



## Crop Guide

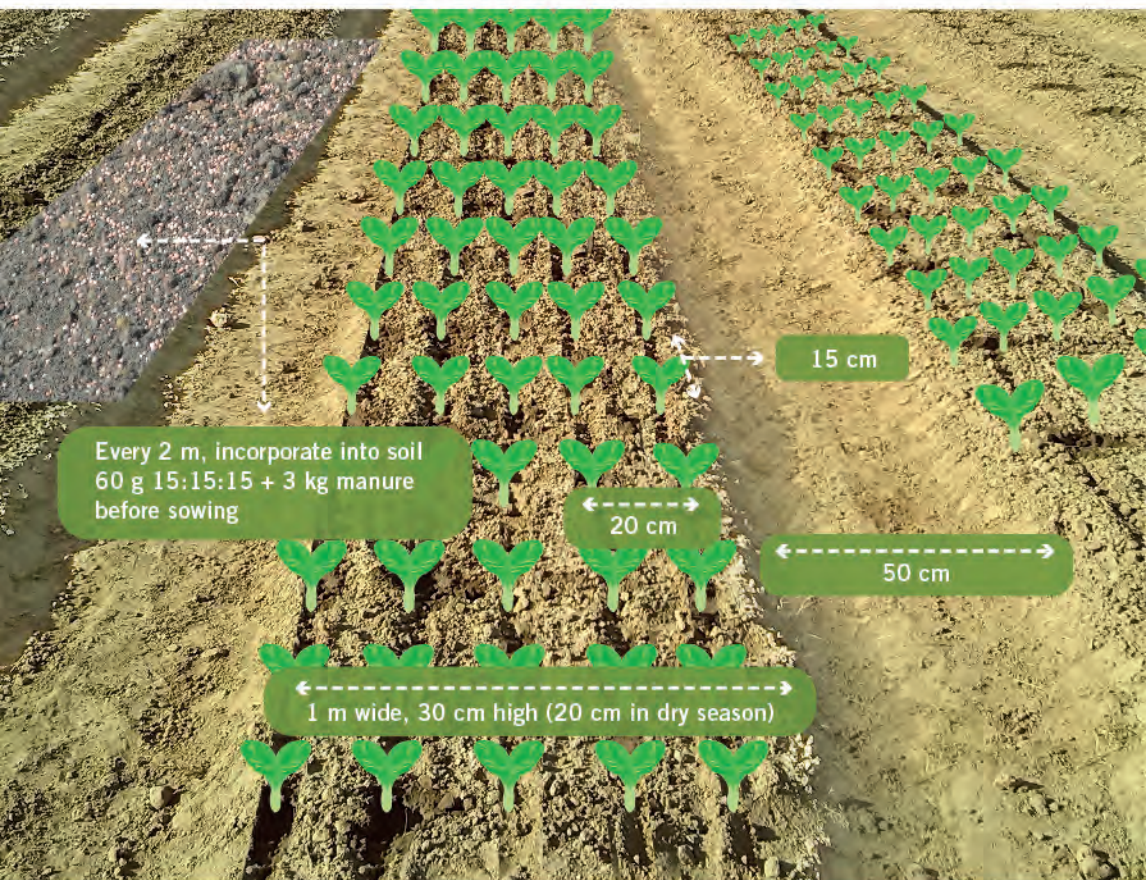
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### • Land Preparation

- » Narrow paths help with irrigation and drainage
- » Organic or plastic mulch may be installed to conserve soil moisture and minimize weed growth
- » 222,200 plants/ha (adjust according to the variety and season)

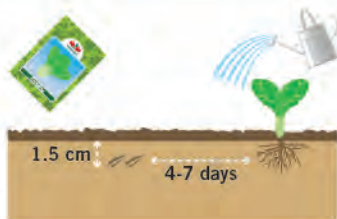
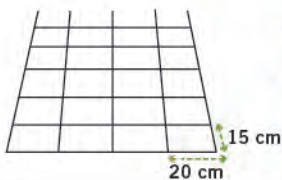


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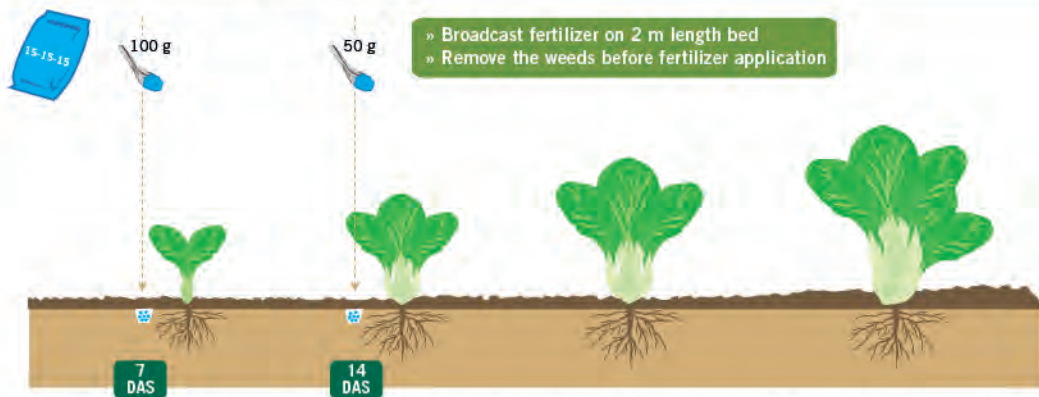


## • Sowing

- » Make rows and planting distance (using stick)
- » Sow seeds thinly
- » Gradually thin:
  - to 10 cm for baby leaves
  - to 20 cm for semi-mature plant
  - to 25-30 cm for mature plants
- » Thinned plants can be sold or eaten



## • Fertilizer Application



Recommended amount based on crop optimum nutrient requirement and plant population of 222,200 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 diamondback moth



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

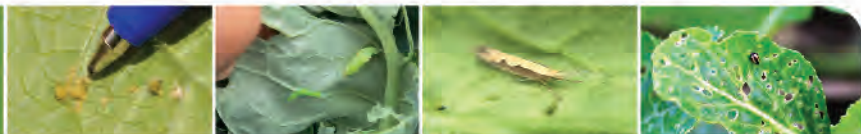


Crop rotation prevents build up of insect pests and diseases and restores soil fertility.

# Integrated Pest Management and Safe Use of Pesticides

- » Alternate MoA groups to prevent resistance
- » Avoid the use of pesticides for leafy vegetables. If necessary, reduce spraying one week before harvest
- » Always read pesticide label and intended use (registered crop and pest)

## Kinds of Insects



Aphid      Caterpillar      Diamondback Moth      Flea Beetle

Active Ingredient	MoA		Action			
	MoA	Action	Aphid	Caterpillar	Diamondback Moth	Flea Beetle
Lambda-cyhalothrin	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	✓	✓	✓	✓
<i>Azadirachtin (neem extract)</i>	UN	unknown	✓	✓	✓	✓

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

## Kinds of Diseases



Alternaria Leaf Spot      Downy Mildew

Active Ingredient	MoA		Remarks	Action	
	MoA	Action		Alternaria Leaf Spot	Downy Mildew
Copper-based Fungicides	M 01	P	Maximum 4 times per crop cycle	✓	✓
Chlorothalonil	M 05	P		✓	✓
Mancozeb	M 03	P		✓	✓
Azoxystrobin	11	P + C		✓	✓
Propamocarb	28	P + C	Tank mixed with preventive (Chlorothalonil or Mancozeb) High risk of resistance (only use 2 times per season)	✓	✓
Cymoxanil	27	C		✓	✓
Metalaxyl	4	P + C		✓	✓
<i>Bacillus subtilis</i>	BM02	P		✓	✓

Mode of Action (MoA) based from FRAC; P = preventive (only effective when disease symptoms have not appeared yet), C = curative



Wear protective gear



Good weather



Good nozzle



Wash after spraying



# KNOWLEDGE TRANSFER

<http://guides.eastwestseed.com>

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