

Farm Scale Soil Mapping: old problems for new soil surveys

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In recent years there has never been greater need nor opportunity for farm scale soil maps. For example, Dairy farms need good soil information for nutrient management, effluent disposal and irrigation. Hill and steep-land farms need good soil and land resource inventory information for enhanced sustainable productivity, erosion control and nutrient management. Meanwhile urbanisation of farm and cropping land must be accommodated on municipal boundaries.

A number of potential problems are arising as pedologists from different organisations apply diverse methods and criteria to jobs from contracting agencies around the country:

1. Criteria. Soils have traditionally been allocated to series and types on the basis of environment of soil formation, drainage and texture. There is considerable disagreement on the assessment of soil drainage.
2. Soil Names (i) Old, small scale soil surveys do not provide enough soil series names to cater for farm scale surveys. How should new names be selected and approved for wider use?
(ii) Local geographical names still offer our best means of communication with farming and Council clients.
3. Scale: Geographic Information Systems (GIS) and Digital Soil Mapping technologies enable us to compile wonderful looking maps. However, are we truly happy that the scale that the information was collected at conforms to the scale of the map product?

Robust farm scale soil mapping would:

- Be future proof and only need to be done once
 - Be seamless across farm boundaries and Council jurisdictions
 - Be done by competent, trained people well versed in the use to which the information would and could be put.
 - Employ modern technologies yet retain an appropriate level of repeatable ground-truthing.
- We appear to be a considerable distance from a repeatable and unified approach.