

Mungbeans summarized agronomic information

Varieties	<ul style="list-style-type: none"> • 2 main varieties recommended for the Burdekin are Jade AU and Crystal with similar overall performance.
Planting time	<ul style="list-style-type: none"> • Late dry season – mid August to mid September • Late wet season – mid January to late March
Growing season	<ul style="list-style-type: none"> • 2–3 months (60–80 days)
Yield	<ul style="list-style-type: none"> • Ranging between 1.6–2.8 t/ha (pending on variety & conditions)¹ • Grading losses usually reduce marketable yield by 5–20%
Gross income	<ul style="list-style-type: none"> • \$1400 – 2000/ha
Climatic tolerance	<ul style="list-style-type: none"> • Highly susceptible to water logging. • Maturing pods susceptible to rain. • Plant and harvest in dryer months.
Soil	<ul style="list-style-type: none"> • Prefer well drained soils with medium to heavy texture. • Do not tolerate compaction, subsoil salinity or sodicity. • Select fairly uniform paddocks (i.e. limited major changes in soil types, trash cover, and harvest impediments such as sticks and stones).
Cultivation	<ul style="list-style-type: none"> • Mound planting recommended. • Wide rows spacing 50–100 cm or 18–50 cm for high yielding irrigated crops (potential 10–15% yield and 15–30% N fixation increase). • Zero till not recommended unless using controlled traffic (all machinery) and wider row.
Planting	<ul style="list-style-type: none"> • Recommended target density: 25–30 pl/m² = 250,000–300,000 pl/ha. • Sowing rate Kg/ha seeds = Target density / seeds / kg x germination percentage x expected establishment percentage (e.g. 250,000/(13,500x(95/100 x(85/100)))=23kg/ha) • Avoid sowing with marginal soil moisture levels (i.e. <100 mm PAW), patchy strike or staggered germination risk – pre irrigate if required. • Plant into moisture at a depth of 30–50 mm (not too deep if rainfall expected). Avoid press wheels with heavy pressure directly over the row. Wide, zero-pressure wheels are recommended. • Avoid seed lines with high levels of hard seed (dormant seed), which can result in an uneven, staggered germination. • Inoculate appropriately with Group I mungbean Inoculant – rhizobium strain CB1015 (Mix inoculant to seeds thoroughly as recommended).

¹ CSIRO trial.

Nutrition	<ul style="list-style-type: none"> • Mungbean plants have a relatively high N requirement, however the crop shouldn't generally need N fertiliser provided plants have effectively nodulated (a 1.5 t/ha crop has a total nitrogen requirement of 100 kg N/ha). • Sensitive to Zinc deficiency (Exacerbated by alkaline soil or irrigation water – below 0.8mg/kg on alkaline soils and 0.4mg/kg on acid soils). • More on Zinc: https://www.daf.qld.gov.au/plants/field-crops-and-pastures/broadacre-field-crops/mungbeans/nutrition,-irrigation-and-harvesting.
Irrigation	<ul style="list-style-type: none"> • Unless there is significant rainfall the 1st in-crop irrigation should occur before flowering – schedule irrigation to balance early growth (too much too often = lodging or too leafy vs too little = short crop at flowering/ low yielding). • Avoid stress during flowering – irrigation at early flowering is essential. • Plan final irrigation – must permit maximum drying of soil without compromising yield or harvest efficiency (pod height, lodging, regrowth, wet stems). • Unless there is a good reason, irrigation at or after 1st black pod is unnecessary and likely to delay harvest.
Weeds	<ul style="list-style-type: none"> • As for soy broadleaf weed control are very limited. • Best time for broadleaf and grass control (e.g. Blazer, Verdict – schedule around the 1st irrigation). • Plan weed management strategy with agronomist before planting.
Insects	<ul style="list-style-type: none"> • Pod-sucking bugs (e.g. green vegetable bug (GVB)) are usually the major insect pest in north Queensland. They can significantly reduce yield and seed quality, with most yield loss occurring within the first two weeks of pod-fill. Spraying (crushing-grade soybeans) should ideally occur within this timeframe. • Prior to flowering, soybeans can tolerate up to one-third leaf loss without yield penalty. Helicoverpa larvae do most economic damage by feeding on buds, flowers and pods. • Infestations can be reduced by maintaining beneficial insects. These can be preserved by using 'soft' insecticides (including Bt and virus formulations) where possible and judicious use of 'hard' insecticides. • Avoid planting soybeans in high-risk areas adjacent to already infested vegetable crops such as capsicums and sweet potato.
Diseases	<ul style="list-style-type: none"> • Most varieties are moderately susceptible to susceptible to fungal diseases. • Burdekin growers anecdotally report Powdery Mildew and Sclerotinia as main diseases of concerns. • Some varieties are susceptible to Root Lesion Nematodes. • Refer to Mungbean management guide for additional information on pests and diseases (https://www.daf.qld.gov.au/plants/field-crops-and-pastures/broadacre-field-crops/mungbeans/mungbean-management-guide-2011).
Harvesting	<ul style="list-style-type: none"> • When the majority of pods are physiologically mature (90% of the pods have turned either yellow or black). • Ensure timely harvest to capitalise on the first flush of flowers rather than waiting for late pods to mature (90% pod maturity = crop at maximum maturity and optimum yield and quality). At this stage, crop should be considered ready for either desiccant application, or direct harvest. • The rate of crop dry-down depends on desiccant product, rate used, temperature and moisture conditions. Waiting for maximum dry-down of leaf and stem moisture recommended (Can take 5-6 days with diquat and 7-16 days for glyphosate). • Avoid harvesting too soon after desiccation.
Limitation	<ul style="list-style-type: none"> • Highly susceptible to wet weather.