

Articles from IREC Farmers' Newsletter – edition 206 – Spring 2021, with a quick overview.

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IREC FIELD STATION REPORT

Robert Houghton - Chairman IREC, Irrigator Gogelderie

The IREC Field Station at Whitton is where we road test new irrigation layouts, new cropping systems, new products, new gear and sometimes we revisit old crops and old systems with new technology applied. Everything that happens at the field station comes from the suggestions made by IREC members in our annual survey.



IREC UPDATE

Iva Quarisa – Executive Officer IREC

QUICK TAKE

Introduction to:

- Southern NSW Drought & Innovation Hub
- Cool Soil Initiative
- WaterCan Profitability Project



THE BENEFITS OF GOING GREEN BEFORE A SUMMER CROP

This article is adapted from the Griffith Irrigation Discussion Group 2020 Focus Paddock Report.

QUICK TAKE

- The annual survey of IREC members showed a clear interest in better understanding the role and benefits of incorporating cover crops into the irrigated crop production system.
- A cover crop was established in a focus paddock at the IREC Field Station in 2020. Establishment proved to be a simple process and easy to integrate into the current farming methods.
- The cover crop was green manured and the incorporated plant material made the soil very easy to work and get into good condition for sowing the following cotton crop.
- The following cotton crop was able to establish better than it would have in a long fallow situation.

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WHAT IS MID-ROW BANDED NITROGEN? DOES IT WORK IN IRRIGATED CROPS?

Dr Leigh Vial - Moulamein irrigation farmer

Laura Kaylock - Western Murray Land Improvement Group Moulamein irrigation farmer

QUICK TAKE

- Mid-row banding places high rates of nitrogen fertiliser in the crop inter-row at seeding.
- Trials at Moulamein showed that wheat accessed mid-row banded nitrogen after 8 weeks in a 26 cm inter-row spacing and after 10 weeks in a 36 cm inter-row.
- Wheat yield and protein with mid-row banding were similar or a bit less than topdressing in a rice system, and similar to topdressing in an irrigated winter crop system.
- Under centre-pivot irrigation, wheat yielded 9.19 t/ha with 520 kg/ha of urea (240 kg N/ ha) mid-row banded at seeding, and there was no crop lodging.
- A very basic trial suggested mid-row banding was probably a valid way of applying the entire nitrogen requirement for rice at drill sowing.



GETTING TOGETHER TO UNDERSTAND GREENHOUSE GAS EMISSIONS

Dr Cassandra Scheffe – Project Lead, Cool Soil Initiative Soil Scientist, AgriSci Pty Ltd

QUICK TAKE

- The Cool Soil Initiative is a unique publicprivate partnership between corporate food and beverage companies and the cropping industry. It aims to support reductions in onfarm greenhouse gas emissions, improved soil health and system resilience.
- The initiative delivers a dynamic and integrated program of farmer engagement and support, research programs to address related issues, and active engagement with related commodity and supply chain partners.
- As key learnings are starting to come through from the dryland cropping sector, the Cool Soil Initiative is proud to partner with IREC to develop the program with irrigation farmers of the MIA and CIA.



WHEN SUMMER PULSES FLATLINE

Emma Ayliffe - Consultant Summit Ag Agricultural Consulting

QUICK TAKE

- Late water allocations in 2020 saw some laterplanted soybean and mungbean crops.
- Flexibility of planting window makes summer pulses a great option to plant after other summer staples, such as corn, cotton and rice.
- The season saw uncommonly low yields achieved in both crops due to cooler than average weather and lower than average solar radiation, coupled with high mouse pressure and periods of waterlogging.
- Industry research suggests that soybeans are tolerant of luxurious watering, whereas mungbeans will do better if the soil profile dries out a little between waterings.

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GROWING AN EXTRA CROP TO BENEFIT THE CROPPING SYSTEM

Kieran O’Keeffe - Regional Extension Officer Southern NSW CottonInfo team

QUICK TAKE

- An on-farm trial found no significant difference in cotton yields by including an autumn cover crop in the rotation system, however, cover cropping is practiced for different reasons.
- When extended fallows occur due to low water allocations, soil testing should be factored into the coming season’s nitrogen budget.
- Careful site selection is a critical step in getting meaningful results from on-farm trials. A solution to overcoming background variation in large-scale on-farm trials is to select a section of the bay that has a history of consistent yields and analyse that section for treatment effects. Growers should work closely with research providers in the design and analysis of on-farm trials.



A CARBON POSITIVE COTTON FARM – MEASURING KEYTAH’S CARBON FOOTPRINT

David Dowling - Editor, *The Australian Cottongrower*

This article first appeared in The Australian Cottongrower, June–July 2021, and is reproduced with permission.

QUICK TAKE

- A carbon emissions audit found that a cottonproducing property was carbon positive in 2017–18, meaning that the farm acted as a giant carbon sink, absorbing more carbon than it released.
- By adopting sustainable farming practices, carbon content of irrigated cotton soils increased from around 0.5% in 2013 to 0.75% in 2017, while maintaining an average annual yield of 14 bales/ha.
- The carbon footprint for producing, ginning and transporting a bale of cotton to port, in the 2017–18 season, was –421.4 kg CO₂ e per bale, i.e. more carbon was returned to the soil than was emitted to the atmosphere.



2021 SUNRICE GROWER OF THE YEAR PUSHES THE BOUNDARIES IN WATER USE EFFICIENCY

Harriet Brickhill - Extension Officer Rice Extension

QUICK TAKE

- The third year of the Rice Industry Awards continues to showcase and champion growers who are leading the industry in production, water use efficiency and innovation.
- The 2021 SunRice Grower of the Year winner is Darrell Fiddler, Farm Manager for De Bortoli Wines. The judges were impressed by Darrell’s active pursuit of the latest science and technologies, which he adapts to suit his farm business to drive profitable returns. This season he averaged 1.28 t/ML for 130 ha of Reiziq.
- The Highest Yield Award had 5 strong contenders, each yielding over 13.7 t/ha across their farm business. Nathan and Kylie Ceccato of Griffith scooped the win, with a Reiziq yield of 13.95 t/ha.

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WATERING THE MURRUMBIDGEE RIVER VALLEY TO HELP NATURE SURVIVE AND THRIVE

Michele Groat - Local Engagement Officer, Central Basin Section Commonwealth Environmental Water Office Department of Agriculture, Water and the Environment

QUICK TAKE

- The Commonwealth Environmental Water Office is working to improve the health of waterways, floodplains and wetlands across the Murrumbidgee River valley.
- Water for the environment is managed specifically to improve the health of rivers, wetlands and floodplains.
- Water recovered through Basin Plan initiatives such as on-farm irrigation efficiencies and past buy-backs is being used to reverse the decline and improve river health.

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