



Sergio Berardi lives in Rocky Dam Creek catchment, south of Mackay, QLD

## Serg & Sandy Berardi Bio

Serg Berardi is a second generation cane farmer, growing sugarcane on two farms in the Koumala district. He is a board member of Plane Creek Productivity Services, a local sugar industry organisation working toward improved industry profitability and sustainability and he has also served a long term on the local CANEGROWERS Area Committee and is a founding board member of Progressive Harvesting Co-operative.

The “home farm” is a dryland farm spread over rolling hills of light

textured soils bordering Cherry Tree Creek. Soil protection and improvement has long been a cornerstone of Serg’s farm management. Serg was one of the first growers to adopt green cane harvesting in the early 1990’s and has redesigned the farm layout with contour banks and grassed waterways to protect the soil from erosion.



# Trial: Total farm nutrient management precision agriculture

## Description:

The severe drought of 2003 reduced cane yields to only 38 tonnes per hectare, an unsustainable level. This drought was the catalyst for Serg to investigate ways of improving crop growing conditions through improving soil water holding capacity.

## Issue being addressed:

Observation of the harvesting operation highlighted the area of the field that was covered by machinery traffic. Only a small area was left uncompacted for the crop to grow in. In investigating options for change, Serg became involved in an on farm trial of the new farming systems in the Koumala area and became a founding member of Plane Creek Sustainable Farmers Inc.

Serg also has had a long interest in crop nutrition. When equipment became available in 2004, he started to get detailed soil mapping. With the assistance of Tony Crowley from Independent Agricultural Resources, a variable rate nutrition program was trialled in that year on the paddocks that had been mapped and soil tested.

## Solutions being tested:

In 2006, a second farm was purchased north of Koumala. This farm has some irrigation to mitigate against drought. The farm was conventionally farmed by the previous owners. Serg has undertaken an intensive operation to soil map fields to understand soil variability and develop nutrition plans for this new land as well as convert the fields over to controlled traffic. Mill mud, a sugar mill by-product has been strategically used on this farm to improve soil organic matter levels and soil structure.

Serg has increased his row spacing to match the harvesting machinery and plants dual rows. Serg has installed GPS on his tractors to control machinery movement and to minimise compaction. He now provides contract marking out operations for his neighbours that do not have GPS systems.

With the fallow paddocks in 2009 Serg has had over 90% of his farms mapped and soil tested with this information Serg is finally able to to variably apply nutrient over his whole farm, with the aid of catalyst this is happening currently and in the future and will be monitored. over time.

## Immediate results:

Serg believes the move to controlled traffic farming systems along with soil mapping and variable rate fertiliser program has reduced his operating costs significantly and has made the farms more sustainable.

Trial work demonstrated better targeting of fertiliser applications could reduce nutrient inputs with resultant decreases in costs.

These solutions have all been practical with economic and environmental benefits.

## Future plans:

The future plans for Sergio's farm is to continue to farm viably, economically and environmentally into the future.

"Precision agriculture, with all the hang ups it creates, has been worth it. Even though it's made me money, it's cost me money too. In the longterm it's beneficial. You're putting the inputs where they are required which is better for the land and pocket." Serg Berardi

Left: Planting sugar beet, chickpea and sesame

Far left: Serg's farm map

