

On-Farm Network™ Cooperators Continue Deep Ripping Trials

Soil compaction can cut into crop yields. We've seen stunted corn and soybeans where heavy equipment – combines, tractors, grain carts, manure application equipment – were used. Usually, though, compaction severe enough to result in visual symptoms is limited to wheel tracks.

Four years ago, the Iowa Soybean Association On-Farm Network™ helped organize a small group of trials comparing fall inline ripping in strips across an untilled field. Growers participating had questions about possible yield impacts from a more chronic soil compaction condition and wondered if deep ripping would increase yields. Some asked if there might even be a yield effect in the second crop, two years after ripping.

Participating growers selected soybean fields being rotated to corn the next spring. GPS was used to mark the alternating ripped and unripped strips. Strips were at least the width of their combine head so yield data could be collected with a yield monitor at harvest time. All other factors such as hybrid and planting date were held constant. At least four replications were done for each farm, helping to confirm that any yield differences were due to the tillage comparisons.

The results of the first inline ripping trials, which we didn't get until nearly a year later, were inconclusive, at best, as to how valuable this practice could be in corn production. Still, for the most part, the farmers involved liked what they saw in the fields and the trials were expanded.

After the 2003 trials (tillage was done in the fall of 2002) we concluded that, on the average, the practice did not pay. Positive yield responses were seen on fields with a higher percentage of clay based soils, but based on an estimated cost of \$15-20 per acre to cover equipment, fuel, labor and management, we calculated it would take at least a 5 bu. increase to pay and maybe as much as 10 bu. if costs ran to the high end and corn prices hovered around \$2.

Still, there were growers interested in trying the practice, some for the second time, so the trials continued.

Some of the growers used their own rippers, but most fields were ripped with the same 12.5 ft. 2100 minimum till ripper loaned by John Deere for establishing the trials.

In addition to looking at corn yields the year after ripping, fields that had strips initiated in the fall of 2002 were also monitored in 2004 for their soybean yields. Resulting differences in corn yields in 2004 were similar to those from 2003, and there was virtually no difference in soybeans grown two years later.



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