

PROJECT LEARNINGS – YEAR 1



AN EVIDENCE BASED APPROACH TO WATER QUALITY IN THE BARRATTA CREEK CATCHMENT



PROJECT AIMS:

This two-year project is an evidence based, farmer driven project that aims to reduce nutrient and agricultural chemical losses from farms in the Barratta Creek Catchment.

This will be achieved through trialling a range of farming practices and identifying the relative water quality and productivity merits of each.

KEY LEARNINGS:

- **The first three to four irrigations after application are the most important to manage** carefully if nutrient and pesticide losses are to be minimised. Where possible:
 - Use irrigation scheduling tools and appropriate management to minimise runoff losses.
 - Capture and re-use runoff in a recycle pit.
- **Placement and coverage** of fertiliser is critical to minimising both irrigation and rainfall nutrient losses. Where possible:
 - Cover fertiliser with at least 75mm of soil.
- **Timing of pesticide application**
In general, chemical losses from the field can be substantially reduced the longer the delay before irrigation or rainfall events. Where possible:
 - The post chemical delay in irrigation should be a minimum of 2-3 days (depending on the product).
 - Chemical or fertiliser should not be applied just before a rainfall event where the forecast is greater than 40-50 millimetres.

ABOUT THE PROJECT:

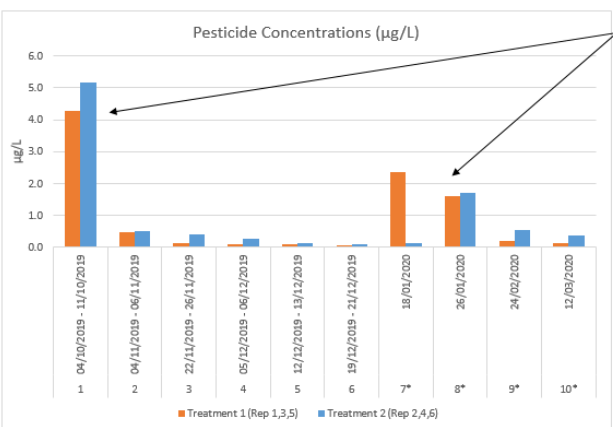
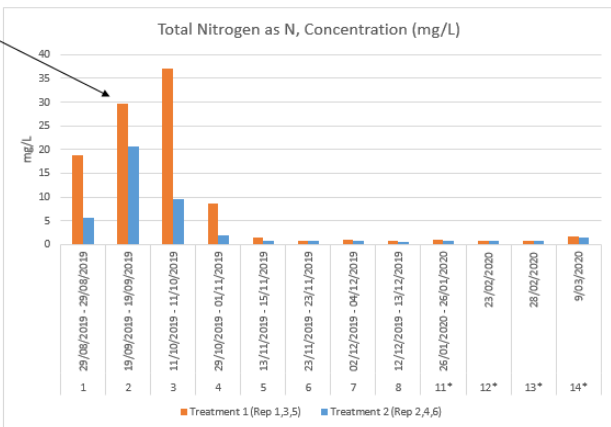
- Managed by BRIA Irrigators Ltd.
- Funded by the Great Barrier Reef Foundation.
- Eight trial sites in the Barratta Creek Catchment.
- Agronomic guidance provided by Burdekin Productivity Services (BPS) and Farmacist.
- BBIFMAC engaged as an independent organisation to conduct the water quality monitoring.

Paddock-scale monitoring uses an auto-sampler with a flume and water depth logger to collect a water sample and measure runoff volumes over the duration of a runoff period. Samples are sent to a laboratory for nutrient and pesticide analysis.



Whilst it is too early to draw definitive conclusions about the merits of the farming practices being trialled, the preliminary results have highlighted some important drivers of nutrient and pesticide loss.

Main losses occurred in first three irrigation events after application



Main losses occurred in first irrigation and rainfall events after application