

### How Much Rain Makes a Difference

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. I often find it somewhere between intriguing and frustrating at how little people understand rain, soil and the interaction of the two. We have had less than 40% of standard precipitation over the past 5 months. If nothing else, the surface soil was quite dry. Then we received about a half inch of rain and people acted like that was going to fix everything. Two characteristics to understand about soils in regards to rainfall or irrigation are water holding capacity and infiltration rates. Capacity is how much water can that soil hold and infiltration rates indicate how fast the soil can take water in. Water holding capacity of our soils range from 1 inch per foot of soil for sandier soils up to 2.5 inches for some of our heavier silty clay or silty clay loam soils. For a rule of thumb I usually just use 1 3/4 inches of water per foot of soil. Permeability is how fast that soil can absorb water. If rain falls faster than the soil can take it in, it runs off and doesn't do any good for the soil moisture. Infiltration or permeability rates for our soils range from less than a tenth of an inch an hour for our heavier clay soils to over 2 inches per hour for our sandy soils. For our standard soils, I use 1/4 to 1/2 inch of infiltration per hour. The half inch rain fell over a several hour period so we did have good infiltration with very little runoff. But that half inch of rain, while wetting the dry vegetation nicely, only soaked up 3 to 4 inches of soil. A helpful rain? Yes. A drought buster? Not even close. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## Burning and Brush Herbicide Treatments

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. For years we've always said that if you burn a pasture you shouldn't plan to spray woody brush the same year. What we're finding out is that this isn't the case, but we do have to approach it differently. Even in years when we don't burn, we really need to spend less time watching the calendar and more time watching those woody shrubs we want to control. We tend to often just say, spray brush the first half of June. As it's generally a safe bet that we're going to hit the shrubs at a susceptible growth stage. In general, we want to spray these plants when they have just reached full leaf stage. At this point the spring growth has pulled food reserves down to their lowest level and they haven't had a chance to really start to rebuild those root reserves. Therefore, the herbicide is going to be doing the most damage that it can. If we burn a pasture, and shrubs are regrowing from the roots, this ideal treatment time is going to be delayed. Depending on when the burn occurred it could be 2 to 3 weeks later than for unburned brush. But if you time it to when it seems to have just reached full leaf stage, you will be inflicting maximum damage. This period of growth is not going to be the same for each species so I'd just pick what you have the most of and use it as your indicator plant. Each year you just decide which plant your focus will be on and treat accordingly. One thing I'd like folks to stop doing is putting diesel fuel in with foliar spray mixes. This doesn't help and often hurts herbicide efficacy. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## Alfalfa Weevil

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. It's been a cold spring, or at least colder than recent years. If you look at growing degree days since mid February we are actually running slightly above normal. But the good news is that the cold weather is keeping the alfalfa weevil from exploding on to the scene. Last year we had alfalfa weevil feeding damage by late February. This year, as of last week, I hadn't seen any yet. As of the end of last week we were at 250 growing degree days and we need about 300 before we start seeing the first signs of feeding. Compare that 250 late last week to 486 on the same day of the year last year. By the first of April last year we were already seeing fields sprayed. I don't think anyone is complaining that we are not having to spray for weevil yet, but don't get too lax. It's only going to take about two more warm sunny days and we will be getting weevil activity. Which doesn't mean we spray just yet. It is very crucial that we hold off spraying until we reach treatment thresholds as spraying too early can result in missing later hatching larvae and require a second treatment or an early cutting, both of which hurt the yield. The other thing to keep in mind is that most treatment failures have nothing to do with insecticide resistance and everything to do with application error. We need to spray on sunny days when the temperature is above 50 so we get the weevil larvae up on the plant where the spray will contact them. Then we need to make sure to use at least 15 gallons per acre of spray! This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## Kansas Mesonet

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. Telling any ag producer that the weather dictates everything in agriculture is something you'd expected to hear from Captain Obvious. Several years ago I saw one researcher explain, fairly convincingly, that the items that a farmer had control over that could impact ultimate yield of their crop was less than 50% of the variability, in fact it seems like it was about 1/3. Mother Nature was in control of the rest. So it behooves us to be as aware as possible of the things that we can make an impact on. Rainfall and air temperature we can all do a pretty good job of keeping track of. But things like soil temperature, growing degree days, and temperature inversion potential are all things that are very crucial to know for crop production to plan planting, fertilizer applications, dicamba applications, even knowing when to start scouting for certain insect pests. There is a weather resource website called Kansas Mesonet that is run by K-State. There are nearly 60 automated weather stations making real time reports to this website. There is one station at Rock Springs 4-H Camp and several around Manhattan which is pretty convenient for us. To get to his website open your web browser search engine, type in `kansas mesonet - m e s o n e t` and follow the link. The amount of data you can access in short order is amazing. It's how I knew growing degree days for alfalfa weevil for my program yesterday. And it's this website that you'll need for dicamba spraying. If you have questions, ask me! This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## Corn Seeding Rates

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. For many producers in our area, corn is still a fairly new crop. In recent years we are seeing more and more corn being planted and subsequently we are learning more and more and doing a better job of refining our knowledge base of planting dates, fertility and planting rates. What we thought were appropriate planting rates 25 years ago were appropriate, for the hybrids we had available. But new hybrids have more drought tolerance and better water use efficiency and honestly need to be planted at different seeding rates. We are finding that we see fairly different reactions based on long term potential productivity of any given field. I'd suggest looking at a four to five year average corn yield of a field. Low yielding fields will be those with a multi year average yield under 100 bu/ac. Moderate yielding fields will be 100 to 150, high yield environments would be 150 to 180 and over 180 would be very high yielding environments and would fit for many irrigated fields. Low yield fields lose yield with every plant over about 20,000. Very high yield fields keep adding yield with more plants well past 40,000. The other two show yield responses up to a point and then yield starts to drop off. Bottom line, for our area, fields that routinely run 100 bu/ac or less should aim for 18 to 20,000 plants per acre. Irrigated fields aim for 33 to 36,000 plants. For other fields, that are running in that 125 to 175 bushel range should probably be shooting for 24 to 26,000 plants per acre. In high rainfall years we could justify higher rates, but in low rainfall years, these plant populations won't cost you yield. For more information on seeding rates, stop by the Extension Office! This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.