

Soil

A healthy soil is vital to grow a good crop of sugarcane. Healthy soil means having the right amount of **nutrients** for its soil type.

Nutrients are food for the plant that can occur naturally within the soil or they can be added as fertiliser. Nutrients can also come from other plants, such as fallow crops like legumes. Legumes take nitrogen gas from the atmosphere and turn it into a form of nitrogen the sugarcane can use.

The grower tests the soil to find out what 17 essential nutrients the soil is needing. Through GPS technology fitted onto farm machinery, the grower can place the right amount of nutrient into the soil where its exactly needed. This is better for the soil, environment and growers.



let it breathe

1 Harvesting sugarcane without burning the crop leaves a thick leafy mulch on the soil surface after harvesting. This is called a **trash blanket**.

2 Trash-blanketing helps to conserve **water**. It also stops soil being washed away and stops many weeds from growing.

3 With technology and machinery advances, growers are able to reduce the amount of 'passes' on the paddock, which is better for the soil.

less compaction

4 Changing the width of the cane row so that all the machinery has room to move down the same tracks reduces compaction without affecting soil around the plants. This helps more water get into the soil instead of running off the paddock.

5 Only ploughing the paddock or parts of the paddock when absolutely necessary. This **conserves** fuel, reduces wear on machinery and causes less soil compaction.

6 Using signals from satellites (GPS) to guide machinery down **precise** tracks reduce soil compaction.

feed what it needs

7 The soil needs nutrients for the plant to grow tall and strong. Advances in machinery means farmers are able to put fertiliser **below** the soil surface instead of on top where there is less risk of run off.

8 Planting **legume** crops, such as soybeans in between the sugarcane crop helps to improve soil health. Legumes take nitrogen gas from the air and turn it into a form of nitrogen plants can use.



Being Green

More and more advances in technology means real improvement and sustainability on the farm. You can find out more information on all the good work that our sugarcane growers are doing through the wonderful Reef Guardian Farmers program on the Great Barrier Reef Marine Park Authority website here: www.gbrmpa.gov.au/our-partners/reef-guardians

Nutrients in the Soil: There are 17 essential nutrients. Carbon, hydrogen and oxygen come from the atmosphere.

There are 7 major nutrients. These are: nitrogen, phosphorus, potassium, calcium, magnesium, sulphur and silicon. There are 7 minor nutrients which are: zinc, copper, iron, manganese, molybdenum, boron and chlorine.

If there are too many nutrients, it increases the chance of nutrients being washed away. Chemicals are expensive and farmers try to get just the right amount of chemicals **targetted** exactly to where it is needed.

If there are too little nutrients in the soil, it means that the cane will not grow as well and will not store much sugar in its stalk.

Less is more for healthy soil

