



Managing Wet Soils

Jim Millar (interview)

TECHNIQUE

Millar is a soils consultant at Redfield, SD, previously a scientist with NRCS.

This article originally appeared in the April 2009 edition of *Leading Edge*, The Journal of No-till Agriculture. Visit www.notill.org for more information.

*Jim Millar is now an independent consultant (Precision Soil Management) based at Redfield, SD, working primarily in soil testing and developing fertilizer plans by zones and soil type. Previously, Millar worked for NRCS as a soil scientist for 20 years (Millar has a Master's in Agronomy from SDSU). Millar is excited about all the things he's learned in recent years, and about his new career allowing him to work closely with the most advanced producers in his area: "You can do more outside the government than inside." The following is a March '09 interview of Millar for *Leading Edge*.*

Matt Hagny: You're in an area with significant no-till adoption, with some producers having had the whole farm in no-till for 20 years already. What do you see as the biggest challenges and

opportunities for improvement for the top no-till farmers in your region?

Jim Millar: The biggest obstacle is wetness, and will always be wetness. Corn into wheat stubble has the most trouble, especially in conjunction with cool weather. You just don't want to look at the no-till corn in May or early June—it's pale and it's slow.

We put the brassicas down one rank of the drill, and the lentils down the other rank.

In no-till, we can do so much better of a job of getting water into the soil profile. We had monsoon rains in 2007, and it was just amazing the infiltration in the long-term no-till. The trouble is *subsoil* permeability: we don't do as good a job of moving

the water into the subsoil. That's when we get over-saturated and problems show up. We don't see this on conventional-till because they don't have the infiltration—half that water runs off.

To address the wet soils issue, lots of producers have gone to strip-till, because that's what the co-ops are pushing. Some have gone to 'light' tillage—heavy, deep tillage is a thing of the past around here. But what we [of the no-till mindset] are doing is the cover-crop concept. Use up the extra water, and—at the same time—add some organic matter, cycle some nutrients, remove some compaction, and improve the subsoil permeability! And it's really caught on—the acreage of cover crops has just exploded. No-till took off in this region for the simple fact that it made more money: All we needed to do was show that cover crops made you more profitable, and the interest was there.

MH: For corn following wheat, which cover crops have worked the best?

Millar: We like the winter canola—it's a small seed, it's a cheap seed. Also, the 'tillage' radish. The tap-roots on both of these are good at breaking up compaction. I like having a legume in the mix. Currently, it's Indianhead lentil. I would like to find something more aggressive for a legume—the lentil gets crowded out by the canola and radish by fall. To help with this, we put the brassicas [radish and winter canola] down one rank of the drill, and put the lentils down the other rank. This gives the lentils a [chance], but they're still



Photos by Jim Millar.

Why strip-till is a poor answer to the problem of wet soils. This is a disaster, not only wrecking the corn stand and causing hundreds of tons of soil to move downslope and/or off the field, but further requiring full-width tillage to smooth it up for future cropping. When confronted with this, strip-till proponents reply that you must strip-till on the contour. Talk about loss of efficiency! Cover-cropping makes a lot more sense.