



The following article was written by Soiltech
Soil Scientist, Dave McKie MAgSc (Hons)

Resin P Test

Over the years much research has focussed on the development of suitable soil tests to measure levels of soil phosphorus (P). In the mid 1970's, the Olsen P test demonstrated itself to be the best test available at the time and was adopted as the standard soil test for plant available P in NZ. However, both farming and soil science have moved on since then and more knowledge has been acquired.

In more recent times an alternative test has been developed. This has become known as the Resin P test. It has been used extensively for over ten years now and continues to demonstrate excellent results in NZ field conditions.

Though the Resin P test is not perfect, it does overcome many of the anomalies associated with the Olsen P test. Perhaps foremost of these is that it extracts P at soil field pH (rather than pH 8.5) using water (rather than a bicarbonate solution). This gives a closer approximation of actual plant available P levels in the soil as well as more closely correlating to the P nutrient status experienced by a plant root. By comparison, the Olsen P test tends to overestimate plant available P under low soil pH conditions and underestimate it where the pH is high or the soil has recently been limed.

A related advantage is that the Resin P test correlates better with the P retention status of the soil i.e. it directly estimates plant available P without the need to make adjustments for soil type etc. The Resin P test is also more accurate when RPR has been used and in other situations where P exists in lower soil quantities.

Because P is so important to plant growth, Soiltech uses four tests to obtain a more accurate picture of the P status of the soil: (1) Resin P, (2) Olsen P, (3) Total P, and (4) P Retention. In combination, these tests provide an excellent assessment of the P status within a soil and are much more useful to the farmer than the Olsen P test alone. In combination with other nutrient testing undertaken by Soiltech, the Resin P test, in combination with other tests of P status as well as other nutrients enables a better assessment of soil nutrient status, which in turn enables more accurate and farm specific, fertiliser recommendations.