Updated April 2025

Are you on the map?

Queensland phosphorus (P) map

Phosphorus (P) is an essential nutrient for livestock growth and development. Deficiencies are common across northern Australia but can be managed through strategic supplementation.

Soil plant-available P stocks are a key indicator of cattle productivity. The Queensland phosphorus map shows high resolution plant-available P across the whole state.

The map has been especially developed for livestock producers to easily identify areas at risk of phosphorus deficiency and support more targeted and efficient phosphorus supplementation.

Produced by Queensland Government of Environment and Science with support from Meat & Livestock Australia, this helpful tool and supporting data is readily available online.

About

The map shows bicarbonate extractable phosphorus, also known as Colwell P, in the top 10cm of the soil.

The measure of P is shown in milligrams per kilogram (mg/kg) equivalent to parts per million (ppm). This is how it is commonly referred to in soil analyses.

For beef production, soil P levels with:

- 6mg P/kg or less are considered deficient to acutely deficient
- 6–8mg P/kg are marginal
- more than 8mg P/kg are considered adequate.

Refer to MLA's *Phosphorus management of beef cattle in northern Australia* for more information.

The mapped P represents the natural unfertilised soil P concentration. Values may differ with actual values in cropping fields or other fertilised areas.

The value is a prediction made from a model. To help with interpreting the values, uncertainty ranges are also mapped. This can assist producers in determining whether additional soil sampling is required.

Areas covered

This map has been updated by the Queensland Government of Environment and Science in 2024 to include all regions in Queensland.

Format

The map is made from raster data with a 0.3ha resolution (each pixel represents 30m x 30m on the ground). This data can easily be loaded into a GIS. Each pixel has a P value.

Data

It is open data and can be freely downloaded from the Queensland Spatial Catalogue – Qspatial.

How was it made?

A total of 6796 unique site location samples were used to train the model. These samples came from extracting all available soil P data across Queensland, supplemented by additional soil sampling in under-represented areas.

Scan or click the QR code to view the P map:
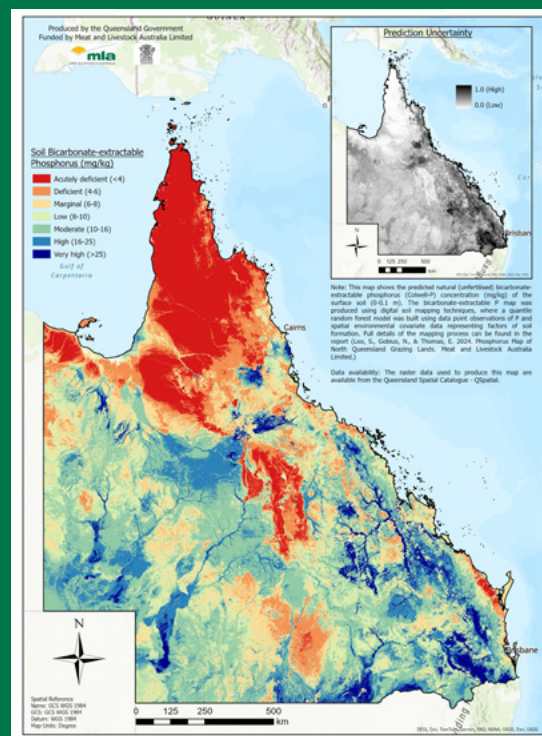
For more information visit the phosphorus (P) hub at mla.com.au/phosphorus