## **CASE STUDY**

## **INSTALLATION OF A SEDIMENT TRAP AT BOOLABAH FARMS**



Boolabah Farms have a mixed farming operation with banana, papaws, cane and cattle over an 800 hectare area. The Darveniza family have been farming in the South Johnstone area for over 100 years and currently grow bananas at their farm in South Johnstone. They completed their Banana Environmental Best Management Practice (BMP) in 2017.

Within the horticultural production system on the property, the family use crop rotation of pawpaw and banana and fallow periods to improve soil health. To assist with the rotation, they adopted a permanent bed system and they maintain good ground cover across banana interrows using a side throw slasher.

Banana blocks have been planted in a single row configuration of 5.5m spacing allowing for good light penetration. This practice delivers 80% ground cover within the inter rows. This amount of cover significantly reduces soil erosion and limits the spread of pests and diseases.

Grassed waterways assist in draining water to prevent rutting and bogging while grassed headlands capture sediment if erosion occurs within the blocks.

The family has been committed to reducing soil loss for several years. Despite the grassed headlands and waterways that they had in place, the Darvenizas had concerns that soil continued to leave the farm.

With the benefit of expert advice, they constructed a sediment trap that included the installation of a spillway. The spillway was an important feature that allowed excess water to be drained away and prevented the sediment trap from washing out.

According to Hayden Darveniza, his involvement in this project has been very rewarding.

"The improvement is so visual", he said. "To see the clean water running out of the spillway at the other end of the sediment trap is very exciting."



Before (left) and after installation of the sediment trap











The sediment trap was designed so drainage water can be captured after a prolonged rainfall event providing a win-win for the growers and the environment by;

- Capturing sediment run-off and returning important topsoil back in the paddock.
- Removing other potential pollutants associated with sediment runoff from leaving the farm (e.g. Phosphorous)
- Improving water quality leaving the farm in high rainfall events

Water samples were taken in March 2020 when the dam first reached capacity. These samples show the success of the measures implemented across the farm. Total Suspended Solids (TSS) measured at the top of the farm were 961 mg/L, 354 mg/L prior to entry into the sediment trap and 83 mg/L mg at the end of the sediment trap.

"As a result of this project, I have become a lot more inspired to do more. The silt trap captures only half of the runoff from the farm and when finances become available, I'd be keen to put another trap in to capture sediment from the other half of the farm."













