ABOUT TSL’S SOIL HEALTH RELATED INITIATIVES

TSL works on key strategic agronomic issues relating to both yield and cane quality through collaborative working relationships with SRA, TCPSL and Tully growers. A very active grower group, representing 1.7 million or 70% of the Tully cane productivity area, is the vehicle through which the bulk of this work is carried out.

TSL takes an applied research, demonstration and direct services approach to assist its growers with soil health improvement support. These initiatives include:

(1) Fallow crops - TSL are providing agronomy for fallow crops plus an organic Carbon (OC) and Nitrogen monitoring service. The company has a compulsory fallow clause in cane supply contracts with an emphasis on placed on a fallow cropping.

OUTCOME FOR INDUSTRY

• Greater awareness of fallow crop options and management.
• N rate budget determination after a legume fallow under local conditions.
• Potential Cane Quality improvements- potential increase in CCS, reduced lodging, suckering, from N rate budget following a good legume fallow.

Funding provider:
Tully Sugar Limited with in kind support from SRA and Tully Cane Productivity Services Ltd (TCPSL)

Duration:
Ongoing

Project leader:
Greg Shannon
Tully Sugar Limited (TSL)
(2) TSL runs a local grower Variety Management Group that aims to fast track commercial adoption of new varieties by determining those best for yield and cane quality at a sub district level. This involves intensive trials to measure germination, CCS curve analysis, field characteristics and ratoonability of new varieties before growers make commercial choices. A local variety guide is developed for the industry and on farm variety service is also provided.

**OUTCOME FOR INDUSTRY**

- Fast tracked adoption of sustainable, high yielding varieties that promote better crop presentation for harvest to improve cane quality at the mill.
- Reduced market failure of new varieties.
- Increased new variety satisfaction due to sub district trials.

(3) Pachymetra root rot is a fungus disease that impacts all parts of the TSL industry value chain, from growers, to harvesters and the mill. TSL conducts district surveys to highlight the importance of soil testing and works on fast tracking high yielding Pachymetra resistant varieties into the district with SRA.

**OUTCOMES FOR INDUSTRY**

- Greater understanding of stool tipping causes, such as Pachymetra, leading to increased proactive management and reduced reliance on pesticides.
- Increased collaboration with SRA plant breeders and pathologists resulting in higher yielding Pachymetra resistant varieties conducive to conditions of the Tully region.

(4) Calcium trials are conducted to ensure adequate calcium levels are maintained in crops that have a shallow root system, investigating a range of calcium products, rates and placement. Long term field demonstrations are in place to assist the extension message of the importance of calcium to cane yield and quality.

**OUTCOME FOR INDUSTRY**

- Improved crop presentation for harvest- increased stalk diameter for denser/heavier cane.
- Reduced reliance on Nitrogen products to promote heavier cane stalks.
- Improved bin weights.

(5) Stoolzippa - TSL is currently testing the “Stoolzippa” attachment for the Queensland Department of Agriculture and Fisheries (QDAF). Trials are seeking to investigate how it operates in across soil types, depth of trash and row profile.

**OUTCOME FOR INDUSTRY**

- Anticipated improved Nitrogen use and potential prevention of Confidor (Imidacloprid) loss.

(6) TSL farms are also transitioning to a single row 1.85m system from 1.63m with a comprehensive financial analysis on cost/benefits provided by QDAF through the Farm Economic Analysis Tool (FEAT).

**OUTCOME FOR TSL FARMS**

- Improved logistics.
- Improved soil health by reducing compaction over 2-3 crop cycles.
- Increased understanding of the economic impact of implementing certain improved farming system scenarios on a large scale.

(7) Nitrogen Management - TSL operates the TSL farms reverse tender project where alternative products, previously trialed by TSL, are used to supplement reduced Nitrogen input rates to provide good crop nutrition.

**OUTCOME FOR TSL FARMS**

On 700 hectares, or 40% of the TSL farming area, three alternative products are being used to help reduce Nitrogen input rates but still maintain the 6ES recommendations for crop nutrition for a three year period.

(8) Regional Cooperation - TSL plays a very active role in the Wet Tropics Sugar Industry Partnership (WTSIP) on both the management and technical committees as well as providing support to the local WTSIP staff. It is also active in the Major Integrated project (MIP) for Tully, including a trial site and construction of a 1.2 ha wetland. TSL also provides technical support for TCPSL.

**OUTCOME FOR INDUSTRY**

- Improved water quality outcomes and community engagement.

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**MORE INFORMATION**

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