tool allows a producer to enter the planting date and latitude of the location that will be planted to find the best MG for that planting date at the designated location, as well as the estimated maturity date for the variety planted on an indicated date. It may be that seed of the variety or varieties already on hand to be planted will still be the best choice, but this tool will provide guidance for determining if that is the case, and for estimating when these late-planted soybeans will be ready for harvest (click [here](#) for a Planting Date White Paper on this website).

Also, [SOYSTAGE](#), a tool developed by scientists at the Univ. of Arkansas, can be used to predict when important reproductive stages of varieties in these late plantings will occur. Since SOYSTAGE initializes from emergence date and not planting date, be sure to record the emergence date that should occur about 5 days after planting at this late date.

Midsouth soybean producers will be at a significant disadvantage if plantings are delayed into June/early July. They should be aware that the disadvantage(s) from this uncommon occurrence must be recognized and addressed when they occur.

It is a foregone conclusion that late-planted soybeans in the midsouthern U.S. will yield less than early-planted counterparts, and that yield penalty cannot and will not be overcome by increased management of the later plantings. Thus, the below general management hints should be used as a guide to ensure that the maximum though reduced yield is realized from later plantings.

- [Research results](#) indicate that MG IV varieties can be planted with maximum though reduced yield expectation through mid-July.
- Preventing and/or alleviating short-term stresses during early vegetative development is more critical with later plantings. Therefore, [seed treatments](#) should still be used, even though the threat of seedling diseases associated with cool, wet soils is not considered serious in late plantings. Using a combination product that contains both fungicides and an insecticide is relatively inexpensive insurance to achieve an adequate stand and to prevent stand losses in these late plantings.
- It is not advisable to increase seeding rate in later plantings. Rather, check the percentage germination of seed to be planted in these later plantings. It is likely these seed were purchased several months earlier, or they may have been stored in less-than-ideal conditions; thus, their percentage germination will likely be lower than that stated on the tag. If this is the case, then adjust to a [normal seeding rate—about 140,000/acre](#)—accordingly. Click [here](#) for a seeding rate Fact Sheet on this website.
- Late-planted soybeans will have later calendar-date development and maturity, and this will necessarily mean a higher probability of detrimental infestations of both foliage and pod-feeding insects during their reproductive development. Thus, extra scouting will be warranted to ensure that these damaging pests are controlled to protect the already lower yields that will be realized from the later plantings. (See Annual/Final Reports for MSPB [Project No. 58-2014](#) and [Project No. 58-2016](#)). This will result in either increased cost associated with more spraying or unacceptable yield loss if control measures are not applied. Up-to-date information and advisories about pest outbreaks during the growing season are available on the [Mississippi Crop Situation](#) and [Arkansas Row Crops](#) blog sites. Click [here](#) for a Soybean Insect Management Fact Sheet that contains links to detailed information about soybean insect management.
- Planting late results in a higher risk of detrimental effects from drought during both vegetative and reproductive development. In irrigated plantings, this potentially means more irrigation before and/or during reproductive development with subsequent higher input costs. Information in the [Soybean Water Relations and Irrigation White Paper](#) and the [Mississippi Soybean Irrigation Guide](#) posted on MSSOY will help with irrigation decisions for late plantings.
- The threat of soybean rust to the midsouthern US soybean crop is always a major concern. Rust usually is detected in the region no earlier than late July/early August, which coincides with the early reproductive



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stages of varieties planted in late May/early June. Since these plantings will not reach R6 until about mid-September, they are susceptible to rust incursions during their entire reproductive period. Thus, they are more likely to require treatment to prevent or control late-season rust infestations that may occur. Up-to-date information and advisories on the occurrence and expected movement of soybean rust in the Midsouth will be available on the Mississippi and Arkansas blog sites (see above links).

- Late plantings will have less time to recover from stresses, especially during reproductive development. Therefore, it is critical that manageable stresses caused by pests, weeds, and drought are either prevented or are quickly identified so that remedial measures can be applied as soon as possible. This will require more frequent scouting.
- Later plantings will be ready for harvest when there is a greater probability of wet soil. Harvesting at this time usually results in some level of rutting that may require remedial tillage. This may interfere with a continuous no-till system in some years, but as stated in the [Tillage White Paper](#) on this website, this occasional tillage does not necessarily compromise the long-term goals of a no-till system.

Other important points to consider are:

- Do not till prior to replanting following a flood. Planting no-till will result in 1) the earliest possible planting after soil dries following flooding, 2) planting before weed emergence, and 3) conservation of soil moisture that will have been replenished by a flooding event. This third point is especially important since it is likely that seasonal rainfall will be low after planting late until the plants in these late plantings are well along in reproductive development.
- Plant in rows that are 20 inches wide or narrower to ensure canopy closure. Forming a crop canopy as quickly as possible in these later plantings is critical, especially since plants will be shorter than normal.
- Use a broad-spectrum seed treatment and inoculate seed with nitrogen-fixing bacteria. See the [seed treatment article](#) on this website.

- **Do not apply starter nitrogen fertilizer. Inoculants are cheaper.**
- Ensure a weed-free seedbed at planting. This may mean an additional burndown and/or residual herbicide application since those applied in anticipation of earlier planting likely will have lost their effectiveness. Any early-season competition from weeds will be more critical in these later plantings. A reasonable option is to apply a tankmix of a burndown/residual herbicide combination (see following point).
- Using preemergence (PRE) herbicides that require rainfall for activation will be a higher-risk practice because of the lower probability of summer rain following planting on these later dates. If PRE herbicides are used, be sure to match the herbicide rate with the soil texture to prevent any early-season stunting. Check with Weed Scientists/Specialists to determine the remaining activity of any PRE herbicide(s) that may have been applied to plantings that were lost to a flood.
- Prevent any early-season weed competition with the soybean crop after emergence. This means more intense scouting for weed emergence and more timely post-emergence herbicide applications following soybean emergence if residual herbicides are not used or are not activated by rainfall or irrigation.
- Finally, remember that nonirrigated yields will be low from these plantings and may not be profitable if expensive inputs for weed and pest control are required and used.

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