

Scorchers don't pay bills for you

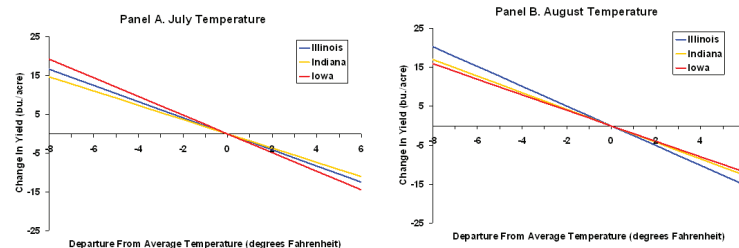
By TOM J. BECHMAN

TAKE away the nasty flood across the Corn Belt in June, and 2008 might have been a good corn year.

There are traits about '08 that corn definitely likes, including cooler-than-normal temperatures through July.

Scott Irwin and Darrel Good, ag economists at the University of Illinois, and

Effect of temperatures on yield, 1960-2007



SOURCE: SCOTT IRWIN AND DARREL GOOD, UNIVERSITY OF ILLINOIS AG ECONOMISTS



a former student, Mike Tannura, were intrigued by claims that the increased climb in trend yield nationwide was due to technology. They reasoned that at least part of it came from favorable weather since the mid-1990s. So they developed computer models, using yield and weather data from Indiana, Illinois and Iowa from 1960-2007.

Their results make a case that favorable weather over the past decade gave corn yields an extra boost. That's a discussion for another day. Their results also plainly show how much rainfall in June and July, and temperatures in July and August, affect corn yields.

Agronomists note that corn plants like heat, but not too much. That's why the growing degree day formula tops out at 86 degrees F.

Temperature effect

When the Illinois pair plotted deviation from normal for average temperature against change in corn yield, results were nearly a straight line for both July and August. For example, based on data from 1960-2007, if the temperature averages two degrees below normal for July, statewide yield averages increase about 3 to 5 bushels per acre. No matter which state, the trend is the same, even though the percentage of yield increase for cooler temperatures or decrease for warmer temperatures may vary slightly.

The same almost-linear trend holds in August. Pump up average temperatures in either July or August by just two degrees, and state average yield falls 3 to 5 bushels below normal.

Heat trumps moisture?

Some contend that too many days of super-high temperatures can impact yields beyond the point where rainfall brings about recovery. Anecdotal evidence from irrigated fields back the theory. In '07 at the Corn Illustrated plots sponsored by Farm Progress magazines, nearly 40 days of 90-degree-F or higher temperatures were recorded.

Irrigated yields topped at 240 bushels per acre in one plot, but averaged considerably less across the entire irrigated field.

Obviously, improved genetics have helped. The farmer who harvests the Corn Illustrated plots notes that in a hot, dry year some two decades ago, yields were considerably less, both under irrigation and with no irrigation. Still, it's clear from anecdotal experience and from Irwin, Good and Tannura's computer models that corn yields won't measure up when temperatures run above normal.



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