Pumicestone erosion control

A commercially available biodegradable stabiliser, *Vital Bon-Matt Stonewall,* is being used to reduce erosion from pineapple farms in the catchment of Pumicestone Passage, part of the Moreton Bay Ramsar Wetland. The polymer is applied to crops after planting, and not only reduces sediment runoff of sediment but also prevents loss of pre-emergent pesticides and nutrients to the waterways.

Over the last six years, pineapple farmers at Glass House Mountains and Beerwah have been trialling various methods and rates of application of the product.

Healthy Land and Water has teamed with the manufacturer Vital Industries to offer farmers in the Pumicestone catchment a 50:50 subsidy to trial the biodegradable stabiliser on their crops. This subsidy is being offered through National Landcare Program funding and is available until June 2023. For information about how to access the subsidy, please contact Susie Chapman on susie.c@hlw.org.au or 0400 910 682.

The initiative forms part of a collaborative approach to achieving environmental sustainability in the pineapple industry with a team involving Australian Pineapples, Growcom, Queensland Department of Agriculture and Fisheries, the Queensland Department of Environment and Science and the Horticulture Industry Association.

Working with growers to reduce sediment and chemicals entering waterways

Project name: **Polymer project**

Project manager: Susie Chapman, Senior Scientist & Regional Agricultural Landcare Facilitator, Healthy Land and Water

Catchment: Pumicestone catchment

Timing: 2015 – ongoing

hlw.org.au info@hlw.org.au

This project is supported by Healthy Land and Water, through funding from the Australian Government's National Landcare Program.

This project is being delivered in partnership with the Queensland Government's Department of Agriculture and Fisheries (DAF), Department of Environment and Science (DES), Horticulture Industry Association (HIA), Growcom, the University of the Sunshine Coast, Vital Industries and growers including the Morgan family and Sandy Creek Pineapple Company.

How this project fits within the **South East Queensland NRM Plan**

- Healthy **land**
- Healthy **water**
- **Nature** conservation
- Coastal and **marine**
- **Urban** design
- Local **landscapes**
- **Community**
- **Air** and atmosphere
- **Traditional owners**

Why this project is important

Soil erosion is an issue which has long been a concern for pineapple growers. When the pineapple beds are first profiled ready for planting usually during the summer months, the soils are vulnerable to erosion from heavy rain events which have been noticeably increasing in intensity throughout the last decade with climate change.

Pineapple growers are keenly aware of the need to keep their soils, nutrients and pesticides on farm to protect the waterways. It also makes economic sense.

Action

The stabiliser is mixed with water at a ratio of 10:1 (10%) and applied to the beds following the equivalent of 5 mm of rain on the beds to settle them and hold the *Vital Bon-Matt Stonewall*. A minimum of 48 hours of sunlight is preferable for the polymer to harden. Growers have been trailing various products, application rates, nozzles shapes, slopes and soils to optimise the investment.

Dr Javier Leon from the University of the Sunshine Coast has been undertaking drone monitoring for the project. A survey-grade drone is used to collect imagery from above, measuring the precise rates of erosion with an average of 1,000 images per site, undertaken around midday to ensure best light.

The aim of this monitoring is to help quantify rates of soil erosion across different polymer application treatments to inform the most efficient use of polymer.

Outcomes

Growers have been happy with the results and have experienced multiple benefits of using *Stonewall* on their crops. These include less labour time cleaning silt traps and reduced herbicide loss and the need for passes which have resulted in significant time and money savings, enough to offset the cost of the purchase and application of the stabiliser.

Small plot trials performed in 2021 by DAF and Landloch Pty Ltd using a rain simulator have demonstrated application of 10% Stonewall achieved an average of 81% reduction in sediment movement with a 100mm / hour 30 minute rainfall event. Overland flow of 20 litres of water per minute running down the furrows post rainfall event showed a 97% reduction in sediment movement with Stonewall application.

The 50:50 subsidy is being offered until 2023, so it's a good chance for growers to play with it for the best outcome.