

ight

primary basis for its drought-tolerance rating.

Pollen and silk connect

Poorly timed silk emergence can also have a negative impact on pollination and yield. Drought stress can cause silk emergence to be delayed, while pollen shed continues on schedule. If emergence is delayed by several days, the majority of pollen shed may have already occurred, notes Butzen.

"Some hybrids are stronger silkers," he continues. "They can get the silking done, despite the dry conditions."

If pollen shed continues for several days without silking, some late-emerging silks may miss their opportunity for pollen. "In an extreme situation of intense drought and a non-tolerant hybrid, the silks could be delayed by a week or more," Butzen says. "You could expect some serious lack of pollination issues if silk emergence is this late."

In very rare instances, something called silk balling can occur. Emerson Nafziger, University of Illinois Extension crop specialist, says this phenomenon seems to occur with certain hybrids.

"Basically, you have a situation where the silks don't find their way out of the husk," he explains. "They get stuck in the husk and ball up."

In some instances, the husk appears a few inches longer than normal, which may contribute to the difficulty silks have in finding their way out. Nafziger says this is a rare problem mostly because

They said it

"If you're in a drought situation, you'll likely have reduced plant growth. If silking is slow, an insect problem is magnified."



Steve Butzen,
Pioneer



"The number of times when pollination didn't succeed and we could have done something are very small."

Emerson Nafziger,
University of Illinois

"Drought stress speeds up pollen shed and delays silk emergence.

You can have a situation where the bulk of the pollen is shed, and by the time the silks come out, it's too late."



Bob Nielsen,
Purdue University

breeders discard any hybrids that perform in such a manner.

"It is extremely rare, but when it does occur, it's a very serious problem," he adds.

Nafziger describes another rare condition where the silks are not receptive to pollen. Silks have a waxy coating to reduce water loss, but it is normally thin enough to allow pollen grains to germinate and grow.

Nafziger has seen some research where drought conditions led to a thicker coating, which reduced the ability of pollen grains to take up water normally. However, he adds, "I've never seen proof of this happening in the field."

If a large insect population shows up early in pollination and is doing significant damage, it may be time to spray.

The perfect storm

"If there is a lot of feeding damage at night when silks first begin to appear, I would take some action, especially with

corn prices where they are," Nafziger says.

According to the expert, a serious lack of silks, whether from insect clipping or failure to emerge, can often be spotted from the road. When slow silk growth is coupled with insect feeding, pollination can be in serious jeopardy. "You know

Late-corn success hinges on forecast

By JOSH FLINT

EVEN though it was a year of late planting by most accounts, don't assume that means pollination will be pushed back to the dog days of summer.

Bob Nielsen, Purdue University Extension agronomist, says there's not a huge difference between late-April and mid-May planted corn.

"The early to mid-May corn comes up so quickly vs. April-planted corn that pollination will generally still occur in July," Nielsen says.

According to Nielsen, for corn put in from April until the first two weeks in May, farmers can expect pollination to occur in mid-July to late July.

Only corn that's planted in late May is really at risk for August pollination. Nielsen says with August usually comes a higher probability of warmer days, which can magnify any sort of drought conditions.

Will there be a drought this

summer? Experts disagree.

Elwynn Taylor, Iowa State University ag climatologist, says risk is elevated for a major drought in the Corn Belt.

According to Taylor, cool temperatures associated with this year's La Niña phase are often associated with a higher drought risk.

Another important consideration is the existing drought in South Carolina. The connection between drought in South Carolina and a drought the same or following year in the Corn Belt is fairly strong, Taylor explains.

The average time between droughts in the Corn Belt is 19 years. That's based on information from tree rings going back 800 years, Taylor adds. The longest period between two major droughts is 23 years.

"The last major drought across the Corn Belt was in 1988," Taylor recalls. Therefore, a major drought could occur before 2011.

Jim Angel, Illinois state cli-

matologist, says the National Weather Service is staying pretty neutral with its Midwest forecast. However, he has a few observations for this summer.

"With a wet winter and a wet spring like we've had, it tends to hold the summertime temperatures down a little bit," he says. That observation comes from average temperature data for the state, he adds.

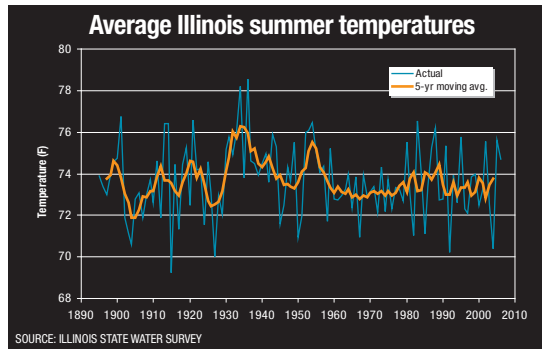
La Niña factor

This year also features a La Niña event. "Some people say La Niña is connected to drought, but that doesn't seem to always hold up for Illinois," notes Angel. The last La Niña was in 2000. He remembers that summer was fairly mild.

Another weather-related topic on many minds is global warming. Again, Angel says this has had very little correlation with Illinois summer temperatures. "Everybody talks about global warming, and you would think that summer temperatures would be higher, but that's not really the case."

Recent average summer temperatures have been much lower than those from the 1930s, Angel adds.

Tom J. Bechman contributed to this report.



you're in trouble when you can drive by and see a lot of ears with no silks after tassels have been out for several days," Nafziger says.

Once pollination is over, he notes that insects will usually get their daily fill of plant material without causing much damage to the plant.

While some farmers will experience insect damage during pollination, Nafziger does not recommend unwarranted insecticide applications.

"We've heard reports of farmers applying an insecticide along with an herbicide," Nafziger says. "If you don't have a problem and you're just doing it because the insecti-

WATCH SIGNS: Insect damage might not be an immediate cause for concern. Be sure to scout fields and make notes about pollination progress.

cide is inexpensive and easy to apply, that's not very responsible."

Magnifying a problem

Steve Butzen, agronomy information manager for Pioneer, says a drought may lead to additional insect damage. In a drought, all sources of vegetation, including fencerows, roadside grasses and pastures, are reduced. This can result in more insect pressure on cornfields.

In addition to increasing insect pressure, drought also slows silking and reduces the daily supply of silks available to insects. Butzen explains this can magnify a silk-feeding problem. "The combination of reduced silks and increased insect pressure usually means more feeding damage to silks during a severe drought at pollination," Butzen says.

Volume 180 ■ Number 6

Contents:

Inside Illinois Ag	1
Prairie Views.....	8
Crops	12
Technology.....	20
Farm Management	23
Livestock	25
Natural Resources	26
Hay & Forage.....	27
Prairie Life	28
Classified/Marketplace.....	31
Marketing	45

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