

CASTOR PROTOCOL – MARCH 2025

- **Field Size:** > 1 ha (2.5 acres)
- **Variety Selection:** Kaiima Tamar

Planting

- **Planting Date:** Mid to End of March (according to rains)
- **Seeding Rate:** 12 kg/ha or 5 kg/acre
- **Seeding Depth:** 3-5 cm. (1,1-1,9 inch)
- **Row Spacing:** 75 cm apart by 40 cm along the row (29,5-inch x 15,7 inch) MONOCROPPING
100 cm apart by 30 cm along the row (39,3-inch x 11,8 inch) INTERCROPPING
- **Planting density (plants/ha):** 33,333 plants per ha (13,500 plants per acre)
- **Intercropping ONLY with legumes** (e.g., common beans, cowpeas, green gram, pigeon peas)

Fertilization chemical (80 % of fields)

- **Yield Target:** 0,7 ton/ha (0,28 ton/acre)
 - **Removals per ton of yield (estimate):** 76 kg N; 25 kg P2O5; 39kg K2O, 8kg S
 - **Micros:** Not applicable
 - **Timings:** All P at planting; 22% N at planting, 78% from week 4 (vegetative, before flowering). S applied with N at topdressing

Product	N %	P2O5 %	K2O %	S %	RATE kg/ha	RATE Kg/acre	N Kg/ha	P2O5 Kg/ha	K2O Kg/ha	S Kg/ha	
DAP	18	46	0	0	75	30	13.5	34.5	0	0	Band at planting
AMIDAS	40	0	0	5.6	120	48.5	48.0	0	0	8.4	Days After Emergence 20-30
					TOTAL		61.5	34.5	0	6.7	

Fertilization organic (20 % of fields)

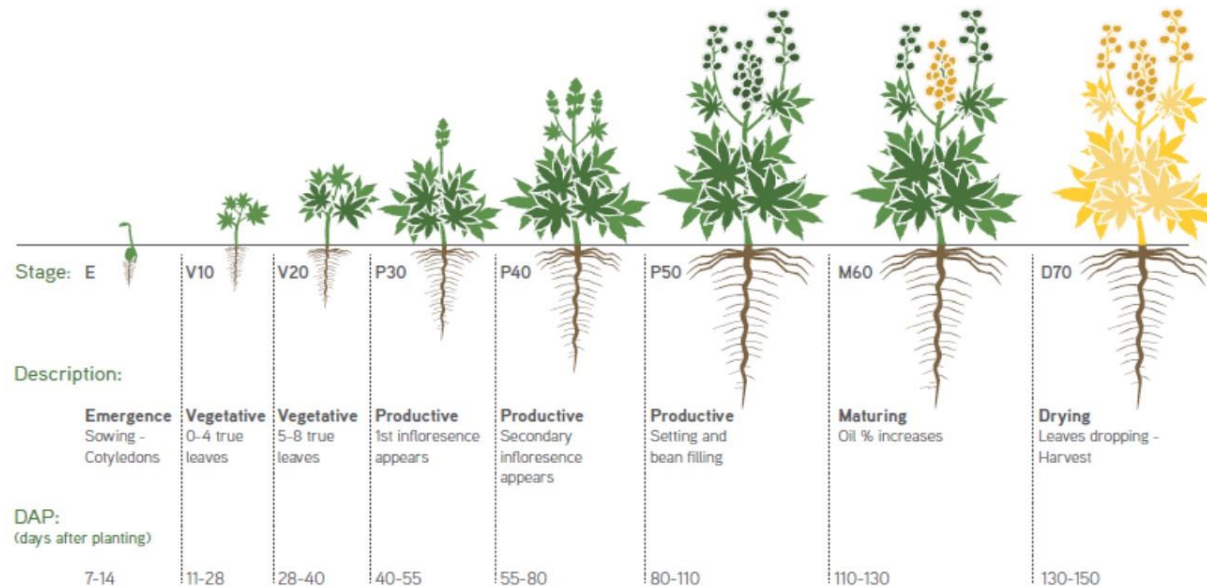
- 10 ton/ha (4 ton/acre) of Manure applied before land preparation and ploughed into the soil

Crop Protection

- **Seed Dressing:** SEED ALREADY DRESSED
- **Pre-emergence:** MANUAL WEEDING
- **Post-emergence:** MANUAL WEEDING
- **Fungicides:** Metalaxyl-M, Mancozeb, Carbendazim. Rates based on product recommendations
- **Insecticides:** Lufenuron, lambda-cyhalothrin, emamectin benzoate. Rates based on product recommendations
- Application of products to follow scouting reports (insecticides in particular)

Harvesting

- Moisture content of 12% - should be around 150 Days after planting



DETAILED PLAN

Week	Days after planting	STAGE		Activity	Details	Comments	
		Soil Conditioning		Soil conditioning	10 ton/ha (4 ton/acre) of Manure	Only on Organic program on 20% of farms.	LAND PREPARATION
		Soil Preparation		Ploughing and Harrowing	Mix in manure and prepare the soil		
-1	-1			Seed Dressing	Seeds will be provided already dressed		
0	0	Planting		Sowing/Planting + Basal Dressing	75 kg/ha DAP - Tamar 0.75 m by 0.40 m or 1 m by 0.3 m; seed rate at 12 kg/ha (assuming 80% germination) target 33,500 plants/ha; depth of planting 3.5cm, deeper if dry planting	Only apply in non-manure farms on 80% of farms	WEEDING CRITICAL KEEP FIELD CLEAN
0-2	7-14	Emergence	E	MANUAL WEEDING			
2-4	11-28	Vegetative Growth 0- 4 true leaves	V10	MANUAL WEEDING			
4-6	28-40	Vegetative Growth 5- 8 true leaves	V20	Topdressing	120 kg/ha Amidas - at Week 4	Only apply in non-manure farms on 80% of farms	
6-8	40-55	Primary Inflorescence	P30	Pest and Disease Control	CONTROL OF PEST AND DISEASE IS CRITICAL. SCOUTING ESSENTIAL <i>1. APPLICATION OF INSECTICIDES vs CATERPILLARS/STINK BUGS</i> <i>2. APPLICATION OF FUNGICIDES vs FUNGAL DISEASE (Botrytis)</i> <i>3. APPLICATION OF INSECTICIDES round 2</i> <i>Options of Active ingredients: Lufenuron; emamectin benzoate; metalaxyl-M, Mancozeb, lambda-cyhalothrin, Carbentazim</i>		
8-11	55-80	Secondary Inflorescence appears	P40				
11-16	80-110	Productive	P50				
16-19	110-130	Maturing	M60				
19-22	130-150	Drying	D70				