



BACK PADDOCK  
C O M P A N Y

# Better Soils Management

Independent soil and plant nutrition training providing student excellence in Agronomy

## Overview

This will be the **most informative soils management training** you ever complete! We are passionate about providing you with the updated information and tools that you need to offer your client the best service and agronomic excellence possible.

At the end of this course you will hold increased knowledge as well as the confidence in your skills to interpret data to provide effective solutions. This gives you greater ability to determine the needs of your client as well as recommend the right fertiliser at the right time so that your clients achieve the best results possible for the season. All too often the knowledge and skills to recommend fertilisers is not covered with conventional education and has to be acquired within the agricultural industry – the information in this course is constantly updated by **independent industry experts** who are passionate about sharing the knowledge. This training is available **ONLINE** at your convenience in a self-paced style.

## Who would benefit?

- Advisors and Agronomists who have an industry-related tertiary qualification or a minimum of two years' experience in the field of fertilisers and fertiliser recommendations looking for a course that covers the in-depth knowledge in soils, plant nutrition and fertiliser/soil amendment technology.
- Staff wanting to advance their career towards the role of an agronomist

## Learning Outcomes

- Plant nutrition / physiology – how plants grow and how and when do plants take up nutrients and the effect this has on fertilizer practices including placement, timing and environmental outcomes
- Soil health – how do your soils stack up to soil health standards and what can be done at your local level to improve soil health and crop production
- Soil properties - how this is related to management and constraints on production and what can be done to maintain good soil properties at the local level
- Nutrients – understanding the role in plants, quantities required by plants, measuring plant available nutrients in the soil, efficiency of uptake and the fertilizers used to make up shortfalls
- Soil, water and plant tissue sampling – how sampling can help your clients' production and your business  
Understand the interpretation process for soil and plant analysis that is used in interpretive software programs such as in SoilMate - practice making competent fertiliser recommendations from soil and plant tissue tests
- Course Case Studies are marked and feedback given in accordance with Fertcare Auditing standards

## About us

Back Paddock has been proudly delivering comprehensive and professional training programs for over 20 years and is broadly recognised for industry excellence in the field. We continuously update the information in our training packages with information vetted by our qualified industry experts, and ensure our self-paced online platform is engaging, simple to use and ready for you to learn at your convenience.

Please do not hesitate to contact the team for any further information. We look forward to studying with you!

Ph: 07 3220 2959

E: [support@backpaddock.com.au](mailto:support@backpaddock.com.au)





<b>Module 1 – Principles of Plant Growth and Development</b>
Understand the factors necessary for plant growth and development
Understand the role of mobile and immobile nutrients in the soil and how this can affect soil testing and fertiliser placement decisions
<b>Module 2 – Concepts of Soil Fertility</b>
Understand the range of soil factors determining soil health
Understand the effect of the key soil health factors and strategies used in fertilizer programs
<b>Module 3 – Agricultural Soil Amendments</b>
Understand the non-nutritional soil chemical factors important for soil health
Understand the causes of and fertiliser impact on soil acidity, and key aspects of amendment application programs
Develop an awareness of the cause of soil salinity, soil sodicity, slaking/dispersion and inclusion in programs
Understand CEC and cation ratios, their use in crop nutrition and soil amendment programs
<b>Module 4 – Soil Carbon</b>
Understand global and soil carbon cycles
Awareness of the different forms of soil carbon and their functions in soil
Understand the differences between soil carbon analysis
Be familiar with agricultural activities that change the soil carbon
<b>Module 5 – Nitrogen</b>
Understand the role of N in plant nutrition, and the symptoms of N deficiency in key crops
Understand the various forms of N in the N cycle
Understand the behaviour of N, N availability to plants and environmental impacts, particularly Loss Mechanisms
Develop an awareness of the main N fertilizers and their physical and chemical properties
Develop an awareness of key N fertilizer strategies used in the main agricultural segments
<b>Module 6 – Phosphorus</b>
Understand the role of P in plant nutrition, and the symptoms of P deficiency in key crops
Understand the behaviour of P in the soil, and the aspects of availability of P to plants
Understand the potential mechanisms for movement of applied phosphates and possible environmental impacts
Develop an awareness of the main P fertilizer products, physical and chemical properties related to production and environmental outcomes
Develop an awareness of key phosphate fertilizer application strategies used
Develop an awareness of the residual value of P fertilizer
<b>Module 7 – Potassium</b>
Understand the different forms of K in the soil
Mobility of K in the soil / leaching potential / timing of application
Understand role of K in plant nutrition / awareness of a range of crop removal rates
Awareness of likely K deficiency symptoms
Understand differences between K fertilizers and the processes used to select a product
Understand placement issues with K fertilisers

<b>Module 8 – Sulfur</b>
Develop an awareness of S cycle / processes that release plant available S
Understand importance of S in plant nutrition
Awareness of likely deficiency symptoms
Understand form S is taken up by plants
Understand the different S containing fertilizers and the form of S they contain
Understand that sometimes more S is applied to a crop than required as per the soil test
<b>Module 9 – Role of Ca and Mg in Crop Production</b>
Understand the role of Ca and Mg as nutrients as distinct from the soil amendment role
Awareness of likely deficiency symptoms
Awareness of products used to supply Ca and Mg and their relative solubility in soil moisture
Understand how Ca and Mg interact with the other cations
<b>Module 10 – Trace Elements in Agriculture</b>
Develop an awareness of the key trace element deficiencies found in Australian agriculture
Understand the fertilizer products used to correct trace element deficiencies
Understand the principle application methods used for trace element products
Develop an awareness of the potential situations for trace element toxicities
<b>Module 11 – Calculations and conversions</b>
Demonstrate appropriate use of the units of measurement
Demonstrate an ability to perform basic fertilizer application calculations, to determine nutrient/product application rates, and cost per unit of nutrient
Demonstrate the ability to calculate soil profile nutrient contents from soil test results
<b>Module 12 – Fundamentals of soil sampling</b>
Learn how to plan a soil sampling program as set out in the Australian Soil Fertility Manual
<b>Module 13 – Fundamentals of Plant Tissue Sampling</b>
Learn how to plan a plant tissue sampling program as set out in the Australian Soil Fertility Manual
<b>Module 14 – Fundamentals of Water Sampling</b>
Learn how to plan a water sampling program in accordance with the methodology set out in Australian Soil Fertility Manual
<b>PART 2 – Interpretation of Data</b>
Understand the underlying principles and processes used in interpreting soil and plant tissue tests.
Apply your current knowledge of soil properties, nutrients, fertilisers and crop/pasture agronomy in the interpretation and recommendation process.
Use interpretive data to manually create fertiliser recommendations.