FITZROY BASIN ASSOCIATION

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Machinery innovation

Wandoan hay grower builds novel solution to achieve zero till goals

Moving towards zero till cultivation can involve some challenges; however, for John Little the practice change meant developing a novel solution never before seen in central Queensland.

Apart from breeding cattle and turning off weaners, John also grows forage wheat, sorghum and oats on his 610 hectare property Bauhiniavale, 30 km north-north-west of Wandoan. John knew that conventional cultivation techniques were causing overlap at planting, with a higher need for seed and fertiliser, which led to additional costs for extra product, fuel and time.

Transport issue

To increase his accuracy, John began implementing controlled traffic techniques and working towards zero till cultivation. Installing a GPS system to control his tractor and spray rig, purchasing a hay rake guide, disc planter and additional tractor were all achievable. However, there was nothing available that would allow him to pick up the hay bales and transport them using established wheel tracks.

"Current machinery forces me to work sideways to the lines and drive trucks onto the paddock, so we developed a system to pick up the round bales from the paddock and keep operations on the controlled traffic lines," he said.

Dawson Catchment Coordinating Association (DCCA) Technical Field Officer Andrea Beard says driving over paddocks causes significant problems. "Removing hay bales from the paddock requires a lot of tractor movement off the wheel tracks, which results in soil compaction," she said.

Machinery prototype

John sought the support of Fitzroy Basin Association Inc. (FBA) and DCCA through funding from the Queensland Government's Innovations Program to develop a prototype hay-raking arm. John designed and built the arm, which attaches to his tractor, to rake the hay into rows while keeping the tractor and baler on established wheel tracks.

"This arm enables John to move from partially controlled traffic to a full controlled traffic system where all of the cutting, raking, baling and bale transport is done using the same set of wheel tracks," said Andrea.

"The innovative component of this project is that it is one of the first known systems in central Queensland that allows hay making to be completed under a full controlled traffic system. It has the potential to significantly reduce compaction across John's farming country. This in turn improves water infiltration and inevitably reduces the potential for run-off and subsequent erosion of sediment and attached nutrient to streams and gullies," she said.

Traditional cultivation techniques lead to random wheel tracks crossing the paddock, increasing soil compaction and erosion.

John Little used his engineering skills to build a prototype attachment for his tractor that allows him to bale and transport hay while using established wheel tracks.

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