

have a couple grass crops between the brassica and the sunflowers, the risk of problems is minimal). Even if some root diseases that afflict cash crops are also hosted by cover crops, by having that added diversity the pathogens have difficulty becoming highly adapted to either species because they are always being put 'off-balance' by the rotational cycling of hosts (note that this effect depends on the cover crop being a different species than the cash crop).

In summary, cover crops are of critical importance for many regions in balancing soil moisture (so that extraction equals or exceeds storage), and for adding much-needed diversity to many grain cropping systems. Cover crops hold tremendous opportunity, and the thoughts presented here are only a fraction of what we will know a few years hence. So have fun trying new things!

Editors: For further reading, see Beck's 'Cropping Strategies in Semi-Arid Climates' in the Dec. '04 issue. See also the Feature Farmer stories on Gary Maskus, Alan Mindemann, and Gabe Brown. Yet another reference is Managing Cover Crops Profitably, 3d Ed., Sustainable Agriculture Network, Beltsville, MD, 2007 <http://www.sare.org/publications/covercrops.htm>. 🌿

Follow Up on Controlled Traffic

by Matt Hagny

TECHNIQUE

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Postscript to the article in the March '05 issue.

A few speakers at recent conferences have again promoted controlled traffic, and have attempted to persuade us that water erosion in the traffic lanes can be avoided by planting the lanes to the crop, then using GPS to easily locate and stay on the lane. This *might* prove acceptable for passes made in the live crop, so long as the traffic occurs elsewhere (randomly) for all pre-plant and post-harvest spraying passes, *and different lane locations are established for each crop*. However, if repeated traffic occurs in one lane, even on top of a living root system, this will still create a difference in infiltration rates and a tendency for water to wash downslope in the track. Granted, it won't be as bad as bare lanes, so it might take a few more years for the effect to become obvious, but you'll still end up with gullies that will need to be repaired somehow—most likely by hauling soil in to fill them, an expensive and labor-intensive operation.

I'm not the only one to make these observations. Many producers say the same thing. For instance, longtime no-tiller Kevin Wiltse of Timken, KS, says, "I don't dare drive the sprayer in the same place twice, or it will start washing." Doug Palen of Glen Elder, KS, comments: "We don't leave blank trams, and we don't intentionally drive in the same place, but often that happens out of convenience. We had to start changing it up more, or it would start cutting in the wheel tracks." Kent Stones of Lebanon, KS, and Joe Swanson of Windom, KS, have reported similar experiences, as have

many others. The Dakota Lakes West River (Lyman County) site also had problems with this, in a relatively arid climate and gentle slopes.

Some have suggested that terraces would prevent the problem. Um, no. Terraces might redirect the gullies every so often, but the result would be the same—the gullies in the wheel tracks just won't get quite as deep at the bottom of the hill (because the water is diverted occasionally), but they will still wreak havoc, and get worse with time.

So, again, the conclusion is that controlled traffic in permanent no-till is only feasible in areas that are so flat or so arid that runoff never occurs. 🌿



Severe erosion due to driving in the same path repeatedly for spraying. Note that the inadvertent traffic lanes had grown a crop every year in the past, yet were still eroding badly. Once the rills or gullies get started, they are extremely difficult to get stopped.

Photo by Matt Hagny