

After his four-year research on soybean planting dates, Dr. Jim Herbek, extension grain crops specialist with the University of Kentucky explains the window of time to achieve the best results.



Early Planting *Equals* Yield

Planting Date Matters When Focusing On Soybean Yield

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PRINCETON, KY,
Planting soybeans in a window between mid April to mid May in western Kentucky will result in a better yield, according to Dr. Jim Herbek, extension grain crops specialist with the University of Kentucky located in western Kentucky at the Research and Education Center.

His recent four-year research on soybean planting, funded by the Kentucky Soybean Promotion Board, was aimed at learning if planting date recommendations need to be modified.

"Prior to this we generally recommended the best dates were early May up to early June without any significant yield losses," he said. "However, things have changed and we wanted to go back and look at this. So we did a series of planting dates starting in mid April about every two weeks ending in early July which included seven planting dates during that time period."

This research was conducted from 2008 to 2011 and during that time there were tremendous differences in the weather environment. Two of the years were considered normal or very good growing seasons. Two of them, 2008 and 2010, were very drought stressed hot and dry summers.

"Thus, over the four years we did this, there were years that provided an exceptional yield potential and also dry years in which yield potential was limited," Herbek continued. "Irregardless, we found that if we planted in mid April, late April and early May, that gave us our highest yield for soybeans. Once we delayed planting to that next planting date which was around the third week in May, we started to drop off in yield and it continued to decrease as we went into early June, late June and early July.

"So despite the weather influence years, all four of the years showed our best yield occurred when planting was done prior to mid May," he said. "After that time, yield dropped off; and when we planted the third week in May we lost an average of five to six bushels per acre during that time period."

At today's soybean prices that's a loss of close to \$80 per acre. So planting date is very important. Over the five-year average in the state of Kentucky, only about 25 percent of the soybean acreage is planted by mid-May. Discounting the double-crop soybean acreage, which is about 30 percent in the state, that leaves about 45 percent of Kentucky's soybean acreage that does not reach optimum yield potential because they're planted after mid May. This research indicates that farmers need to plant soybeans earlier and plant prior to mid May in the state of Kentucky to take advantage of the yield poten-

tial.

"When we plant this early, we are planting at a time period where it's generally stressful," he added. "It's generally on the wetter side and it's definitely on the cooler side, so we have delayed soybean emergence which is one concern we've picked up in our studies here; it takes an average of two weeks for April plantings to emerge. Plantings in early May can take at least ten days to emerge; after that time period they all emerge within a week. Because of that delayed emergence we have a reduced stand.

"Our data on those earlier planting dates where we had our optimum yield potential showed we probably achieved a 70 percent to 75 percent stand," Herbek said. "So this needs to be taken into account when we're planting early. We don't want to reduce our seeding rates exceedingly low, because with a lower percent emergence we could achieve stands below 100,000 plants per acre. We need to keep seeding rates up there, take into account that we're probably going to have a lower percent emerge and strive to achieve at least 100,000 plants per acre."

Earlier plantings also possibly have more early bean leaf beetle infestation. When planting this early, there aren't that many soybean fields planted at that time, so the overwintering generation of bean leaf beetles tends to concentrate on these fields. As these soybeans emerge the bean leaf beetles can be quite stressful and damaging.

"So you need to scout these fields and spray or use an insecticide seed treatment," he recommended. "Also use high quality seed to assure you get a better stand. That means good germination, good vigor, and also use a fungicide seed treatment because with the delay in emergence the plants are more prone to infestation with soil borne diseases like pythium and phytophthora.

"To sum it all up, we need to be planting our soybeans, at least in the western part of the state of Kentucky, by mid May to achieve the full yield potential and to gain the extra yield and value of our soybeans," he said.

This soybean planting date research is backed up by Kentucky's soybean production contest. In this contest, three state awards are given for the three highest yields that are produced and entered in the soybean contest.

"I looked over the last five years and 80 percent of our state award winners, which is the three highest yields in the state each year, had planted by May 10," Herbek said. "This reinforces the soybean research we're doing here: To obtain optimum yield potential we need to plant soybeans early." △

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