

Monitor your soil P level to save money on phosphorus fertiliser costs

Phosphorus (P) is an expensive nutrient, and excessive applications increase production costs and affects off-site water quality. High soil P concentrations do not increase bunch size.

Soil sampling

We recently assessed 2,000 recent soil tests from banana farms across the production areas of north Queensland. More than half of the samples had Colwell P values in the High to Very high categories (>75 mg/kg). This reflects a history of high P application. One third of banana paddocks need nil P fertiliser.

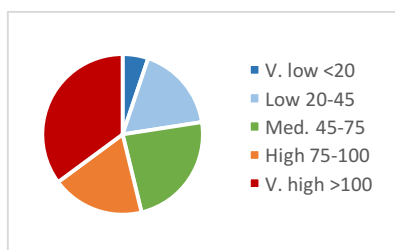
Test for success

The Colwell test is a cheap and readily available soil P test that can be used to monitor P. Growers can often save money by reducing the amount of P they apply, if they monitor their soil P levels.

What do the numbers mean?

The Colwell P test can be interpreted by using the table below. The amount of P needed depends upon the soil test result. For example, once the Colwell P is greater than 75 mg/kg, P fertiliser rates can be reduced.

Category	Colwell P (mg/kg)	Phosphorus fertiliser application rates
Very low	<20	Apply P equivalent to crop uptake 50 kg/ha plus a boost rate of 20 kg/ha for the plant crop, then 20 kg/ha for each ratoon crop. Check soil test before replanting.
Low	20-45	
Medium	45-75	Apply P equivalent to crop removal of 20 kg/ha for the plant crop, then 20 kg/ha as a maintenance rate for ratoons. Check soil test before replanting.
High	75-100	Apply P equivalent to crop removal of 20 kg/ha at planting. Check soil test before replanting.
Very high	>100	Apply nil P and monitor soil test before replanting



Distribution of Colwell P values in north Queensland banana paddocks.

Fertiliser costs for many north Queensland banana paddocks can be reduced by using a cheap, reliable soil test.

More information?

Contact Dr John Armour, trop.landscapes@gmail.com, 0418 428418

Acknowledgements

We thank Dept. of Environment and Heritage Protection for funding Project RP158B; Incitec Pivot Ltd, Total Grower Services and Soils First for soil data; growers in Tully and Innisfail for interviews.