



Know where you stand with your soil

Your soils are the foundation of your pasture system. Incitec Pivot Fertilisers' technical agronomists Jim Laycock and Lee Menhenett explain how to use soil testing as the basis for a productive fertiliser program.

When you're looking to maximise pasture growth, it's essential to know where you stand.

The most effective fertiliser programs start with an assessment of soil fertility, soil physical limitations and the botanical composition of the pasture, along with an understanding of the current and targeted stocking rates.

The best way to assess soil nutrient status is with soil testing.

Soil test results provide essential information for planning appropriate fertiliser strategies based on scientifically proven critical nutrient values.

Many years of plant nutrition research have allowed your soil test results to be calibrated against pasture responses, providing meaning to the figures and giving you a path to success.

When starting a soil testing program, comprehensive soil tests should be taken in every paddock. Monitoring soil tests measuring phosphorus (Colwell P or Olsen P), potassium (Colwell K) and sulphur (KCL 40S) can then be used annually.

Annual monitoring identifies changes in these key nutrient values quickly and is the best way to follow trends over time and account for variability in results due to different seasons and sampling locations. If there are any significant changes to paddock fertility, corrective action can be taken quickly to move back to targeted critical ranges and avoid losses in productivity.

Comprehensive soil tests should be repeated every five to eight years to check on pH, other cations and trace elements as well as the macro nutrients.

At least 30 soil cores should make up one soil sample from each zone identified on the farm. The sampling depth needs to be consistent to 10 cm for accurate results. Incorrect sampling depth will increase or decrease the nutrient concentration in the sample and give a false reading.



If deep rooted pasture species are being grown, such as some lucerne, phalaris and cocksfoot varieties, it may be worth conducting subsoil testing as well, in segments of 10-30 cm, 30-50 cm and 50-70 cm.

This will help identify if there are any physical or chemical limitations to root growth and where they lie in the soil.

Geo-referencing the sampling sites is a good idea. This allows you to return to those sites for future sampling, giving consistency in long-term insights. Soil test records kept over a number of years are valuable for ongoing monitoring and management.

The power of soil testing can be seen in a number of areas.

Soil testing is the best way to see whether the pH is limiting pasture growth potential and determine whether any ameliorants are required.

Soil test results allow you to prioritise nutrient applications across the paddock. It shows where you can build fertility, maintain fertility or use soil nutrient reserves and reduce fertiliser applications.

There are often significant opportunities to improve farm profitability through efficient soil fertility management.

Soil testing helps to determine the best fertiliser types or fertiliser blends for each paddock and appropriate rates for different paddocks. It gives firm figures for financial budgeting and planning.

When soil testing, ensure that your soil samples are sent to a reliable, accredited laboratory. The Nutrient Advantage® laboratory is NATA accredited and its tests are ASPAC certified.

Informed fertiliser recommendations are just as important. They should include paddock by paddock strategies with information on fertiliser and ameliorant products, rates and application times.

Start by knowing where you stand with your soil and arrange a soil test today.

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