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CROP ADVISER

# Are You Looking at Your Crops?

By Robert Moloney, CCA

Too often we get the crop planted, scout once or twice for weed control, maybe do a quick scout for diseases and a few times for insects (in soys anyway) and then feel good that we've monitored our crop all year. While doing all these things is important and valuable, if this is all you doing, you're only looking at half the crop.

The most important and usually least practiced thing to do in the field is to dig up the roots. This is something that should happen several times over the season and in various parts of each of your fields. If you start to pay attention to your roots while you're looking at all these other things in your crop all year, it will give you a lot of hints as to why the crop didn't perform the way you thought it was going to and provide you with tips on management changes you should make in future.

## Your roots are the "root" of all yield!!

Start by digging up the root system. Pulling up the root may break roots or rip things off and it won't provide you with any clues as to the health of your soil. Try to pay attention to what direction the plant stalk is facing in the row; this can help identify the source of problems.

You want the root system to be even all the way around. If it isn't, look at why this is the case. Is the fertilizer coultter set too close or too shallow or too high of rate? Or did you use the wrong blend of fertilizer?

Typically, this will cause the roots to be concentrated on one side, away from the fertilizer, or roots may grow in a curve around where the fertilizer band is. Is the root ball flat on one or both sides of the stalk (usually running in the direction of the row)? This is typically caused by either too much down pressure on the planter units or the soil conditions weren't quite ready at

planting resulting in smearing of the side wall of the seed trench.

If the root system looks like a pancake or goes down for a bit then suddenly turns sideways that is often an indication of compaction. You will discover this before you even see the roots; when you try to get your trowel or shovel in the ground and it won't go, assuming you haven't hit a rock. You should be able to get a shovel or trowel into the ground far enough to dig up roots using leg or arm power without having to jump on it.

Between the wet fall harvest of 2006 and ground that looked fit on top but wasn't truly ready underneath in the spring of 2007, there were a lot of compaction issues in 2007. In too many of these cases farmers didn't want to believe that they had done anything wrong that could have caused compaction. The roots and the ground tell the tale. You may not think you're going to cause compaction, but you need to look at the soil at the depth you are working it, not just how it looks at the surface.

## If you use a planter for the crop, make sure you look at each individual planter row.

You might have different wear or setup issues on the different rows or a part may have broken on only one row. This may not be obvious during planting operations. I've seen where all the rows but one was planted at an appropriate depth. The row where the tractor tire had packed the ground slightly ended up way too shallow. Make sure you are consistently hitting the target depth you want for the field. Did you set the depth for the first field but didn't bother to check conditions in later fields and now you've ended up with too shallow or too few of rows?

## Root rots and soybean cyst nematode are both huge yield robbers in soybeans.

Even at low levels, either of these problems may be yield damaging but you might not see any obvious symptoms above ground until you combine the field and the yield isn't there. At harvest, it is very difficult to diagnose these problems, so in-season monitoring is critical. Unfortunately, there is nothing we can do for this year's crop if we find them, but it will allow you to plan and deal with them in the future by choosing appropriate resistant varieties. The same holds true for rootworm damage on corn. There may be very little root system left after the rootworm larva are done feeding in late July, but with timely rains the corn plant may have re-grown roots by harvest; meaning you can't see damage any longer. Often there is no goose-necking or any other above ground visual difference in the corn, but in side by side comparisons with rootworm control vs. no control you may get a 30 bushel yield difference.

Looking at roots should not be a difficult thing. If it is, you really should be looking at your crop management practices! Get in the habit of taking a garden trowel to the field with you. It doesn't have to be expensive (\$10 will do it), but get one with a one piece cast handle that won't bend when you start digging. It isn't hard to carry in the field and fits under the front seat or in the door pocket of the pickup truck so it's always there when you need it. You likely won't be able to correct many of the things you discover right away, but it's the cheapest, easiest and most beneficial way to improve your future crops. If you need help figuring out what's going on in your field call your local CCA and have them bring their trowel or shovel to the field with you.

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This industry driven program helps ensure that Ontario crop producers are well served by those providing their crop production advice. This article was written by one of those CCA's.