FINAL REPORT 2014/035

A non-pneumatic cane cleaning system with no cane loss

SRA CONFIDENTIAL

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NON-C0NFIDENTIAL SUMMARY

Trash in cane adds to costs and impacts negatively on the profitability of all sectors of the sugarcane industry. Fibre available for electricity generation and other value adding processes is becoming important for many Australian factories. Removing trash from the cane supply has significant positive impacts for growers and millers.

The potential use of pneumatic cleaning trash separators at the factory in the Australian industry is constrained by many factors including air pollution (dust), high energy costs, significant billet loss and restricted use when cane is wet.

This project aimed to scale up to low range commercial size of a novel non-pneumatic cane trash separator useful for cane quality improvement and trash collection. It provides a smaller energy and physical footprint, emits no air pollution, and operates in all weather conditions. Its design parameters allow the removal of a large fraction of the trash while ensuring possible billet loss is kept at a low level or eliminated. It also removes the soil from the surface of the billets.

An intermediate-sized cane cleaner with a throughput of approximately 20 t/h was built and tested to determine optimum operating parameters. Using these data, a design was developed for a larger apparatus with a throughput of 150 t/h cane supply. The project finished at this point, with interest sought from potential partners to build, install and operate the 150 t/h apparatus in a project that delivers positive commercial outcomes to the sugar industry.

The process provides an option to provide a clean billet supply to the factory with significant gains in throughput, sugar recovery and reduced maintenance costs, while collecting the trash to produce value-added products.