

Legumes

PROS AND CONS

LEGUME	POSITIVES	NEGATIVES
Soybean <i>All regions</i>	<ul style="list-style-type: none"> • Large biomass when grown well • High nitrogen input • Can be taken through to grain for extra income • More tolerant of wet conditions than other legumes • Excellent results if well managed • Stuart and A6785 are resistant³ to root knot nematode • Resistant to root lesion nematode 	<ul style="list-style-type: none"> • Long growing season if taken to grain – delays cane planting until late autumn or spring • Large biomass can be difficult to manage if green manuring • Need a row crop planter for good seed placement and establishment • Requires more management • Leichhardt is highly susceptible⁴ to root knot nematode
Lablab (Dolichos) <i>All regions</i>	<ul style="list-style-type: none"> • Easy to grow • Moderate biomass • Moderate nitrogen input • Allows early cane planting • Seed can be broadcast – but better results are achieved if planted in rows on beds • Tolerant of dry weather once established • Resistant to root lesion nematode 	<ul style="list-style-type: none"> • Vigorous twining growth habit can make it difficult to manage crop residue • Not tolerant of waterlogging or poor drainage • May become a weed if allowed to go to seed • Highly susceptible to root knot nematode
Cowpea <i>All regions</i>	<ul style="list-style-type: none"> • Easy to grow • Moderate biomass • Moderate nitrogen input • Allows early cane planting • Seed can be broadcast – but better results are achieved if planted in rows on beds • Resistant to root lesion nematode 	<ul style="list-style-type: none"> • Twining growth habit can make it difficult to manage crop residue • Low tolerance to waterlogging • May become a weed if allowed to go to seed • Highly susceptible to root knot nematode; except Meringa, which is moderately susceptible⁵
Mungbean <i>Burdekin</i>	<ul style="list-style-type: none"> • Short season (three to four month) grain crop • Allows early cane planting with some income from grain • Quite tolerant of dry conditions once established • Resistant to root lesion nematode 	<ul style="list-style-type: none"> • Low biomass and nitrogen input • Low tolerance to waterlogging • Indeterminate growth – can make harvesting difficult • Can have high grain losses through the grading process • Highly susceptible to root knot nematode
Peanut <i>Southern; Central; Atherton Tableland</i>	<ul style="list-style-type: none"> • Profitable, especially under irrigation • Resistant to root lesion nematode • Highly resistant⁶ to root knot nematode 	<ul style="list-style-type: none"> • Need well-drained, friable soils • Soil needs to be free of contaminants (pesticides) because peanuts are a food crop • Yield and quality and, therefore, returns can be variable in non-irrigated situations



LEGUME	ROW SPACING	PLANTING DEPTH	TARGET POPULATION ¹	PLANTING TIME ²	INOCULANT
Soybean <i>All regions</i>	<ul style="list-style-type: none"> 50–90 cm can be used, depending on the cane farming system 	<ul style="list-style-type: none"> 2.5–5 cm On heavier clay soils or those prone to crusting and sealing, plant at the shallower depth 	<ul style="list-style-type: none"> 250–300 000 plants/ha for cover crops; increase to 300–400 000 if planting late 300–400 000 for grain crops 	<ul style="list-style-type: none"> Cover crops – from late October to December Grain crops – mid-December to early/mid-January 	<ul style="list-style-type: none"> Group H Soybeans must be inoculated for the best nodulation and results They will not nodulate successfully with the native soil rhizobia Peat slurry is usually the most effective method
Lablab (Dolichos) <i>All regions</i>	<ul style="list-style-type: none"> 30–100 cm (20–40 cm is usual), depending on available machinery and farming system Can be broadcast but dry matter and nitrogen return will be lower 	<ul style="list-style-type: none"> 1–5 cm 	<ul style="list-style-type: none"> 60–100 000 plants/ha 	<ul style="list-style-type: none"> October to December (before the wet season) 	<ul style="list-style-type: none"> Group J Not necessary to inoculate if legumes have been grown before
Cowpea <i>All regions</i>	<ul style="list-style-type: none"> 30–90 cm Can be broadcast but dry matter and nitrogen return will be lower 	<ul style="list-style-type: none"> 3–5 cm 	<ul style="list-style-type: none"> 150–250 000 plants/ha 	<ul style="list-style-type: none"> October to December (before the wet season) 	<ul style="list-style-type: none"> Group I Not necessary to inoculate if legumes have been grown before
Mungbean <i>Burdekin</i>	<ul style="list-style-type: none"> Narrow rows 15–40 cm: potential yield benefit when yields are greater than 1 t/ha; higher nitrogen fixation Wide rows 50–100 cm: easier access for machinery; easier to harvest as plants grow taller and hold pods higher 	<ul style="list-style-type: none"> 3–5 cm 	<ul style="list-style-type: none"> 200–300 000 plants/ha for dryland 300–400 000 plants/ha for irrigated 	<ul style="list-style-type: none"> Early plant – September to end of November Late plant – January to end of February 	<ul style="list-style-type: none"> Group I Peat slurry is usually the most effective method
Peanut <i>Southern; Central; Atherton Tableland</i>	<ul style="list-style-type: none"> Traditionally 90 cm Row spacing can be adapted to fit the farming system 	<ul style="list-style-type: none"> 5–7 cm is ideal Plant shallower if planting dry and watering up 	<ul style="list-style-type: none"> Irrigated: 130–200 000 plants/ha, depending on type Non-irrigated: 50–80 000 plants/ha in southern Qld, depending on type; 80–90 000 plants/ha in north Qld, depending on type 	<ul style="list-style-type: none"> Bundaberg – early September to mid-December Northern NSW & southern Qld – mid-October to late November Other areas – mid-November to mid-December 	<ul style="list-style-type: none"> Group P Group I can be used if group P is not available Water injection is the preferred method as the slurry method can wash the applied fungicide off the seed

¹ Target population can vary by district and planting time: seek local advice from your seed merchant or productivity officer

² Planting time can vary by district and variety: seek local advice from your seed merchant or productivity officer

³ Resistant: there will be limited nematode reproduction

⁴ Highly susceptible: nematodes will multiply to high population densities

⁵ Moderately susceptible: nematodes will readily multiply

⁶ Highly resistant: no nematode reproduction



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