



*Mike and Clark Grannes (left and center) visit with John Gustafson, their sales representative with Weltsch Equipment, Inc., about the performance of their Sunflower 4511 disc chisel in 2009 corn residue.*

# Stubble

*Higher plant populations lead to more residue—and that means fall tillage is taking on new significance.*

**ACCORDING TO NEWTON'S** third law of physics, "For every action there is an equal and opposite reaction." However, it seems at times that the law applies as equally to farming as it did to Sir Isaac's favorite discipline. The adoption of genetically altered crops and higher plant populations, for example, have forced a number of producers to look at alternative methods of tillage for residue management. In simple "scientific terms," higher yields often mean more residue.

According to Larry Kuster, marketing specialist for AGCO Sunflower® products, the average amount of residue on a 200-plus-bushel cornfield today is nearly twice the level it was just a decade ago. At the same time, today's corn hybrids more frequently show stay-green characteristics at harvest,

and stalks are tougher than ever before. "Over the years, fall tillage has been largely a soil compaction management tool," Kuster relates. "Now, tillage has become equally important, if not more so, as a crop residue management tool."

"University studies show lignin content—or the glue-like substance that holds plant cells together—in *Bt* corn can be 33 to 97 percent higher than in traditional non-*Bt* hybrids," says Kuster. "That's why *Bt* corn and genetically altered hybrids are harder to work through machinery, and it's the reason they don't break down in the soil as quickly as they did in the past."

John Thompson and his father, Leon, who farm around 3,600 acres near Beresford, S.D., know all about how to get higher yields—last