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Compaction: An Issue at Harvest…and Beyond

With any luck, the content of this column won't have any application to this fall harvest season. Maybe we'll get a break from fall moisture predicted to provide us with ample opportunity for wet soils and the compaction issues that come with them. If we don't…

The issues soil compaction causes are numerous. Root systems don't penetrate as deeply as they should. Nutrient deficiencies as a result of reduced uptake show up. The result: reduced crop yields or at the very least growth and development issue during the growing season.

Sometimes, we don't see the issues as vividly. Infiltration rates decline. Surface runoff increases. With increased surface runoff, we not only reduce water in the soil profile, but increase sediment and the subsequent nutrient losses as well.

Bills don't get paid without the crop being harvested, however, and that means that harvest often *does* result in compaction issues. There's no way around it when a full 1050-bushel grain cart weighs 17.6 tons per axle and a 12 row combine with full hopper exceeds 20 tons per axle. You can't avoid it completely, but it can be managed to a degree. How?

Check soil moisture. Push a ribbon of soil between thumb and index finger. If it breaks over within a couple of inches, compaction potential is low. Harvest first on low potential soils.

If compaction potential is high, consider dedicated traffic lanes. Seventy to 80 percent of total soil compaction occurs during the first wheel pass, with subsequent passes much lower. In addition to dedicated traffic passes from field to truck, consider avoiding on the go unloading. It's only one pass, but it can be an important one to help reduce future issues.

Reduce axle loads by reducing combine/cart loads. When this doesn't work (it's easier in soybeans), plan loaded combine/cart passes so that they occur close to the unloading point.

Harvest around really wet areas. Not only does this reduce compaction, but can help you avoid issues with stuck equipment that go beyond the cost of damaged machinery and time.

Try to avoid post-harvest tillage. Many compaction issues are a result of weak soil structure from tillage. Tillage to 'correct' compaction should be done when soil moisture (at the depth of tillage) is drier than field capacity – or *other* compaction issues can result.

Wet harvest compaction issues are a fact of life. Management considerations now, however, can help you get a head start on the work required to remediate them in the future.

Sunscald on Thin-Barked Trees

One of the common issues associated with young smooth barked trees (honeylocust, fruit trees, oaks, maples…) is sunscald and bark cracks. They are issues that can negatively affect these species at a time when they need to be growing quickly.

Typically occurring on the south/southwest side of a tree, they are the result of warm/sunny winter days where bark on the sunny side of the tree gets 20 to 40 degrees warmer than that on the shaded side. A loss of cold hardiness occurs that makes cells active, but also susceptible to freeze damage from dropping nighttime temperatures. Bark damage results. It may not be deadly, but often requires some TLC for adequate recovery.

Preventative measures are the best bet for susceptible species. Apply a light-colored tree wrap from the ground to the start of the first branches in October/November. Just remember to remove it the following March or it can cause other issues for the tree in the spring.