



PATHWAYS TO WATER QUALITY IMPROVEMENTS IN THE MYRTLE CREEK SUB-CATCHMENT

2018/2019 WET SEASON - SITE 2

SITE DETAILS

BLOCK SIZE: 1.37ha

SAMPLED AREA: 1,089m²

ROW SPACING: 1.65m

VARIETY: Q212^{cb}

CROP CLASS: 3R

HISTORICAL ANNUAL YIELD:
70-75tph

SOIL TYPE: Victoria Plains
(Black Vertosol)

LOCATION IN SUB-CATCHMENT:
Strathdickie

NUTRIENT AND PESTICIDE APPLICATION DETAILS

Treatment application date:

- *Mill mud applied 25/09/2018.*
- *Econo Liquid One Shot applied 2/11/2018.*

Sampler 2-1

- Mill mud applied at 100 tph and Econo Liquid One Shot applied at 3.5m³/ha
 - Econo LOS analysis at 3.5 m³/ha: 157.8 kg/ha N, 0.3 kg/ha P, 100.3 kg/ha K, 16.0 kg/ha S, 19.5 kg/ha Ca, 13.0 kg/ha Mg, 325.6 kg/ha OC.

Sampler 2-2

- Mill mud applied at 100 tph and Econo Liquid One Shot applied at 2.5m³/ha
 - Econo LOS analysis at 2.5 m³/ha: 112.7 kg/ha N, 0.2 kg/ha P, 71.6 kg/ha K, 11.4 kg/ha S, 14.0 kg/ha Ca, 9.3 kg/ha Mg, 232.6 kg/ha OC.

MILL MUD

- A total of 50kg of additional N was accounted for in calculations in respect to the mill mud applied.
- Phosphorous is not accounted for in calculations as the P accounting for mill mud is on a crop cycle basis.
- As such, the total N and P applied to each sample site was:
 - Sampler 2-1: 207.8kg/ha N, enough P for a crop cycle.
 - Sampler 2-2: 162.7kg/ha N, enough P for a crop cycle.
- Mill mud applied via truck that applies product to three rows at a time.
 - Banded, but uneven application due to different truck wheel and cane row spacings. Mill mud was not homogenous, uneven consistency.

- Econo Liquid One Shot applied via a seven-row applicator.
- 40ml of irrigation (high pressure overhead) applied on 15/10/2018. No runoff occurred from the irrigation.

Tested for:

- Dissolved inorganic nitrogen (DIN)
- Filterable reactive phosphorous (FRP)
- Diuron
- Isoxaflutole

Herbicide Applications:

- 2018:
 - 10 October
 - Isoxaflutole (Balance) applied at 100g/ha
 - 750g/kg of active ingredient
 - Paraquat (Gramoxone) applied at 1L/ha
 - Diuron applied at ½ kg/ha
 - 900g/kg of active ingredient

RUNOFF EVENT DATA

EVENT	DATES	DAYS FROM FERTILISER APPLICATION	DAYS FROM PESTICIDE APPLICATION
1	10 December 2018	38	61
2	16 to 17 December 2018	44	67
3	23 December 2018	51	74
4	8 to 9 January 2019	67	90

- Grower's rainfall data was used to calculate runoff.

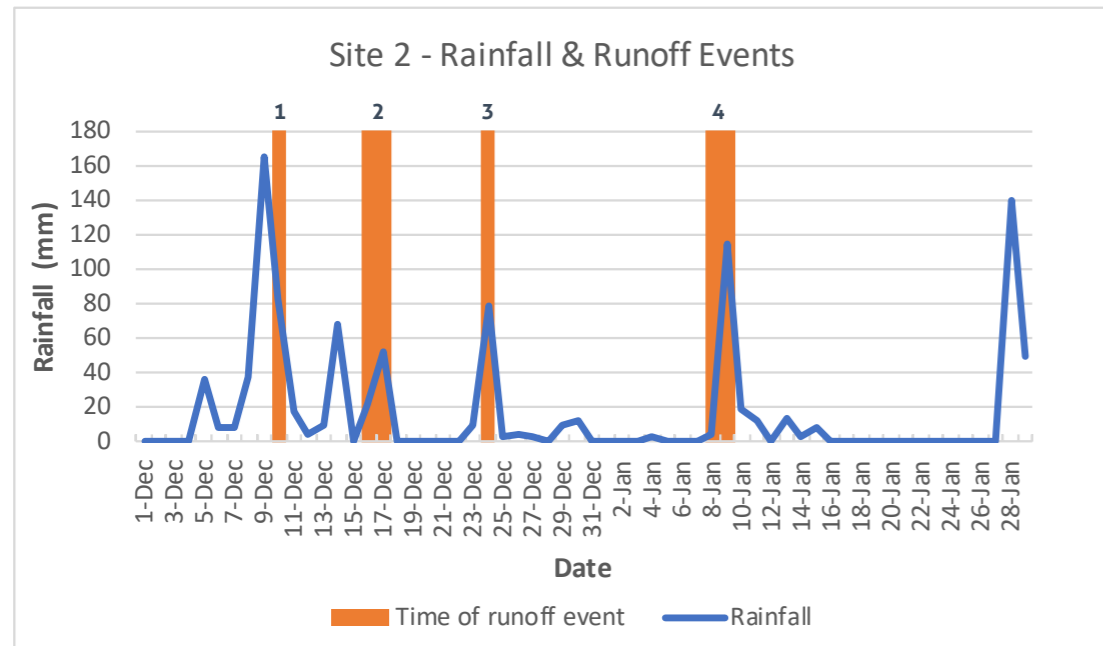
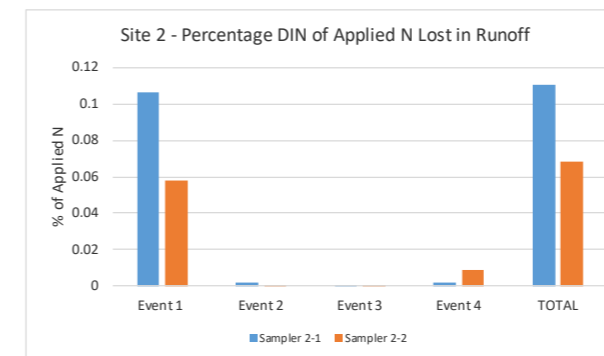
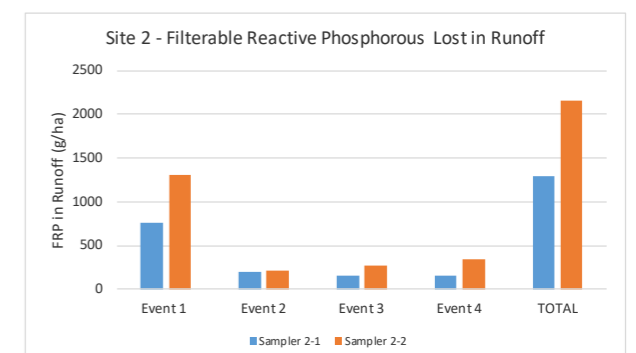
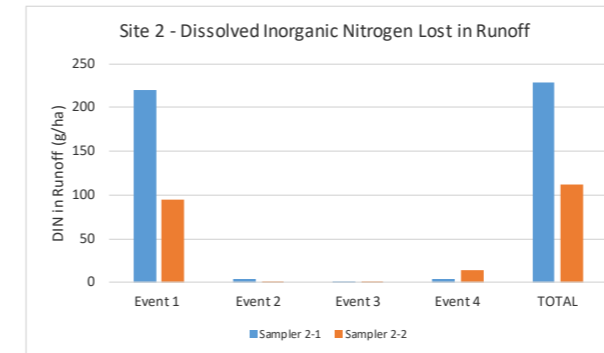
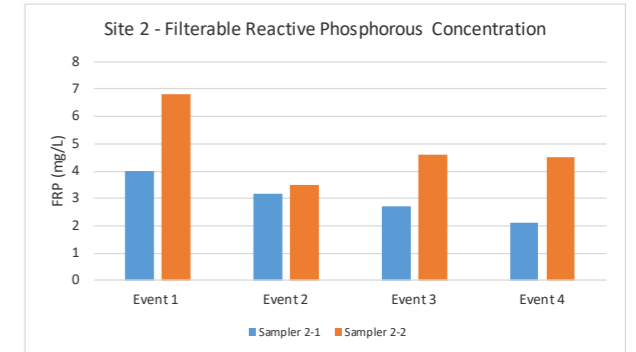
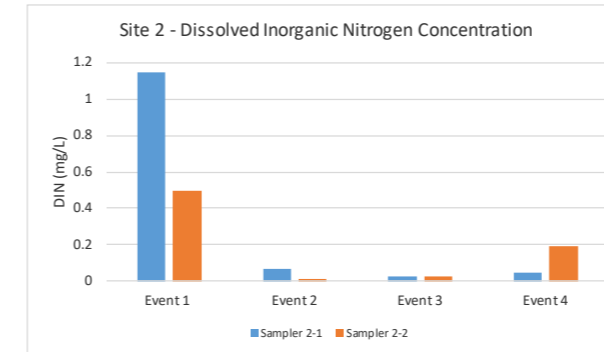


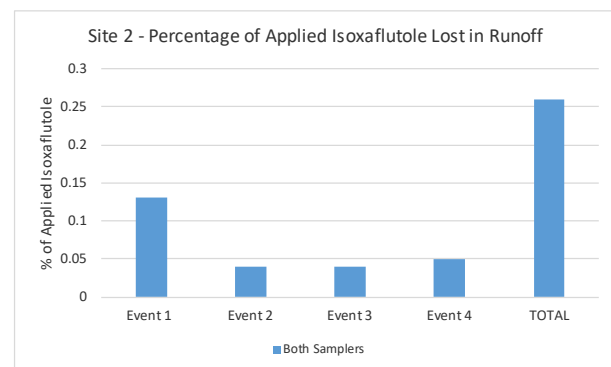
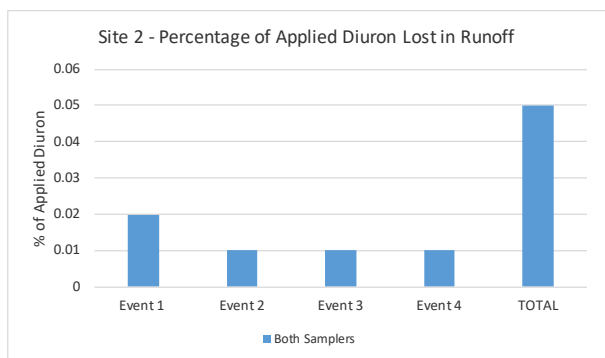
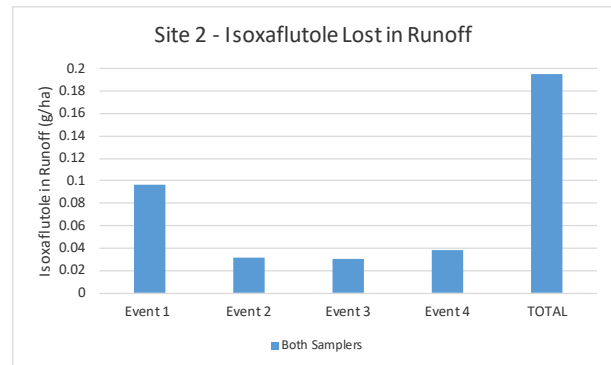
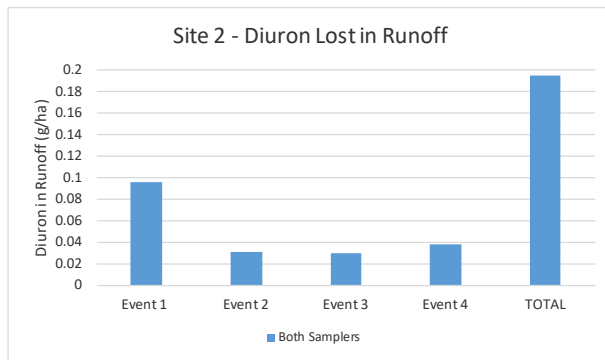
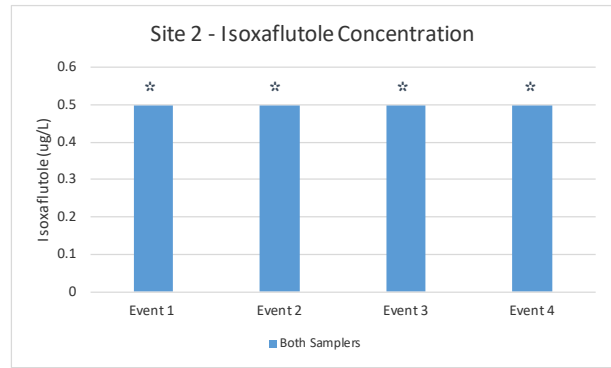
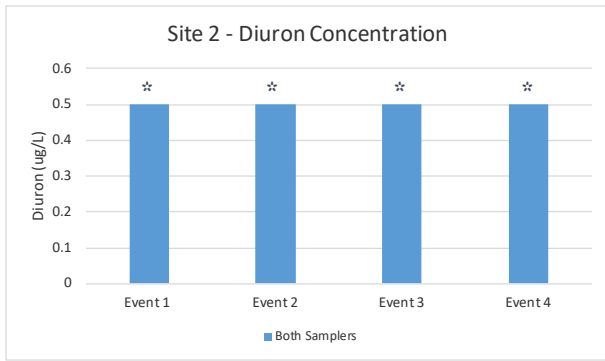
Figure 1 Rainfall data and corresponding runoff events

RESULTS

NOTE: Nutrient and pesticide loads are estimates only. Freshwater ecotoxicity thresholds cannot be applied to paddock scale monitoring. Freshwater PC95 values are referenced only for discussion.



NOTE: P levels are indicative and likely to be slightly less than actual.



For reference, the PC95 freshwater pesticide ecotoxicity threshold value for diuron is 0.23ug/L

For reference, the PC95 freshwater pesticide ecotoxicity threshold value for isoxaflutole is 0.46ug/L

Note:

* chemical concentrations were below the analysis instruments level of reporting (LOR) for all samples of Diuron and Isoxaflutole. In these cases, concentrations are presented as half the LOR to provide an estimate.

FOR FURTHER INFORMATION PLEASE CONTACT

Molly O'Dea [E mo'dea@sugarresearch.com.au](mailto:mo'dea@sugarresearch.com.au) [M 0439 619 082](tel:0439 619 082)

Copyright © 2019 - All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of SRA. **Disclaimer** In this disclaimer a reference to 'we', 'us' or 'our' means SRA and our directors, officers, agents and employees. Although we do our best to present information that is correct and accurate, we make no warranties, guarantees or representations about the suitability, reliability, currency or accuracy of the information we present in this Information Sheet, for any purposes. Subject to any terms implied by law and which cannot be excluded, we accept no responsibility for any loss, damage, cost or expense incurred by you as a result of the use of, or reliance on, any materials and information appearing in this Information Sheet. You, the user, accept sole responsibility and risk associated with the use and results of the information appearing in this Information Sheet, and you agree that we will not be liable for any loss or damage whatsoever (including through negligence) arising out of, or in connection with the use of this Information Sheet. We recommend that you contact our staff before acting on any information provided in this Information Sheet. **Warning** Our tests, inspections and recommendations should not be relied on without further, independent inquiries. They may not be accurate, complete or applicable for your particular needs for many reasons, including (for example) SRA being unaware of other matters relevant to individual crops, the analysis of unrepresentative samples or the influence of environmental, managerial or other factors on production.