Brassica juncea (Mustard) in the Mallee

Definitions

- *Brassica juncea* is being bred for two different end products. Oil of the same quality as canola (The name we would prefer to use is Juncea Canola) and seed for mustards and mustard flavoured oils (The name we would prefer to use is condiment mustards)

Background

- Juncea Canola and Condiment mustards like canola provides an effective break crop for winter cereals.
- Rainfall required is 275 - 350mm Growing Season Rainfall, However for the Mallee it more depends on the break. Last year (2004) JR046 was over 10% higher yielding than Outback at sites yielding less than1.5t/ha. Data suggests juncea canola definitely performs better than conventional canola at the sites yielding less than 1.5t/ha.
- Wherever possible, use no-till fallow as this increases soil moisture storage compared with conventional fallows. If possible, use sowing techniques which do not leave stubble over the sown row as this impedes crop establishment.
- As a rule of thumb, juncea canola and mustards yields about 60% of wheat.

Nutrition

- Use similar rates of nitrogen on mustard as you would for high protein wheat on the same soil. For example, a 1.0 t/ha crop at 38 % protein in seed removes about 60 kg/ha N. To grow the plant, the crop should have available to it a total of about 95 kg/ha of N from all sources.
- Deep soil testing for N and sulfur is recommended for all growers, but particularly first time growers. This will allow N budgeting
- Brassica seed is very sensitive to fertiliser burn. No more than 10 kg/ha N should be in contact with the seed at sowing in narrow (17 cm) rows and proportionally less in wider row spacings. The remainder of the N should be either drilled before sowing or mid-row banded at sowing.
- Brassica crops require about 10 kg of sulfate sulfur per tonne of grain. The standard recommendation in southern NSW is to apply 25 to 30 kg/ha of sulfate sulphur
- Pay particular attention to phosphate nutrition. This crop can give responses to P on soils where wheat does not respond.
- Mustard has a requirement for zinc on alkaline soils in the absence of better information, use wheat guidelines.

Sowing

- Choose paddocks relatively free of broadleaf weeds especially charlock, wild turnip, wild radish and other weeds in the Cruciferous family, as in-crop herbicide options are very limited. post emergent. Grass weeds can be readily controlled in mustard using trifluralin or post emergent herbicide
- When choosing paddocks for canola, be careful with those treated **with residual** herbicides especially Group B and triazine herbicides (for conventional varieties)

as their residues can affect canola. Check labels for re-cropping intervals as some are up to 36 months. Ensure all spray equipment is thoroughly decontaminated with appropriate cleaning agents before using it to spray.

- Sow early season varieties from early May and early varieties from mid May to minimise frost risk.
- The small seeds of mustard need to be sown ideally no more than 2-3 cm into well prepared, moist seedbeds. Good seed-soil contact, to help ensure uniform establishment, is aided by the use of rollers, culti packers and press wheels. They are suited to conventional and no-till systems.
- Aim to establish 40 to 60 plants per square metre, which can be, achieved with a sowing rate of 2 to 5 kg/ha.
- Mustard usually flowers for 3-5 weeks, and frost damage is greatest if it occurs towards the end of flowering and through pod filling.

Agronomy once established

- You can use conventional herbicides for grasses and Lontrel® for thistles etc. Lontrol® damage has been observed when applied late. TT and Clearfield material should be available in 2009 - 2010 all going well.
- Monitor crops for insect pests, but be aware of beneficial insects which may keep pests under control.
- Mustard has better shattering tolerance than canola, and can be direct headed.
- 1 in 4-year rotation should be followed with mustard to ensure the build-up of stubble born mustard diseases does not occur

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