



agriculture & rural development

Department:
Agriculture and Rural Development
PROVINCE OF KWAZULU-NATAL

CABBAGE PRODUCTION

TOGETHER WE HAVE MADE KZN A BETTER PROVINCE TO LIVE IN



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CABBAGE PRODUCTION

TOGETHER WE HAVE MADE KZN A BETTER PROVINCE TO LIVE IN

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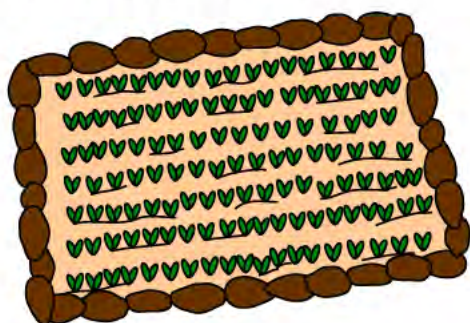
PLANNING

When to plant?

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
COOL AREAS:	✓	✓	✓					✓	✓	✓	✓	✓
WARM AREAS:	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HOT AREAS:			✓	✓	✓	✓	✓					

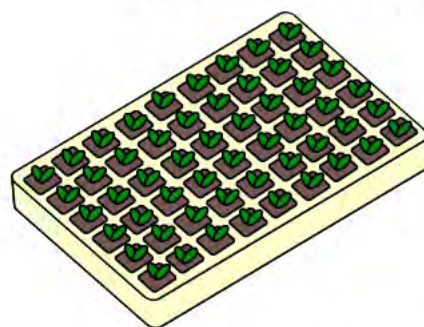
Will you:

Grow seedlings
in a seedbed



Or

Buy seedlings from
the nursery?



Which cultivars are recommended?

summer



Hercules
Green Star
Centauro
Star 3301
Star 3304
Beverly Hills

winter



Green Coronet
Green Crown
Star 3306
Hercules
Conquistador

Note: The above cultivars are only some examples of what is available.



PLANNING (Cont)

Buying from nursery:
Order seedlings 6 weeks
in advance



**Collect, keep cool and wet and
transplant as soon as possible**



Potential markets:



Local community



Hawkers

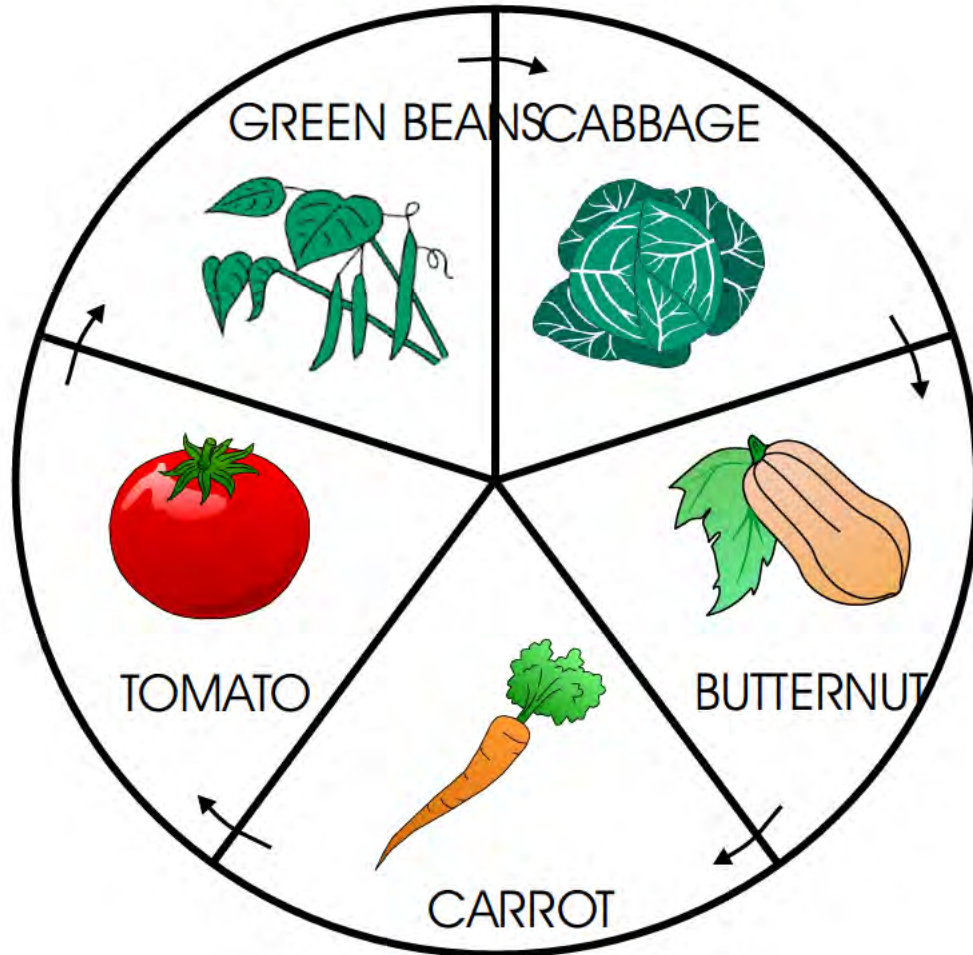


Municipal / Minimarkets



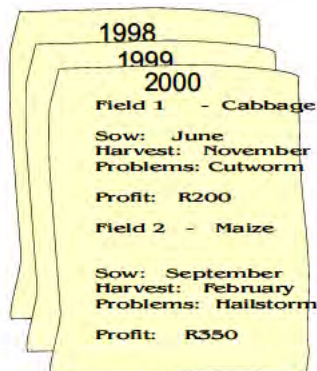
PLANNING (Cont)

CROP ROTATION



Crop rotation will prevent disease buildup.

By keeping good records, you can learn from previous mistakes and improve yields.



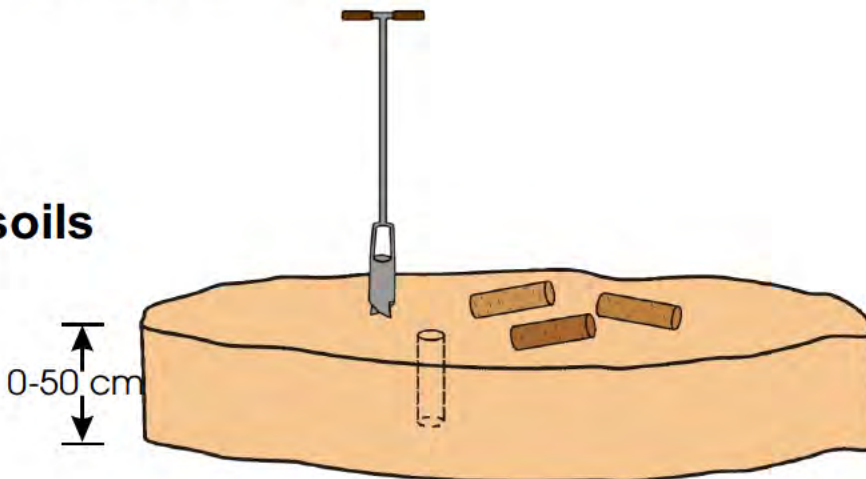


LAND PREPARATION

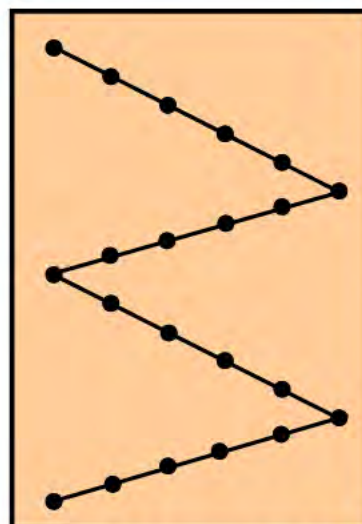
Determine effective rooting depth

Limiting factors:

- rock (ngubane)
- plinthite / motling
- grey / poorly drained soils



Take 25-30 cores per field



...and send to Cedara for analysis.

If the soil analysis recommends lime, apply at least 1 month before planting.



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LAND PREPARATION (Cont)

If available, spread and mix large quantities of kraal manure into the soil, 1 month before planting.



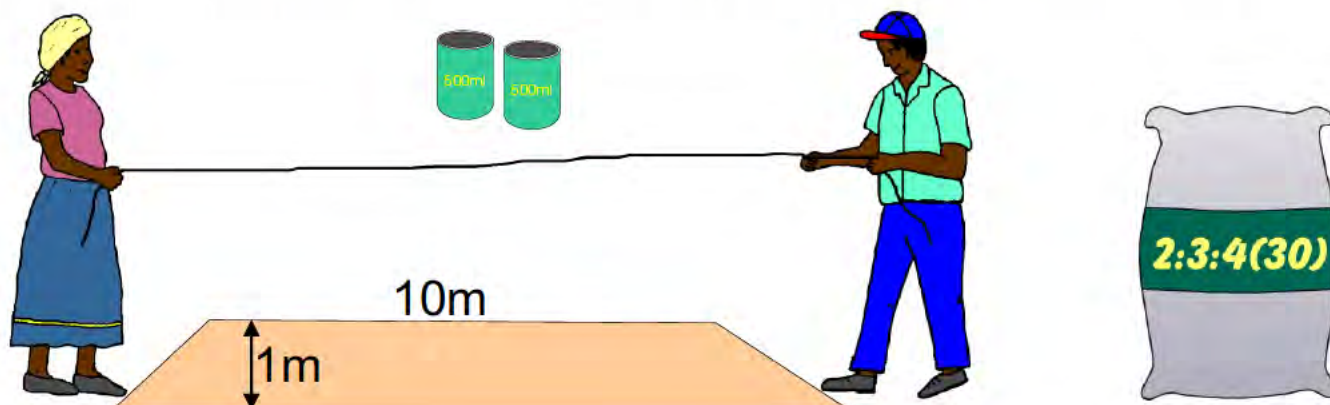
Preplant fertilisation:

Follow Cedara recommendations



or

Apply two 500 ml tins of 2:3:4 (30) per 10m² and mix in.

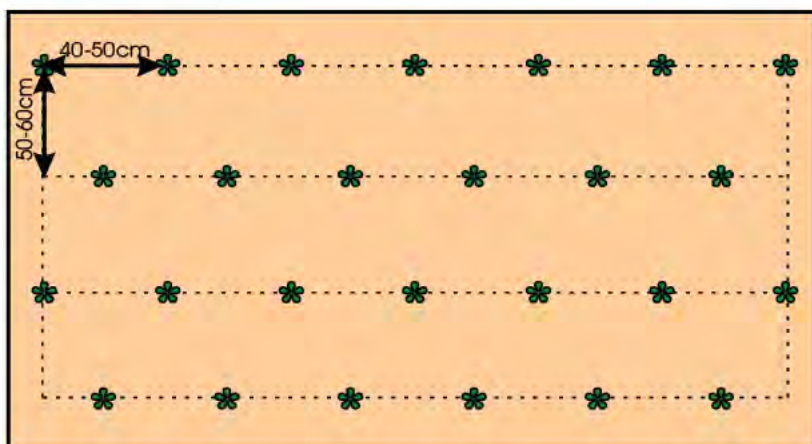


Boas



TRANSPLANTING

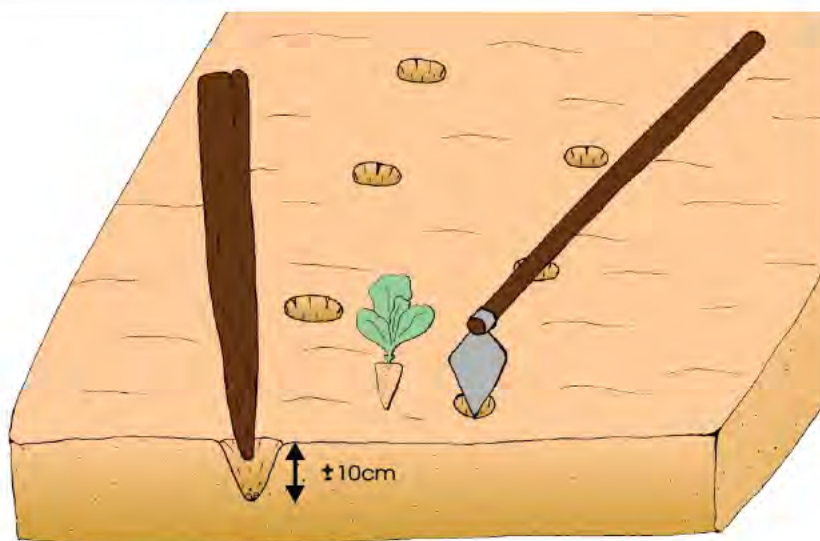
Plant spacing:



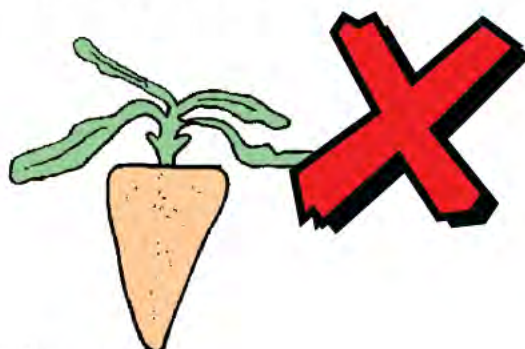
Use staggered planting to minimize interplant competition for light, nutrients and water.

Use a stake or V-shaped hoe to make a hole in prepared soil.

The depth should be $\pm 10\text{cm}$.



Only transplant healthy seedlings



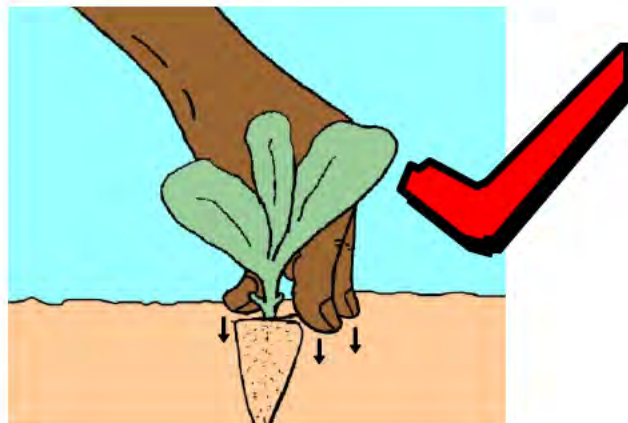
Best times to plant:

- Cool, overcast days
- Early morning or late afternoon.

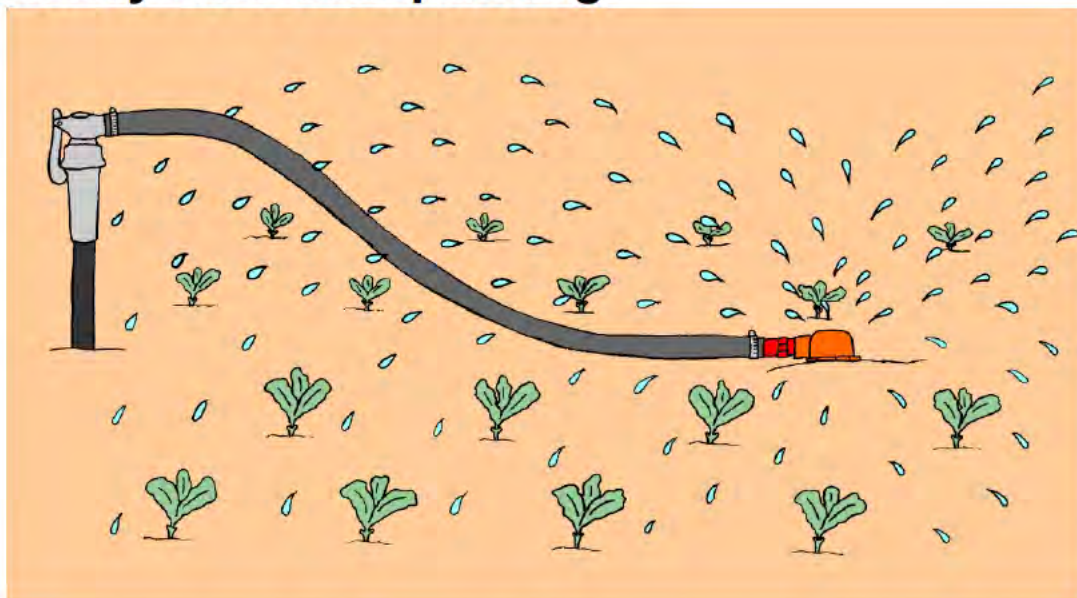


TRANSPLANTING

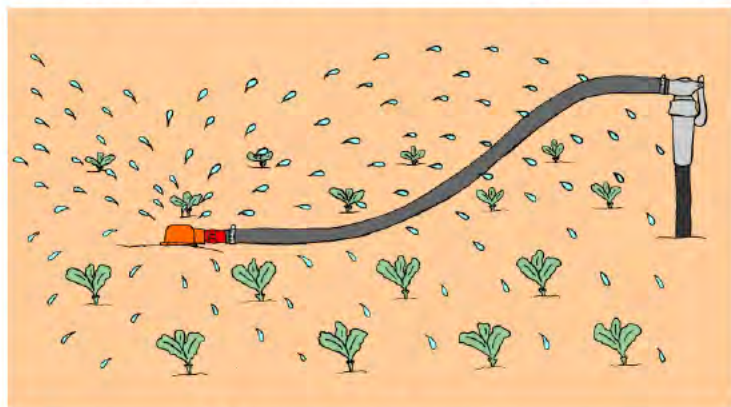
Correct transplanting method.



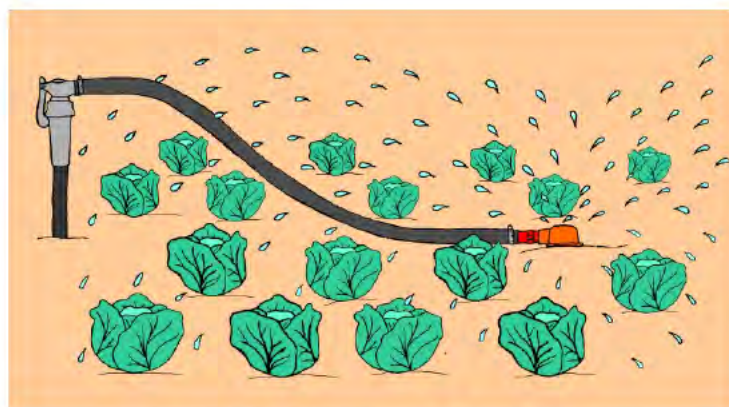
Irrigate directly after transplanting.



Irrigate plants ± 25 ml per week.



**Young plants:
2-3 times a week for
the first 3-4 weeks.**



**Mature plants:
Once a week until
harvest.**

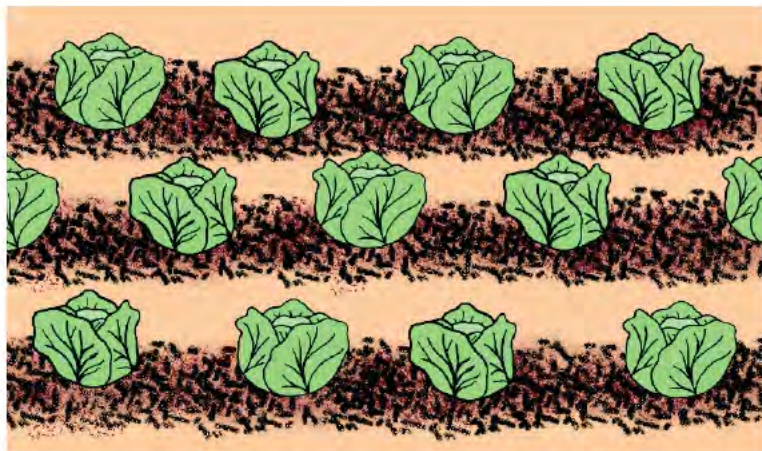


MANAGEMENT

Mulch rows with grass, leaves and other dry plant material.

This will:

- Reduce moisture loss
- Improve nutrient availability
- Decrease the incidence of pests and diseases.



Keep plots weed free as far as possible.

Use weeds as mulch only if they have not formed seeds yet.



Topdress with LAN at 3 and 5 weeks after transplanting.



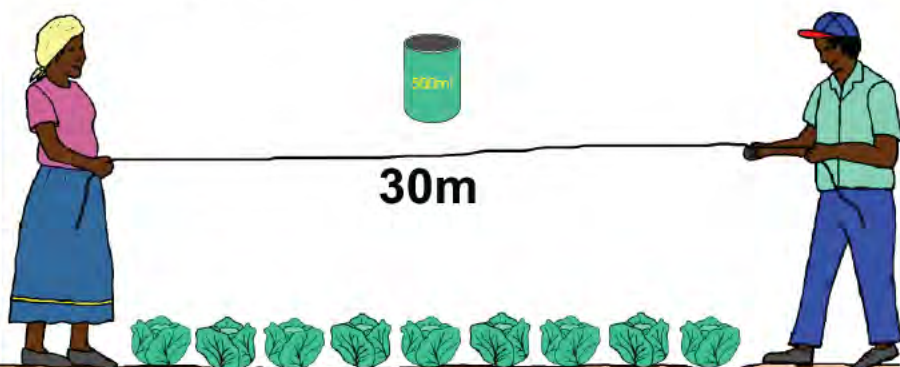
Method 1:

Apply 1 teaspoon LAN ($\pm 6g$) per plant.



Method 2:

Apply one 500ml oil tin LAN per 30m row length.





PEST AND DISEASE CONTROL

IMPORTANT CABBAGE PESTS

Aphids



- Transmit plant diseases
- Summer and early autumn

Control:

- Chlorpyrifos / mercaptothion

Cut worm



- Cut through young plants at ground level at night
- Autumn

Control:

- Gamma-BHC / Cutworm bait
- Cypermethrin / Deltamethrin

Diamond-back moth



- Feeds on underside of leaves
- Spring and early summer

Control:

- Chlorpyrifos / mercaptothion
- Cypermethrin / Gamma-BHC

American bollworm



- Early Summer

Control:

- Cypermethrin

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PEST AND DISEASE CONTROL (cont)

IMPORTANT CABBAGE DISEASES

Downy mildew



- Cool, moist, humid weather
- Spread by wind and water
- Survives in plant debris & weeds
- Serious in crowded seedbeds

Control:

- Keep area free of weeds and plant debris
- Don't overcrowd seedlings
- Mancozeb
- Copper oxychloride

Black rot



- Spread during hot, wet, windy conditions
- Spread by insects and snails
- Survives for 3-5 years in crop residues and weeds

Control:

- Prevent overcrowding of seedlings
- Crop rotation
- Control weeds, and insects
- Resistant cultivars

Clubroot



- Survives up to 20 years in soil
- Spreads in soil carried by wind and water
- Severe in acid, poorly drained soils

Control:

- Liming
- Flusulfamide
- Crop rotation

PEST AND DISEASE CONTROL (cont)

IMPORTANT CABBAGE DISEASES

Sclerotinia

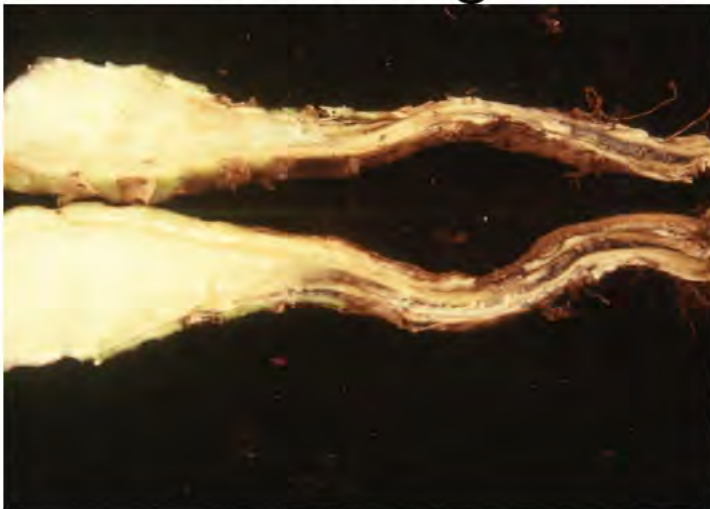


- Hot days between wet days
- Forms black sclerotia which look like rats droppings

Control:

- Remove infected plants
- Compost plant debris
- Crop rotation

Black leg



- Cool conditions
- Survives in crop debris & weeds
- Spreads by rain and wind

Control:

- Treated seed
- Control weeds
- Crop rotation
- Remove infected plants and compost

Erwinia rot



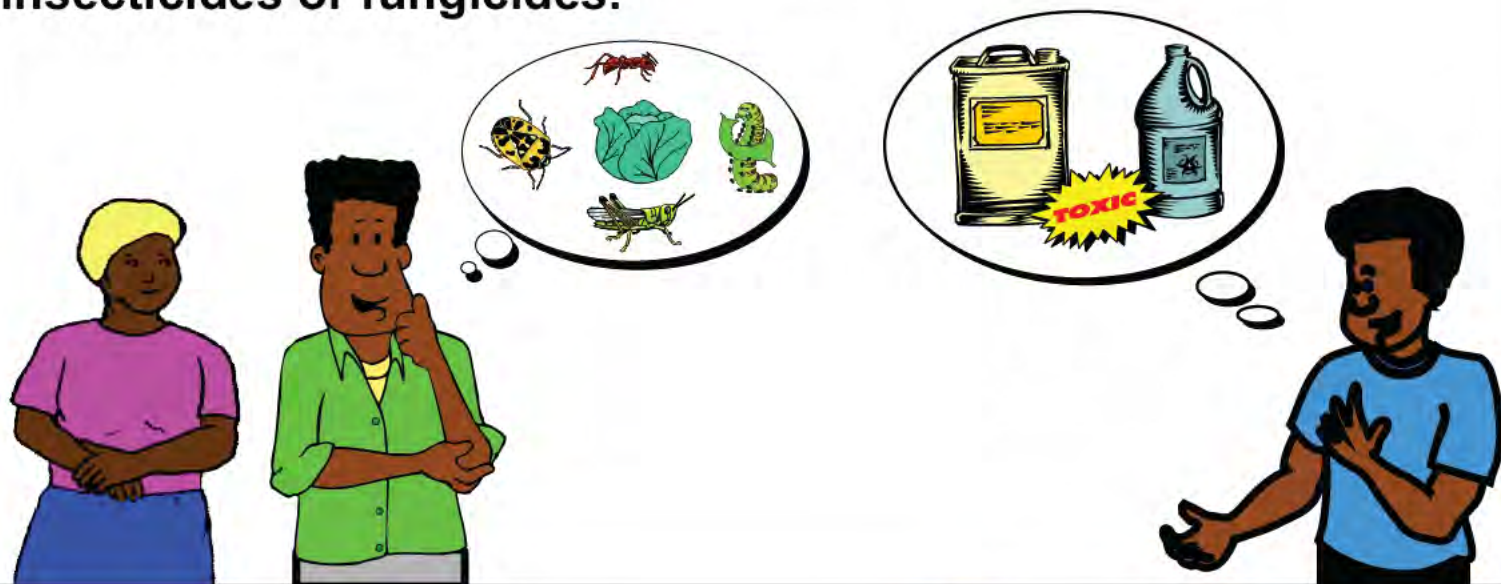
- Rotting with foul smell
- Rotting material becomes slimy
- Survive in plant debris and soil
- Infects injured plants

Control:

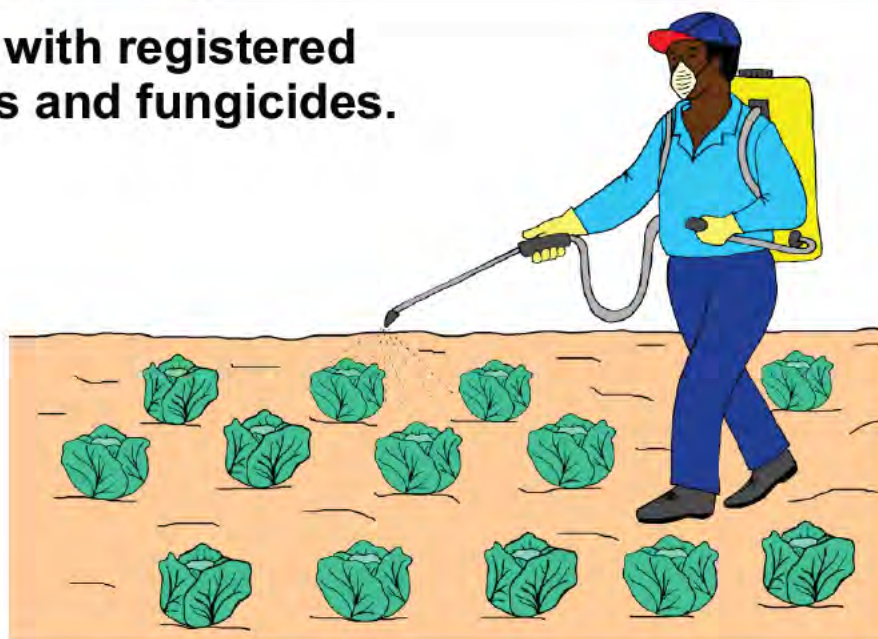
- Avoid injuries to plants
- Store cool and dry
- Crop rotation

PEST AND DISEASE CONTROL (cont)

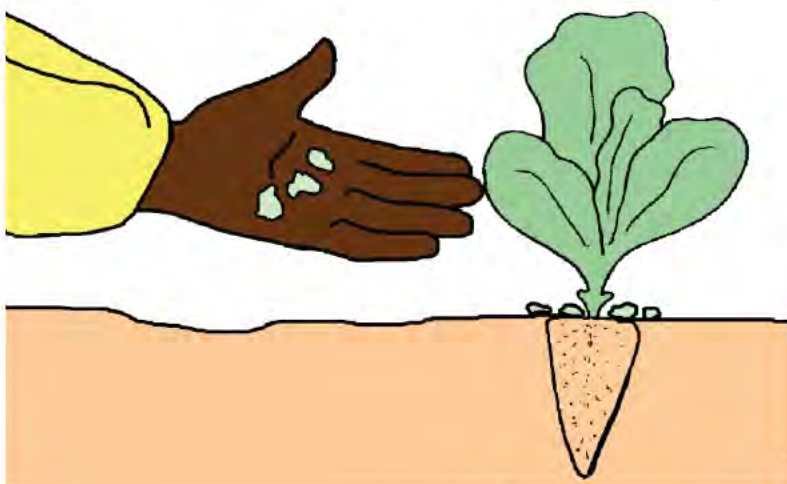
Consult with a technician before using insecticides or fungicides.



Spray only with registered insecticides and fungicides.



If necessary, apply cutworm bait immediately after transplanting.



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HARVESTING

Harvesting:

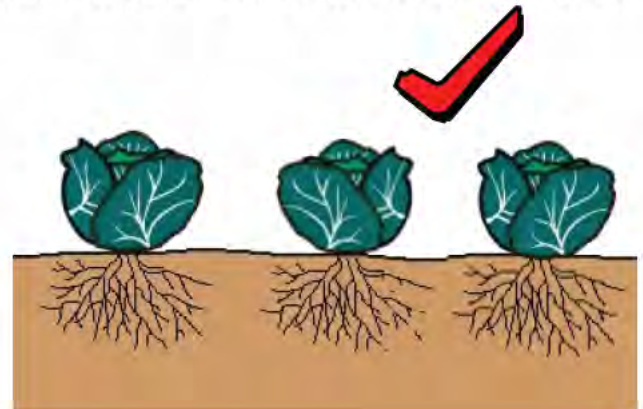
Do not harvest too soon after applying an insecticide or a fungicide.

Follow the instructions!

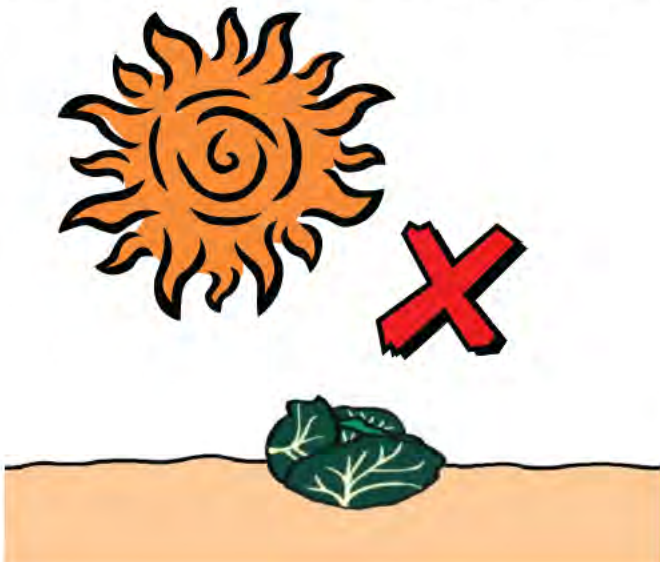
Do not harvest until after the withholding period. This could be days or weeks.



Harvest when heads are full. Plants must be uniform in size.



Sell cabbages immediately after harvesting or store in a cool place to prevent wilting.



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