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Think like a root



ROOTING AROUND: Derek Sauder, Precision Planting, likes to see corn root systems that resemble a wagon wheel, extending evenly in all directions. University of Illinois agronomist Emerson Nafziger adds that although roots can extend 6 feet down, they take up the majority of nutrients in the top 1½ to 2 feet below the surface.

By **HOLLY SPANGLER**

LAST year, shortly after Illinois farmers planted corn seeds into fertile furrows, the rain stopped falling. An extended warm and dry period blanketed much of the state during May and most of June, leaving farmers fretting in its wake.

As it turns out, that dry weather wasn't so bad after all. In fact, suggests University of Illinois agronomist Emerson Nafziger, last spring's weather pattern was practically ideal for growing root systems. Corn roots just kept growing, sinking deeper and spreading into

Key Points

- Corn roots will grow aggressively to find water.
- Insects and compaction are challenges to root systems.
- Scouting root pests can improve control in 2009.

moist soil as the surface dried out.

Nafziger explains that dry soils offer a good supply of oxygen to the roots, and that's what they need to take up nutrients and grow. As long as the tops of plants are sending energy to the roots, helping them take up nutrients, the

roots are going to grow, provided there's enough water to allow them to grow, he says.

Some folks maintain those healthy root systems helped pull in late-season moisture last year, contributing to excellent yields. Others argue the difference maker was corn hybrid technology.

Lodged corn, anyone?

Regardless of whether good roots were to thank or not, producers know what happens when root systems fail. Too many of them have the corn head reels sitting in their machine shed to prove it.

Nafziger allows that pro-

moting root growth is a delicate balance, as the plant has a limited amount of energy to put into the entire plant — roots and tops. It would be foolish to grow big roots at the expense of ears. However, protecting the roots your plants do have is important. Once root damage occurs, it can't be undone, Nafziger points out, adding, "You're going to have it for the rest of the year."

The solution? "Make sure nothing in your management compromises that root system," he says. "I tell people to think like a root when they plan their tillage and planting operations."

Experts agree that the main challenges your corn roots will face this season include insects and compaction — two things over which producers actually have a fair degree of control. You can also up your management plan, taking steps in 2008 to ward off further problems in 2009.

With corn valued at \$5-plus, that's something every Illinois farmer, and every corn plant, can benefit from.

■ **For more on specific challenges facing corn root systems, what to look for and when to look for it, turn to Pages 4 and 5.**



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