



Agronomy Solutions

PRECISION NUTRIENT MANAGEMENT NEWSLETTER

Summer 2015

Addressing the issues of the season

It's been a tough year for farming. A wet harvest and Autumn planting season, followed by one of the driest Springs for many years. Despite all of this, crops have started to come in and first reports are promising. Irrigation has been vital and managing this and stretching a limited resource around the farms has been a real challenge. Heavy, non-irrigated soils have coped remarkably well with the dry conditions, and looking around farms we are involved with the soil management and establishment can have a real bearing on how soils and crops cope with the tougher environment.

With all this in mind I share my thoughts with you as to how we can manage our soils, crops and nutrients to make limited water and nutrients go further.

Most of the answers lie in the soil. Whether we are dairying or cropping maintaining a healthy plant with good root structure and the correct balance of soil nutrients gives us the best chance to cope with the changing growing seasons.

Root development is vital as it allows crops to forage the maximum available soil below them in order to capture a greater proportion of available nutrients and water.



Keeping the soil healthy and free from compaction are the two most effective ways of achieving this. Soils need to be aerated and not over cultivated. A perfect seedbed on the surface can mean that the soils are beaten to a pulp to achieve this and that results in loss of soil structure below the profile. My advice would be to use a spade

and dig some holes in paddocks to see where the roots are and if anything is impeding them from searching the whole soil profile.



Image shows limited root growth where soil is compacted

Managing the correct level of nutrients in the soil will also help us to farm better and more efficiently. A plant needs a certain amount of N, P and K and no more. It also needs nutrients available in balanced amounts in order for them to work in synergy. There is still a lot of advice around concentrating on P and N with often little regard paid to Potassium and the important soil pH.

I would suggest looking at the whole of the plants needs and address each one of these where they are deficient and limiting plant availability. Plants are no different to any other species in that they respond best to a healthy balanced diet.

A reminder of how our system works :- With the start of a new cropping year after harvest we thought that now is a good time to remind growers how to get the most out of previous fields that have been tested. Our system works by gently correcting soils over a period of time, with the exception of pH that is corrected in the year of testing. With Phosphate, Potassium and Magnesium the aim of our system is to correct soils gently by supplying maintenance fertiliser based on the potential yield of intended crop when the soil is at a desired level. With soils that are below desired levels we supply maintenance with the addition of build up fertiliser to slowly increase the soil nutrients in the direction of the target level. With areas of paddocks that tests show have excessive nutrients in the soil we would recommend applying sub maintenance to allow soil tests to slowly decline to desired levels over a period of time.

When to Retest – Retesting soil is very much based around managing and maintaining soil pH at a desired level. Light sandy soils under irrigation will leak lime from the soil profile faster than heavy clay soils hence the need for testing and correcting soil pH being more frequent. We would recommend testing light soils every 3 years and heavy clay soils every 5 years.

Will savings be made on fertiliser ??- This is very much dependent on the farm and how it has been managed in the past. What can be guaranteed is that you will be very much more efficient with your fertiliser use and only be applying what the crop is going to need after the soil has delivered what it can from residual nutrients in the soil fertiliser pool. With farms that have areas of high levels of nutrient in them significant savings can be made but you can rest easily knowing that any areas that are deficient have been addressed and will not suffer from savings in fertiliser. This is much more precise and thorough than the conventional way of a single test and basing decisions on that one result.

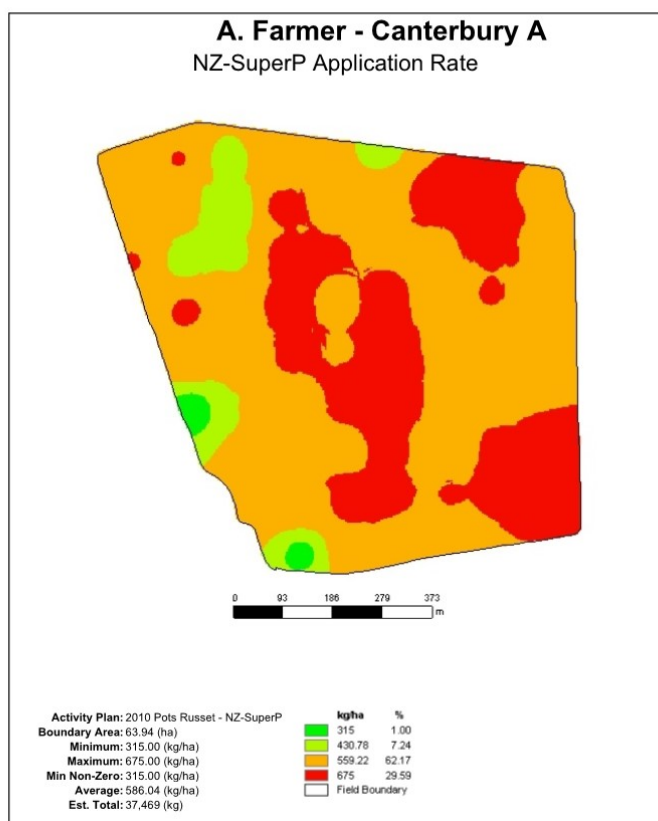
Soil pH and sensitive crops - It is a good idea to plan well ahead and address pH issues at least a year before planting crops that are very sensitive to soil acidity. Carrots, Onions, Beets, Peas and Barley will all fall over very quickly if soil is slightly acidic. Our advice is to plan ahead and soil test so that you can correct any issues well in advance of these crops being planted. This will give time for the lime to work and correct the soil. If time is short then applying lime prior to planting can still be beneficial especially if it is worked into the seedbed.



Rotational soil Testing - Testing a proportion of your farm each year is the best way to manage Nutrients and Soil Ph. This insures that all issues are picked up before the negative ef-

fects of Acid soil and deficient Nutrients effect growing crops. Managing testing in this way spreads out testing costs and spreads the lime costs evenly from year to year. If you have a light soil type you would aim to test 33% of the farm a year and return every third year, and with a heavy soil type test 20% of the farm and return every 5 years.

Working to a budget- with our system of rigorous testing it allows us to spread the fertiliser budget around the farm without putting the crop at risk if the budget spend is less than the crops true requirement. By targeting the low areas and reducing applications on high areas the fertiliser will go much further with every area benefiting proportionally.



Action- Contact the Agronomy solutions as soon as possible with a list of paddocks that you would like sampled. Also include details of intended crop, expected yield and whether straw will be removed or incorporated. This will help speed up the process. Fertiliser plans and new variable rate maps can then be made up so that they are ready and waiting when you need them. This can also be done with the help of your Fertiliser Advisor or Company Rep.

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