High yield potential, prices prompt more High Plains cotton production

AgriLife Extension offers advice for first-time growers

With many producers in the northern High Plains considering planting cotton this year, some for the first time, one Texas A&M AgriLife Extension Service agronomist is advising that optimizing irrigation and fertility will be important to their bottom line.

The price of cotton right now is good and that is stimulating increased interest in the High Plains. (Texas A&M AgriLife photo by Kay Ledbetter)

Dr. Jourdan Bell, AgriLife Extension agronomist in Amarillo, recently spoke at the High Plains Irrigation Conference, and will repeat her Cotton Production 101 presentation twice this week – at 1 p.m. Feb. 21 at Wolf Creek Heritage Museum, state Highway 305 in Lipscomb, and 10 a.m. Feb. 23 at Ag Producers Agronomy Barn, 919 Liberal St. in Dalhart.

AgriLife Extension entomologist Dr. Ed Bynum, Amarillo, will also be on hand to discuss cotton insects, scouting and management at the various growth stages.

“The price of cotton right now is pretty good and that is stimulating this increased interest,” Bell said. “Also, we had record yields this past year, with most averaging 3.5 bales to the acre, while others harvested up to 4 or 5 bales to the acre, which is also intensifying interest.”

But growing cotton is a lot different than growing corn, she warned. A lot of management considerations were needed to make those yields.

“Cotton is a different ball of wax. The irrigation management and fertility issues are different,” Bell said, half-jokingly adding, “If you are planning to grow cotton for the first time, don’t plan on an extended summer vacation, because it requires your attention all the time.”

While cotton acreage has fluctuated with prices, there were 850,000 acres of cotton grown in the northern High Plains in 2016, and Bell expects acreage to reach that or higher this year.

“That’s more in this region than many other southern cotton production states,” she said.

Bell said one of the concerns raised at the gins is quality.

“New producers need to know they can and will be docked for the quality,” she said. “Micronaire, leaf and color grade in addition to high moisture at harvest all need to be managed to enhance high lint yields.”

Some of the increased interest is due to producers finding cotton fits well in their operations if water is limited, Bell said. It provides the ability to plant half the circle to corn that is irrigated at a higher rate and the other half to cotton which can be irrigated at a reduced rate.

This strategy provides many producers an ability to manage lower well capacities and continue to keep corn in their rotation, she said.

But producers still have the question, “We can make the pounds, but how can we maximize the quality?” Bell said they recognize that additional profitability comes with the quality.

Both lint and quality are needed to maximize production. Quality factors include fiber length and strength; the micronaire, or thickness; uniformity and leaf grades, all of which are considered for the fiber to make a premium grade.

“I have had a few producers comment that they can manage quality through variety selection, but that is only part of the story,” Bell said. “The length and strength of the fiber is strongly controlled by variety, but adverse conditions can still impact development. Micronaire is only about 50 percent genetics, the rest is management.”

So, what affects micronaire development?

The fiber thickness actually begins to develop at flowering. Epidermal cells begin to elongate for the first two to three weeks of growth and then the next two to three weeks is all about thickness. Low micronaire means the fiber is thin and won’t absorb the dye as well and easily forms small knots, while high “mic” fiber is coarse and won’t spin well because it is too thick, Bell said.

“That four- to six-week window is critical and there are several management factors that can impact the development during this period,” she said.

“Excessive nitrogen and irrigation can be an issue. Sometimes newer cotton farmers want to manage the cotton crop like their corn crop, but there are times they need to pull that irrigation back as well as closely monitor residual soil nitrogen, especially behind corn.”

Under excessive irrigation and fertility, cotton can get too tall and overgrown, Bell said.

“High-mic cotton can occur when there is too much plant for the boll load, resulting in carbohydrates going to fewer bolls and making the fiber too thick,” she said. “It is important for farmers to have a good plant-growth regulator program in a high input system.”

Bell said cotton is an excellent fit for this region, as it is drought tolerant and responds well to a range of moisture levels.

“However, excessive water or drought can cause problems. While it requires relatively little water until we get to the first white bloom period, it is very critical we don’t stress the cotton at that stage.

“We want moisture for germination and establishment and to activate our preplant herbicides, so supply at least enough water to get the plants established and activate herbicides,” she said.

Early bloom is the high water requirement period, Bell said. If water availability is short, water stress can gradually be imposed in the late bloom, cutout and boll opening periods.

“We tell producers to be cautious with irrigation during these periods because it can result in excessive vegetation,” she said. “Typically, you don’t have sufficient growing degree days, so we may run out of time to mature the top bolls. The top bolls generally haven’t matured at the end of the season, and this can affect uniformity at harvest.

“As we move north into the Panhandle, there is the chance of an early freeze, which limits maturity and yield potential,” Bell said. “Oct. 15 is the average first freeze date in the northern High Plains, so you have to plan accordingly.

“If the season is cut short, you might have a good mic on the bottom bolls, the middle bolls may be average and the top bolls are immature, resulting in an overall lower quality mic and penalties,” she said.

A fertility season-long program is also important, Bell said. Often producers apply all their fertilizer up front, “but you don’t want to put all your fertilizer on at one time. We do want to get our phosphorus out at planting, especially since it is very important for root growth.”

But side-dressing nitrogen fertilizer after evaluating the stand establishment is a good option, she said, especially on dryland acres. Put it on at the correct time to encourage just enough vegetative growth for a good boll set.

“Soil testing always recommended,” Bell said. “Manage the residual soil nitrogen to optimize quality. Don’t apply it all upfront; you might not think you have time for a split application, but there is a tradeoff if you don’t. Excessive vegetative growth requires an intensive plant-growth regulator program.”

Bell advised cotton producers to look for varieties that are stable, have performed well across different environments and have a realistic maturity date for this region. Cotton variety trial results can be found at http://bit.ly/2l5oloq.