

# Growing a Successful Legume Fallow

## Keys to Success

- Apply lime
- Plant into a mound
- Select the right legume
- Manage your weeds

## Apply lime

Most soils in the Herbert have a low pH. A low pH is detrimental to the establishment and growth of many legumes, particularly soybeans. Applying lime or a lime/magnesium blend prior to planting your legume crop has two benefits.

1. It raise your pH to promote a healthier legume crop
2. It will give the lime (or blended lime/magnesium) time to become available for your next sugarcane crop

## Plant into a mound

Planting your legumes into pre-existing or newly formed mounds will greatly improve their chance of survival during the coming wet season. Not only do mounds keep legumes out of the flood water for longer, but it greatly improves drainage under normal wet season rainfall. In recent years many growers who have started planting into mounds have commented on just how resilience their legume crop has been following a flooding event.

## Select the right legume

**Soybeans** offer great value when it comes to the amount of nitrogen they produce and return to the soil. Once established, particularly when planted into mounds, they have good flood and waterlogging tolerance. Seeds should be planted into good moisture 25-40cm in depth (depending on soil type and moisture) and at a rate of 40-60kg/ha (depending on seed quality).

*Leichardt* is a heavy biomass, late maturing variety well suited to the wet tropics. A proven performer here in the north it has good pest and disease resistant.

*A6785* is a variety more at home in the southern parts of Queensland but has performed well in local soybean variety trials. It produces moderate levels of biomass and is an early maturing variety that will assist with better management of early sugarcane planting windows.

**Cowpeas** are not as temperamental as soybeans when it comes to soil moisture and planting depth. Some varieties do however suffer from root rot in waterlogged soils. In general, cowpeas produce less nitrogen than soybeans. Seeds should be planted into moisture soil 20-50cm in depth (depending on soil type and moisture) and at a rate of 25-30kg/ha (depending on seed quality).

*Meringa* are a popular variety suited to a wide variety of soil types. They do not tolerate waterlogging and are very susceptible to root rot. To reduce the risk of root rot plant early

and into mounds. Also consider mixing Meringa with a root rot resistant variety such as Ebony or Red Caloona.

*Ebony* has moderate adaptability to most soil types and is tolerant to both waterlogging (root rot resistant) and drought.

*Red Caloona* is an early maturing variety suited to soils prone to waterlogging due to its good root rot resistance.

**Lab labs** (*Dolichos*) are easier to establish but produce less nitrogen than soybeans. Well managed, their vigorous growth and self-seeding habit can help suppress weeds during a fallow. However, they can become a weed issue themselves if not managed properly. Seeds should be planted into moisture 20-50cm in depth (depending on soil type and moisture) and at a rate of 20-25kg/ha (depending on seed quality).

*Rongai* is generally the variety chosen for planting during the sugarcane fallow. It is a tough variety but can be prone to becoming a weed issue if not managed properly.

### **Manage your weeds**

The benefits of growing a fallow legume crop will come to nothing without proper weed management. Allowing weeds to thrive within your fallow legume crop is a recipe for disaster that will impact heavily on your management and the costs associated with your subsequent sugarcane crops.

The following table shows several herbicide options for controlling weeds in legumes fallows in three critical periods; pre-plant, pre-emergence and post-emergence. You should always consult the label and seek advice before applying these herbicides.

<b>Situation</b>	<b>Weeds</b>	<b>Products</b>
Pre-plant	Small grasses and broadleaf	Sprayseed – 2L/ha Non-ionic surfactant – 100ml/100L water
	Grasses and broadleaf	Roundup Attack – 2L - 5L/ha LI700 – 200ml/100L water
Pre-emergent (immediately after planting)	Grasses and some broadleaf	Stomp Xtra – 2.2L/ha Dual Gold – 2L/ha
	Grasses, broadleaf and nutgrass	Stomp Xtra – 2.2L/ha Spinnaker 700 WDG– 140g/ha
Post-emergence (always consult label for timing)	Grasses and broadleaf	Verdict 520 – 150ml/ha Blazer - 1L/ha Non-ionic surfactant - 100L/100L water
	Grasses, broadleaf and nutgrass	Spinnaker 700 WDG– 140g/ha Verdict 520 - 150ml/ha Non-ionic surfactant – 100ml/100L water



*This block was mounded and the first flush of weeds was sprayed with Sprayseed 2 days before planting.*



*This plot has all but failed due to poor weed management. It has now become a breeding ground for weeds that will affect productivity in future sugarcane crops.*

*Right:  
A healthy crop of young soybeans planted into a mound have survived well after recent flooding.*



*Bottom Left:  
Note how well these mounds handle minor flooding events.*



*Bottom Right:  
Planting into pre-formed mounds.*

