

## DEEP NITROGEN TESTING

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## THE FERTILISER PROFESSIONALS

*"Granules of Knowledge"*

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How much nitrogen do you have under your crops this season?

Roughly:

-A wheat crop targeting protein of 12% requires 46 units of nitrogen (N) per tonne yield; so a 5t/ha wheat crop will require 230 units of N, which is equivalent to 500 kg/ha of urea.

-Canola targeting protein of 18% requires 81 units of N per tonne yield; therefore a 3t/ha crop requires 243 units of N, equivalent to 528 kg/ha.

Nitrogen is mainly up taken by plant roots in its nitrate form. However, nitrate is not tightly bound to the soil and therefore stays in the soil solution. This makes it vulnerable to leaching down the soil's profile when you have had excess rain. After the amount of late rain we had last Spring (around 340 mm in Hamilton district and 260mm in the Edenhope area[1]) it can be expected that the amount of plant available N in the top soil/root zone has been reduced.

Bean paddocks also tended to be harshly hit and became wipe outs. It can therefore be expected that these paddocks, due to being under stress/dying, have not fixed as much nitrogen as expected and cannot be relied upon to provide nitrogen-rich paddocks for subsequent crops.

A summer full of storms has provided an ideal environment for mineralisation to occur through the combination of warm weather and sufficient moisture. However, it has also fueled plant growth over this period, which if left un-checked may have eaten away at any nitrogen gains.

While the price of urea has come down from last year's extreme highs, it is important that you get the most out of your fertiliser budget. Testing can help to refine your nitrogen plan for the year by seeing exactly what your N reserves look like. This enables a more tactical urea approach to target the areas that need it most to get the most bang from your fertiliser budget.

Due to the nature of how nitrogen cycles through the system, the best time to test for N is a few weeks prior to the first application or before the ground gets too wet! This provides the most accurate reading of how much N is in the soil and gives enough time for results to get back from the lab to make a decision.

The testing process is simple enough. We have a soil testing trailer that has a hydraulic system to allow for easier sample collection. The aim is to take a sample down to 50-60cm. This depth will account for the bulk of the crop's root system to give an indication of how much nitrogen (both nitrate and ammonium) is available for the plant to uptake.

If you are interested in getting some tests done or have any further questions, please give us a ring.

[1] Australian Government, Bureau of Meteorology (2 December 2022). Victoria in spring 2022: Wettest on record.. Retrieved April 26, 2023, from <http://www.bom.gov.au/climate/current/season/vic/archive/202211.summary.shtml>



# PROTECT YOUR FRESHLY SOWN PASTURES FROM SLUGS AND OTHER PESTS

I'm sure everyone has noticed in amongst the crickets that refuse to die; that the slugs have started to reappear - just in time to eat your newly sown pastures. Slug damage can be drastically reduced by applying bait to susceptible areas. As the majority of bait is consumed in the first three days of baiting, the number of bait pellets on the ground is key to ensuring a good kill.

It is important not to wait until you see damage, but to be on the front foot and bait around sowing. This will reduce the risk of an establishment failure. Depending on slug numbers and paddock conditions, follow up baiting may be required. Therefore, frequent paddock monitoring is a must.

Both waterproof and non-waterproof baits are an option, however the waterproof bait is naturally more expensive. To combat costs and get an extended pellet life, it can be beneficial to use a mixture of both if you are concerned.

Knowing what slugs you have is also key as baiting on the soil surface means that it is only accessible to slugs that come to the surface to feed at the time of baiting. Generally around the Coleraine/Hamilton region we have a lot of grey field and black-keeled slugs. The grey slugs live around the surface of soil and therefore are going to cause the most damage at the start of the season (when sowing). The black-keeled slugs burrow to 20cm underground and therefore generally only become a problem later on in Autumn once enough moisture has caused them to emerge. However, due to their burrowing habit they will also eat the germinating seedlings which can pose a problem.

Please contact your Vickery Bros Agronomist or McDonald Rural if you need to get some bait or would like additional advice.

Another threat to look out for is black headed cockchafers. They have started to be spotted around the district in new sown pasture. Feeding on young seedlings and leaves; affected areas can be completely wiped out resulting in patchy pastures with areas needing to be re-sown. As shown in the diagram below (Infographic by Cesar Australia & QDAFF) we are well and truly into the "danger period" where we see the most damage but also have the best chance to control numbers. Being surface feeders they are easily controlled with an appropriate insecticide. So keep an eye out!

Grey Field Slug

Picture by Andrew Weeks,  
Cesar Australia



Black Keeled Slug

Picture by MA Nash

