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INCREASING RETURNS ON MEGALITRES AND INVESTMENT

Alex Schultz Research Development Officer NSW Department of Primary Industries, Deniliquin Sam North Research Hydrologist NSW Department of Primary Industries, Deniliquin

QUICK TAKE

- Growing wheat after rice is a great way to increase the productivity and profitability of an irrigated cropping system.
- Double cropping with wheat after rice may not suit every season, every paddock or every farmer but a recent project has identified some of the key requirements for success.
- If wheat after rice is the plan, selecting a well-draining paddock for the rice phase is essential, to ensure timely operations and dry ground for the harvest of the rice crop.
- A successful wheat crop sown straight after rice depends on sowing wheat early and sowing with high seed rates, topdressing nitrogen early and ensuring good drainage throughout the season.
- Managing the wheat according to the key points identified by the project, yields of 5.0 t/ha or more should be achievable.

ONE PADDOCK, TWO AND A HALF YEARS, FIVE CROPS

Leah Garnett Extension Officer – Murrumbidgee Rice Extension

QUICK TAKE

- The Hardy's at Coleambally are looking forward to harvesting the fifth crop in a double cropping program based on rice and winter cereals. l With the advent of short-season rice varieties and improved irrigation layouts, some irrigators are successfully including rice in double cropping programs.
- Cropping systems are becoming more flexible with the increasing range of short-season crop varieties. If more irrigation allocation becomes available, growers can make in-season planning decisions without sacrificing the winter crop and capitalise on the opportunity to increase returns per hectare per year.
- Chris and Sue Hardy of Coleambally have grown five crops in two and a half years, alternating new rice variety YRM70 with winter cereals, on an irrigation layout of beds in bays.

This article is based on a case study published by Rice Extension in August 2017 in the series Flexible, successful rice-farming systems. Information from recent seasons has been added to this article

THINK LONG TERM TO CAPTURE THE UPSIDE OF COTTON RETURNS

Kieran O'Keeffe CottonInfo Regional Extension Officer Southern NSW

QUICK TAKE

- The planning of cotton rotations requires consideration of long-term effects of soil compaction and disease build-up. Michael Braunack of CSIRO and Emma Ayliffe of Summit Ag explain what to look for in a soil pit dug across beds in a cotton field. Think long term about protecting and improving the soil health of individual fields to capture the upside of good returns from cotton.
- Yield decline in back to back cotton can be as high as 1.5 bales/ha year on year, caused by compaction and disease build-up.
- Black root rot is occurring in Murrumbidgee fields after about five or six cotton crops — even when the cotton is grown in rotation with cereals.
- A comparison of three cotton rotations showed back to back rotation of cotton had the highest gross income but it also had the lowest gross margin over a ten-year period, due to yield reductions when compared with cotton–fallow and cotton–wheat–fallow rotations.

SHARED DATA WILL BENEFIT SOUTHERN COTTON GROWERS

Steve Buster Cotton Research Officer NSW Department of Primary Industries Yanco Agricultural Institute

QUICK TAKE

- Information collected to build a database on cotton production in the Murrumbidgee and Murray valleys will help identify and understand key drivers of yield, and assist management decisions in the future.
- While the 2016–17 season was not the greatest the region has seen, due to challenging field preparation and growing conditions, the data collected showed cotton can still be viable in a bad season.
- For the 2016–17 season, it appears that the optimum cotton crop was grown on spaced hills, after a summer fallow, planted with the variety Sicot 74-6B3F around the second week of October, nitrogen was monitored through the season, and rates of nitrogen around 250 kg were applied.

TACKLING NUTRIENTS, PESTS, WEEDS AND COLD IN COTTON

Iva Quarisa Executive Officer IREC

QUICK TAKE

- Integrated use of chicken litter and fertiliser is being trialed for benefits on optimal nutrient use efficiency, crop development and yield.
- Green mirids are under investigation to determine if their presence is affecting final yield; and soft spray options to reduce population pressure of silverleaf whitefly are being tested.
- Herbicide options for grass control on irrigation farms are being assessed, as new herbicide rotations are essential in preventing the development of weeds resistant to glyphosate.
- The use of plant hormones (growth regulants) is being trialed to stimulate cotton plant growth and maintain fruit, in spite of the cooler temperatures of the southern growing regions.

IDEAS AND EXCHANGES WITH IRRIGATORS IN THE NORTH

Iva Quarisa Executive Officer IREC

QUICK TAKE

- The Maximising Irrigation Profitability or ‘Max’ project provided southern irrigators with an opportunity to see how their counterparts in northern New South Wales manage water.
- The annual Gwydir Valley Irrigators Association field day at Keytah was the target event of the tour. A highlight of the field day was an eight year old, four-way comparison of irrigation systems. The Keytah operation is adopting an automated bankless system inspired by both the comparison trial and irrigation systems visited during the IREC Automation tour in 2017.
- Irrigation with a big difference in layout and scale was witnessed at Cubbie Station, which has a 22,000 ha developed for irrigation from a total area of 93,000 ha

LIFTING RETURNS WITH BETTER, MORE SPECIFIC AGRONOMY

Lucy Kealey Editor, IREC Farmers’ Newsletter

QUICK TAKE

- New management guidelines have been developed for wheat and canola produced in the southern irrigation areas of Australia, as a result of a three-year research project.
- The project evaluated a range of cultivars to help growers make varietal decisions based on trials in local irrigated production systems.
- In addition, several aspects of crop production and management were investigated to understand the interaction between variety and management at different locations.
- The results and findings of the project have been interpreted by researchers and agronomists to produce best management practice manuals for irrigated crops, and variety specific agronomy packages for each trial location.

RUSSIAN WHEAT APHID DETECTED IN RIVERINA RICE

John Fowler Senior Lands Services Officer - Extension Agronomist Murray Local Land Services, Deniliquin

QUICK TAKE

- The discovery of Russian wheat aphid in a South Australian wheat crop in 2016, and its subsequent detection in Victoria, Tasmania and New South Wales, has added a new pest to the 'wanted' list for grain growers.
- The response of the Australian Government was to declare the aphid a priority plant pest, as eradication was considered not feasible. Management of the pest is believed possible through a combination of cultural, chemical and biological controls.
- Russian wheat aphid has been detected in cereal crops in the southern irrigation areas and after its discovery in rice crops in late 2017, agronomists are advising grain growers to remain vigilant as the 2018 winter cropping season unfolds.