Cotton PCG News
from Plains Cotton Growers, Inc.

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Critical Texas Drought Forecast May Alter Summer Crop Planting Decisions

Friday, April 20, 2018 By Kay Ledbetter, AgriLife TODAY

The Texas High Plains is under extreme drought and if current conditions continue, producers need to make important decisions for summer crops, said Dr. Jourdan Bell, Texas A&M AgriLife Extension Service agronomist in Amarillo.

"The current U.S. Drought Monitor is reporting we are in a Stage 4 drought," Bell said. "With that, many producers are having to make critical management considerations as they are approaching summer planting season."

Fortunately, the region's extended precipitation forecast is improving, she said. The National Weather Service Climate Prediction Center is now predicting the region will have equal changes of above or below average precipitation.

"What does that mean for a producer? Well hopefully it will not be as dry as previously predicted, but we still do not have a positive forecast," Bell said. "Unfortunately, temperatures are still projected to be above average, and because temperatures are a key driver in crop water use, we are still at risk for crop stress under dryland and limited irrigation."

With summer planting, it is important to know how much moisture is in the soil profile, "because that is our bucket," Bell said. "With that, it's also important to know what crops will be planted and what is their rooting depth. That will help us determine how much subsoil moisture we have and how far it will carry a crop through the growing season, especially if we don't receive timely moisture."

Many producers are having to pre-irrigate, so they can have sufficient moisture in the seed zone to germinate summer crops, she said. Under dryland situations, producers are having to decide if they are going to postpone planting.

"Our current forecast is actually calling for precipitation. If we do get rain, many producers are evaluating how soon they will plant dryland acreage," Bell said. "But even with a precipitation event, it will depend on the amount of rain we receive and the rate it falls to determine the effectiveness of the precipitation event. One rain is not going to break the drought situation we are in."

The Texas High Plains is dependent on winter precipitation in the form of snowfall to build up soil moisture during the fallow period, she said. Across the region, negligible snow fell this winter and rainfall has been anywhere from less than a tenth of an inch to about 3/10s of an inch for the entire winter.

"On the bright side, we are very fortunate because we had very good early fall precipitation, so in many areas we still have good subsoil moisture," Bell said.

She estimated under no-till and especially under good residue, soil moisture may be 4-6 inches deep; under cultivated or tilled ground, subsoil moisture may be 8-10 inches.

"It is important for producers to evaluate the depth to moisture before they begin to pre-irrigate," Bell said. "Soil moisture sensors are an invaluable tool not only for scheduling in-season irrigation, but also determining how much pre-irrigation is needed."

That subsoil moisture also allows dryland producers to gauge precipitation in the forecast to determine if it will give them enough moisture to plant on, she said.

"Even if we receive up to a half inch, that's probably not going to be enough, because roots will not grow through dry soil to reach the wetter subsoil."

The primary crops grown in this region under irrigation are corn and cotton, she said. As producers evaluate the forecast and probability of precipitation, many are opting to split irrigated acreage between corn and cotton so they will have sufficient water to meet critical crop water demands throughout the summer.

"For crop insurance purposes, corn needs to be planted on or before June 5 for counties in the Texas High Plains, but planting later in June shifts the critical water demand period of tasseling out of some of the hotter periods of summer," Bell said.

"Often we will see greater kernel set and sometimes benefits by planting that crop even later in the summer. So, producers have to evaluate how they manage their insurance programs with regards to their planting times."

For grain sorghum under both irrigated and dryland production systems, producers do have flexibility with planting dates, she said.

"We do find producers are able to make a very good sorghum crop, even planting into late June. That does provide a little bit a flexibility as they watch the weather," she said. "They can wait and plant the crop if we receive timely rains. Also, planting later will move that critical growth stage of growing-point differentiation and flowering later into the season when we are not as hot. Sorghum does have a little more flexibility than cotton."

When it comes to cotton across the High Plains, it is important for producers to get the crop planted in May because "we are trying to grow a perennial crop in a very short annual environment," Bell said. "In order to accumulate sufficient growing degree days or heat units to mature that crop and optimize production – not just yield but also quality – we really need to get that crop off and running in May and preferably early to mid-May if conditions are favorable." *(**PCG EDITOR'S NOTE:** The earliest final plant date for Upland cotton in the PCG service area is May 31.)*

Another challenge producers may have, especially under dryland conditions, is herbicides, she said. In some years, sufficient precipitation is not received to activate some of the residual preplant herbicides.

"Preplant herbicides are very important because we want to minimize competition with our primary crop," Bell said. "We want to start the season weed free. Weeds are using water we need for the crop, so they must be managed."

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All these decisions can be tricky because producers often have made their seed selection months ago, she said. So moving into a dry period there might be some limitations on the decisions a producer can make.

"Irrigation helps stabilize production and minimizes the risk we encounter under dryland," Bell said. "But across much of the High Plains, well capacities are no longer sufficient to meet crop water demands to optimize economical production. And often our precipitation, while aiding crop water demand throughout the season, doesn't come at the most ideal time."

She said the High Plains often receives non-beneficial precipitation. Rain events may only measure a few hundredths of an inch or 2-3 inches may fall in a very short time and a large percentage of this runs off. Neither event benefits crop production.

"Really, what we want to see are those slow, steady rains that come over the course of several days and soak in, wet up that profile, and really provide soil moisture."

Traditionally the best rains in this region fall in May and June, and that offers hope for the coming crop season, in spite of the current drought, Bell said.

Upcoming Auxin-Specific Herbicide Trainings
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Water Level Measurements Indicate Average Decrease of -0.16 Of A Foot Within HPWD Service Area In 2017-2018

Friday, April 13, 2018 From High Plains Water District

An average change of -0.16 of a foot was noted in the groundwater levels of the Ogallala/Edwards-Trinity (High Plains) Aquifer from 2017 to 2018 within the 16-county High Plains Underground Water Conservation District (HPWD) service area.

The 10-year District average change (2008-2018) is -8.76 feet while the five-year district average change (2013-2018) is -2.07 feet. The average saturated thickness of the Ogallala Aquifer within the District is about 56 feet (2017-2018).

HPWD staff shared this information with the District's five-member Board of Directors during their April 10 regular monthly meeting.

In early 2018, HPWD field personnel made annual water level measurements in a network of 1,353 privately-owned water wells completed into the Ogallala/Edwards-Trinity (High Plains) Aquifers. In addition, water level measurements were also made in 33 Dockum Aquifer wells.

Since the 2017 measurements, there are nine counties with an average increase in water levels and seven counties with an average decrease.

Field Technician Supervisor Keith Whitworth shared statistics for the 1,250 observation wells with publishable measurements. He noted that about 40 percent of the observation wells measured in 2018 had water level increases.

- 545 observation wells with increases ranging from 0.1 to 12.73 feet.
- 462 observation wells with decreases ranging from 0 to -.99 of a foot.
- 142 observation wells with decreases ranging from -1 to -1.99 feet.
- 63 observation wells with decreases ranging from -2 to -2.99 feet.
- 20 observation wells with decreases ranging from -3 to -3.99 feet
- 13 observation wells with decreases ranging from -4 to -4.99 feet.
- 5 observation wells with decreases ranging from -5 to -6.96 feet.

"Each year, there are wells that show water level rises and others that show water level decreases. The largest water level rise was 12.73 feet in a Lubbock County well while the largest water level decline was -6.96 feet in a Castro County well," said Whitworth.

Updated water level data is now available to the public at *map.hpwd.org*.

"Since 2013, the number of persons using the interactive map for depth-to-water and saturated thickness information has increased significantly. Because of this, HPWD is discontinuing its printed water level report starting this year," said Jason Coleman, General Manager. He added that moving to an online data platform eliminates the cost of printing and mailing the previous 84-page report, which saves taxpayer money.

Those who would like printed information should contact Jed Leibbrandt at (806) 762-0181 or email him at *jed.leibbrandt@hpwd.org*. He can provide hard copies of water level measurement data for an individual county or specific counties of interest.

Created in 1951 by local residents and the State Legislature, the High Plains Underground Water Conservation District No. 1 is charged with the responsibility of conserving, preserving, protecting, and preventing waste of groundwater in aquifers within its 16-county service area. HPWD is the first groundwater conservation district created in Texas.

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Editor's Note:
"Cotton News", a weekly service of Plains Cotton Growers to the cotton industry and news media in the 41-county High Plains area, is mailed from Lubbock each Friday. Its contents are confined to news items and comments pertaining to the High Plains cotton industry which is so vital to U.S. all. Anyone interested in making comments about the contents of this column can call 806-792-4904 or Email PCG at: editor@plainscotton.org