

Fertiliser Decisions for 2005

Many articles in this manual will help you in making better fertiliser decisions for 2005 and into the future. The articles not only deal with fertiliser types and rates, but also how they can be applied and when, and what other factors need to be considered.

You will find information on:

- what effects subsoil limitations have on crop potential (James Nuttall's article in the Invited Article section);
 - the success that farmers on the Eyre Peninsula are having with using Liquid P (Bob Holloway's article in the Invited Article section);
 - which lab to send to your soil samples to (BCG article in the Invited Article Section)
 - the impact of canopy management (interaction between seeding rate and N fertiliser applications) on yield and grain quality in wheat and barley (prepared by the BCG and Nick Poole (FAR-NZ) in the following section)
 - liquid N – we know the risks involved in topdressing urea if there is no follow up rain and liquid N may increase the chance that in-crop applied N works better for you (BCG trial results in the following section)
 - P rates – the results of the long term P trial are published in the next section
- In addition, the information provided in articles on (i) the Southern Oscillation Index (by the BCG in the Invited Article section); (ii) lack of rainfall due to climate change or chance (by the BCG in Invited Article section); and (iii) the Yield Prophet (by the BCG in the Agronomy and Climate section) will help you in working out a better risk profile for when you are deciding on how much to spend on fertilisers.

What to consider when making a fertiliser decision for this season

State of Play (as of February 1, 2005)

- Most farm enterprises made a loss in 2004 and there is pressure on the budget for 2005 (for details see an article prepared by Phil O'Callaghan in the Invited Article section on managing financial risk in 2005)
- Fertiliser prices are at a historic high and expected commodity prices are relatively low
- Following good rain late last year, many parts of the Mallee have significant levels of stored soil water
- If summer weeds are controlled there will be residual stored soil water at sowing in these areas
- To set realistic yield estimates it is essential to know how much soil water there is in the soil profile prior to sowing – you must do some tests!
- The Wimmera is still bone dry and soils contain only a small amount of water which cannot be extracted by crop roots (also known as the Crop Lower Limit of the soil) – in fact many of the soils may be air dry and below the crop lower limit
- There are no indications yet on what the season will hold for 2005

What does this mean for fertiliser rates in 2005

Nitrogen - Wheat and Canola

- Set a realistic yield target based on stored soil water and average rainfall for the season
- Soil test and at sowing only apply enough N to get the crop from sowing to five to six leaf stage
- Review the season forecasts at the five to six leaf stage (using the SOI indicator, deciles or the David Stephens model); estimate the amount of rainfall stored between sowing and mid tillering and recalculate a new yield target
- Consider the probabilities of achieving this new yield target and rainfall forecasts
- Apply enough N to reach the new target yield
- Whether you top-dress urea, other granular formulations of N fertiliser, or use a liquid formulation will depend on how set up you are for applying liquids
- Re-assess N requirements at the end of tillering (late cabbaging for canola) when you have even more information available on rainfall forecasts, stored soil water and how the crop is performing

Nitrogen - Malt Barley

- Very similar to the suggested program for wheat except that to reduce the risk of high protein it is advisable to apply at least half of the N requirements at sowing

Then review the season at the mid-tillering phase – in the Wimmera it is still reasonably safe to apply more N at this stage (especially on Gairdner) but in the Mallee the risk is higher that protein levels will rise to unacceptable levels for malt and N should not be applied post mid tillering

Phosphorus

- For all crops except for faba beans base the P rate on:
 > if the soil Colwell P is below 15ppm apply 12kg P at sowing
 > if the soil Colwell P is above 15ppm then, calculate the five year P balance to ensure it is positive and use 6kg P at sowing. If the balance is negative it is advisable to increase P rate to 12kg P.
- For faba beans use 12 to 15kg P at sowing.

Zinc

- For all crops ensure that the paddock has had zinc in the last 4 to 5 seasons otherwise you will need to use a zinc blended product this season

Sulphur

- For canola only, make sure the paddock has had gypsum in the last 4 to 5 years otherwise you will need to either sow the crop with a high S containing fertiliser (such as Superfect) or spread gypsum pre-sowing