

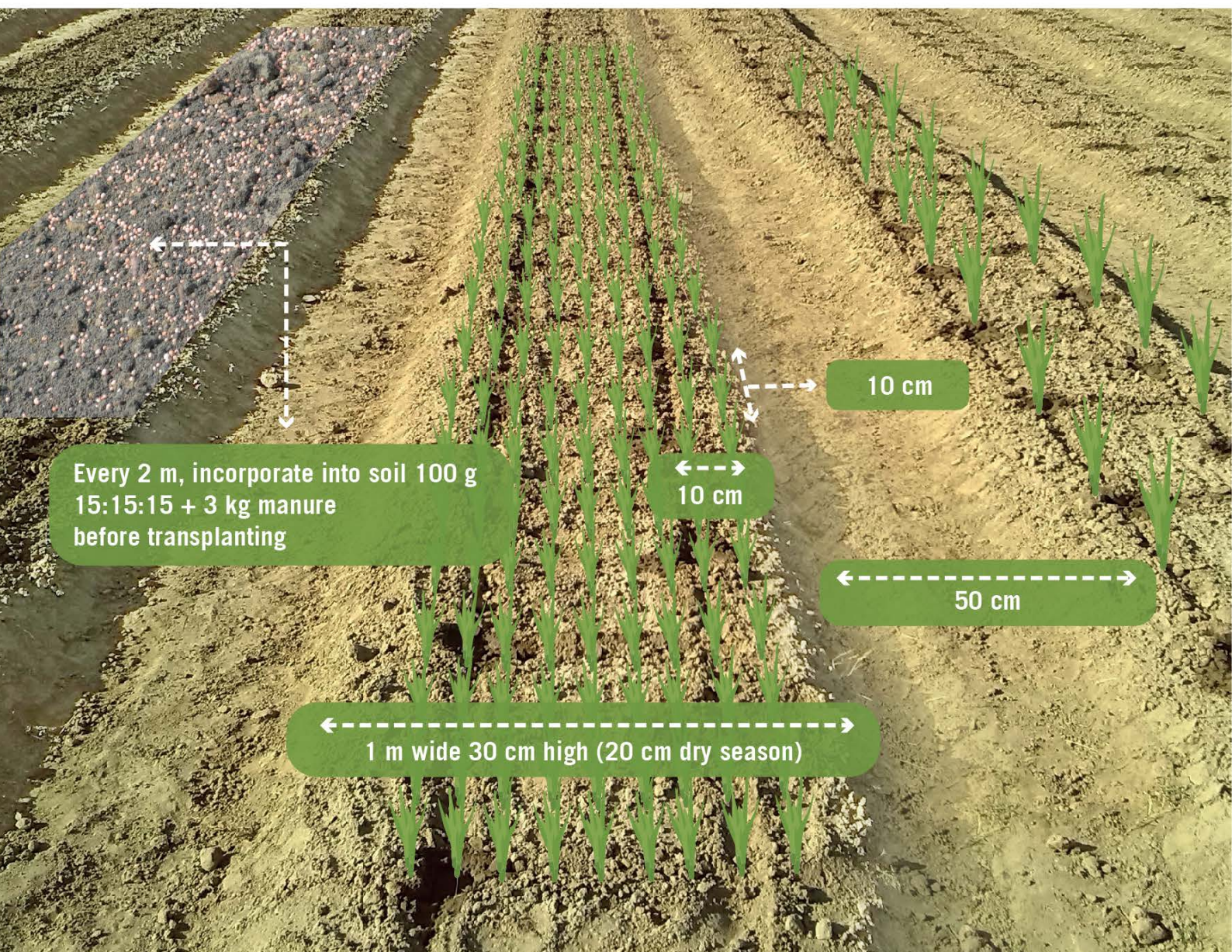


Crop Guide

ONION

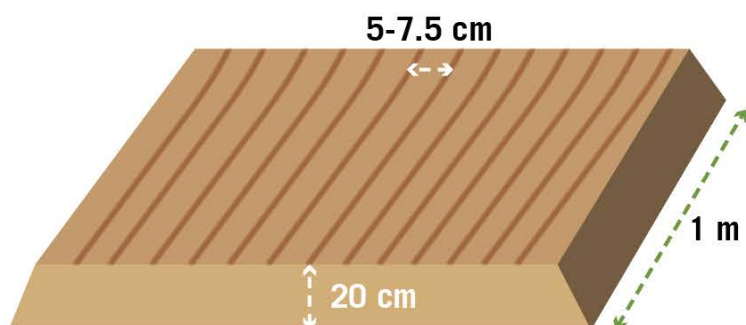
• Land Preparation

- » Narrow paths help with irrigation and drainage
- » 600,000 plants/ha (adjust according to the variety and season)


ENGLISH


• Seedling Production

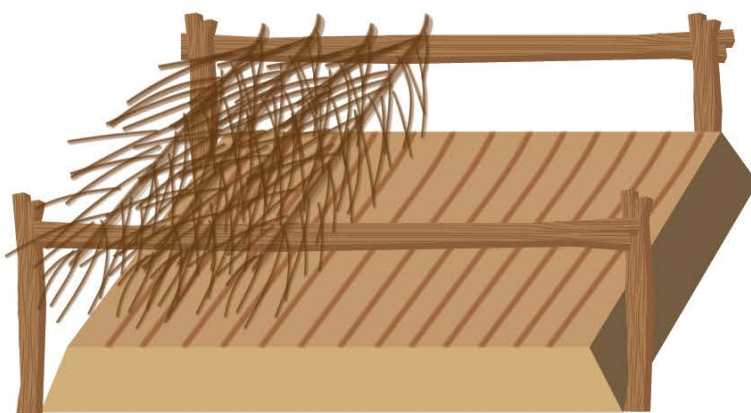
- ◆ Substrate preparation: For 0.1 acre of onion crop, need 40 m² of seedbed



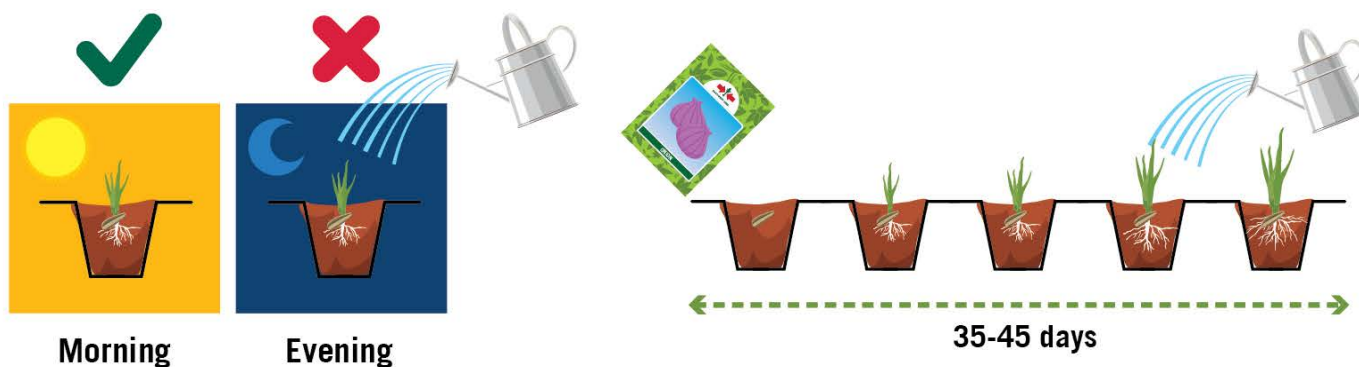
- » Prepare raised beds
- » Every 2 m, incorporate into soil 160 g 15:15:15 + 3 kg manure before sowing
- » Mix 4 liters water with 1 tbsp fungicide + 1 tbsp insecticide and spray
- » Make rows 5-7.5 cm apart, 1.5 cm deep
- » Protect from sun until emergence, then protect during hottest time of the day
- » Monitor seedbed everyday



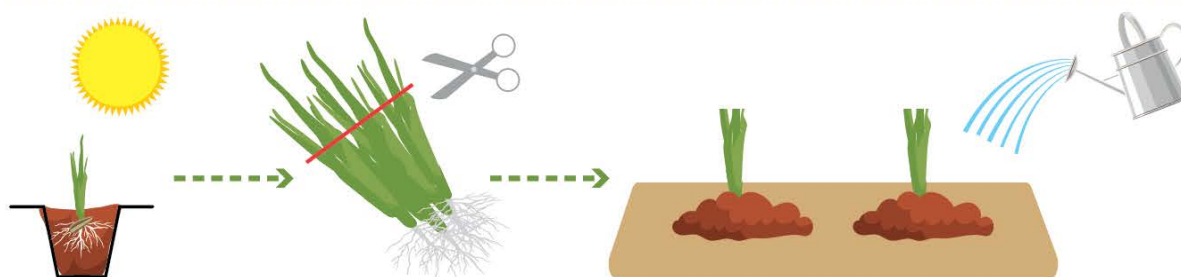
Cover with plastic in case of heavy rain



- ◆ Maintain constant moisture

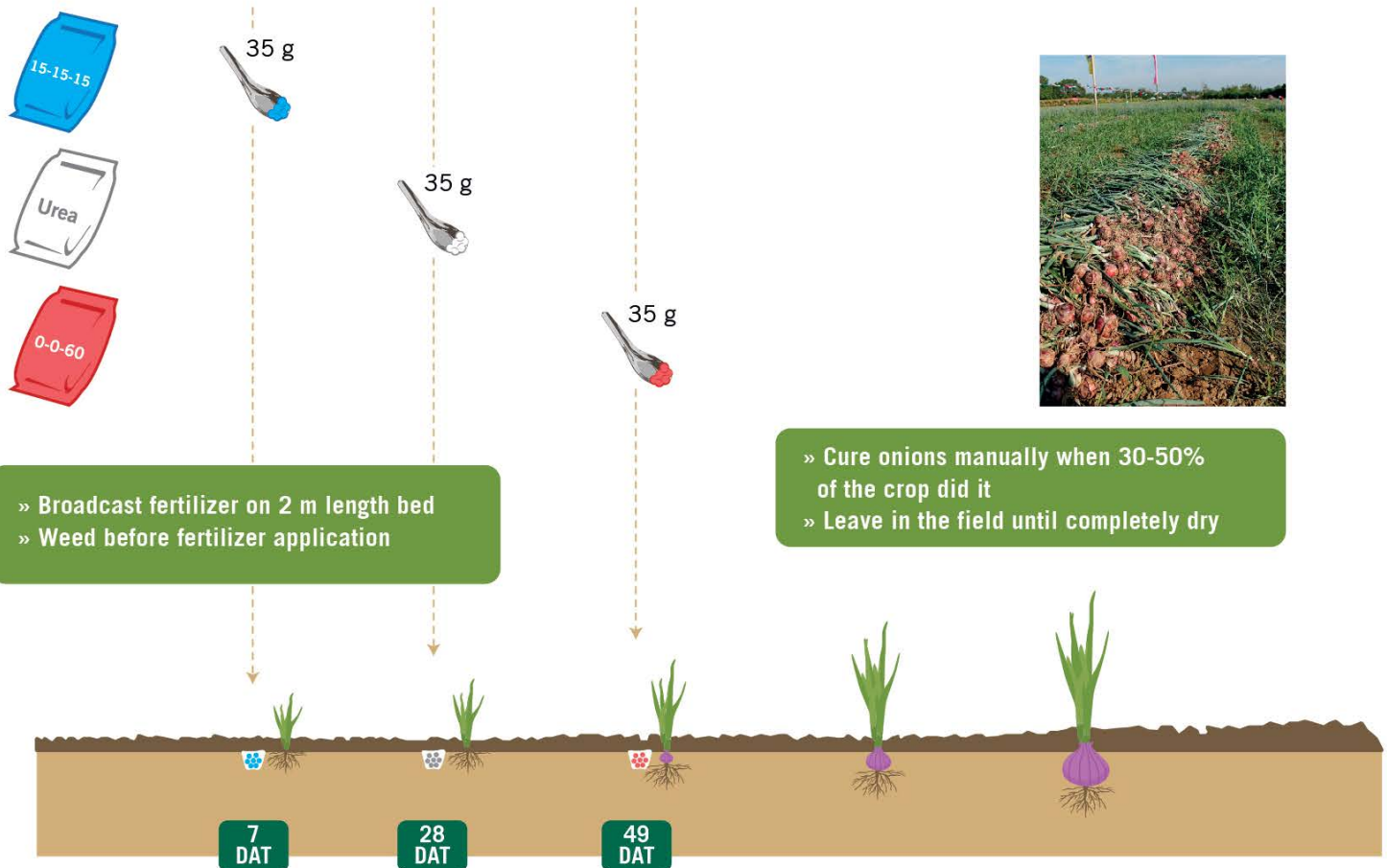


- ◆ Water in morning, use a small hoe to dig seedlings



Seperate and plant seedlings 2.5 cm deep; water immediately after transplanting.

• Fertilizer Application

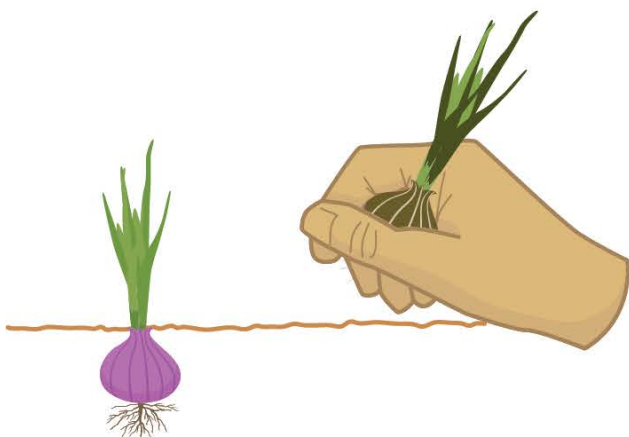


Recommended amount based on crop optimum nutrient requirement and plant population of 600,000 per hectare.
Adjust application according to season, soil conditions and plant growth status.

• Integrated Pest Management



- » Use sticky traps to monitor and mass trap insect pests
- » Use sweet trap or light trap for caterpillar



To prevent infection from spreading, sick plants, old crops and weeds must be removed and destroyed.



Crop rotation prevents build up of insect pests and diseases and restores soil fertility.

• Integrated Pest Management and Safe Use of Pesticides

- » Alternate MoA groups to prevent resistance
- » Always read pesticide label and intended use (registered crop and pest)



Active Ingredient	MoA	Action	Thrips	Caterpillar	Leafminer
Lambda-cyhalothin	3A	SC	✓	✓	✓
Dinotefuran	4A	S	✓		✓
Spinosad	5	S		✓	✓
Spinetoram	5	SC		✓	✓
Abamectin	6	SC (slight S)	✓	✓	✓
Thiocyclam oxalate	14	SC	✓		✓
Chlorantraniliprole	28	S		✓	
Flubendiamide	28	S		✓	
<i>Bacillus thuringiensis</i>	11A	C		✓	
Azadirachtin (neem extract)	UN	unknown	✓	✓	✓

Mode of Action (MoA) based from IRAC; SC (Stomach + Contact); S (Systemic)



Active Ingredient	MoA	Action	Remarks	Anthracnose	Pink Roots	Stemphylium Leaf Blight	Purple Blotch	Bacterial Soft Rot
Copper-based Fungicides	M 01	P	For bacterial diseases: Use only when necessary; do not overuse to avoid potential resistance build up	✓			✓	✓
Chlorothalonil	M 05	P		✓		✓	✓	No effective curative spray
Mancozeb	M 03	P		✓		✓	✓	Manage with preventive measures like raising bed, crop rotation and sanitation
Azoxystrobin	11	P + C	Maximum 4 times per crop cycle	✓		✓	✓	
Propamocarb	28	P + C					✓	
Cymoxanil	27	C	Tank mixed with preventive (Chlorothalonil or Mancozeb)				✓	
Metalaxyl	4	P + C	High risk of resistance (only use 2 times per season)				✓	Avoid overhead irrigation
<i>Bacillus subtilis</i>	BM02	P		✓	✓	✓	✓	✓

Mode of Action (MoA) based from IRAC; SC (Stomach + Contact); S (Systemic)

- Wear protective gear
- Good weather
- Good nozzle
- Wash after spraying

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Agrochemical recommendations have been developed in cooperation with Wageningen University & Research