RURAL
SOLUTIONS SA
PIRSA

Soil pH and EC Mapping Technology

REDUCE COSTS AND IMPROVE PRODUCTION

PREMIUM
FOOD AND WINE FROM OUR
CLEAN
ENVIRONMENT

SOUTH
AUSTRALIA

Government
of South Australia

Primary Industries
and Regions SA

PIRSA is offering innovative technology to measure and map soil pH variation across paddocks – helping you to reduce costs and improve production.

In 2015, Primary Industries and Regions SA (PIRSA) purchased a Veris pH and EC mapping machine (MSP-3), from the USA.

The new mapping machine, with an experienced operator from Rural Solutions SA, is available for hire to measure and map the spatial variation of pH and EC on your farm, vineyard or horticultural block.

Rural Solutions SA soil consultants are regarded as leading experts in the treatment and management of soil acidity.

This new service combines expert advice with the latest mapping technology to deliver real cost savings and production improvements for those farming on acid soils.

Why should you map?

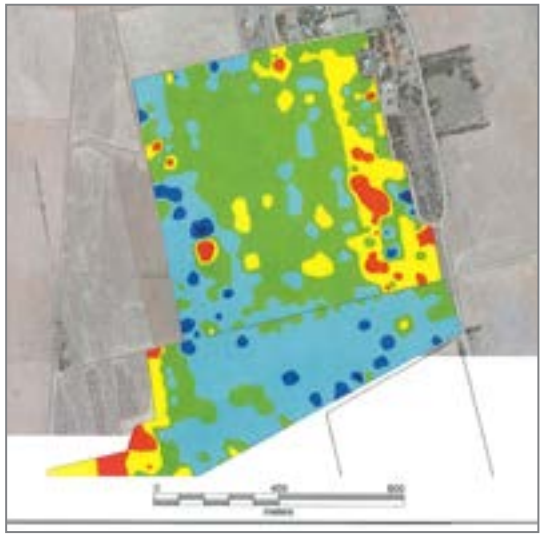
More than two million hectares of agricultural land in South Australia is susceptible to soil acidification. This occurs in the South East, Adelaide Hills, Kangaroo Island, Mid North and on the Eyre Peninsula.

Lime is the most effective and economical method for the prevention and treatment of acid soils. However, the cost of lime and freight has increased significantly in recent years.

Soil pH mapping identifies pH zones within a paddock, allowing you to apply lime where it is needed. This results in better soil health and pH conditions for crop and pasture growth.

Targeted lime applications can also lead to potential cost savings. In one case study a farmer saved 50% of the cost that included the cost of lime, freight and spreading costs.

EC (electrical conductivity) is used to define soil texture variability throughout the profile. The type of soil texture can determine the water holding capacity, drainage and nutritional status of the soil. EC can also define sub-soil constraints, such as high amount of salts within the soil.



An example of a pH map of a paddock showing pH zones. Anything red or yellow requires lime.

How does it work?

The Veris soil pH machine, which is towed behind a 4WD vehicle, collects soil samples and measures the pH of each soil sample on-the-go and records the geographic position.

At a swath width of 36 metres wide the soil pH machine can take 8 to 10 readings per hectare. From the data, pH maps are produced showing pH zones. This allows liming recommendations to be calculated for each zone.

EC can be measured at the same time and a shallow (30 cm) and deep (90 cm) EC map can be prepared.

When should we map?

Soil pH mapping is generally best undertaken when soil conditions are moist. Cropping paddocks can be mapped in autumn prior to seeding. Pasture paddocks can be mapped between autumn and spring.

Mapping service and cost

PIRSA is providing soil pH and EC mapping technology to NRM Boards, farmer groups and individual farmers. The cost of mapping varies depending on the area to be mapped and the options selected but starts at $15 a hectare plus travel costs to and from the mapping site.

Further information

For more information, or to make a booking contact Andrew Harding at the PIRSA Clare Office on 8842 6231 or 0417 886 835 or e-mail: andrew.harding@sa.gov.au