

July, 2022



AGRICULTURE

NEWSLETTER

T.J. Adkins

Agent



**END DATE FOR
CAIP IS AUGUST
31ST. ALL PAPER
WORK MUST BE
TURNED IN BY 4
PM TO THE SOIL
CONSERVATION
OFFICE!**



Be sure to contact our office ASAP if you are in need of BQCA or a signature for continuing education hours.

Pulaski County Extension Office

Assessing Potential Corn Yield Losses from the Drought

Even with the rains near the end of last week, corn in some fields has been severely damaged by a lack of water. Some farmers are calling insurance adjusters trying to decide if they can cut the corn for silage to get something from their crop. In most cases, the farmer would have to leave a strip or strips of corn in the field for yield estimates later. The concern with this is that the corn could end up doing better than expected. A farmer's worst-case scenario is cutting the corn for silage, leaving those strips of standing corn, and having rains that turn the crop around and yield 71% of the 5-year average, and the field was insured at 70% of the 5-year average.

If possible, let the corn get through pollination. Corn ears with less than 400 kernels per ear likely have yield loss. Corn with 300 kernels or less will likely have yield losses that trigger crop insurance. Table 1 below lists the yield components that make yield, including ears per acre, kernels per ear, and kernel size (listed as kernels/bushel). Ears per acre and kernels per ear determine the number of kernels per acre. Kernels per acre divided

Table 1. Corn yield estimates for two plant populations, 200 to 600 kernels per ear and three kernel sizes.

A. Yield Estimates for Average Kernel Size (80,000 kernels per bushel)						
ears/acre	x	kernels/ear	+	kernels/bushel	=	Bu/A
25,000	x	200	+	80,000	=	63
25,000	x	300	+	80,000	=	94
25,000	x	400	+	80,000	=	125
25,000	x	500	+	80,000	=	156
25,000	x	600	+	80,000	=	188
30,000	x	200	+	80,000	=	75
30,000	x	300	+	80,000	=	113
30,000	x	400	+	80,000	=	150
30,000	x	500	+	80,000	=	188
30,000	x	600	+	80,000	=	225
B. Yield Estimates for Small Kernel Size (90,000 kernels per bushel)						
ears/acre	x	kernels/ear	+	kernels/bushel	=	Bu/A
25,000	x	200	+	90,000	=	56
25,000	x	300	+	90,000	=	83
25,000	x	400	+	90,000	=	111
25,000	x	500	+	90,000	=	139
25,000	x	600	+	90,000	=	167
30,000	x	200	+	90,000	=	67
30,000	x	300	+	90,000	=	100
30,000	x	400	+	90,000	=	133
30,000	x	500	+	90,000	=	167
30,000	x	600	+	90,000	=	200
C. Yield Estimates for Very Small Kernel Size (100,000 kernels per bushel)						
ears/acre	x	kernels/ear	+	kernels/bushel	=	Bu/A
25,000	x	200	+	100,000	=	50
25,000	x	300	+	100,000	=	75
25,000	x	400	+	100,000	=	100
25,000	x	500	+	100,000	=	125
25,000	x	600	+	100,000	=	150
30,000	x	200	+	100,000	=	60
30,000	x	300	+	100,000	=	90
30,000	x	400	+	100,000	=	120
30,000	x	500	+	100,000	=	150
30,000	x	600	+	100,000	=	180

Table 1 includes three kernel sizes, 80, 90, and 100 thousand kernels per bushel. Good weather during seed fill will usually get most cornfields close to 80 thousand kernels per bushel. Very stressful conditions will result in smaller kernel sizes and get corn-fields closer to 100,000 kernels per bushel.

A corn crop cannot makeup yield for very low kernel numbers. For example, if a corn field only has 200 kernels per ear, but has a good seed filling weather, it may have larger kernels.

However, yields may only get to 75 bushels per acre. Conversely, if a corn field has 400 kernels per ear, but poor seed fill conditions, the field might yield 120 bushels per acre.

Estimating yield is not an exact science. The farmer probably needs to grab 20 or more ears in a field to estimate kernel numbers per ear. The estimate is only as good as sampling area. If the farmer chooses the worst spot of the field or the best spot of the field, that will skew the estimate yield one way or the other.

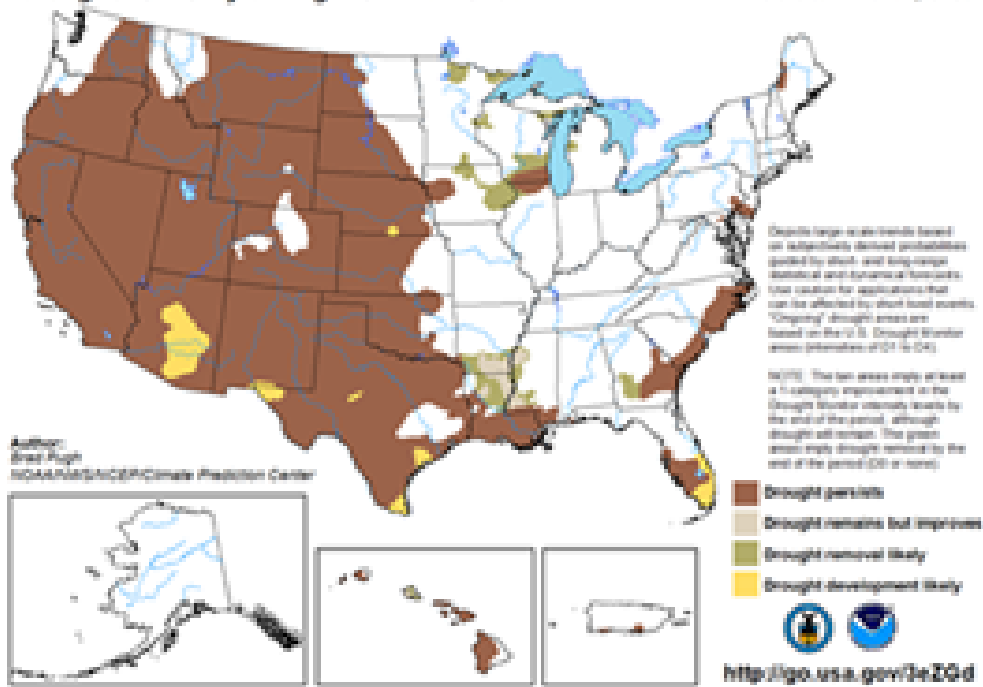
Be Mindful of Heat Stress to Maintain Stocker Calf Gains

Dr. Jeff Lehmkuhler, University of Kentucky, Department of Animal & Food Sciences

As I am writing this, bluegrass has flowered, and I've seen fescue plants with flowers emerging. This spring has been a bit cool slowing grass growth, but warmer temperatures will certainly begin to kick grass growth into high gear within the next couple of weeks. Precipitation and soil moisture continues to be a struggle in the western half the United States as shown in the Monthly Drought Outlook figure from the National Drought Monitoring website. These continued drought conditions will continue to limit forage growth in these regions. Forage availability is a key driver of stocker calf performance followed by forage quality. As we move through the spring months and begin to see temperatures increase, forage growth slows. Previous research demonstrates that the photosynthesis of plants is negatively impacted by increasing temperatures. Photosynthetic rates of tall fescue can be reduced when temperatures reach 86F/77F degrees Fahrenheit, day/night. Areas in Kentucky had eight days in May during 2021 that had daytime high temperatures of 86 F or higher. Several days in June, July and August are normally going to be 86 F or warmer. These warmer temperatures slow forage growth of our perennial cool-season forages. More importantly, research has demonstrated that soil surface temperatures can have a larger effect on photosynthesis than air temperature. Close grazing or mowing exposes more soil to direct sunlight increasing soil surface temperature. Dr. Teutsch's research with tall fescue at the Princeton Extension and Research Center demonstrated that clipping forage weekly to 1" versus 4.5" height weekly increased plant crown sensor daily maximum temperature by 10 degrees Fahrenheit. Close clipping led to an increase in warm-season annual forages such as crabgrass due to the temperature stress on the cool-season forage. Reducing stocking density or implementing a managed grazing system to better manage forage residual heights may help cool-season forages be more persistent.

U.S. Monthly Drought Outlook Drought Tendency During the Valid Period

Valid for April 2022
Released March 21, 2022



Be mindful of feeder calves that are not shedding winter hair coats. Studies show that lower hair coat scores, better shedding, improve daily gains during the grazing season. Several factors may be involved with shedding of winter hair including fescue alkaloids, genetics, plane of nutrition, and others. Recently, researchers from the southeast reported breed differences in hair coat scores when grazing tall fescue with Charolais-sired calves having less hair than Hereford-sired calves. Calves that don't shed will be more susceptible to heat stress. Ensure stocker calves always have access to clean water. As temperatures increase water intake will increase creating more demand on your water system. Ensure the floats and valves are in working order, that tanks are clean and not fouled with fecal contamination. Spring- and pond-fed tanks may accumulate sediment and should be cleaned out routinely

Shade should be available during periods of heat stress. University of Missouri research demonstrated that stocker steers grazing Kentucky 31 tall fescue gain 0.3 pounds per day more when they had access to shade compared to those that did not have shade. Other studies have shown added performance when cattle have shade access during periods of high temperatures. Shade can either be natural from trees or man-made using structures with shade cloth. Shade cloth should have a minimum of 50% of light exclusion.

As forage quality and availability declines in mid-summer combined with increased temperatures, cattle performance may dip. To combat this, supplementation can increase the plane of nutrition of stockers sustaining higher performance. Strategies will be dependent on feed prices, target levels of gain, marketing windows, and other factors. A higher protein supplement, 20-28% crude protein, targeted a low rate of supplementation near 0.5% of body weight can increase protein intake to combat declining protein in the forage.

If there is a need to increase supplementation rates to achieve either higher rates of gain or stretch forage, a low starch, highly digestible fiber coproduct feedstuff that is 14-16% crude protein can be utilized. Using commodity blends containing corn at 50% or less with soyhulls, distillers grains, corn gluten feed and other quality coproducts can be offered to boost energy and protein intakes of grazing cattle. Research would suggest at higher feeding rates of supplements that have minimal impacts on ruminal microbes every pound of supplement fed will lower forage intake by about ½ pound. Point is that at 0.5% to 1.5% of body weight supplementation levels, forage substitution won't be 1:1 with the supplement fed.

Consider these management factors for maintaining stocker gains during the summer. Take a few minutes to evaluate your current management and see if there are opportunities to adjust management to maintain or increase gains during the heat of the summer. Be sure to maintain animal health, keep internal parasites in check, utilize implants if your market allows, consider feeding an ionophore to combat coccidiosis and improve energy utilization from forages. Best of luck this summer and the markets appear to have some optimism looking at the futures prices. Consult with your veterinarian, feed dealer and county Extension agent for additional information.



Beef Quality Assurance Certification--Last Call!!!

July 27th

or

August 3rd

9 am or 5:30 pm

****Call to sign up at 606-679-6361****

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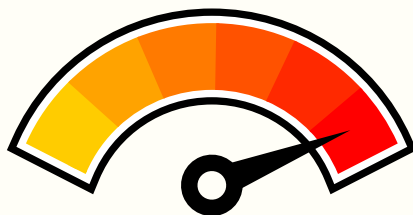
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accommodated
with prior notification.

Summer Farm Safety: Heat Safety Tips

The best treatment for heat exhaustion and heat stroke is to avoid the conditions altogether. Young children, the elderly, and those with health issues are more susceptible to heat stress in agriculture settings.

These heat safety tips are a good way to avoid heat stroke on the farm:

- Make sure all farm workers and employees know about preventing heat stroke.
- Plan 15-minute breaks in a cooled area or shade for every two hours of work.
- Drink one cup of water for every 15 to 30 minutes working in the heat.
- Avoid eating or drinking caffeine, alcohol, and sugary items because they increase dehydration.
- Wear light-colored, lightweight, loose clothing.
- Schedule strenuous work, or that which requires personal protective equipment, for the morning and evening hours.
- Take a break at the hottest part of the day.
- Gradually adjust to working in the heat.
- Know if your prescriptions and over-the-counter medications might make you more susceptible to heat stroke.
- If you have a chronic health condition, get clearance from your doctor to work in hot and humid environments.





Twilight Tour Program

ANNUAL FIELD DAY

Present:
Twilight Tour Program
August 11, 2022

Registration—5:30 PM

Tours Begin—6:30 PM

A meal will be provided at 6:00 PM

Tour Options

- Forage Cutting Heights
- Weed Control in Hayfields
- Frost Seeding Clovers
- Crabgrass for Forage
- Novel Fescue
- Tomatoes/Cut Flowers
- Fall Cabbage
- Finishing Beef Cattle on a Small Scale
- Hemp Trials
- Sweet Potato Slip Production
- Other Seasonal Options

***CAIP Educational Hours Eligible**

Registration

https://uky.az1.qualtrics.com/jfe/form/SV_9yizR8czcD03Jki

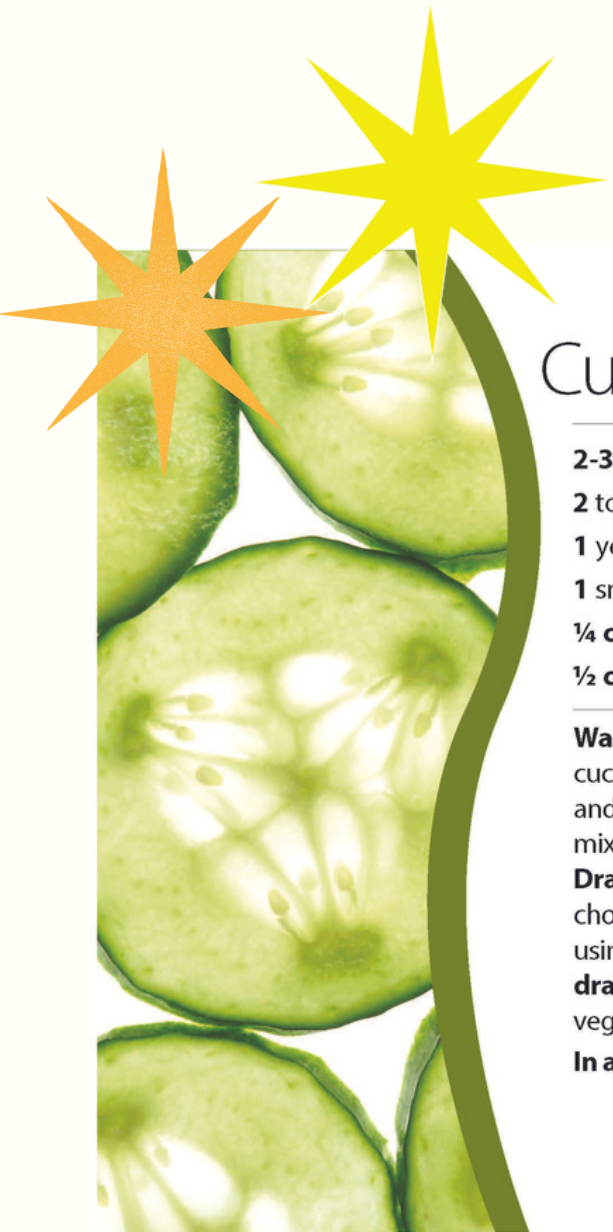




University of Kentucky
**College of Agriculture,
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Pulaski County Extension Office
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 Somerset, KY 42502
 Phone: 606-679-6361



Cucumber, Corn, and Bean Salsa

2-3 large cucumbers
2 tomatoes
1 yellow bell pepper
1 small red onion
¼ cup chopped fresh cilantro
½ cup black beans

½ cup fresh whole kernel corn,
 cooked
1 ounce package dry ranch
 dressing mix
⅛ cup cider vinegar
2 tablespoons sugar, optional

Wash all vegetables. Finely **chop** cucumbers, tomatoes, pepper, and onion. **Combine** in a large mixing bowl with chopped cilantro. **Drain** and rinse beans and add to chopped vegetables. **Add** corn. If using canned corn instead of fresh, **drain** off liquid prior to adding to vegetables.

dressing packet, vinegar, and sugar. **Pour** dressing over vegetables and mix well. **Serve** immediately or refrigerate until chilled.

Yield: Makes 20, ½ cup servings.

Nutrition Analysis: 50 calories, 0 g fat, 130 mg sodium, 7 g carbohydrates, 2 g fiber, 70% Daily Value of vitamin C and 6% Daily Value of vitamin A

In a small bowl, mix together ranch

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers' market, or roadside stand.

