

# Interrelated events that affect agriculture

We tend to be omnivores when it comes to following the news; we read a little bit of anything that happens to catch our eyes though much of it is related to agricultural issues. We want to use this column to examine three interrelated stories: drought and fires in the Western US, particularly California but extending into other Western states like Montana; the legislative climate change discussion in Washington, DC; and the development of and growing of perennial wheat at the Land Institute, Salina Kansas.

Over the last couple of years, news stories about the fires and drought in California have been hard to miss. While some farmers in California, and elsewhere, may have been reluctant to acknowledge the scientific analysis behind the concept of climate change for fear of increased regulation of their farming activities, the high temperatures and widespread fires have significantly reduced the number of doubters.

The focus of the discussion has moved from the theoretical (Is climate change real?) to the practical (What are we going to do to reduce the risk?).

As we write this column, the infrastructure discussion in Washington, DC has become more intense, with some determined to reduce the level of funding that will be available to farmers and others who want to adopt climate smart practices. To avoid spending federal dollars on climate change some have reopened the discussion about carbon credits and ways for farmers to access those markets. The question under debate is one of how society provides the money farmers could use to offset some of the carbon dioxide equivalent gasses (CO<sub>2</sub>E) released into the atmosphere by their own operations and the activities of others.

The third was a single article in the Washington Post, “A recipe for fighting climate change and feeding the world,” by Sarah Kaplan (<https://tinyurl.com/8k7fctwc>). The article focuses on the development of a perennial wheat called Kernza. The advantage of growing a perennial crop instead of an annual like wheat (or corn, or soybeans, or oats...) is the elimination of mechanical tillage and the subsequent release of CO<sub>2</sub>E into the atmosphere.

As gardeners, we can attest to the ease of growing perennials over annuals and the positive changes we can see in the soil in our gardens. The biggest question we see is the one that asks how quickly can researchers bring the yield of perennial crops to the point where they replace their annual cousins.

All three of these stories are focused on weather and climate change which reminds us of the famous comment by Mark Twain: “Everybody talks about the weather, but no one ever does anything about it.” It seems to us that we are at a point where humans have no choice but to see what we can do about the weather and farmers are on the frontline of that firefight whether they like it or not.

We are already seeing droughts and mammoth fires. Along the Gulf Coast we are seeing stronger storms and the resulting devastation. Farmers in many areas are planting their crops earlier than ever or not at all.

There is the potential that the growing zones we know today could shift in unpredictable ways. Land in the middle of a land mass like North America or Africa may see a different rate of change in temperature and rainfall than coastal areas. There is some evidence that global warming is happening at a faster rate in polar areas like Greenland and Siberia than in the temperate zone.

As members of Congress continue to debate the risk of doing too much or too little, we would argue that the risks are not symmetric.

If we overestimate what we need to do and design a program that is bigger and more expensive than needed to prevent the potential disruptions brought about by climate change, we can always pare it back if the CO2E levels drop quickly.

If we underestimate what is required to limit the damage caused by the rising level of CO2E, the resulting damage to human society could be significant. The cost of mitigation would also be significantly higher.

As Ben Franklin said, “An ounce of prevention is worth a pound of cure.” What was true about fire prevention in colonial Philadelphia is certainly true when it comes to addressing global climate change.

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