



Cane grown under minimum till by John (pictured) and David Haynes at Woodburn, NSW.

Reduced tillage boosts soil health at Woodburn

A combination of strip tillage, soybeans and faba beans is delivering positive results for the Haynes brothers in the Broadwater mill area of northern NSW. By Brad Pfeffer

A travel and learning trip to the United States has helped Woodburn, NSW, farmers John and David Haynes adopt a minimum till approach to sugarcane growing.

The Broadwater mill area farmers came across the strip tillage approach to cane growing as part of their involvement in the NSW farming systems group.

John's trip to the United States with the group saw him visit strip tillage in operation in US corn crops along with five other members of the group.

Based on that visit, and ongoing work of the group, the Haynes brothers have now implemented a controlled traffic and strip tillage operation that marries the fallow soybean crop to the next sugarcane crop.

The brothers farm about 500 hectares and grow all two-year-old cane. At the end of the crop cycle, which is usually two ratoons, they plant soybeans into three rows into beds, with their wheel tracks on two metres.

Faba beans follow as a manure crop, and then the dual cane rows are planted into the old gaps between the soybean rows at spring planting, thanks to the use of a strip tillage machine bought by one of the other members of the group, and a disc-opener cane planter.

"We saw that the strip tillage worked well within corn crops in the mid-west United States, so we were keen to adopt it here.

"If you keep it clean from weeds, it stays clean, and we believe our soil health has improved. Last year we had a dry period during spring planting, but it was probably our best plant ever."

The NSW Farming Systems group has done extensive work over many years on minimum and zero till planting. Through that work they found that direct drilling into soybean stubble saved costs and also reduced labour.

The group also reported improvements in soil health through reduced tillage and potential for reduced compaction. Research has also shown that cultivation of soil can reduce the number of beneficial soil micro-organism and also see the loss of nutrients that build up in the fallow.

The Haynes have also recently introduced faba beans to the fallow, to fill the gap between soybean harvest and cane planting in the spring.

With no market for the faba beans, the crop is grown to improve soil health for the subsequent cane. Even with minimal input, last year's crop grew very well and shaded out weeds.

They grow a wide range of sugarcane varieties, but have a large area of Q240th and Q208th, as well as other varieties such as Q232th and Q242th.

"For us we are looking for varieties that grow well for the two years and can withstand water as we are prone to flooding and have blocks that run from high to low and can sit wet," he said.

"We are also prone to frost here, so we are watching the work that SRA is doing on frost tolerance in varieties. Every year is different, but one of our worst years was in 2007 when we had a 100 percent wipe-out from frost."

Chair of the NSW Farming Systems Group, Nathan Ensbey, is a sugarcane grower and also works for the NSW DPI.

He said that the group had helped make some notable advances to the farming systems of NSW cane growers, and there had been a shift in recent years from conventional cultivation to reduced tillage operations. However, totally eliminating tillage has created some issues.

"Growers usually harvest soybeans in May and then cane planting is in September, which presents a fair lag period," Mr Ensbey said.

"So that creates a risk of a dry spell hardening up the soil. So what is becoming more common is that farmers are adopting strategic tillage such as wavy coulters with press wheels to keep the soil friable.

"Some growers have imported this strip tillage machinery to run up those beds and cultivate a narrow section where the cane will be planted, either with dual rows or wide rows on a 1.8 metre bed."

The Farming Systems group has recently collaborated with SRA and Sunshine Sugar to assess a Hodge Bed Renovator for NSW. The machine works by first ploughing through the bed, ripping the growing area and then reforming the bed in one pass.

More information

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Below: John Haynes in his soybeans in January 2017.

