



AQUATILL: A NEW METHOD TO MINIMUM TILL

IMPROVED CANE TRASH RETENTION AND THE ABILITY TO TILL IN A WIDE RANGE OF CONDITIONS, GREATER SOIL HEALTH AND MOISTURE CONSERVATION AND REDUCED SOIL EROSION: THIS IS JUST THE BEGINNING OF WHAT A NEW MINIMUM TILLAGE SYSTEM, AQUATILL, MAY BE ABLE TO PROVIDE. *BY HANNAH RUSSELL, GRADUATE ADOPTION OFFICER*

The green cane trash blanket (GCTB) is important within the Australian sugarcane industry, owing to the potential for agronomic gains and improved farm sustainability. Harvesting green cane and retaining the trash blanket as groundcover leads to greater moisture conservation, weed suppression and surface soil stability.

For decades, growers have used the traditional steel disc coulter which comes with its own challenges such as trash pinning, reduced disc penetration to required depths in adverse conditions and balling of clay and trash under damp conditions.

AquaTill, an innovative minimum tillage system using ultra-high-water pressure jets to slice through cane trash, has been already tested and proven in cotton and grains and demonstrated in the sugarcane industry. Initially conceived by Greg Butler from the South Australian No-Till Farmers Association (SANTFA), AquaTill was brought to the Southern Region sugar industry in late 2017 through collaboration with SRA's James Ogden-Brown.

Isis canegrower, Don Halpin, has been heavily involved in the project to understand the potential for this technology for the sugar industry and he said he can see a huge advantage to AquaTill in his peanut fallow.

"Previously we tried to plant peanuts through the trash blanket, but we have to make sure we can separate the trash and get good soil to seed contact. I see that AquaTill has a lot of possibilities in that space in particular," Don said.

AquaTill utilises a PTO-powered pump and pressurises water through nozzles to produce a 50,000psi waterjet. This jet has the capability to slice cleanly through the thick GCTB in circumstances where traditional mechanical devices fail. With the addition of a secondary pump, the implement also has the capacity to place products such as fertilisers and insecticides under the trash blanket and into the soil, decreasing the potential for off-site movement and improving input efficacy.

Isis canegrower, Tony Chapman, also sees potential benefits of the pioneering system.

"It looks to be a great implement that has potential for us placing chemicals and fertilisers under the trash in all conditions, whether it be wet, dry, even if you had sticky clays," Tony said.

AquaTill will undergo further development, modifications and demonstrations in 2020. ■

(Above left) A close-up look at the work of Aqua Till in the paddock. (Above top right) An Aqua Till rig ready for work in the Southern Region. (Above bottom right) The 50,000 psi waterjet.

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**For more information, contact James Ogden-Brown
E jogden-brown@sugarresearch.com.au**