

# Case Study 4: Joe Muscat, Oakenden

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## Amuza Trial

### BACKGROUND

Joe and Christine Muscat have a long history of bringing innovation to the Mackay Whitsunday region. The couple grow sugarcane with rotational fibre crops on 130 Ha in the Oakenden area within the Sandy Creek catchment, South-West of Mackay.

The Muscat's farm was fully converted to 18m rows with controlled traffic in 2008. They get the most out of the controlled traffic system by using RTK GPS guidance. Reef Rescue Water Quality Improvement Grants have helped fund a change to zonal tillage and also supported EC mapping for soil and nutrient management.

Joe has been experimenting with rotational crops for more than fifteen years and in this time has brought new crops to the region and founded markets for legume, fibre, seed and oil crops (cosmetics).

In 2013, Joe received the Nuffield Scholarship supported by the Sugar Research and Development Corporation to support his research into best practice in production, manufacturing and marketing of fibre crops. The scholarship allowed Joe to take a six week tour of six countries to see numerous examples of how fibre crops are transformed into new products through secondary manufacturing. It was during his stay in Brazil, visiting the São Martinho's sugar growing region that Joe came across a farming system called Amuza.

São Martinho is one of the largest producers of sugar and ethanol in Brazil. The company owns and leases the farmland, which is strategically located within an average of 24 kms from its mills. Ownership allows them to ensure quality control and streamline production processes. These rain-fed farms utilise 3m harvesting widths. They have been farmed for over 100 years and currently harvest an average of 50,000 tonnes of sugarcane a year.

### TRIAL OVERVIEW

Joe's passion lies in production systems and the Amuza planting system is something that has never been trialled in Australia before. Working with Reef Catchments under their Sustainable Agriculture program, Joe plans on establishing the first Amuza trial in Australia on his Oakenden farm.

The Amuza system requires the trial site to undergo preparation for planting once harvesting is completed.

1. The trash is incorporated back into the soil followed by
2. A prescription blend compost is applied, based on the needs of the soil.
3. Tissue culture or single eye sugarcane sets are planted in two rows with four or six rows skipped.
4. The skipped four or six rows are planted with peanuts, soybeans or sun hemp, depending on soil carbon.
5. The process then repeats itself with two rows of tissue culture or single eye sets followed by four to six rows of a legume.
6. The legume crop is incorporated into the soil
7. The one eye sets or tissue culture cane is harvested and planted across the paddock.



All rows have banded sub-surface applied compost

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### Opposite:

Joe Muscat in the São Martinho's sugar growing region, Brazil. Joe plans on establishing the first Amuza trial in Australia on his Oakenden farm.

*This trial is supported by Reef Catchments Sustainable Agriculture Program, through funding from the Australian Government's National Landcare Program.*



### FUTURE

This trial presents some exciting potential outcomes for the local sugar industry and Reef Catchments and Joe will continue to work together to further research and develop this trial in the coming year.

This trial is still in the planning phase. Joe is working with independent agronomists Farmacist to investigate sourcing the many components and how this system would work in the Mackay Whitsunday region.