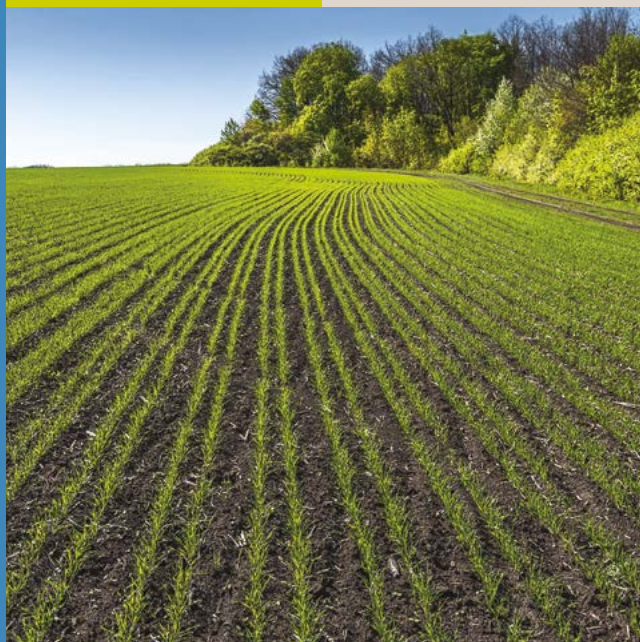
Knowledge grows

Interpreting RB209 The Fertiliser Manual

Yara has long supported the view that adopting a 'measure to manage' approach will allow farmers to enjoy a healthy harvest and avoid over-fertilization, to keep costs in check and protect the environment.

The new, revised RB209 guidance encourages farmers to use yield in developing their nitrogen recommendations for cereal crops. Yara is not fully supportive of this due to the very weak correlation between optimum nitrogen rates and yield.

The correlation is improved if nitrogen use efficiency is a constant from field to field and season to season. Unfortunately this is not always the case and simplifying it to this degree ignores the complexities and factors involved in how efficiently your applied nitrogen is used.



When should I use yield in my calculations?

The simple answer to this question is: when you can demonstrate consistency in nitrogen use efficiency. Such a consistency will be driven by the following factors:

- Consistent soil type and structure
- Consistent rooting depth
- Consistent crop rotation
- Consistent drilling dates
- Consistent nitrogen fertilizer type (nitrate, urea, NPK or Calcium Nitrate)
- Removal of other yield limiting issues

Top Tips on using yield

If you opt to use the yield function then consistency is essential. If in a 'Nitrate Vulnerable Zone' (NVZ), you will already be using yield for your NVZ, Nmax calculation. It's important that you end up with the same crop average yield figure for both NVZ and RB209 calculations.

If you don't farm in NVZ regions, then Yara would suggest the best yield figure to use would be to look at the last five years crop and field specific harvest data, remove the highest and lowest yields, and take an average of the remaining three years. This should give you a realistic average.

What next?

Once you have committed to a particular yield, it is essential that you do all you can to achieve it That means adopting a proactive 'measure to manage' approach – test your soil and crops, know what deficiencies may cause problems and deal with them quickly. Using yield in your calculations makes it even more important for you to test, analyse and react to any deficiencies.

Before your last nitrogen application, it is essential to assess yield potential because you still have time to change your fertilizer application to avoid any disasters at harvest. By testing and monitoring crop growth it will give you the information you need to take remedial action if things don't go to plan.

Information is power

Ultimately, whatever tools you use to calculate your nitrogen requirements, Yara would always encourage you to measure what you can and act on those results. Only by measuring do we know what soil and crops need, this information will allow you to make well informed and effective decisions.

Farming Sustainably

If your resulting yield is more than 10% less than expected, you can assume that you have excess nitrogen in your soil. The only place this nitrogen will go is into the environment either as an emission, effecting Green House Gas emissions, or as a leachate into ground water.

You should consider remedial actions to mitigate this such as:

- Drill your next crops early so that they benefit from the residual nitrogen in the soil
- Put in a cover crop to trap the available nitrogen.
- Carry out soil tests to inform your next crop's nutrient management plan.

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