

# PLANTING RECOMMENDATIONS

*The Big Black Sunflower Pack*

## SOUTH QUEENSLAND

### PLANT POPULATION

Recommended populations for southern Queensland range from 25-50,000 plants/Ha for dryland and 60,000 plants/Ha for irrigation.

In areas of high yield potential prefer the higher end of the range and in western areas aim for 25,000 plants/Ha.

For later sowings the higher populations are recommended and they will result in a smaller head size with a quicker dry down during Autumn.

There can be subtle differences in population requirements of some hybrids. Check recommendations with your seed supplier or seed company representative.

### PLANTING EQUIPMENT

With a row crop planter expect an 80% emergence and 70% for an airseeder equipped with press wheels provided planting conditions are favourable and soil insect activity low.

### PLANTING TIMES

**SPRING:** August – October

**SUMMER:** January – Mid February

Prefer the quicker maturing varieties for March sowings.

### PLANTING TO REDUCE THE RISK OF LOSSES DUE TO DISEASE

#### WESTERN AREAS

Although the likelihood of disease is low the following precautions are recommended:-

**Rust:** Plant resistant hybrids.

**Alternaria:** Select hybrids with a level of tolerance.

**Sclerotinia:** Minimal risk. Avoid very late sowings and planting full season hybrids after late February.

#### DARLING DOWNS

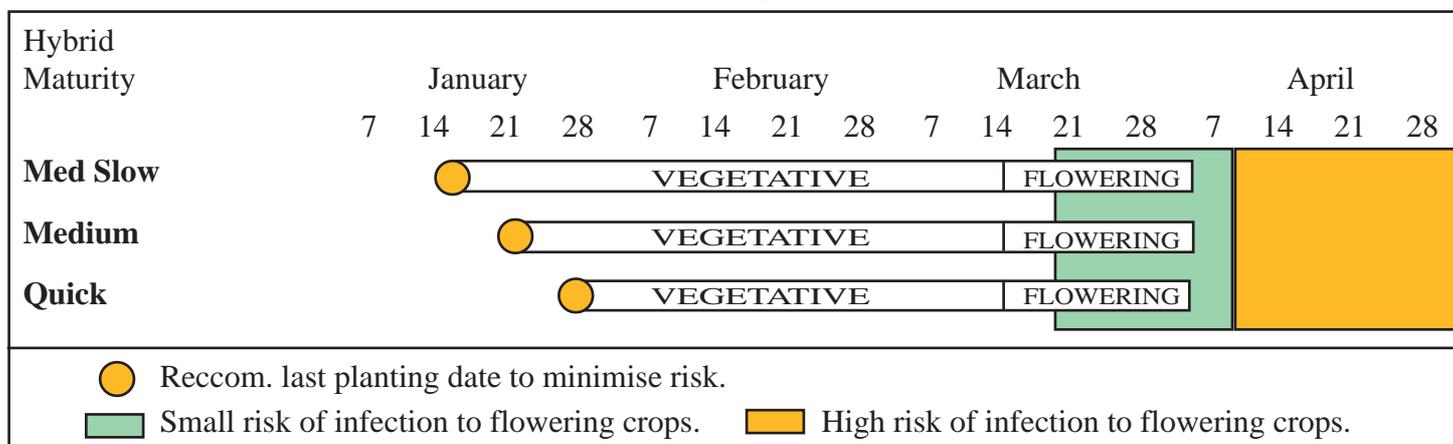
The risk of disease can be minimised through the following precautions:-

**Rust:** Plant a mix of resistant hybrids.

**Alternaria:** Select hybrids with tolerance.

**White Blister:** Only a concern in the cooler eastern districts. In these areas avoid the very early sowings when cool conditions favour the disease. Development of the disease quickly ceases with the onset of warm weather.

**Sclerotinia:** Plant to avoid flowering in Autumn when a combination of cool and moist weather can occur. As cool wet Autumns are not common on most of the Downs the risk is small. The January sowing decision depends on individuals attitude to risk. It is a balance of potential yield advantages from later sowings versus the risk of a potential yield loss.



**Note:** In south eastern areas some growers prefer to cease plantings in early January. On the Western Downs, ie Dalby, plantings can go later than recommended in the chart.

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## CENTRAL QUEENSLAND

Consistent high sunflower yields depend on setting the crop up with good weed control, adequate nutrition and a good plant stand at the recommended sowing time.

In most cases there is little that can be done during the crop's life to improve yields. The only exceptions are the unlikely need for grass weed control or Rutherglen bug or Heliothis control.

It is important to monitor for insect activity as significant losses can occur from time to time.

### PLANT POPULATION/PLANTING RATE

Aim for a plant stand of 25-33,000 plants/Ha.

There can be population preferences by some hybrids so check with your seed supplier prior to sowing.

If sowing depth is variable or deeper than the optimum recommended depth, the use of medium or large seed is preferred.

Control of soil dwelling insects is almost as important as planting good quality seed - see separate sheet for control recommendations.

### HYBRID SELECTION

A list of available hybrids is overleaf. Many growers prefer a mix of hybrids with good levels of rust resistance and tolerance to Alternaria.

### PLANTING TIME

Spring plantings are not recommended.

Plantings can commence in early January with mid-February to early March the optimum.

Later plantings run a greater risk of losses due to Sclerotinia head rot or frost.

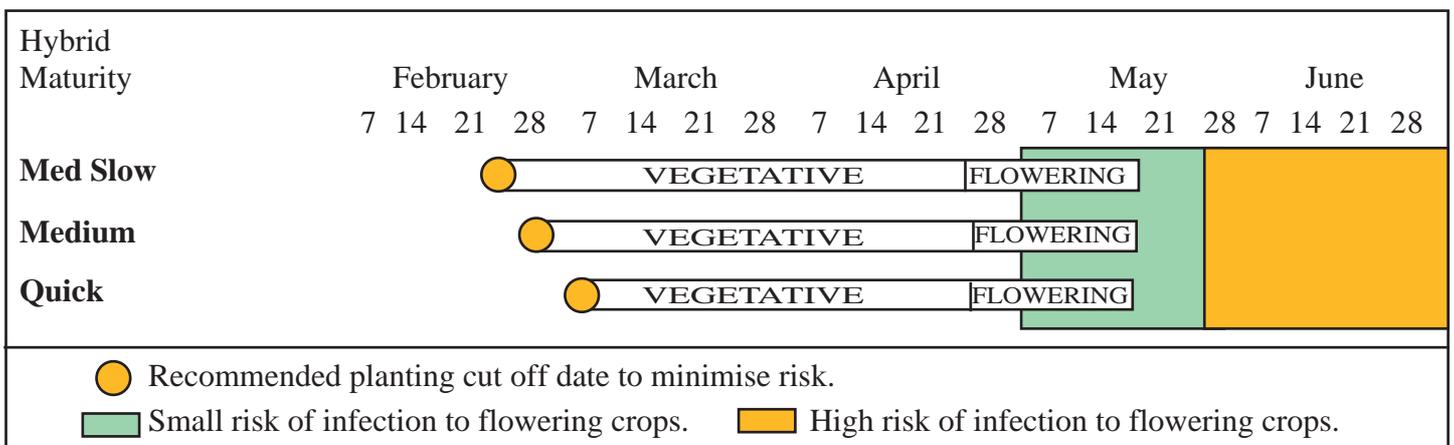
The graph below is the strategy adopted by many growers to reduce the risk of Sclerotinia head rot. Other growers believe the risk of infection is low as May is normally dry and the income potential from later sowings offsets the risk and any losses that may occur.

### PREVIOUS CROP

To provide the best possible soil protection we recommend the planting of sunflower in the largely retained stubble of a previous wheat or sorghum crop.

### PLANT POPULATION GUIDE

Growing Conditions	Target Plant Population	
	Polyunsaturated/ Monounsaturated	Confectionery Birdseed
<b>Dryland</b>	<b>,000/ha</b>	<b>,000/ha</b>
Marginal	20-25	20
Favourable	25-40	25-35
<b>Irrigation</b>		
Limited	35-50	30-40
Full	50-75	35-45



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## LIVERPOOL PLAINS

### PLANT POPULATION

**Aim for:**

**SPRING PLANTING** – 30-37,000 plants/ha

**Reason:**

Whilst 30,00 plants per hectare is proven, the higher populations for summer plantings will provide smaller heads for a quicker dry down during Autumn plus a smaller stalk size to enable an earlier harvest.

**Hybrid Variations:**

There are often subtle population preferences by some hybrids. Check with your seed supplier so that sowing rates can be fine tuned to suit.

### PLANTING TIMES

Late August - early February.

### PLANTING RATE

Assuming a seed line of 90% germination, good planting equipment and favourable conditions with little or no soil insect activity, expect 80% emergence.

### PLANTING TO REDUCE THE RISK OF LOSSES DUE TO DISEASE

On the Liverpool Plains experienced sunflower growers do not regard disease as a major concern. They avoid disease incidence through the following strategies:

**Rust:**

Plant hybrids with good levels of resistance

**Alternaria:**

Rarely occurs in the region

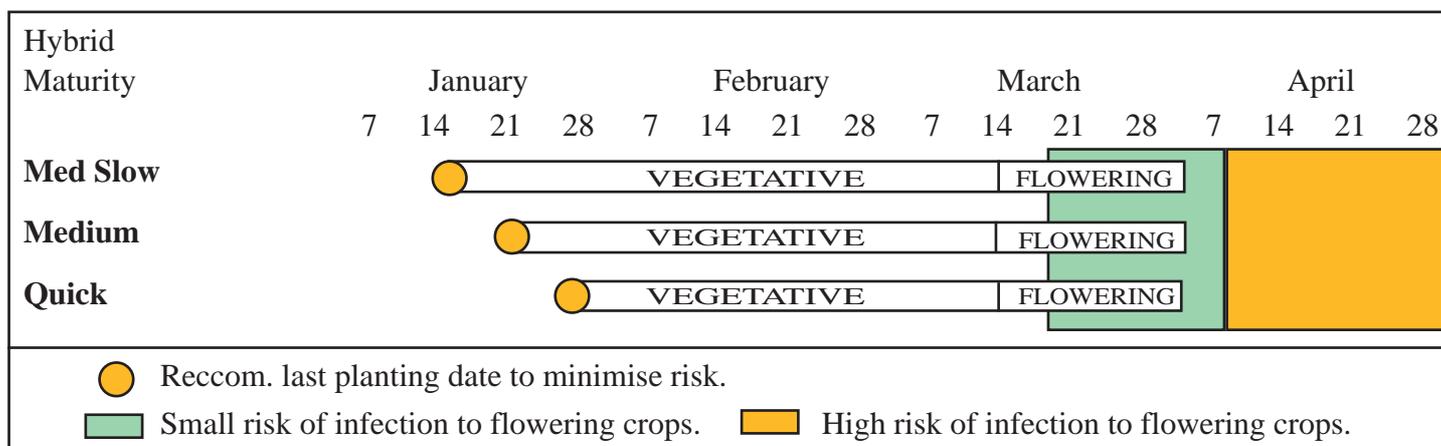
**White Blister:**

This is a disease of cool conditions and its development within the crop stops abruptly with the onset of warmer weather. By holding off a little and not planting too early in spring the incidence is reduced. Current hybrids have good tolerance and yield losses are rare.

**Sclerotinia:**

This disease occurs primarily as Sclerotinia head rot and occurs during Autumn when cool and moist conditions can occur.

Some growers will adopt a planting strategy to reduce the risk of infection (see graph). Other growers believe the risk of infection is low and the extra yield from later plantings offsets the risk and any losses that may occur.



**Note:** South east Liverpool Plains – cut off dates slightly earlier.  
North west Liverpool Plains – cut off dates may be slightly later.

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## NORTH WEST NSW

### PLANTING TIMES

**SPRING:** Mid August – early October (later in eastern areas)

**SUMMER:** December – early February  
February not recommended in eastern areas – refer graph

### PLANT POPULATIONS

**MARGINAL:** 20-25,000 plants/Ha

**FAVOURABLE:** 25-40,000 plants/Ha

- The higher summer plant population means smaller heads to facilitate a quicker dry down during Autumn.
- Growers generally recommended a 10% increase for the quicker poly hybrids and mono hybrids.
- There can be subtle differences in population requirements of some hybrids. Check recommendations with your seed supplier or seed company representative.

### PLANTING EQUIPMENT

Expect an emergence percentage of 75% with row crop planters and 65% from airseeders fitted with presswheels. It is best to use a contractor if your planter is not set up for sunflower.

### PLANTING TO REDUCE THE RISK OF LOSSES DUE TO DISEASE

Rust and White Blister are rarely evident in north-west NSW and Alternaria only rarely in the warmer parts of the region.

**Rust:** Plant resistant hybrids

**Alternaria:** Select hybrids with a level of tolerance

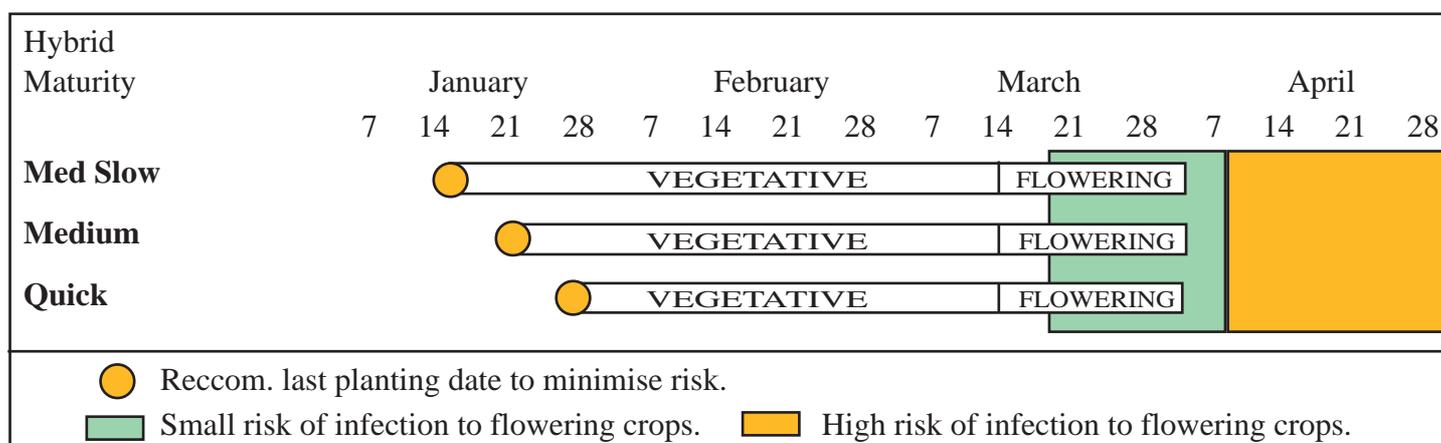
**White Blister:** Avoid very early sowings east of Warialda. Development of the disease quickly ceases with the onset of warm weather.

The only disease that has caused yield losses has been Sclerotinia head rot and the worst case was in the early 1990's when a late planting coincided with a warm wet Autumn.

The growers in the survey, particularly those west of Warialda, were not concerned with the Sclerotinia risk.

They were of the opinion:

- April in N/W NSW was traditionally dry therefore there was a low likelihood.
- The potential yield benefits of late sowings more than compensated for any losses.
- To avoid exposure to the disease, a planting strategy similar to the graph below significantly reduces the risk.



**Note:** Eastern areas should consider earlier cut off periods and west of the Newell can consider planting slightly later.



HYBRID	COMPANY	MATURITY	HEIGHT	HEAD INCLINATION
<b>Poly Types</b>				
<b>Advantage</b>	Pioneer	Medium - Slow	Tall	Semi Erect
<b>65A25</b>	Pioneer	Medium - Slow	Medium	Semi Erect
<b>Hysun 38</b>	Pacific	Medium	Medium - Semi	Pendulous
<b>Hysun 47</b>	Pacific	Full Season	Medium - Tall	Semi Pendulous
<b>Suncross 41</b>	Aust Rural Exports	Quick	Medium - Short	Pendulous
<b>Suncross 42</b>	Aust Rural Exports	Medium - Quick	Medium	Pendulous
<b>Mono Types</b>				
<b>Hyleic 41</b>	Pacific	Medium - Slow	Medium - Tall	Semi Pendulous
<b>Monosun 150</b>	Aust Rural Exports	Medium	Medium-short	Semi-pendulous
<b>Sunoleic 04</b>	Pioneer	Medium	Medium	Semi Pendulous
<b>Birdseed Types</b>				
<b>Galah</b>	Pioneer	Medium	Medium - Tall	Semi Erect
<b>Sunbird 7</b>	Pacific	Medium	Medium - Tall	Semi Pendulous

**POLY TYPES** – Traditional or polyunsaturated sunflower.  
**MONO TYPES** – High oleic or monounsaturated sunflower.  
**BIRDSEED** – Low oil types.

### SEED QUALITY INFORMATION

The seed companies provide information on each bag of seed designed to meet government regulations and assist the farmer at planting time.

### INFORMATION ON THE BAG:

#### Variety:

**Seed Size:** 7/8 - small, 8/10 - medium, 10/14 - large.

**Seed Count:** Seeds/Kg. Allow for a 5% tolerance.

**Line or Batch No:** The reference number for that seed lot. (Always keep a record for future reference)

### ON THE TAG

(A tag is attached to most bags)

Normally the "on the bag" information is repeated.

**Purity:** minimum purity, other seeds, declared seeds as required by legislation.

**Minimum Germination:** As required by legislation.

The figure quoted is on the safe side (often 85%) and lower than the actual.

**Actual Germination:** (Not to be confused with Minimum Germination)

This information is voluntary and can include the following:

- The actual germination.
- Date of test. If no date assume seed tested pre-season.
- Number of days to reach the actual germination (usually 7 days). The quicker the seed reaches a figure close to the actual the better the quality eg 90% germination in 5 days indicates greater vigour than 90% germination in 10 days.



### PLANT POPULATION CALCULATION

Row Width cm	Number of metres to count	x 1000 = plants/ha
35	27	
53	19	
75	13	
90	11	
100	10	

Do at least five counts randomly throughout the field and average to ensure accuracy.

### CALCULATING SEED REQUIREMENTS

Planting rate (kg/ha) =

$$\frac{\text{Desired plant population/ha} \times 10,000}{\text{Seeds/kg} \times \text{germination \% (100-establishment loss \%)}}$$

Example:

$$\frac{35,000 \times 10,000}{15,000 \times 93 \times (100-25)} = 3.35 \text{ kg/ha}$$

Number of bags of seed =

$$\frac{\text{Planting rate} \times \text{area (ha)}}{\text{Bag weight (kg)}}$$

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