

Variety Specific Agronomy Package Trials, 2008

Development of Agronomy Packages for New Varieties for southern NSW (known as the VSAP Project) is a pilot project to develop variety specific management packages for wheat, canola, oilseed mustards and lupins in southern NSW.

The focus of the research is on issues that are likely to improve the potential of each variety in a farming system rather than issues that improve farming systems as a whole.

2008

Wheat

Time of sowing

Optimising the sowing time for new varieties is a key determinant of grain yield. New varieties may differ widely in their photoperiod and temperature responses and are increasingly being grown in regions distant from where they were selected. The information will supplement results from the national variety testing (NVT) program.

Treatments and sites

Field trials will be established to measure flowering time, yield and grain quality of up to 40 wheat varieties. Trials will be conducted at the key regional centres of Condobolin, Cowra and Wagga Wagga, with three times of sowing at each site.

Wheat population and nitrogen

Individual wheat varieties respond differently to plant population and nitrogen application, two key management tools requiring careful balance to maximise yield while maintaining grain quality, particularly low screenings.

Treatments and sites

Field trials will be established to quantify the effects plant population and nitrogen nutrition have on yield and grain quality of up to 10 wheat varieties at each of 8 sites.

Each variety will be sown at two plant populations:

- 80 and 150 plants/m² at dryland sites
- 150 and 250 plants/m² at irrigated sites.

Target nitrogen treatments are nil, low and high:

- 0, 30 and 100 kgN/ha at dryland sites
- 0, 150 and 250 kgN/ha at irrigated sites.

Trial locations are:

- dryland–Tottenham, Condobolin, Parkes, Rankin Springs, Rannock and Wagga Wagga
- irrigated–Deniliquin and Hillston.

Row space

Adoption of stubble retention/no-till farming systems has resulted in a trend to wider row spacing and the possibility of inter-row sowing using GPS guidance. In 2008, a series of experiments aim to determine the extent of variety by row space and tillage systems interactions for grain yield and quality.

Treatments and sites

Field trials will be established at five sites– Condobolin, Parkes, Temora, Cowra and Wagga Wagga. A selected set of eight wheat varieties chosen for differing maturity, tillering ability and growth habit will be evaluated. They will be Carinya, EGA_Gregory, Ellison, Gladius, Lincoln, Sentinel, Sunzell and Ventura).

Row spacing treatments will include 17, 24, 30 and 38 cm, with sites direct drilled into stubble or using a reduced tillage system.

Cereal fungicide response trial

Foliar fungal diseases have been very closely monitored in cereals since the introduction of the new strain of stripe rust in 2002. Stripe rust has since been managed by both foliar and seed applied fungicides. Questions have been raised on the impact on grain yield and quality of:

- foliar diseases other than stripe rust; and
- the yellowing that occurs as a result of the expression of adult plant resistance to stripe rust.

This series of trials aims to observe the impact of fungal foliar diseases on yield and grain quality in a range of recently released wheat





Stripe rust infection on Sapphire wheat at flowering in the 2007 irrigated cereal fungicide response trial at Hillston.

Photo Barry Haskins.

and barley varieties. It is designed to show the genetic potential of each variety in the absence of these diseases (full fungicide program) and their performance when unprotected.

Treatments and sites

Varieties (12 wheat and 2 barley) suited to each site will be grown either fully protected (liberal application of foliar applied fungicide) or not protected at all (nil fungicide) from foliar fungal diseases.

Four sites will be sown—Hillston (fully irrigated), Deniliquin (semi-irrigated), and Temora and Wagga Wagga (dryland).

Lupins

Limited information is available on the adaptability of new lupin varieties to emerging farming systems in southern NSW. The varieties are being developed by the national lupin breeding programs (narrow-leaf in Western Australia, albus in New South Wales) and yield tested by the NVT program.

Growers identified crop row spacing, plant population and sowing time as key areas of interest in reduced tillage and stubble retention farming systems.

Six lupin varieties will be assessed for yield and quality—three albus (Luxor, Rosetta and Kiev Mutant) and three narrow-leaf (Jenibillup, Jindalee and Mandelup).

Row spacing

The six varieties will be grown at 15 and 30 cm row spacing at Cowra and Wagga and 15 and 60 cm at Merriwagga.

Plant population and time of sowing

A trial at Brocklesby is looking at plant population only with the six varieties being grown at five target plant populations—15, 30, 45, 60 and 75 plants/m².

A second trial at Wagga Wagga will assess each of the six varieties sown at the five target populations at each of three sowing times—early, ideal and late.

Canola

Limited information is available on the adaptability of new canola varieties to farming systems in southern NSW. Growers identified crop row space and time of sowing as key areas of interest.

Row spacing

The most suitable fourteen varieties (including canola and mustard) will be sown at two row spaces. The trials will be at Condobolin, Cowra, Merriwagga and Wagga Wagga.

Time of sowing

Trials will be sown at Cowra and Wagga Wagga to assess the impact of sowing time on yield and oil content of 19 canola varieties and one mustard variety. Each variety will be sown at three times—early, ideal and late.

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Further information: available from the project team agronomists at NSW DPI Wagga Wagga, Condobolin, Parkes, Hillston, Temora, Cowra and Moulamein.



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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (September 2007). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user's independent adviser.

**Variety Specific
AGRONOMY
Packages**