

by Vic Schoonover
NTOK Cotton

Altus, Ok-Several months of drought, followed by recent welcome rains characterize the 2011 cotton season in Oklahoma. Cotton producers, particularly those in southwest Oklahoma, are smiling about the recent rainfall.

But regardless of the weather, there are some basic requirements farmers should always follow, according to Dr. Randy Boman, Oklahoma State University cotton program director.

"The most important equipment is the planter," he said, "It is important to double check bearings, discs, chains, vacuum system, plates and in-furrow insecticide boxes to make sure everything is in excellent working condition. Badly-worn parts should be replaced to contribute to planting and insecticide application precision. Seed and in-furrow insecticide tubes can be plugged due to insects, spiders and trash accumulation. It is a good idea to make sure delivery tubes are clean and flowing freely."

Boman explains stressful 2011 issues of temperature extremes (highs and lows), drought and wind are creating critical challenges to planting this crop.

"Even in better years, we need to realize there is a significant art to planter adjustment," he said. "Each field will likely need to be assessed and as many producers are aware, even the soil and moisture variability in a given field can result in planter adjustment concerns. Soil moisture (good seed to moist soil contact) level is critical in the zone immediately surrounding the seed. If too much dry soil is moved from the planting zone, hard crusting or "baking" behind the planter can occur, especially if high temperatures, wind and low humidity are a challenge."

Most modern planters, Boman said, have less likelihood of "baking" although it may still be a concern in some instances. Boman said seed should be planted in good moisture, probably not more than two inches deep, depending on the seed vigor, wind and heat forecast. Dry soil in the seed furrow or incomplete closing of the seed furrow may result in highly variable stands when difficult environmental conditions are encountered, he said.

So far as soil temperatures are concerned, Boman explains a good target is for soil temperatures to be at least 65 degrees at the four inch depth. Because of planting window constraints arising from the number of planters and acres to cover, he said, this can be a nearly impossible goal.

"In 2011, we have been provided a difficult hand of cards thus far," Boman said. "The good news is we have good soil temperatures across the region. The bad news is, until recent rains, we had poor soil moisture, if any, under dryland conditions. Dryland notill fields may be in better shape moisture-wise at greater depths, but for areas that did not receive rainfall recently, it is likely to still be too dry at the surface without a planting rain."

Concerning irrigation issues, most growers with center pivot irrigation opted to pre-irrigate this year to move some moisture into the soil profile, Boman said. Producers

with this type of irrigation could consider at three-quarters to an inch of spray irrigation following planting to help ensure a stand.

"Even if planted into reasonably good moisture, growers should watch their fields for moisture loss in the seed zone, especially if high winds and heat follow planting," Boman said. "If producers are planning to follow planting with a center pivot irrigation, the seed should not be placed more than one to one and a half inches deep, but make sure it is covered well with soil."

With furrow irrigation, like that practiced in the Lugert-Altus irrigation district, producers have been waiting for an extended period for an excellent rainfall event, Boman said. The reservoir is just under half-full at the time, he said, and it was initially thought that most of the available irrigation water will be expended on an "up-front" irrigation run. With the recent rainfall, it remains to be seen what will occur.

If later rainfall occurs in the North Fork of the Red River watershed area, then additional irrigation may become available later in the season, Boman said.

"With most of the irrigation district waiting for rainfall for quite some time now," he said, "this means all of the acres will be planted and will emerge later than normal."

"It will be important to ensure a reasonably uniform distribution of this water in order to ensure a good stand. Planting first and then furrow irrigating is a good strategy, especially if large acreages have to be planted."

"My experience with subsurface drip irrigation (SDI) tells me it is risky to "water up" dry planted cotton," he said. "The potential challenges are the amount of time and the delivery capacity of the drip tape."

"It is my understanding most of the SDI in the Lugert-Altus irrigation district was installed in an 80 inch alternate furrow manner. What this means is the water must penetrate the soil and move 20 inches laterally and soak the seed zone. Since none of the SDI has been pressured up and leaks located, this will have to be done rapidly. Some of the SDI acreage has been converted to no-till production."

"These no-till fields are likely in better condition with respect to moisture in the soil profile, plus the ground is relatively flat."

"Based on my previous observations," he said, "this should be a plus for the SDI to be able to effectively provide moisture in the seed zone."

The clean till fields with somewhat raised beds will likely be more of a struggle, Boman believes. With the cloddy upper soil structure, it may be important to not place the seed too deep with the planter, but adequate soil coverage will be important.

"The good news is once the irrigation water is applied, warm air and soil temperatures typically encountered this late in the growing season should result in a rapidly growing crop," he said.