# FACT SHEET: MUNG - Vigna radiata

Legalega Research Station Horticulture Unit

Mung bean is an important legume uses as grains, vegetable and as a cover crop. It fixes atmospheric nitrogen and enriches the soil. The dry seeds are nutritious as they provide proteins, dietary fiber, vitamins and minerals. The grains are commonly used to make delicious dhal soup. Mung is also relished as bean sprouts in salads.

#### **RECOMMENDED VARIETIES:**

- Samraat

#### Maturity:

Samraat - 55 to 90 days

#### Nutritional Facts:

- Koronivia Research Station Chemistry Lab

Nitrogen %	4.4
Moisture %	8.5
Crude ash %	4.3
Phosphorus %	0.4
Potassium %	2.4
Calcium %	0.1
Magnesium %	0.2
Sodium %	<0.01
Iron (mg/kg)	44.5
Zinc (mg/kg)	23.9
Copper mg/kg	7.7
Crude Protein%	26.7
Energy MJ/kg	17.8

#### Seed Rate (kg/ha), Yields (t/Ha) and Gross Margin

Variety	Seed Rate kg/ha	Seed rate 1/4acre	Dry seed yield (t/ha)	Gross mar- gin dry @ \$15/kg- 1.5t/ha)
Samraat	12.5 kg	12.5 kg	1.5-2.0	Gross Income - \$20,250
				Expenses - \$8704
				Profit - \$11,546.00

#### PLANTING TIME:

Mung can be planted from February to October. Planting during wetter months (Nov-Jan) will result in heavy vegetation, late flowering and reduced yields.

#### PLANTING DENSITY:

Sow seeds at 45cm between rows and 10cm within rows Place one or two seeds 10cm apart in rows and cover the seeds lightly with soil.



#### SOIL REQUIREMENTS:

Wide range of soil types are suitable but good drainage is necessary.

#### FERTILIZER REQUIREMENT:

Mixture of 100kg Blend A and 100kg Blend B, applied as basal application. (Lower rates on more fertile soil depending on soil analysis results). Apply Molybdenum at the rate of 1kg/ ha at 2 weeks and 6 weeks after sowing. Soil analysis should be done before fertilizer application.

#### WEED CONTROL:

Hoeing or mechanical inter row cultivation can be done as and when required.

#### PEST CONTROL MANAGEMENT:

**For control of Bean pod borers** (*Maruca testulalis*) *Apply Prevathon* at the rate of 10-15ml to 10 Litre of water.

*Apply Bifenthrin* at the rate of 15-20ml to 16 Litre of water.

*Apply Multiguard* at the rate of 16ml to 16 Litre of water.

Spray when eggs appear on the flowers. Regular inspection of the pest during flowering and after each harvest is necessary.

## FOR CONTROL OF APHIDS, LEAF MINERS AND OTHER PESTS:

Apply Rogor at the rate of 16ml to 16L of water or

Apply Bifenthrin at the rate of 15-20ml to 16L of water.

### HARVESTING:

Dry pod- 55-90 days.

#### **STORAGE:**

For long storage, seeds are treated with insecticide (*Carbacide*) and fungicide (*Mancozeb*) at the rate of 1gram/kg of seed or coated with a thin layer of cooking oil (3ml/100g of seeds) to prevent weevils from attacking.

#### **Pulses in Organic Agriculture**

Pulses can be used in organic agriculture as rotational, for intercropping or for green manuring and with good agronomic practices it can vastly lead to an increase in yield. It provides food security with least negative impacts on the environment fetching premium price in the market. Pulses thrive well under drought and marginal conditions adding organic matter to improve soil health providing more nutrient availability.

GROSS MARGIN FOR MUNG (Vigna radiata) DRY SEEDS										
1.0 ASSUMPTIONS										
Spacing : 0.65m*0.2m planting density: 77,000										
Yield r	ange (1500kg- 2000l	rg dry seeds)	s) Average market price (\$15/kg)							
MoAW seed price: \$3.22/kg										
2.0 Inc	come		Quantity		Unit	Unit Price	Total			
Estimated (Av) Yield		1500kg (1500-2000kg)		kg						
Farm gate (Av) price		\$15.00/ kg (range \$15.00- \$18.00)		kg	\$15.00	\$22,500.00				
(purcha	asing at \$15/kg farm	gate price)								
Rejecte	d(pod borer)		10%		%		\$2,250.00			
Market	able yield		90%		%		\$20,250.00			
Total l	ncome						\$20,250.00			
3.0 Dir	ect Costs									
3.1. La	nd preparation									
Plough	ing (twice each at \$3	20.00/ha )	2		ha	320	640.00			
Harrow	ving (twice each at \$2	20.00/ha)	2		ha	220	440.00			
Rotova	ting @ \$220/ha		1		ha	220	220.00			
Seed da	rilling @ \$220/ha		1		ha	220	220.00			
Inter-re	ow cultivation (once a	at \$220.00/ha)	1	1		220	220.00			
3.2. Agro Inputs										
12.5 kg	pure seed (Source Ll	RS, rate \$3.22 per kg)	12.5	12.5		\$3.22	40.25			
8 bags	Blended fertilizer 50k	g bag (basal application)	8 bags* 50kg		Kg	\$115	920			
1 kg Sodium Molybdate (recommended for red soils)			1		kg	\$94.00	94			
8 Litres insecticide (insecticide (Multi guard- Abamec- tin) 2L/ha X 4 sprays @\$50/L)		8		litres	\$50.00	400.00				
Total variable costs							2754.00			
4.0. La	bour Current farm	labour rate of \$25.00 per d	ay							
Seed sowing			1 day with 7 man		days	25	175			
fertilizi	ng and thinning		1 day with 7 man		days	25	175			
Weed control			8 days with 6 man		days	25	1200			
Insecticide application		1 day with 2 man (4 insecti- cide application)		days	25	200				
Harvesting		10 days with 6 man		days	25	1500				
Drying, Threshing & Winnowing		2 days with 6 man		days	25	300				
Seed Selection, Grading, Treatment & Packaging		8 days with 6 man		days	25	1200				
Total labour costs @ \$25/day				190		\$4,750.00				
5.0. Ot	her Expenses									
Pre-cul	tivation expenses (tra	ansport, administrative)					\$1,200.00			
Total expenditure							8704.00			
3.0. Gross Margin/ha							\$11,546.00			
Return per labour inputs							\$60.77			
6.0 Gro	oss Margins Sensitiv	ity Analysis								
Mung -	- yield (kg/ha)	Marketable yield 90%	Price (\$/kg)							
			14	15	16		17			
1	1300	1170	4,834.00	6,004.00	7,174.0	00	8,344.00			
2	1500	1350	7,354.00 8,704.00		10,054.00		11,404.00			
3	1750	1575	10,504.00 12,079.00		13,654.00		15,229.00			

