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Why the right soil sample can make all the difference

Daly, K

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Why the right soil sample can make all the difference

Soil sampling and analysis should be the foundation of all fertiliser programs. The way in which the samples are collected will have a significant influence on the results of the analysis. **By Kate Daly**

Soil samples are used to establish nutrient requirements and provide recommendations, to assess crop production issues, to monitor soil fertility trends and, in recent years, to fulfil legislative requirements. Soil analysis is only one management tool but the results can greatly influence many decisions and practices which affect farm profitability.

The four critical steps in soil testing are:
1. sample collection
2. sample analysis
3. interpretation/recommendation
4. nutrient application.

<table>
<thead>
<tr>
<th>Management zone/block</th>
<th>15,000 tonne soil</th>
<th>5-10 kg soil</th>
<th>500 g - 1 kg soil</th>
<th>10 g soil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(varies due to bulk density)</td>
<td>Debris/clod–free soil (core samples collected from representative sites in block)</td>
<td>Accurate and clear sample name/ block details (corresponding with grower records)</td>
<td>Representative soil sample collected by lab to be tested</td>
</tr>
<tr>
<td>Clean plastic bucket</td>
<td>Fill sample bag as per lab request (e.g. to dotted line)</td>
<td>25 cm</td>
<td>5 ha sample site</td>
<td>Approximately 12,500 cubic metres of soil</td>
</tr>
</tbody>
</table>
Fallow management worth considering in dry years

After harvesting a final ratoon it can be tempting to plough the field out and go directly into another cycle of sugarcane. By Belinda Billing

This is not recommended, with the negative effects of continual cropping of sugarcane recognised as early as 1935, when the loss of fertility in some Australian sugarcane growing districts was first noted.

With the Bureau of Meteorology indicating we are in the early stages of a hot, dry El Niño weather event, the importance of careful fallow management is heightened.

In an irrigated farming system, fallowing 15-20 percent of your farm will allow for better use of your water allocation along with the benefit of improving the fertility of the land.

The yield from the reduced area may be no lower than what you would have achieved from 100 percent production due to better soil health from fallowing and more strategic use of irrigation water.

Plough-out-replant requires heavy tillage to remove old cane stool and compaction, allows for the build-up of pests and disease, and has been shown to result in an average reduction in yield of 20 tonnes to the hectare when compared to fallowing land.

The benefits of breaking the sugarcane cropping cycle are well documented and numerous. Fallow management options include:

- **Fallow (bare or weed)**
  Harvest the final ratoon and remove stool through cultivation or herbicide. The paddock is left bare or allowed to become weedy.

- **Fallow plant**
  After the removal of the final ratoon a crop is grown, this is typically a legume crop, however other crops can be successfully grown (such as corn or rice).

The recognised benefits of either fallow management system are many.