



IREC MEMBERS MAKE LOCAL RESEARCH RELEVANT

Robert Houghton – Outgoing Chair IREC, Irrigator Gogeldrie

QUICK TAKE

- Chairman's article for this year's spring edition with full dams and the promise of a good finish to our winter cropping program.

IREC takes this opportunity to thank Rob for his dedication and hard work to rebuilding and reshaping IREC over the past 9 years. The current status of IREC is testament to his strategic guidance and leadership, as chair of IREC, since late 2013. Thank you Rob.



IREC UPDATE

Iva Quarisa – Executive Officer, IREC

QUICK TAKE

- IREC Chair wins service to cotton industry award
- Final season for optimising irrigated grains project
- The IREC Irrigation Research Update returned in July. Presentations included key learnings from the Optimising Irrigated Grains project and local maize trials, information about a new rice variety and rice agronomy, updates on controlling weeds around water stops, the Cool Soil Initiative, durum wheat for yield and protein, herbicide resistance and distribution of weeds, using genetics to infer movement of weeds, and the COALA-ag decision support tool using satellite data.



SMART SENSING AND AUTOMATION FOR COTTON

John Hornbuckle, Rodrigo Filev Maia and Carlos Ballester – Centre for Regional and Rural Futures, Deakin University Griffith, NSW, Australia

QUICK TAKE

- Irrigating cotton has never been easier with smart sensing and automation.
- Smart sensing and automation investment costs, for a 100 ha cotton area, range from \$155/ha (30 ha bays) to \$328/ha (10 ha bays), with a positive return on investment from all bay sizes due to labour and water savings.
- Smart sensing and automation systems developed in the project are now available for all Australian cotton growing areas, from industry partners who worked on the project.

To be able to read the full article you must be a member of IREC.

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SUNFLOWERS – A VIABLE CROP ALTERNATIVE IN THE RIVERINA

Loretta Serafin – Research Agronomist, Summer Grains NSW Department of Primary Industries, Tamworth

QUICK TAKE

- There is growing interest in sunflowers in the Riverina due to the agronomic features of the crop, as well as growing market opportunities.
- Before planting the crop, growers should discuss selling options and grain specifications with potential buyers.
- Sunflowers can be sown from mid-October to late December. For early-planting, soil temperatures must be higher than 10–12 °C and the risk of frosts should have passed.
- Flowering will occur 65–80 days after planting, and the crop will reach physiological maturity around 5 to 6 weeks after flowering. Moisture at harvest should be about 9% (for delivery into most markets).



V071A A REPLACEMENT FOR REIZIQA?

Brian Dunn and Tina Dunn – Research Agronomist and Technical Officer NSW Department of Primary Industries, Yanco

QUICK TAKE

- V071A is a semi-dwarf bold medium grain rice variety that research has found to be agronomically superior to ReiziqA.
- In experiments conducted over 3 seasons V071A always yielded higher than ReiziqA, with an average advantage of 1.43 t/ha.
- The development of V071A does not slow during periods of low temperature like ReiziqA, which is beneficial in cool seasons. V071A has strong emergence and establishment vigour and has a higher tolerance to grain shattering than ReiziqA.



EFFICIENT NITROGEN USE FOR RICE GROWING

Brian Dunn and Tina Dunn – Research Agronomist and Technical Officer NSW Department of Primary Industries, Yanco

QUICK TAKE

- The correct timing and placement of nitrogen fertiliser enables efficient nitrogen use, high grain yield, high water productivity and profitability.
- Spreading urea onto dry soil before the application of permanent water is a highly efficient method of applying nitrogen to drill sown rice.
- Applying urea into flood water when the rice plants are small results in large losses of nitrogen and is the least efficient use of nitrogen in rice

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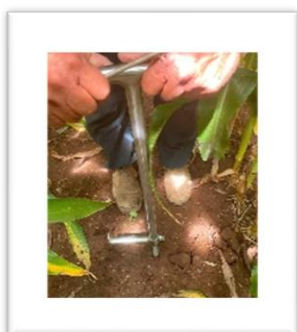


CONSERVING BENEFICIAL INSECTS FOR BETTER ARMYWORM CONTROL IN RICE

Mark Stevens and Jess Hoskins– NSW Department of Primary Industries Yanco Agricultural Institute

QUICK TAKE

- Native armyworm species have become a significant problem for NSW ricegrowers each year.
- Studies between 2016 and 2021 showed that armyworms can be infected by parasitic wasps and flies at rates of up to 81%.
- Existing chemical treatments have broad spectrum activity, killing parasitoids as well as the armyworm and leaving the crop vulnerable to reinfestation.
- New selective chemical treatments have the potential to control armyworm with reduced impacts on beneficial insects, potentially reducing the need for respraying.
- Improved treatment thresholds will help ensure armyworm treatments are only applied to rice when they provide an economic benefit.



COOL SOIL INITIATIVE – RECENT SOIL RESULTS

Rachel Diversi – Project Officer IREC, Griffith

Dr Cassandra Schefe - Soil Scientist & CSI Project Lead AgriSci Pty Ltd, Rutherglen

QUICK TAKE

- Initial soil test results for MIA and CIA paddocks participating in the Cool Soil Initiative showed that there are relatively low organic carbon values across the maize paddocks sampled.
- Initial soil tests also showed low sulphur and phosphorus values.
- Low sulphur and phosphorus values correlated with low organic carbon values.
- Organic carbon values were likely a result of low soil nutrition due to the sulphur and phosphorus values.



GROWING ALMONDS ON HEAVY RIVERINA SOILS

Carlos Ballester and John Hornbuckle– Centre for Regional and Rural Futures, Deakin University, Griffith, NSW

QUICK TAKE

- Understanding the key sustainability factors that could affect almond production in young orchards is crucial.
- Variability in clay soils can exacerbate differences in soil water availability and tree growth rate within the same irrigation block.
- Monitoring the growth of young almond trees can assist in identifying problem areas due to soil variability.

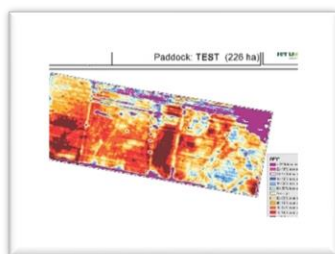


DESIGNING A MEANINGFUL ON-FARM TRIAL

Lucy Kealey Editor, Farmers' Newsletter

QUICK TAKE

- Careful site selection and planning are needed to ensure the differences between test plots (or strips or rows) and the rest of the crop is an accurate response to the product or method being tested.
- Use paddock history, soil maps and yield maps to find uniform areas in the field or bay.
- Ensure the site selected for the trial or demonstration can be evenly irrigated and receive the same rate of inputs throughout the growing season.
- Design the trial so that the plots are wide enough to accommodate single or multiple passes of machinery use on farm – especially harvesters if yield is to be measured.

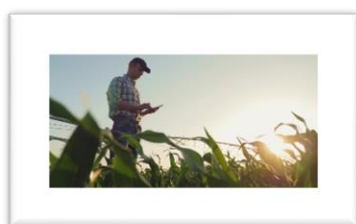


COALA – IMAGERY, ANALYSIS AND APPLICATION TOOLS

Anthony Rudd, Managing Director I-AG Pty Ltd

QUICK TAKE

- COALA is Copernicus-based information service for capturing information to guide irrigation and nutrient management.
- The satellite data collected by Copernicus enables rapid and accurate determination of in-field variability of canopy vigour, on a repeated basis throughout the growing season.
- The service gathers real-time information to support decision making for irrigation management and variable rate nutrient applications.
- The data provided by the service is processed to be compatible with platforms and programs already being used by growers.



A SHIFT NEEDED TO IMPROVE WORKFORCE OUTCOMES

*Dr Nicole McDonald - Senior Research Officer – Agri-tech Education and Innovation
CQUniversity Australia*

QUICK TAKE

- Strategic workforce development is going to become an integral part of agricultural businesses and growers can take steps to improve their ability to manage future workforce challenges.
- Successfully moving through digital transformation will require skilled people development and management of farm workers, and new strategies to engage the next generation.
- The article reports on a study by Central Queensland University, which has been identifying the key characteristics of successful workforce management on farms, as technology changes

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