

Current Actions for Controlling Erosion

by Kevin Wiltse

TECHNIQUE

Wiltse is a longtime no-tiller, farming 20 miles west of Great Bend, KS.

The past couple of years I've seen a disturbing trend of increasing erosion in our fields. This is partly due to the extremely intense rainfall events we've had the previous two springs. However, it's an indication to me that something within our system needs adjusting. Even with 10 to 20+ years of no-tillage, our soils' infiltration rates haven't improved like I had hoped (although part of the problem lies with the soil profile being full during these spring rains).

Case in point: In May of 2008, I had a quarter-section of carryover wheat stubble (no cover crop or double crop) that had a 7-inch rainfall event in a very short time. I drilled milo one week later, and received another 3.5-inch rain with tennis ball hail the night I finished seeding. A majority of the wheat residue (50-bu/a wheat in

2007) was washed off the field. Many terraces broke over and numerous new gullies formed. This was a field of converted CRP, plus 10 years of no-till cropping, for a 20-year history of not being tilled. It had never been grazed, and I largely adhered to a wht >>wht >>milo >>milo >>soybean rotation.

Granted, this is an extreme case. We will probably never be able to get our soils to infiltrate these rains. But, for me, any erosion is simply not acceptable. I've made several management decisions to help prevent this from happening again.

First, residue is crucial. We have to become more focused on growing it and keeping it. That is one of the main reasons I rented a 32-ft Shelbourne stripper head for wheat harvest in 2008. I also wanted the benefits of

the standing stubble for seeding cover crops and double-crops. It's much easier to get good seed placement behind a stripper head than behind a sickle head where the straw isn't evenly distributed behind the combine. The disc openers have a difficult time cutting through the residue lying on the soil surface. Speaking of seeding, I have always been a proponent of minimal disturbance. We run a 10-inch JD 1890 CCS drill with narrow gauge wheels. We seed wheat on 10-inch spacing, but most other crops (soybeans, milo, cover crops) go in on 20-inch spacing with the front rank locked up. Again, minimal soil and residue disturbance. Other equipment upgrades include going to flotation 650/65 R38 tires on our CIH Patriot sprayer. This has reduced gully erosion in the wheel tracks compared to the narrow row-crop tires we used to run.

While equipment certainly plays a role in the system, I think adjusting our rotation and ultimately improving our soil quality will provide the biggest gains. There are a couple of areas that I am addressing here. I have been getting away from stacking milo for several reasons, one of which is the tendency for increased erosion during the summer-crop phase as compared to wheat. Going to soybeans after just one year of milo tends to help since there usually is still some wheat residue present on the soil surface. This isn't a long-term solution since a wht >>wht >>milo >>soybean rotation probably won't be sustainable for very long due to 'cheatgrass' pressure. For this reason, I am going to revisit field peas on some of my acres to replace the soybeans, and with only a single year of wheat following the peas. With proper management, including

an aggressive fertility program, wheat following field peas has tremendous yield potential. Along with high yield comes lots of residue.

That leads me to my greatest area of concern for erosion—carryover wheat stubble prior to milo planting in the spring. These soil profiles are completely full when the big spring rains come, greatly increasing the risk of erosion. This wheat stubble simply must be double-cropped or cover-cropped—so I seeded 130 acres to cover-crop sunn hemp in late July, and in late August I planted 470 acres to a mix of vetch, canola, radish, and turnip. So *all* of my wheat stubble going to milo gets a cover crop, this year and in the future. (*Editors' Note:*

Kevin's cropland is separate from his dad's, part of which was cover-cropped, although the previous figures include his dad's covers.) I believe that we *must* intensify our rotation and add cover crops, or we may never see the true benefits of long-term no-tillage.

Erosion shouldn't be tolerated. Growing and keeping more residue, and improving the physical properties and biological activity in the soil through cover crops, should get us started down the right path. 🌿

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Photos by Kevin Wiltse

Wiltse's field suffering severe erosion in 2008.