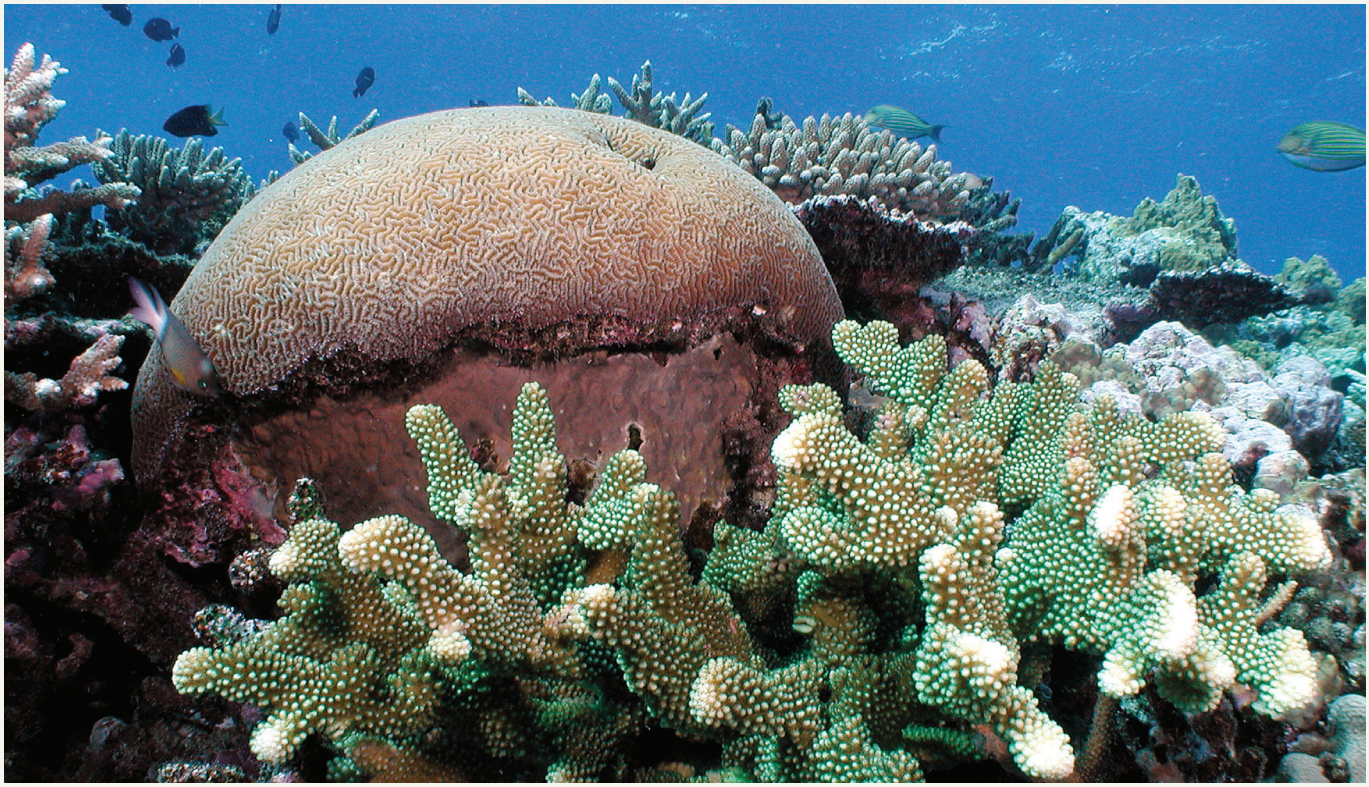

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SUGARCANE

A project in Queensland is exploring ways to grow sugarcane more sustainably – and the Great Barrier Reef is benefiting.

Think of threats to the Great Barrier Reef, and outdated land management practices are probably not the first things that comes to mind. Yet runoff from sugarcane and other farms near the coast can have a severe impact. Sediment can smother corals, chemical herbicides and pesticides poison reef species, and fertilizers destabilize nutrient levels. The resulting algal blooms form a breeding ground for the devastating coral-eating crown-of-thorns starfish.

"We've been branded as environmental vandals, and that hurts," says Tony Bugeja, whose family has been growing cane near the Queensland coast for three generations. "We live on the doorstep of the reef, and we don't want to harm it." Besides, farm inputs are expensive: "When we put nutrients into the ground, we want to get the most out of them," says Tony. "We can't afford to have chemicals leave our property."

"If we can prove the effectiveness of what Project Catalyst is doing for the Great Barrier Reef, it has the potential to be scaled up and replicated in other sugarcane-growing regions around the world. With sugarcane covering around 24 million hectares in more than 90 countries, it has the potential to make a massive difference."

Michelle Allen
Public Affairs and Communications Manager
Coca-Cola South Pacific

RISKS

The Australian government's Reef Rescue programme offers financial assistance to farmers in the reef catchment areas to cover up to half the cost of switching to more sustainable farming practices. But changing established practices is a risk. The thousands of cane-growing families in the region often struggle to make a living; few can afford to invest in new methods and machinery without the certainty of an immediate return.

That's where Project Catalyst comes in. A partnership between WWF, natural resource management groups Reef Catchments and Dry Tropics and Terrain, The Coca-Cola Foundation, the Australian government and local sugarcane farmers, the project supports farmers to trial, monitor and share information and knowledge on cutting-edge practices to improve farm management, water quality, landscape health, farm economic viability and social well-being of rural communities. These practices, which have been devised by the farmers with support from Project Catalyst partners, range from new cultivation strategies to equipment modifications. When the project began in 2009, 19 farmers were involved; there are now 73 growers who farm on more than 15,000 hectares.

Tony has trialled an automated controller to adjust the height of the cutting blade on the

WWF TARGETS

2015 10% of global sugarcane production will be Bonsucro certified

PROGRESS

1.4% of global sugarcane production is Bonsucro certified (April 2012)

PRIORITY COUNTRIES

Production
Brazil, India, China, Thailand, Pakistan, Australia, South Africa, Guatemala, Mexico, Colombia, Fiji

Markets
China, India, USA, EU, Japan, Brazil

CONTEXT

Threats

- Habitat conversion;
- Soil erosion and degradation;
- Agrochemical use;
- Water use and pollution;
- Greenhouse gas emissions;
- Labor and land tenure rights, health, payment (minimum wage and contracts) and training of workers.

Opportunities

- Potential to reduce habitat destruction and biodiversity loss in some of Earth's most precious natural places;
- Greenhouse gas avoidance and mitigation through biofuel production for fuel and plastics;
- Improve water quality and availability;
- Improve livelihoods.

TRENDS

Demand drivers
Consumption, population, income, biofuel policies

Future focus for success
Brazil, Fiji, Central America, Australia, India, Pakistan, Colombia, South Africa

harvester. Sugarcane harvesting machines cut the plant at ground level; a new stalk (or ratoon) then grows. The cutting height is crucial – cutting too deep leads to slower germination and less production. As well as giving a lower yield, smaller plants absorb less of the fertilizer in the soil, leading to increased runoff. Less growth also means less crop residue to provide mulch for the next ratoon – which in turn means more chemical herbicides, fertilizers and watering.

Usually the driver controls the cutter height but, explains Tony, soil variability makes this difficult: "Where we farm, you could have four soil types in one drill, so the height of the mound around the base of the plant constantly varies." The automated cutter uses five sonar sensors to make sure the blade is always 15mm above ground level, no matter what the ground height is. This should encourage healthy regrowth, reducing the need for chemical inputs. Putting theory into practice is challenging, however, underscoring the need for proper field trials before new practices are adopted. In early tests, the machine's response was slow, a problem the manufacturers are now trying to correct.

POTENTIAL

Preliminary evaluations suggest many techniques Project Catalyst farmers are testing can improve productivity and profitability while reducing negative environmental impacts. In the first two years, the farms taking part have improved the water quality of 77.5 billion litres of runoff, significantly reducing the amount of nitrogen, phosphorous, herbicide and other pollutants flowing into the Great Barrier Reef.

The long-term goal is to replicate and build on these impressive results in the wider sugar industry, in Queensland and beyond. Bonsucro, the multi-stakeholder initiative which has set a global metric-based standard for more sustainable sugarcane production, will provide a platform to spread the outcomes of Project Catalyst.

Tony believes Project Catalyst has shown how farmers and environmentalists can work together toward a common goal. "At first we were getting nervous looks from people for working with WWF, but now more and more people are interested in what we're up to," he says. "We must be doing something right."

BONSUCRO®

Bonsucro aims to improve the social, environmental, and economic sustainability of sugarcane.

bonsucro.org