

Variety Specific Agronomy Package Trials, 2009

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

The focus of the research is on issues that improve the potential of these varieties in a farming system rather than issues that improve farming systems as a whole. The project has been funded until 2012, previously in central and southern NSW, now to include north, central and southern NSW.

2009


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 trial (NVT) program.

Treatments and sites

Field trials have been established to measure flowering time, yield and grain quality of approximately 30 wheat varieties. Trials are at key centres in the southern (Deniliquin, Wagga Wagga and Temora), central (Condobolin and Cowra) and northern (Trangie and Tamworth) regions of the state, 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 have been 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 eight sites. Each variety is sown at two plant populations—80 and 150 plants/m² for dryland sites or 150 and 250 plants/m² for irrigated sites.

Target nitrogen treatments are nil, low (30 kgN/ha) and high (100 kgN/ha) for dryland sites and nil, low (150 kgN/ha) and high (250 kgN/ha) under irrigation. Trial locations are Condobolin, Narraburra, Goonumbla, Wagga Wagga and Deniliquin (irrigated).

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 guidance systems. In 2009, 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 have been sown at eight sites in southern NSW (Condobolin, Cowra, Deniliquin, Goonumbla, Merriwagga, Narraburra, Rankins Springs and Wagga Wagga). A set of eight wheat varieties (Carinya[®], EGA_Gregory[®], Ellison[®], Gladius[®], Longreach_Lincoln[®], Livingston[®], Sunzell[®] and Ventura[®]) are being evaluated and were selected for differing maturity, tillering ability



and growth habit. Row spacing treatments include 17, 24, 30 and 38 cm, with some sites sown into stubble using reduced tillage systems.

A row spacing by seeding rate by irrigation variety trial has been sown at Yanco Agricultural Institute.

Row spacing by seeding rate trials have been sown at Spring Ridge and Coonamble in northern NSW. Treatments include three row spacings (25, 35 and 45 cm), three seeding rates (60, 120 and 180 plants/m²) and 10 varieties.

Cereal response to fungicide

The cereal response to fungicide trials have been given a lower priority and have been discontinued this year.

Seeding depth

A seeding depth trial with three depths and eight varieties has been sown at Coonamble.

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 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 are being 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 are being trialed at 18, 24 and 30 cm row spacing at Cowra and Wagga Wagga, and 25 and 50 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).

In a second trial at Wagga Wagga, each of the six varieties have been sown at the five target populations and at each of three sowing times.

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 six varieties for each site have been sown at two or three row spacings. The trials are located at Condobolin, Cowra, Merriwagga and Wagga Wagga.



Time of sowing

A trial has been sown at Cowra and Wagga Wagga to assess the impact of sowing time on yield and oil content of twenty varieties. Each variety has been sown at three times—early, mid-season and late.

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GRDC

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (July 2009). 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**