



## Ag Items of Interest

### Upcoming Events of Interest

Things that farmers, gardeners, and ranchers may want to check out.

- Living on the Land: May 3 in Independence and May 8 in Pittsburg. <https://bit.ly/2r0hQHq>
- Various food and produce safety events in KC Metro. <https://bit.ly/2qT1tM4>
- K-State Ranching Summit: Aug 15 in Manhattan. [www.asi.k-state.edu/](http://www.asi.k-state.edu/)

---

### Drought Resources

In case you haven't noticed, it's pretty darn dry out there. (And cold! That seems to have a fair chance of changing soon though.) The governor declared a drought statewide in mid-March. There are a number of resources available to assist producers during this time:

- Drought monitor: <http://droughtmonitor.unl.edu/>. The map is updated on Thursday mornings. As you can see, northeast KS is in a D1 / moderate drought classification.
- Weather station monitoring: <http://scacis.rcc-acis.org/>. This site is not the easiest to use by far, but it combines data from multiple weather station networks and systems. Play around with the data selection tools. To see data for the whole county, select "Multi-Station Products" and then "Monthly Data." Next, choose the date (month/year), variable of interest (max temp, precipitation, etc), and summary method (maximum, average, etc). Checking the box next to "Map" towards the top of the option list will provide you with a map showing the location of the

weather stations used, which helps to determine which are closest to you and your fields. Under "Station/Area selection", you may select an individual county within the state, or watershed basins or other areas. Click "Go" to see your results.

- General drought research publications from K-State: <https://bit.ly/2vQNOL6>
- Drought-Tolerant Corn Hybrids (2017): <https://bit.ly/2HxK2Mo>. The most up-to-date research from K-State on the yield potentials of drought-tolerant corn. When compared to normal (non-drought-tolerant) hybrids, drought-tolerant corn yielded similarly when conditions were good, and outyielded normal corn when conditions were dry. The results also suggest that when using drought-tolerant hybrids, the farmer does not need to adjust plant population.
- There are resources from some other land-grant universities that may be useful.
  - Texas A&M AgriLife Extension has a drought page: <https://bit.ly/2FiOA2Q>
  - Iowa State Extension has a page with 2017 drought info in one place: <https://bit.ly/2voMBJK>
  - University of California has some drought resources more targeted to home/garden/tree owners: <http://ucanr.edu/News/Drought/>
- For gardeners:
  - Drip irrigation is a more efficient method to water crops: <https://bit.ly/2FjbA1O>
  - Watering new trees: <https://bit.ly/2KeMIw5>

- Watering existing trees: <https://bit.ly/2KgeHeP>
- Watering gardens: <https://bit.ly/2r0mtRd>
- For those (like me) struggling to find feed for livestock:
  - Internet hay exchange: <http://www.hayexchange.com/>
  - Cow-Calf management with limited pasture: <https://bit.ly/2Kec114>
  - Nontraditional forages for emergency feed: <https://bit.ly/2JqIJMQ>
  - Blue-green algae may be a problem this year: <https://bit.ly/2Kgf359>

---

### Secrets of Glyphosate Resistance Uncovered?

K-State researchers are a step closer to understanding how herbicide resistance develops in weeds. With some luck and a lot of work, this may lead to alternative methods of weed control in the future.

Normally, in plant and animal cells, most of the DNA is stored in the cell's nucleus. The DNA contains the genes that encode the traits possessed by an individual organism. To actually generate the effects of these genes, the DNA is transcribed (copied into a similar form called RNA) which leaves the cell nucleus and then is translated into proteins, which might include enzymes, cell proteins, hormones, and many other things. For instance, an enzyme produced by plants from one of these genes is the target of glyphosate: render the enzyme ineffective, and the plant dies.

However, in the glyphosate-resistant Palmer amaranth studied by the scientists, the DNA coding for this enzyme was not in the nucleus as expected, but elsewhere in the

cell, as a piece of extrachromosomal circular DNA (eccDNA). These eccDNA structures are self-replicating and can generate many times more proteins than normal.

Essentially, the plant can generate more copies of the enzyme than glyphosate can knock out, so even high doses of glyphosate won't kill the plant.

The researchers believe that these eccDNA structures are passed on to the next generation of plants, meaning that resistance spreads rapidly in a population. This, clearly, is a problem! However, eccDNA is also relatively unstable. DNA is not really meant to be outside the nucleus of a cell. The researchers hope that if the weeds aren't subjected to glyphosate for some time, that the eccDNA may degrade, or may fail to be passed on.

For more details on the research, check out the original article: <https://bit.ly/2Fwmpml>

---

### Did you miss out on dicamba training?

Dallas Peterson, Weed Management Specialist  
([dpeterso@ksu.edu](mailto:dpeterso@ksu.edu))

The Kansas Department of Agriculture has announced that they will be accepting the label required dicamba specific training online in the state of Kansas starting April 1 for the dicamba products approved for use on Xtend crops. KDA has stipulated that the online training must have accountability built in to ensure that an individual must participate in the training module. On-line training is offered by some of the surrounding states, as well as from Monsanto, BASF, and DowDuPont.

Below are links to the company websites for additional information about application requirements and dicamba training:

- Monsanto: [www.roundupreadyxtend.com](http://www.roundupreadyxtend.com)
- BASF: [www.ingeniastewardship.com/#/training](http://www.ingeniastewardship.com/#/training)
- DowDuPont (Corteva): [www.dupont.com/products-and-services/crop-protection/soybean-protection/articles/fexapan-application.html](http://www.dupont.com/products-and-services/crop-protection/soybean-protection/articles/fexapan-application.html)

---

## Land Value Changes

K-State agricultural economist Mykel Taylor presented a webinar on changes in land value, including some possible projections for the future.

Across the state of Kansas, land values have been slipping somewhat from the highs of a few years ago. Land value changes tend to lag a bit behind trends in farm profitability; thus, it took awhile after the series of high-profit years from about 2007-2013 before the price of an acre of land rose markedly. Similarly, now that farm profitability has been hugely in the negative for a few years, land values are dropping but not very rapidly. This lag or adjustment period has been attributed partly to the attitudes and expectations of those buying and selling land. It's a long-term investment in the farming world, unlike more liquid assets in other investment industries. And even as crop prices might rise (or fall) within a year or two span, it's hard to immediately decide to raise (or lower) the asking price of land because, as in all things with farming, we have no idea whether the short-term trend will continue. At this point though, it's looking pretty solid that low crop prices are here to stay, and land prices are declining accordingly.

There are two sources of land values presented by Dr. Taylor. One is from USDA data, which gleans value from annual surveys. Values are reported for irrigated, non-irrigated, and pasture land each year, but only one value averaged for the entire

state – so the value of our non-irrigated cropland is averaged in with that from southwest Kansas. Based on that information, Kansas land values have dropped by about 8% (pasture) and 13% (non-irrigated) since 2014.

Dr. Taylor also looks at market-based Kansas data by using actual reported sales. From here she can show trends by region and county, and can account for land differences like rainfall average, enrollment in CRP, other improvements, and proximity to large population centers.

Her results show (at the state level) a slightly steeper decline in prices: about 18% drop in pasture value since 2015, and about 25% decline in non-irrigated acres.

Based on this sales data, here are the changes in Doniphan county land between 2016 and 2017.

- Non-irrigated cropland: \$5172/ac in 2016, \$3793/ac in 2017 (27% drop)
- Pasture land: \$3722/ac in 2016, \$2654/ac in 2017 (29% drop)

The common next question is, what happens next? There are some concerns when folks compare the shifts in crop prices, land values, and overall profitability to the leadup to the 1980s farm crises. Dr. Taylor does not anticipate hikes in interest rates as during the 80s, and believes that while there will be a slow and steady interest rate increase, it will not trigger a massive drop in land value. Similarly, she guesses that land values will continue to drop, but not plummet as was seen in the 80s.

To watch the webinar, go to <https://bit.ly/2I1wF41>.