



MEDIA RELEASE

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Brassica calculators set to expand

The successful brassica calculators put into practice by Ballance are set to expand to include swedes and turnips.

Plant and Food Research and Ballance Agri-Nutrients are undertaking a two-year research programme to gain data for the new calculators.

The programme will focus on nitrogen and phosphate responses, although some potassium trials will be undertaken to investigate whether small responses to this nutrient found in a previous trial in the Southland region could be repeated.

Ballance Agri-Nutrients began using the kale calculator and pasja calculator computer-based fertiliser forecasting decision support systems in 2006, with an aim to help Ballance Technical Sales Representatives produce more scientifically robust fertiliser recommendations for these two forage brassica crops.

The calculators have been successful aids for Ballance staff to make fertiliser recommendations, and this new research provides a significant opportunity for Ballance to extend the current calculators to include swedes and turnips.

The brassica calculators are based on computer programmes designed to accurately forecast fertiliser needs, helping farmers to take a scientific approach to increasing brassica crop yields, generating a better return on fertiliser expenditure and reducing environmental impacts through targeted applications.

Ballance Technical Advisor, Aaron Stafford, explains that the calculators are a valuable tool for farmers wanting to optimise crop yields and fertiliser inputs.

'The value in the brassica calculators lies in their ability to assess nutrient responses achieved in a large number of trials, across different parts of the country, under different site and environmental conditions, and apply this knowledge relative to the site and environmental conditions specific to a particular crop paddock. The programme allows farmers to input a wide range of variables such as expected seasonal weather conditions, sowing and grazing dates, soil fertility, fertiliser nutrient costs and crop value.

'The calculators are able to forecast potential yield, as well as providing farmers with the ability to ask "what if" questions, to look at the effects of changing management, such as sowing date, or nutrient application rate, on crop yield potential.'

The calculators also use fertiliser nutrient prices, and the value of additional crop yield to recommend the most profitable nutrients to apply, and the most appropriate rates for these nutrients.

‘Previous kale and pasja trials have shown variable responses to fertiliser inputs - some sites have shown significant yield responses, while others have not. The calculators can assist in determining where and when significant responses to different fertiliser inputs are likely to occur. It is evident that they are a valuable tool for assisting farmers who wish to increase their returns from these crops, since these tools help farmers optimise their fertiliser programs.

‘The use of the calculators is also excellent for ensuring fertiliser wastage and environmental impacts are minimised. It should be recognised that every paddock is different; using the calculators enables farmers to tailor fertiliser requirements according to paddock specific requirements, therefore better matching nutrient supply to crop needs.’

Lincoln Plant and Food Research Crop Physiologist, John de Ruiter, says that general fertiliser recommendations for forage brassicas are often not appropriate because these crops are grown in a wide range of soils, meaning that the nutrient supply from background soil fertility differs widely.

‘Brassica crops also have a wide range in yield potential throughout New Zealand, and therefore the crop nutrient demand varies widely,’ he says.

‘Calculators are required for individual brassica crop types as their crop morphology and growth patterns differ among the crop types.’

Initial turnip trials have been completed in Taranaki and Waikato, with further trials to be conducted in Southland, Canterbury and the Central Plateau.