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Arable Extra

Issue 142

Nutrient management for autumn sown crops after a wet winter

We have received a number of queries around crop nutrition from growers whose autumn sown crops are looking very yellow, following a particularly wet winter.

For many, the automatic assumption is that they require nitrogen, but FAR environment researcher Dr Emmanuel Chakwizira says that is not necessarily the case, noting that where the yellowing occurs on the plant can indicate either a nitrogen or a sulphur deficiency. i.e.

1. If yellowing is occurring at the base of the plant, it is likely to be a nitrogen deficiency.
2. If yellowing is occurring at the top of the plant, it is more likely to be a sulphur deficiency.
3. If the whole plant is yellow, and very unhealthy, it may be due to total soil waterlogging.

More questions...

1. **Will the plants grow out of the problem?**
   a. Maybe – a few days of dry sunny weather will lead in evapotranspiration, which in turn, will lead the plant to draw water, and with it, nitrogen, from the soil.
   b. So, wait another couple of days and see if any greening is occurring.

2. **Can you test to be certain about these deficiencies?**
   a. Yes, tissue testing and soil testing.
      i. Tissue testing works very well to identify nitrogen deficiency and quite well for sulphur (S) and potassium (K). K unlikely to be an issue at this point in the season.
      ii. Soil testing will tell you whether the nutrients the crop needs are, or will become available.

3. **Once you have a diagnosis, what can you do?**
   a. If you can get on the paddock, the usual late winter/early spring application of sulphate of ammonia (SOA) may well solve the problem.
   b. Make sure soil and tissue testing samples are taken before SOA application.

4. **What about micro-nutrients?**
   a. Focus on macro-nutrients, especially N and S right now. They are what will keep your crop alive.

5. **Should I be rethinking my yield expectations?**
   a. Yes, probably. Crops that have undergone a long period of stress are likely to have lower yields. Consider what a realistic yield is likely to be this season and reduce your total N rate accordingly.

6. **What if the soil is waterlogged throughout the rootzone?**
   a. This is a real concern. The crop may require a replant.

In summary

1. Wait a couple of days and check if the fine, sunny weather has resulted in greening.
2. If it hasn't, don't assume yellow crops require nitrogen...it could be sulphur.
3. Tissue test to be sure.
4. Your usual late winter/early spring application of SOA may well solve the problem.
5. Crops with waterlogged rootzones may be beyond saving.

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