

Irrigated rotation crops - what's viable?

By Cindy Benjamin

Eighteen years ago Vin Sorbello sold his Burdekin delta farm near Home Hill and purchased farms in the Burdekin River Irrigation Area (BRIA). As a third-generation Burdekin cane grower Vin is keen to see agriculture in the area flourish.

His new consultancy business, Northern Australia Cropping Consultants, centres on assisting growers from southern agricultural areas who want to move their cropping enterprises into the tropical environment. "Three things, the practicalities of growing the crop, finding suitable markets and transport or processing logistics, have to come together before a new crop industry can establish," says Vin. "Several crops have been trialled here with varying levels of success and many issues need to be ironed out before they will be reliable options for growers."

Vin cites cotton as a good example. He has found that cotton does not fit easily into the cane/legume rotation and there is still some work to be done on breeding suitable varieties and determining the growing methods required to produce high yields of premium quality cotton. "Cotton growers who have moved here from other areas are finding the growing environment here chal-

lenging, even though the heavy black soils in the BRIA are similar to the cotton soils of southern growing areas," says Vin.

Vin had started on a five-year program to establish a 30-month fallow from cane but has decided to put his plans on hold due to a lack of infrastructure for crops like corn and soybean.

"I will continue to grow soybean but only as a green manure crop to gain the soil benefits," says Vin. "We will have to look elsewhere for additional income streams."

To this end Vin is currently working with a company to develop a starch plant in the Burdekin. "After several years of trial work throughout coastal Queensland, the company has put options on three cattle properties at Home Hill to grow 6000 ha of cassava," says Vin. "The company plans to plant the cassava, now growing in a nursery at the Burdekin Agricultural College, as early as 2010 and build a starch processing facility on-site. There will also be a cattle feedlot to utilise the high protein-content leaves of the cassava."

Vin wants to know why there are not more agri-businesses coming to the Burdekin to invest in new industries. "Growers can't afford to bear the brunt of testing new crops," he says. "We need suppliers and processors to take some initiative too so growers can access the services and markets they need. We grew 1200 tonnes of corn last season but found it hard to access services for the crop and so did not grow any corn this season."

Cane is a very forgiving crop well suited to the Burdekin region. Vin has observed the increased sensitivity of other crops to adverse growing conditions. "It is rare for conditions to cause a 50 per cent yield reduction in a cane crop but this can easily happen in other crops in response to situations like waterlogging," says Vin. "And this can make or break the crop."

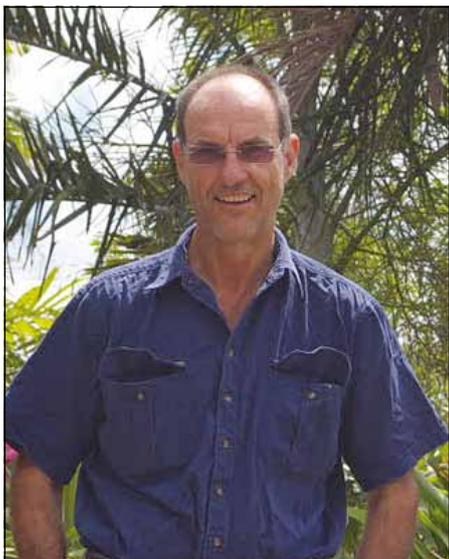
Vin had hoped to grow 750 tonnes of soybean grain and 1000 tonnes of corn. "To be successful with these rotation crops we need harvesters to be here, ready to take the crops off at the right time," he says. "We also need to have access to markets and processors."

"Corn has a high fertiliser requirement but is otherwise a good option for growers. There is also potential to try rice again," says Vin. "Industries need to make fair-dinkum investment in the area and support growers during the trial phase. We need to share the risk of starting new industries here. Cotton has been leading the way in this regard."

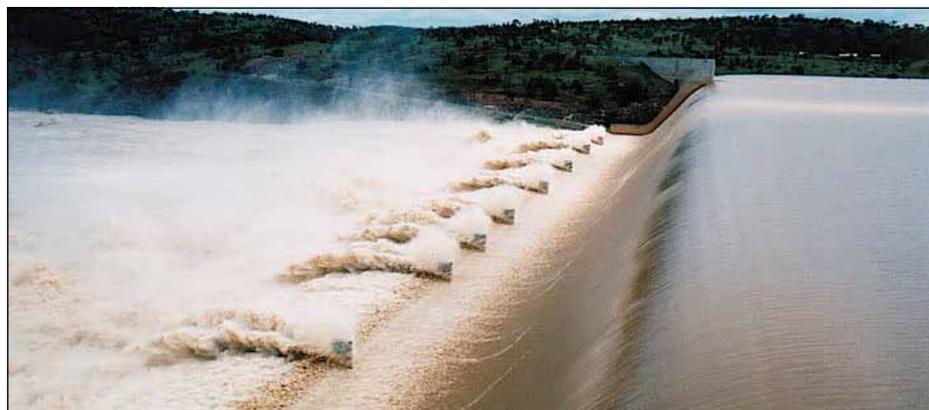
"An important part of our success has been partnerships I am involved in with neighbouring growers to own and operate planting and harvesting machinery," says Vin. "When we started out in new crops we took advantage of the industry restructuring funds and purchased a seed planter with the capacity to sow cotton, corn and soybean."

Vin has also invested in GPS-guided

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Vin Sorbello believes the Burdekin has plenty to offer and hopes agribusiness will support growers trying to establish new crops in the area.



The abundance of water in the Burdekin is a serious drawback for southern growers with experience in a variety of crops.

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tram tracking, modified equipment to suit a five-foot tractor wheel width and has built bed-forming gear that suits all the crops in the rotation. He says change like this takes several years for growers to do on their own and it can't be done any faster without outside financial assistance.

All Vin's crops are flood irrigated and, like many other BRIA growers, he is not in a financial position to change over to the more efficient overhead systems. "I am watching the developments in irrigation methods here with great interest, including the use of Enviroscan soil moisture probes," he says.

Vin's commerce degree has given him the confidence to embrace economies of scale and to look for and find cost-effective inputs. His business-sense approach has served him well and is something he wants to share with other growers.

"As growers we need to find new crops to grow in rotation and it would be short-sighted to go back to mono-culture cane systems just because the sugar price has improved," he says. ■

HIGH-YIELDING CASSAVA FOR EAST TIMOR

Two new high-yielding cassava varieties have recently been released in East Timor through the 'Seeds of Life' food security program. Funded by the East Timor Ministry of Agriculture and Fisheries, AusAID and the Australian Centre for International Agricultural Research, the program aims to reduce hunger by lifting yields of staple food crops through improving varieties.

Cassava is an important staple crop in East Timor, where most families suffer from chronic food shortages and rationing for up to six months of the year. The new varieties, Ai-luka 2 and Ai-luka 4, have been well received by farmers, who are keenly anticipating yield increases of 51–65 per cent over local cassavas.

William Erskine, Director of Centre for Legumes in Mediterranean Agriculture (CLIMA) which manages the Seeds of Life program, noted that "an increase in yield as high as 65 per cent in a staple food such as cassava is going to make a big difference to people's lives."

For more information on CLIMA, visit <http://www.clima.uwa.edu.au/>

Cane/soybeans rotation – a farmer case study

Farmers
Simon and Sue Mattson and children Luke and Sophie.
Location
Newmans Road, Marian – 25 minutes drive west of Mackay in the Pioneer Valley.
Enterprises
Sugarcane with soybeans on fallow. Simon also has a full time (four on four off rotating day and night shift) off-farm job as a operator maintainer at the Coppabella washplant which is about one and a half hours drive west of Mackay.
Property size
105 hectares of cane land with approx. 20 hectares per year out fallow for soybeans. Plus another 35 hectares of cane land on my father's farm with roughly five hectares fallow each year.
Average annual rainfall
1400 mm primarily from the end of December to the end of March.
Soil type
Sandy clay loam ranging from light brown to dark brown and an organic carbon between 1.0% and 0.5%.
Soil pH_{H2O}
From 5.5 to 4.5.

Keys to success with soybeans

With good planning and crop monitoring, particularly once the crop has started flowering. But the weather has a bad habit of making things difficult, 2008 being a good example. They planted their beans on December 19 then got 130 mm on December 20–21 and were not able to get a tractor back on the ground until March 3 because of continuous rain.

History of property

Originally established as a sugar cane farm by Benjamin Langford in 1890. The Newman family was the second family to own the farm since its original settlement and we are the third. We purchased the farm from John Newman in 1987 and continue to develop the property to this day.

Why grow soybeans?

For soil health. The benefits of soybeans

as a legume soil conditioning plant has been promoted to the sugar cane industry by the BSES for about 10 years now and we have been growing them on fallow ground for the past 10 years. In the heavy soil not only do the beans give you a disease break, add nitrogen and organic matter, but makes the soil so much more friable that they are able to reduce the number of workings before the following cane crop and Simon thinks if they had a disc opener type planter they could no till plant the cane. They have been taking soybeans through to grain for the past five years to get the added benefit of the extra income.

Negative aspects of growing soybeans

It takes careful planning to get them in the ground to have the best chance of growing a good crop. The weather at harvest time is quite often showery, so losses through weather-damaged beans or not being able to get the header in the paddock are common.

Growing season

If growing for a green manure crop, planting can be done early at the beginning of November, or growing for a grain crop, between early December and late January. Harvesting is done between mid April through to June.

Sowing system

A Napier Mason disc opener planter with eight rows 500 mm apart and the wheel tracks 1100 mm wide on 1.8 metre wheel centres. They aim to get 300,000 plants per hectare. After planting and prior to emergence, spray with Spinnaker (and Roundup) if young weeds are already present.

Type of irrigation

Depending on which field is fallow, it could be a centre pivot or a hard hose travelling irrigator. Water comes from the Pioneer River or an on-farm dam.

Irrigation regime

Soil moisture is monitored with tension meters. Being a wet season crop, we rarely irrigate but if required, we usually apply approximately 25 mm per irrigation.