



## Growing Western Canola Case Study (Low Rainfall) 2005

### *Wissanger Farms Nungarin*

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#### Location

Nungarin is approximately 40 kilometers north west of Merredin.

Rainfall: **200-250mm** – of growing season rainfall. Annual rainfall can vary with summer rainfall being a common occurrence. Nungarin is affected by frost and dry finishes, which have restricted canola plantings in the past.

Area sown to Canola in 2005:	140 hectares
Average yield last 5 years:	0t/ha
Target average yield:	1.0t/ha

#### History of Canola:

Like many operations in the eastern wheatbelt Wissanger Farms tried canola in the early nineties with little success. Varieties and agronomy practices were both limiting factors of canola in the past. However canola is not considered such a risk now, following the release of new varieties and better understanding of these varieties.

#### Yield and Rotations:

Canola hasn't been grown for about seven years in our rotation. Poor yields, drought and the lack of a reasonable legume has resulted in the rotation being predominately cereals for the past six years. Predicted yields are higher with current canola varieties, thereby reducing the risk of growing canola and making it a viable option in the rotation. With such an extended cereal rotation, and lack of a profitable pulse or legume option, canola is considered a break crop in the rotation.

#### 2005 Program:

Good rains in late march and early April 2005 in the eastern wheatbelt provided suitable soil moisture to sow canola in late April and early May. Dry periods in May can sometimes occur. A rough rule of thumb is that canola can be a risk if good rains are not received in April. Being able to grow canola confidently reduces the need for lupins.

In 2005 the canola program consisted of 80ha of 44C73 and 60ha of Stubby. The idea behind the two varieties was to compare TT and IT. The expectation being that 44C73 would out yield Stubby due to the yield penalties of TT varieties. IT canola is still an option in the eastern wheatbelt where paddocks have low levels of Group B radish resistance.

Seeding commenced in late April following rains in late March and early April, allowing good early weed control. This took pressure off the herbicide packages for each variety. Both varieties were sown with precision seeding equipment over three days at 2kg/ha, resulting in more than adequate plant density.

Good rains were received straight after seeding, providing plentiful soil moisture and subsequently no stress on either variety until July. May was wet and warm which allowed for vigorous growth of the crop, and with no frost in June the season crops were ahead of normal growth stages. In July the season turned around with only 7mm of rainfall received. This put stress mainly on Stubby, forcing it to flower and finish flowering almost by the end of July. 44C73 handled the conditions far better, starting to flower three weeks after Stubby and flowering right through August into early September.

In August and September the region was hit with three severe frost events. With the 44C73 still flowering it was thought that the frost would not impact as greatly as it would on the Stubby. Both varieties yielded approximately 800kg/ha.

Heliothis and DBM were not as prevalent as they have been in the past couple of years so only one spray was required.

### **Nutrients applied include:**

- Agras Zinc at 80kg/ha banded below the seed.
- Flexi N 30L/ha 4 weeks after seeding.
- Flexi N 30L/ha at 10% flowering.

### **Chemicals**

Atrazine was applied post emergence to Stubby (TT).

On duty was applied post emergence to 44C73 (IT).

Grass selectives were applied where needed.

Insecticides were applied pre emergent and post emergent, targeting selected insects.

### **Cost of Production**

Fertiliser \$70/ha

Chemical \$73/ha

Operations \$70/ha

Seed \$10-12/ha

Total marginal cost \$223/ha ~ approximates to around 0.6t/ha of canola (at \$350/t).

## How do we do it?

- We aim to take **THE RISK OUT OF Growing Canola!!!!!!**
- Canola is an opportunistic crop and it is important to have good sub soil moisture. We do not sow unless there has been 30-50mm of rainfall in late March or April, as May can be dry late into the month. It is important for the crop not to be stressed.
- We use new seed. With sowing rates at 1.5-2.0kg/ha new seed is not a great cost of production. It is important for the crop to be vigorous early. Lower seeding rates aim for plant numbers of 30-40 plants per square meter. This creates stronger plants that do not lodge, allowing for better direct harvesting.
- Insects are not a major issue as the eastern wheatbelt does not have the variety of insects which face the southern region of the state. Chlorpyrifos at 500mL/ha (pre emergent) controls the early insects for 6-8weeks. DBM is the biggest concern later in the season. As yields are limited DBM may only be sprayed once, a second spray may be considered depending on the canola price. It is important to monitor crops and control DBM early to keep numbers low. Betacyfluthrin allows for good control of DBM as well as Heliothis and Aphids.
- Nutrition - don't over fertilise. This is the most important aspect of making canola a low risk option in the rotation. Agras as a fertilizer is a good option as it supplies adequate NPS and reduces the need for spreading of Ammonium Sulphate, which is an additional cost. Supplying nitrogen is an important aspect of growing the crop. It is better to supply small amounts when required rather than large single applications. This allows us to assess the season and apply nitrogen selectively. It also allows us to reduce losses if the crop is to be abandoned.

## Where are we headed?

- Unfortunately 2005 was not a good result for either variety, with frost and dry weather having an effect.
- Canola in the eastern wheatbelt will increase in the rotation as better varieties are released. With lupins not being suited to soil types and climate, and the lack of a suitable pulse, canola will substitute in the rotation as a break crop.
- Current yields vary between 600kg-1t/ha with the aim being 1t/ha. As varieties are released yields may be able to be increased gradually.
- Better agronomy practices and understanding of varieties, and their requirements, will also see an increase in confidence to grow canola in the low rainfall regions.