



agriculture & rural development

Department:
Agriculture and Rural Development
PROVINCE OF KWAZULU-NATAL

DOMESTIC FOOD PRODUCTION

TOGETHER WE HAVE MADE KZN A BETTER PROVINCE TO LIVE IN



www.kznard.gov.za

DOMESTIC FOOD PRODUCTION

TOGETHER WE HAVE MADE KZN A BETTER PROVINCE TO LIVE IN

To obtain copies of this document, please contact:
Department of Agriculture and Rural Development
Executive White Building,
Communication, Corporate Services
01 Cedara Road, Cedara
Private bag X9059
Pietermaritzburg
3200
Tel: 033 343 8240
Fax: 033 343 8255
www.kzndard.gov.za

ASPECTS OF PRODUCTION



Production involves:



Decision making

Production planning



Securing finance



Buying inputs

ASPECTS OF PRODUCTION

(cont.)



Production also involves:

Growing produce and harvesting



Selling or marketing your produce



Paying your debts



Saving some money for the future



SITE SELECTION: SOIL



Choose a flat area for your field



Make sure the soil is at least half a spade length deep



Soil must be suitable - red is good



SITE SELECTION (continued)



Vegetables require **lots** of water



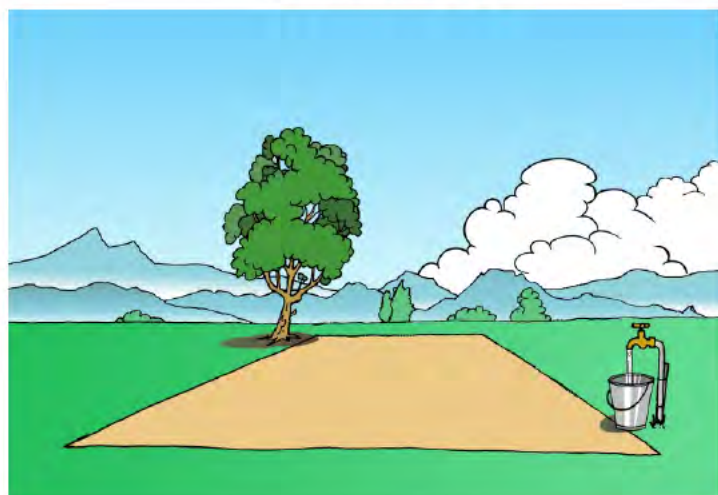
The water source must be close
A stream



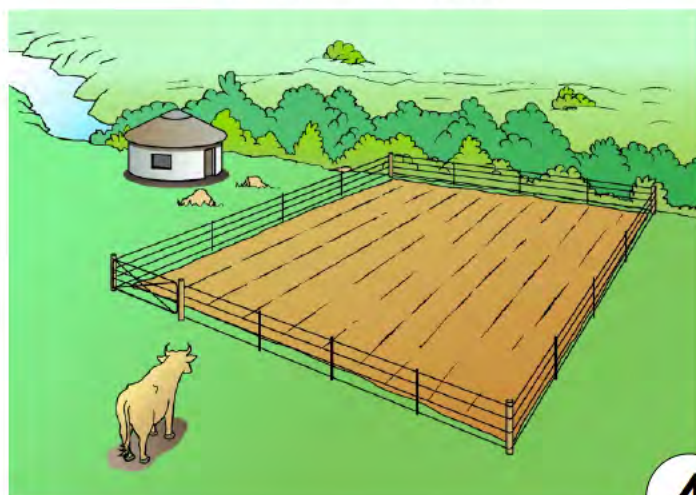
A water tank



A water tap



Fence the field



SOIL SAMPLING & LIME

Take soil samples, 25 cores per land - 15cm deep



Wait for soil analysis results and fertilizer recommendations

If recommended, apply lime more than a month before planting



FERTILISER ADVISORY SERVICE

KZN Department of Agriculture and Environmental Affairs
Soil Fertility and Analytical Services, Private Bag X9059, Pietermaritzburg 3200.
Tel: 033-3559459/3559515 Fax: 033-3559454

CLIENT DETAILS:
V. Roberts
Soil Science
Cedara

ADVISOR DETAILS:

Phone: (h)
(w)

Phone: (h)
(w)

SUMMARY OF ANALYTICAL RESULTS-These results may not be used in litigation

Your sample ID	Lab. Num.	Sample Density g/mL	P mg/L	K mg/L	Ca mg/L	Mg mg/L	Exch. acidity cmol/L	Total cations cmol/L	Acid. equiv. %	pH	Zn mg/L	Mn mg/L	Cu mg/L	NIRS organic carbon %	NIRS clay %
Sukela Pien	02558	0.91	4	211	315	107	2.32	5.31	4.02	6.8	9	2.2	3.7	56	56

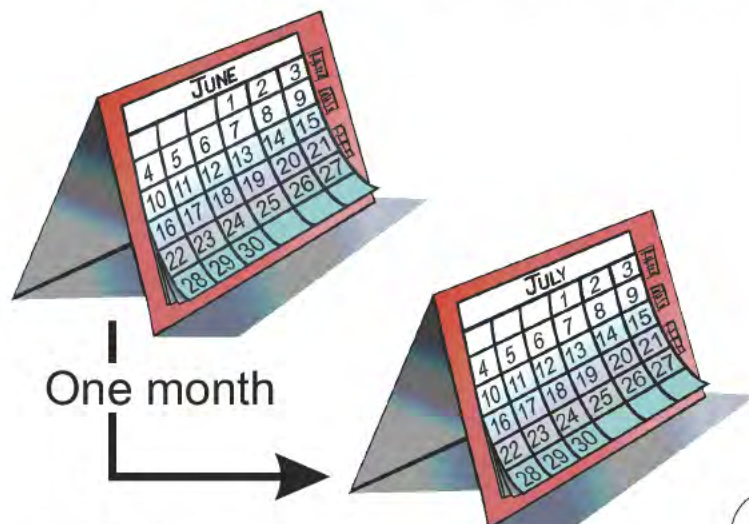
Comments:
(1) Recommended rates of fertilizer and time for the relevant crops are reported on the following pages.
(2) No recommendation will be given for crops not entered on the submission form.
(3) Recommendations are not provided for subsoil samples.
(4) It is assumed that samples submitted for crops and for the establishment of pastures were taken from the top 15 cm of soil. For the maintenance of established pastures, a sampling depth not exceeding 10 cm is assumed.
(5) It is assumed that the lime to be used has a neutralizing value equal to 75% of that of pure calcium carbonate. Optimum lime is recommended if soil Mg levels are low, and acidic lime, if soil Mg exceeds 0.8 x soil Ca. Where Mg is sufficient, but not excessive, either type of lime may be used. If lime is not necessary, but the soil Mg level is suboptimal for the intended crop, this is indicated under the "lime type" heading with the comment "low Mg". Consult your advisor for the most cost-effective method of improving Mg status.
(6) Phosphorus recommendations are based on a water-soluble P source.
(7) The recommendations are based on the assumption that the soil sample is truly representative of the land and that other growth factors are not limiting.
(8) NIRS measurements should be viewed as reasonably reliable estimates. Actual C, N and S concentrations can be determined at extra costs on request.
(9) NIRS, IRIS, NIR
Organic carbon percentage, determined by near-infrared (NIR) spectroscopy, is given for most samples. The NIR analyzer is not calibrated for subsoils or for topsoils with high total organic or high sample density.



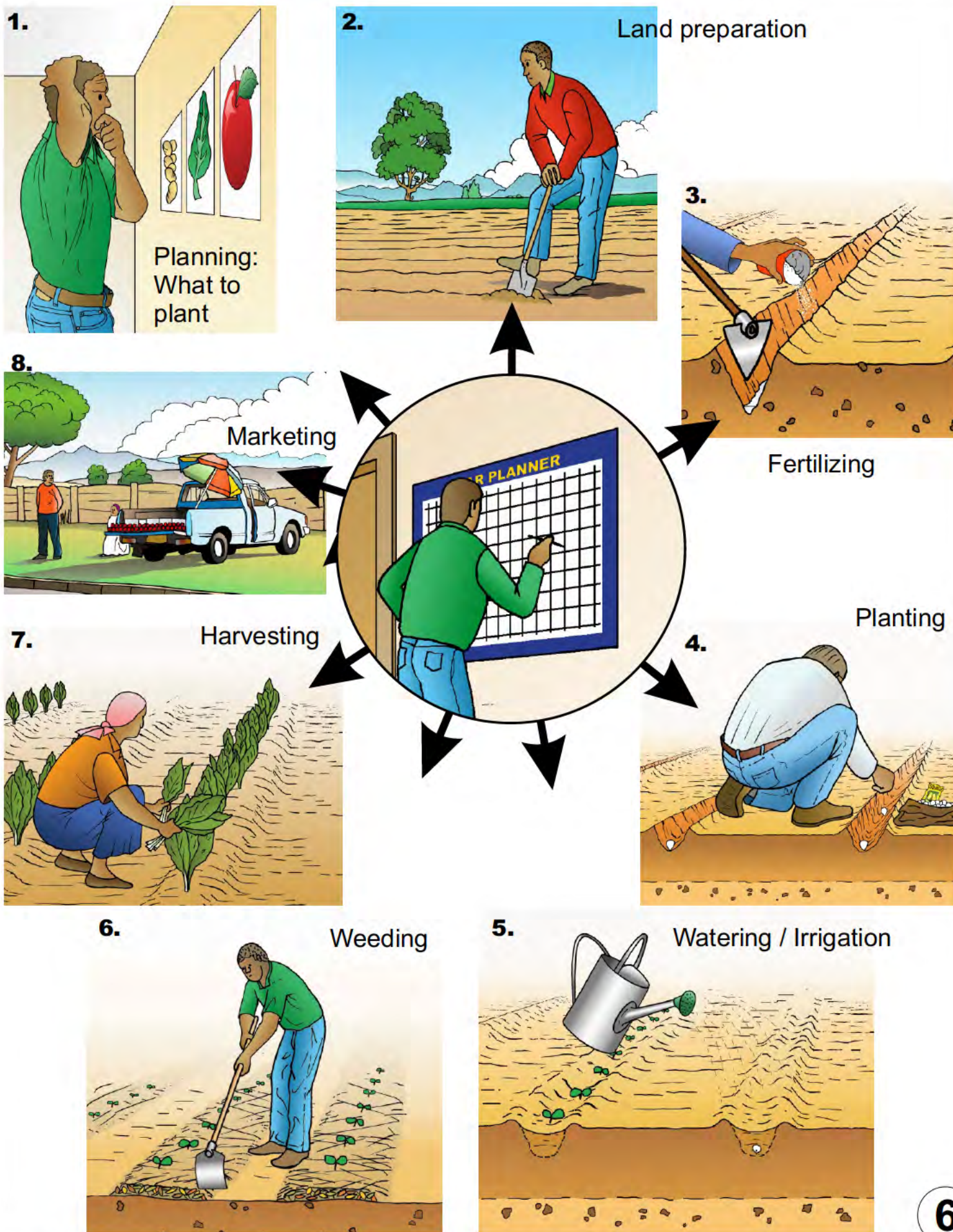
Dig the lime into the soil



Lime requires one month to react



6 TIMING OF OPERATIONS: WHEN TO DO WHAT



PRODUCTION CALENDAR

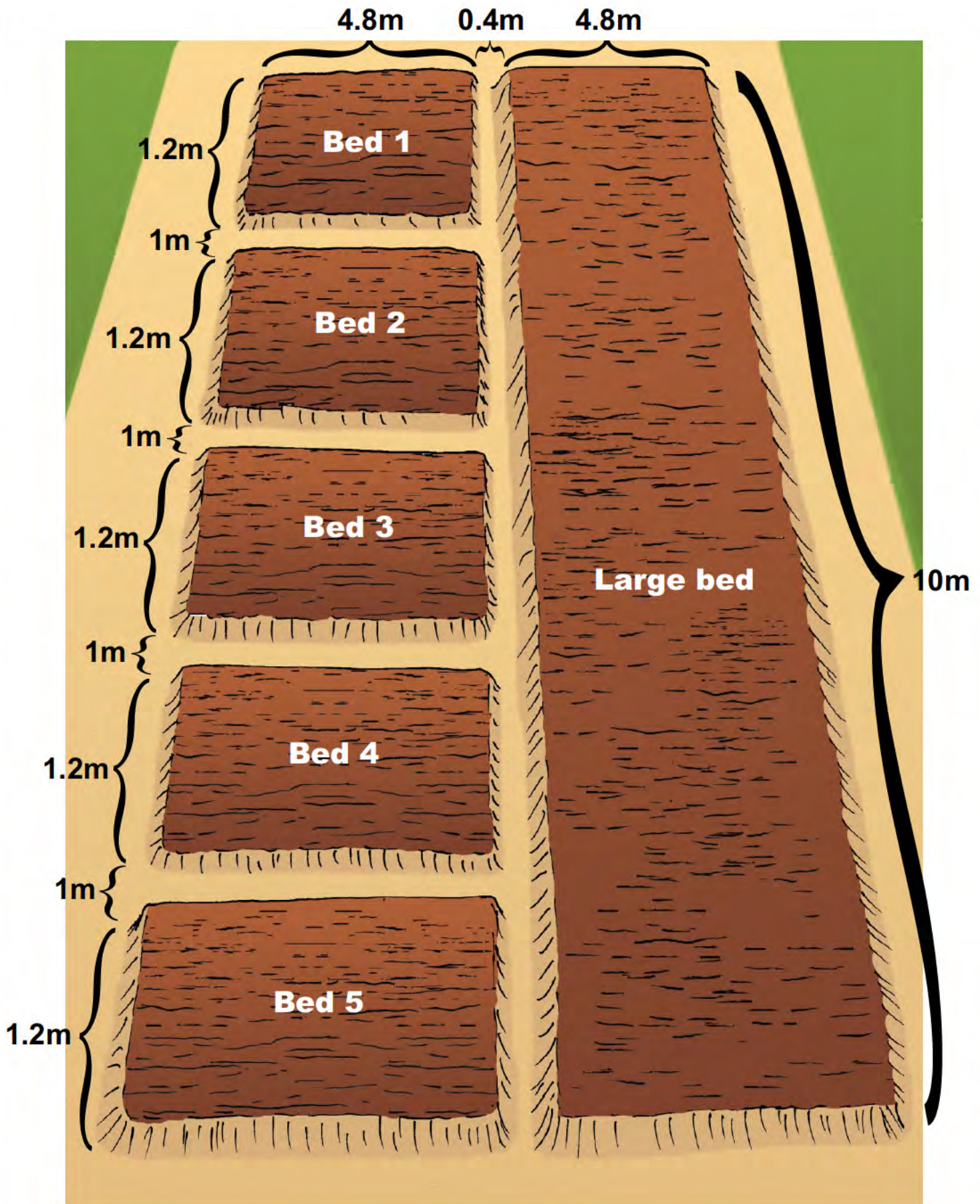


Regularly plant small quantities to provide a continuous supply of fresh vegetables

Crop	Area	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Spinach	Cool		Plant										
	Warm		Harvest										
Carrot	Cool		Plant										
	Warm		Harvest										
Beetroot	Cool		Plant										
	Warm		Harvest										
Butternut	Cool			Plant									
	Warm			Harvest									
Beans	Cool			Plant									
	Warm			Harvest									
Cabbage	Cool			Plant									
	Warm			Harvest									
Maize	Cool				Plant								
	Warm				Harvest								
Dry beans	All					Plant							
Onions	All							Plant					

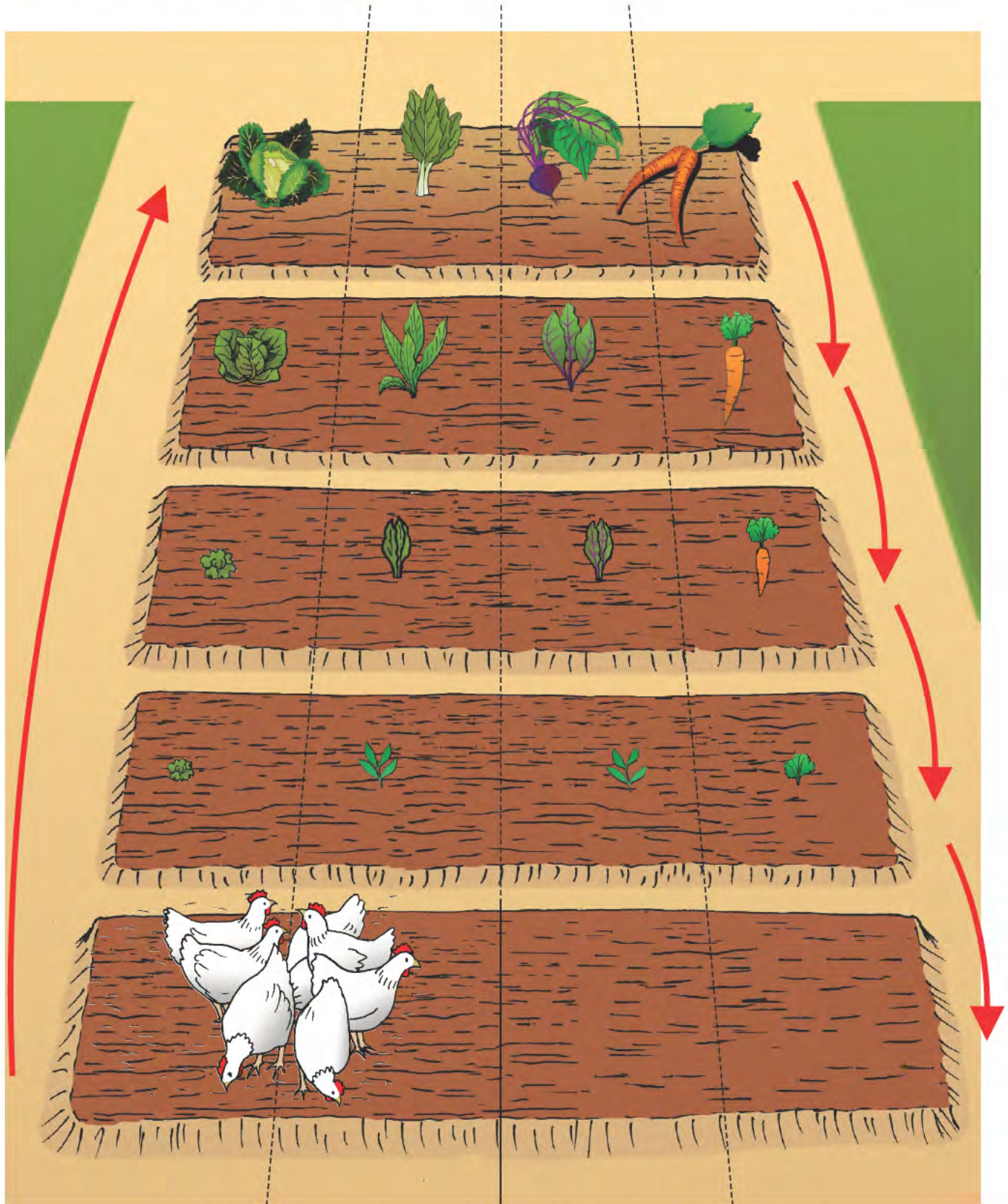
GARDEN LAYOUT

(10m x 10m = 100m²)



5-BED PLANTING PLAN

Plant every month for continuous production



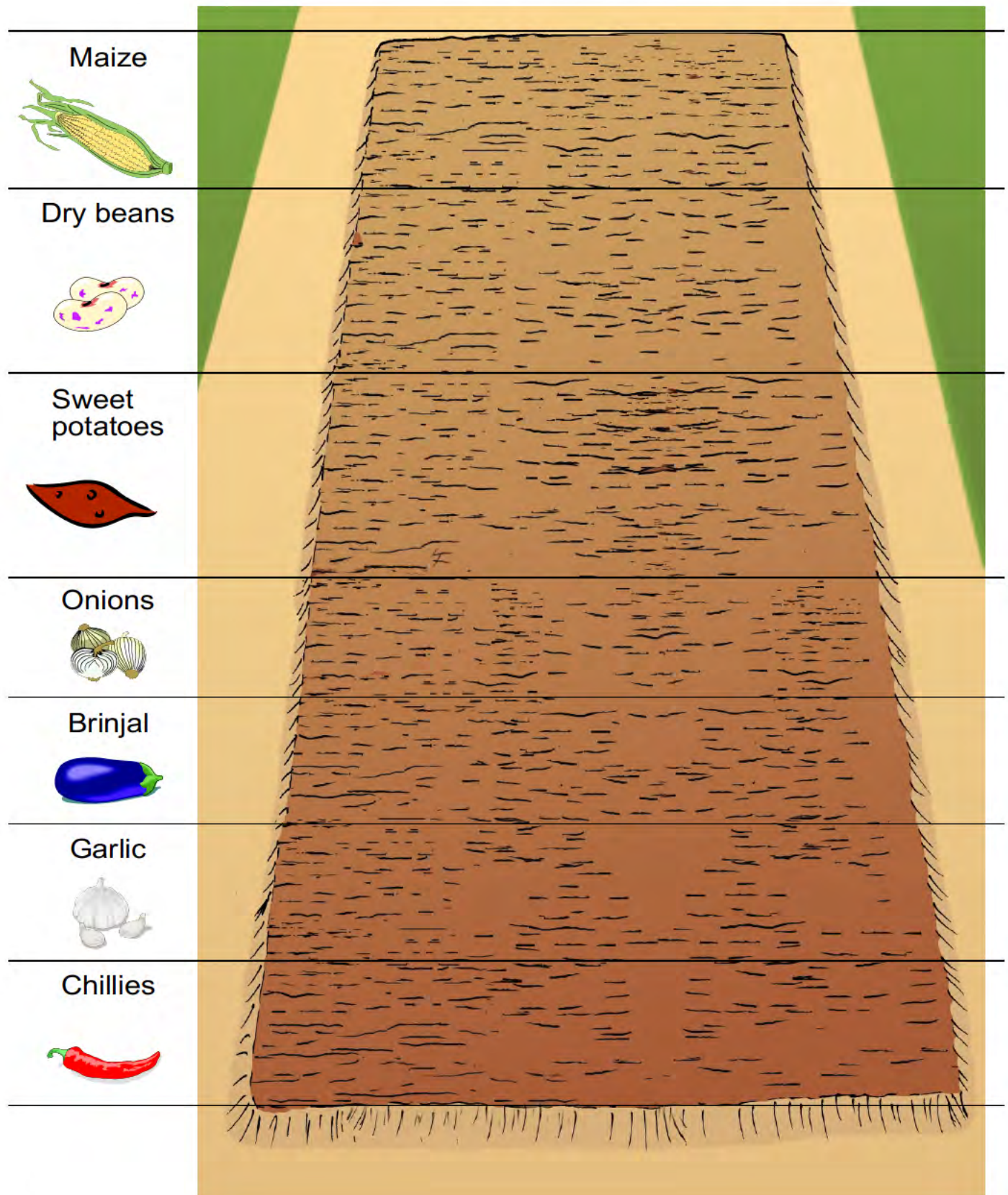
Chickens (optional)

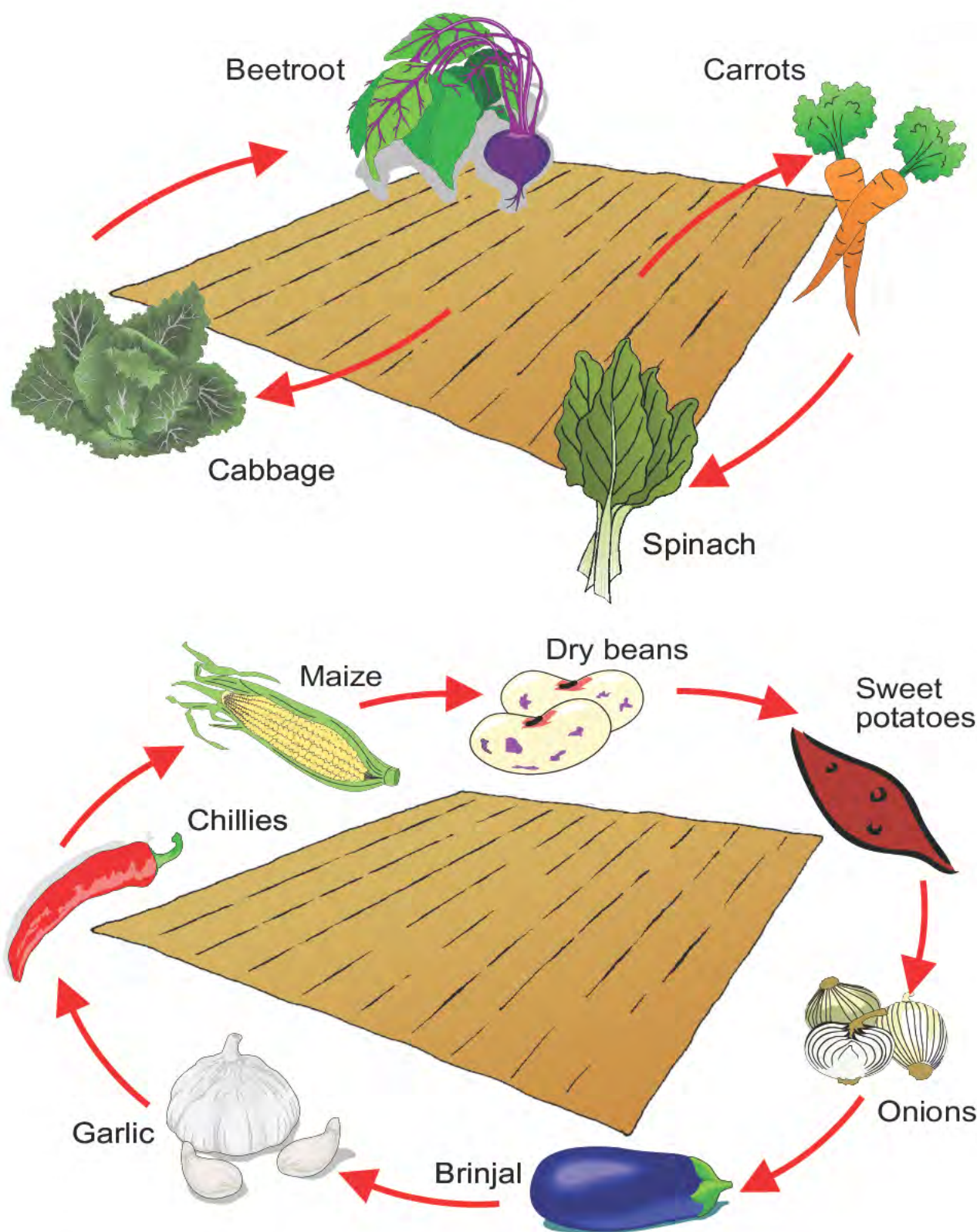
or

Fallow (nothing)

LARGE BED PLANTING PLAN

One-off planting of more agronomic crops





Never plant the same or closely related crop on the same land during the next planting season

Crop rotation will:

- * Reduce insect and disease problems
- * Contribute to sustainable production



Apply fertilizer according to soil sample results.
Broadcast & dig into the soil

$\frac{1}{2}$ a bag of kraal manure (10kg manure); **or** $\frac{1}{2}$ a bag of compost per bed (6m²)



$\frac{1}{2}$ a bag of manure

or



$\frac{1}{2}$ a bag of compost



Mix the fertilizer or manure into the soil using a garden fork



Carefully read the planting instructions of the vegetables you want to plant

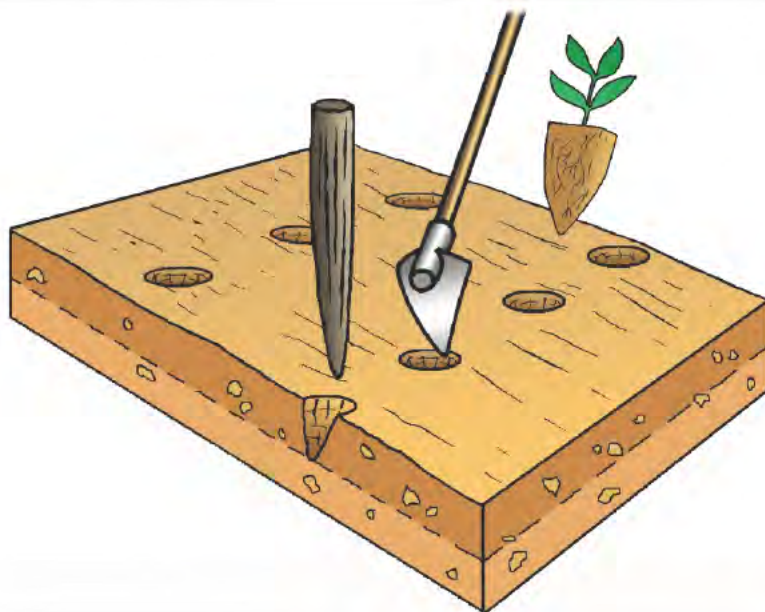


Then plant the seed or seedlings according to the instructions

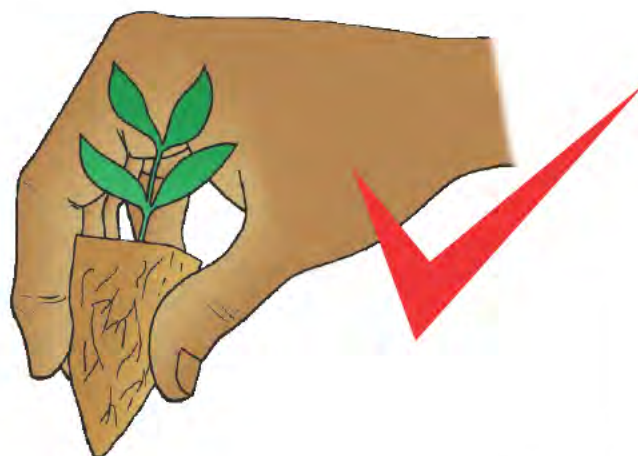
PLANTING SEEDLINGS



Use a stake or V-shaped hoe to make a hole in the soil. The depth should be about 10cm



Only transplant healthy seedlings



Best times to plant

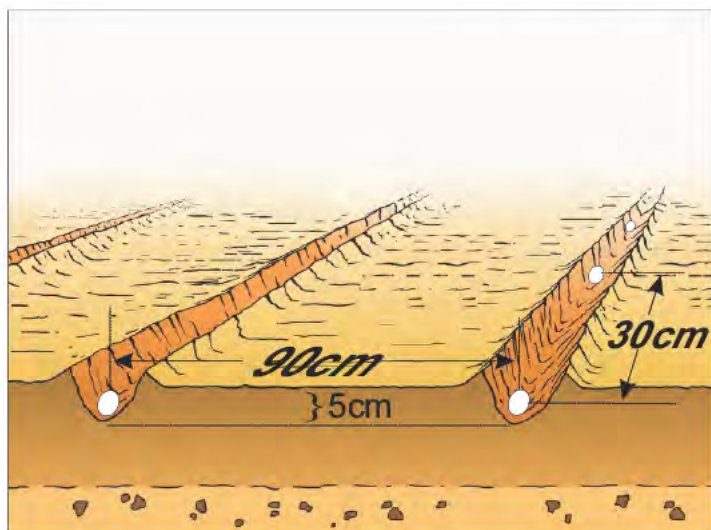
- Cool, overcast days
- Early morning or late afternoon

Plant spacing



Plant in a staggered pattern to give most light, nutrients and water

PLANT SPACING: SEEDS



Maize



Plant:

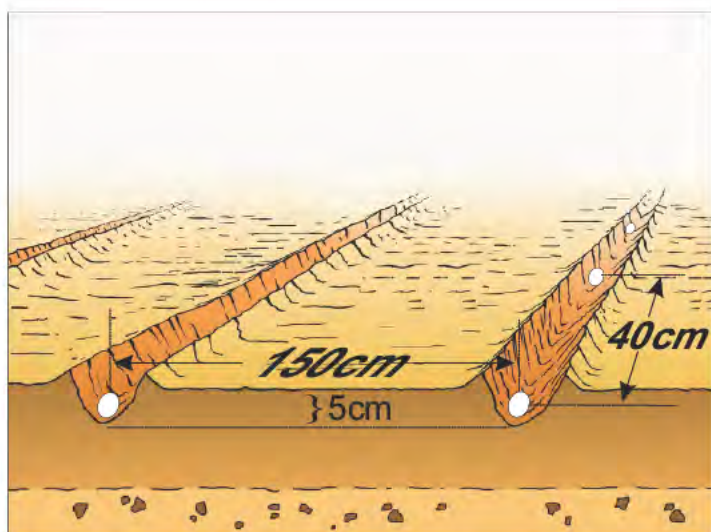
Sep - Nov

Days to harvest:

60 to 90 days

Spacing:

90cm by 30cm



Butternut



Plant

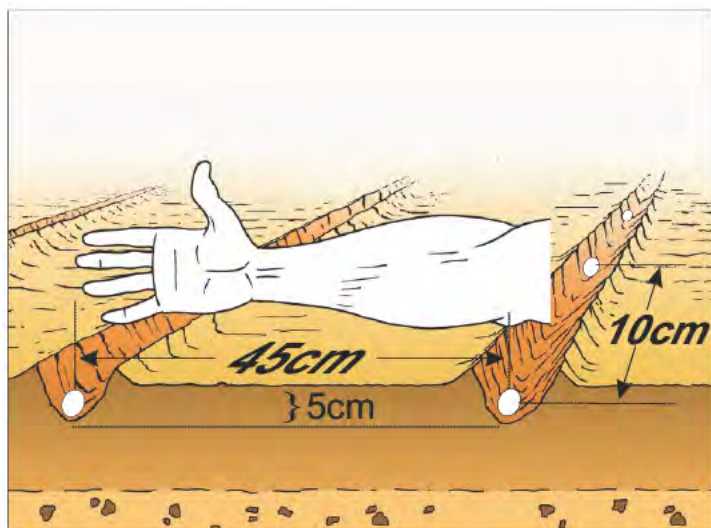
Sept to Nov

Days to harvest

90 to 100 days

Spacing

150 cm by 40 cm



Green Beans

(Intercrop with Maize)

Plant

Cool : Sept to Jan

Warm: Aug to March

Days to harvest

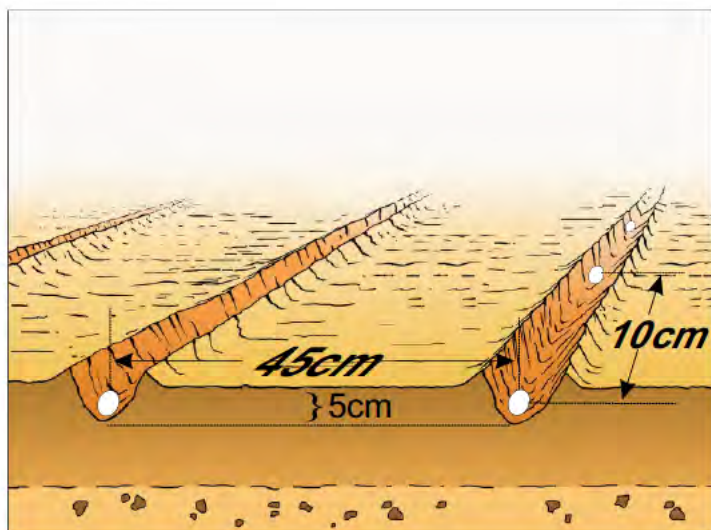
50 to 60 days

Spacing

45 cm by 10 cm



PLANTING SEEDS



Dry Beans



Plant:

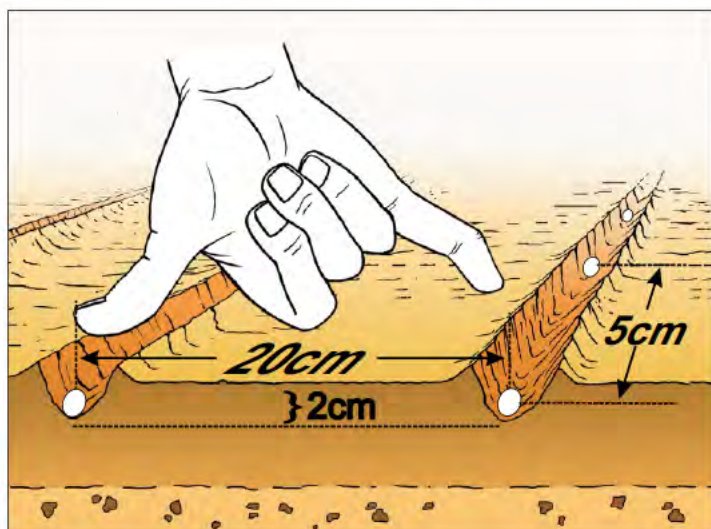
Nov to mid Jan.

Days to harvest:

90 to 120 days

Spacing:

45cm by 10cm



Carrots



Plant

Cool : Aug to March

Warm: Jan to Nov

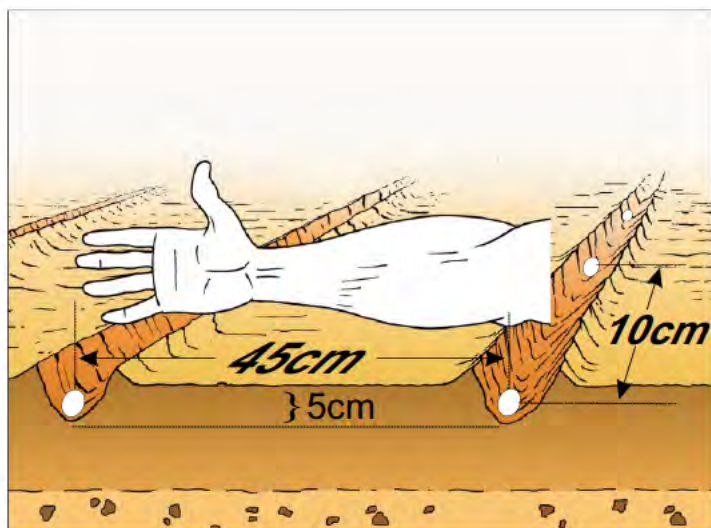
Days to harvest

90 to 120 days

Spacing

20 cm by 5 cm

(remove plants in the row until 5cm apart.)



Green Peas



Plant

Cool : June to July

Warm: May to June

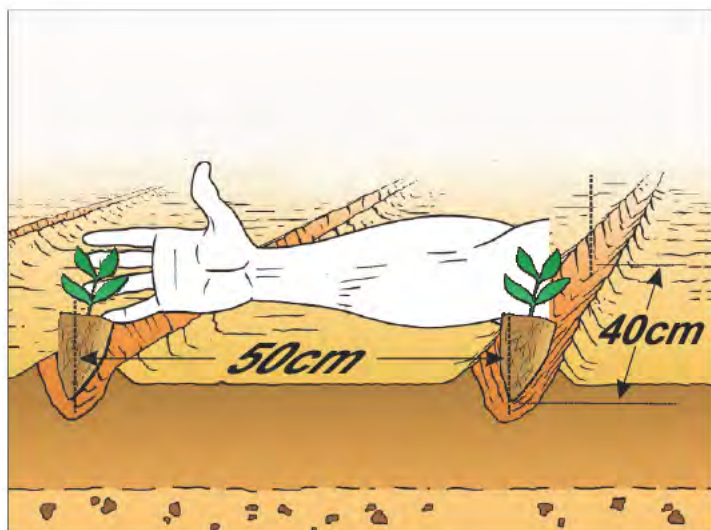
Days to harvest

60 to 70 days

Spacing

45 cm by 10 cm

PLANTING SEEDLINGS



Cabbages (Seedlings)



Plant

Cool : Sept to Feb

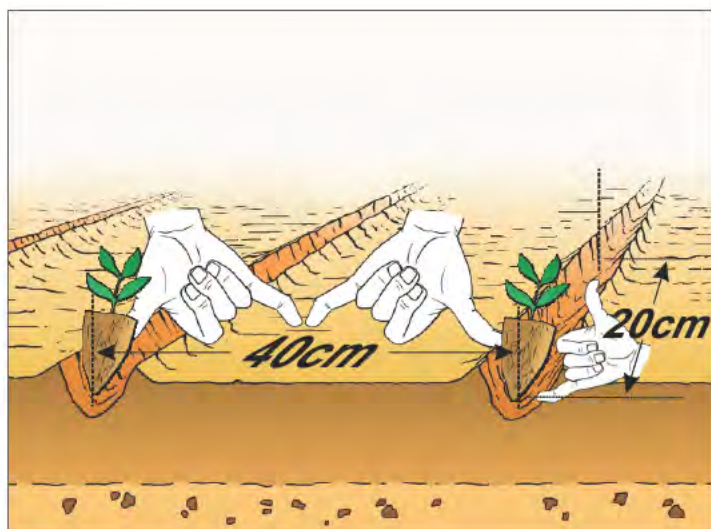
Warm: All year

Days to harvest

100 to 130 days

Spacing

50 cm by 40 cm



Spinach (Seedlings)



Plant

Cool : Aug to Feb

Warm: Jan to April

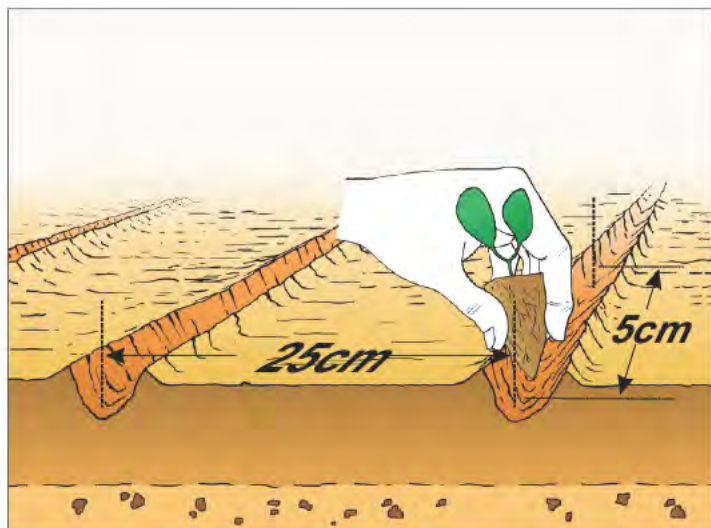
July to Sept

Days to harvest

60 to 70 days

Spacing

40 cm by 10 cm



Beetroot (Seedlings)



Plant

Cool : Aug to March

Warm: All year

Days to harvest

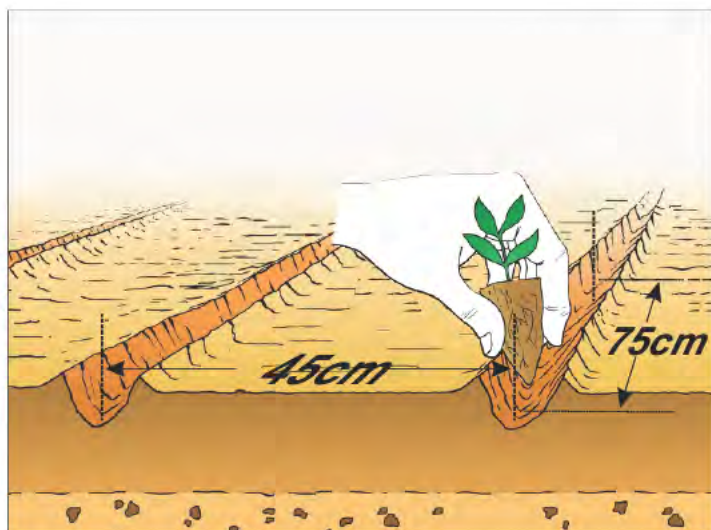
75 to 100 days

Spacing

25 cm by 5 cm

18 PLANTING SEEDLINGS

(cont.)



Chilli (Seedlings)



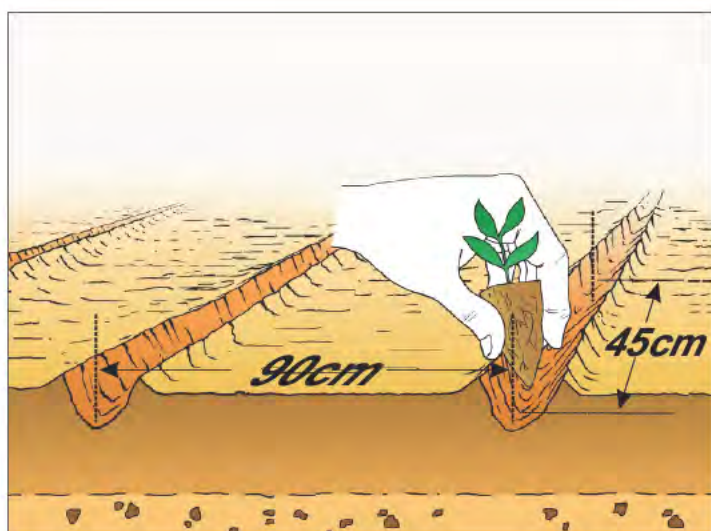
Plant

Cool : Sept to Oct

Warm: Aug to Oct

Spacing

45 cm by 75 cm



Brinjal (Seedlings)



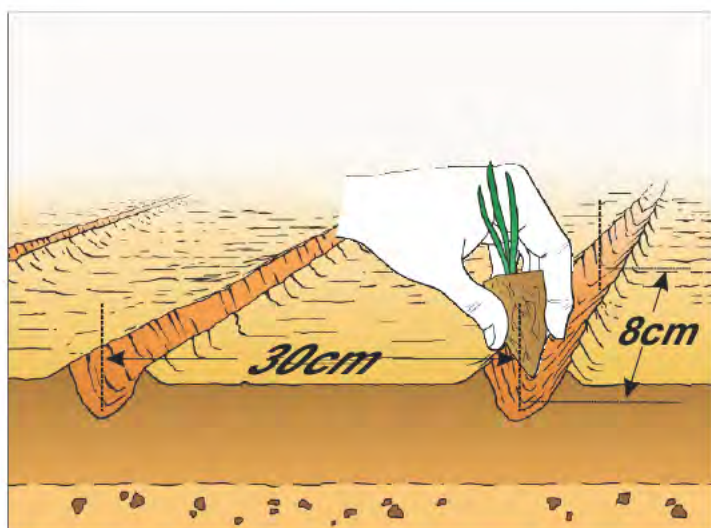
Plant

Cool : Sept to Nov

Warm: Aug to Dec

Spacing

90 cm by 45 cm



Onions (Seedlings)



Plant

Jan to April

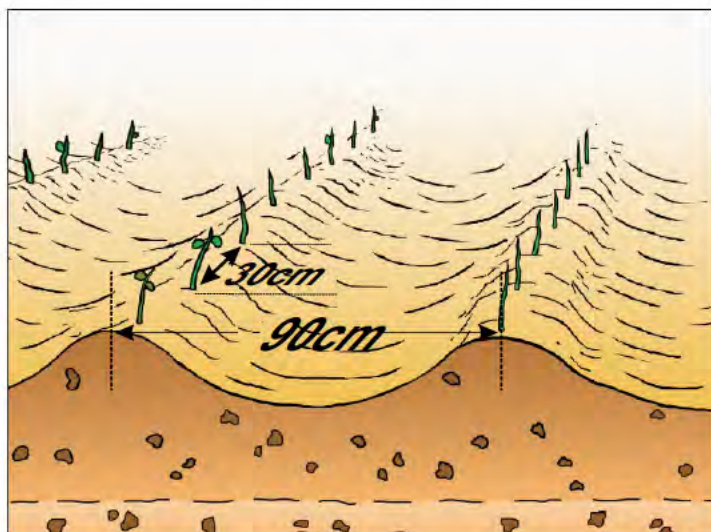
Days to harvest

180 to 230 days

Spacing

30 cm by 8 cm

PLANTING SWEET POTATOES



Sweet Potato (Seedlings/cuttings)



Plant

Cool : Nov

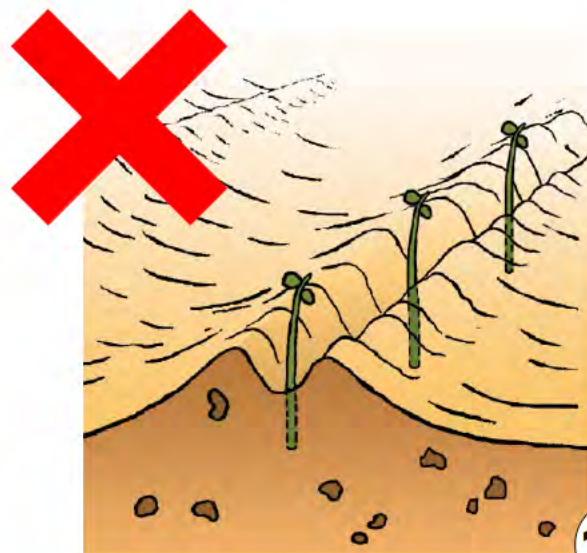
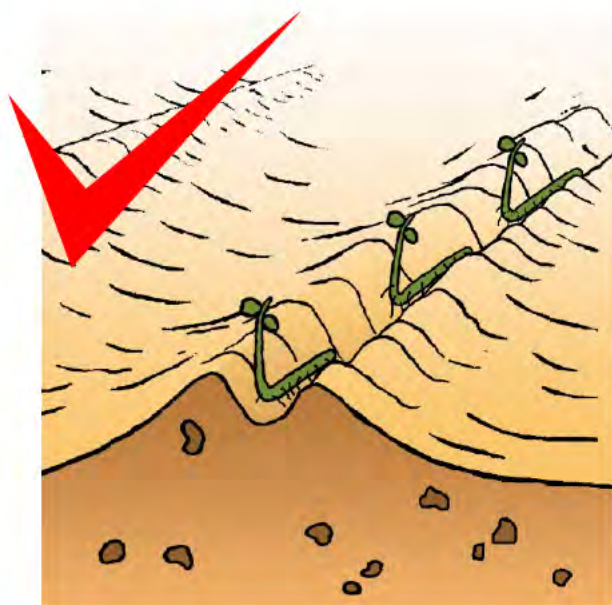
Warm: Nov to Jan

Spacing

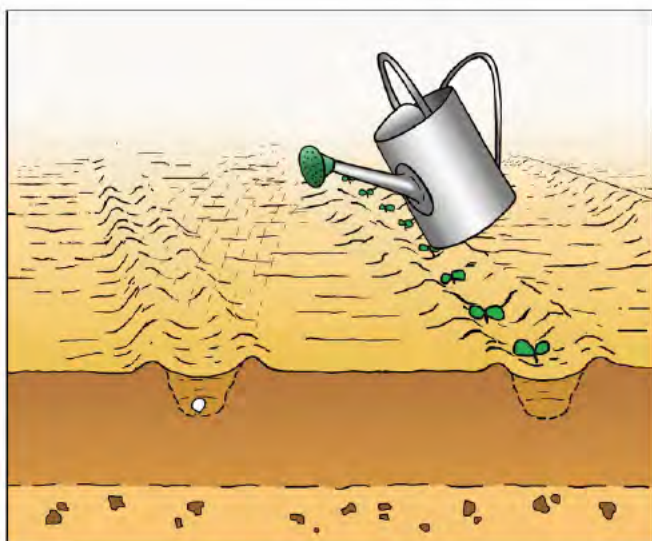
30 cm by 90 cm

Plant vines on top of the ridge.

- Open a shallow furrow on top of the ridge.
- Lay vines flat in the furrow.
- Leave the last two buds above the top of the ridge.
- Close the furrow firmly, covering the vine with 3 to 5cm of soil.
- Plant vines 30cm apart.



AFTER PLANTING: WATERING



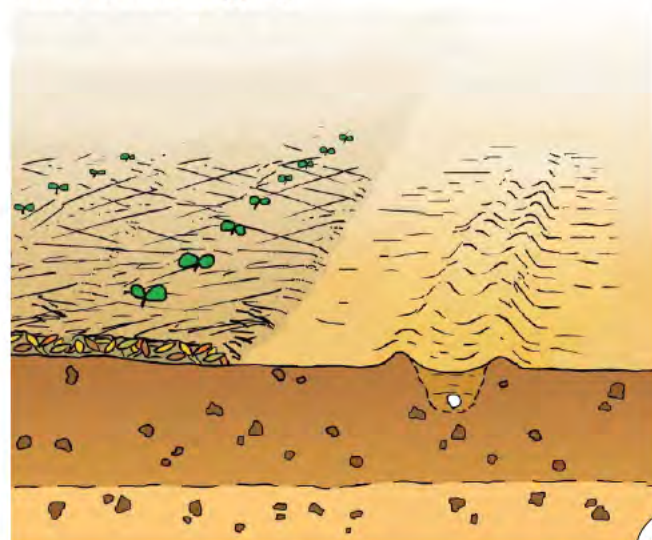
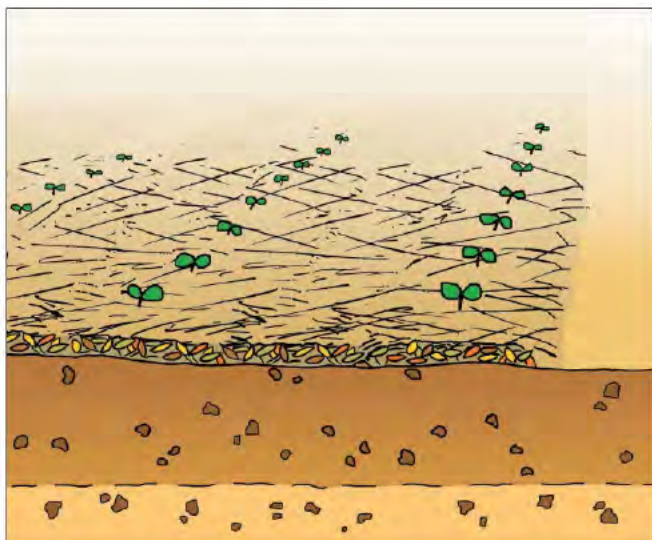
Water well immediately after planting

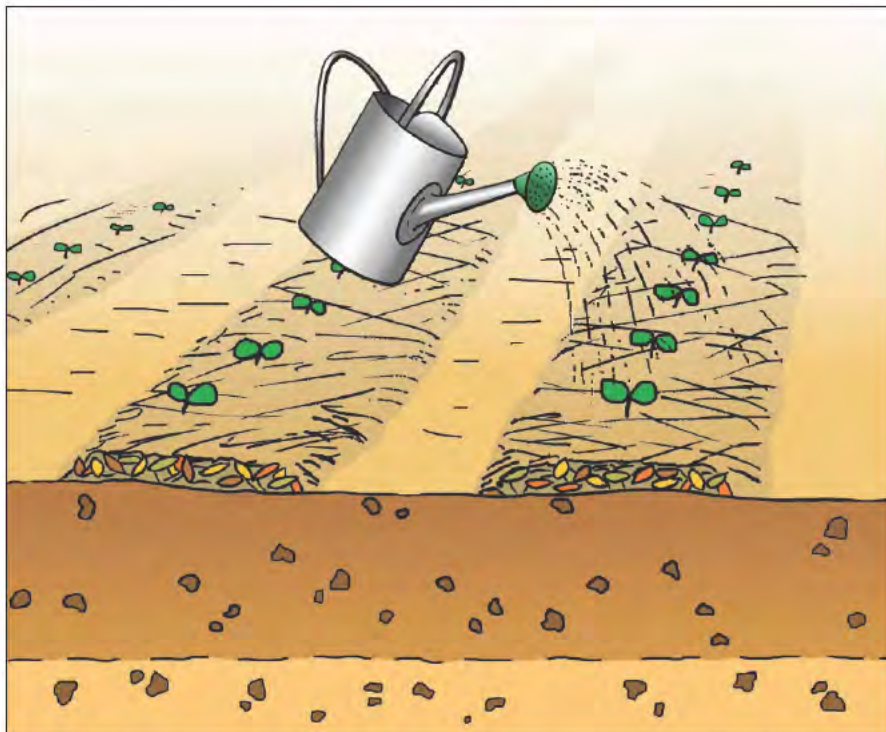
If necessary, apply cutworm bait immediately after transplanting



Mulch rows by surrounding plants with dry grass, leaves or any other dry plant material. More water will stay in the soil and less weeds will grow.

Do not mulch until young plants have emerged





Water every
2 to 3 days
when plants
are young



Weed the
plot at least
once a week

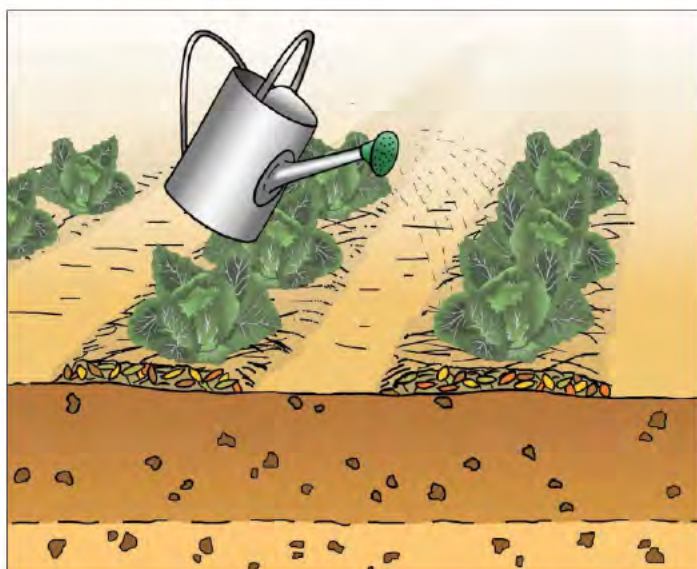


Apply a teaspoon
of LAN per plant
at 3 or 4 weeks
after planting



Cabbages

Apply a teaspoon
of LAN per plant
at 4 weeks and again
at 6 weeks after planting



Water plants after
applying fertilizer



Remove weeds and dead or diseased leaves from the garden and throw them into the fire to burn.

Consult with your technician before using insecticides or fungicides



Spray only with registered insecticides and fungicides

WARNING!



Seeds and chemicals are poisonous.

DO NOT EAT
Store in a SAFE PLACE.



SEEDLING PRODUCTION



Fill seedling tray with seedling mix. Make a small hole in each cell, drop in a seed and cover with seedling mix



Water thoroughly and cover the tray for 2 to 3 days to keep the tray moist

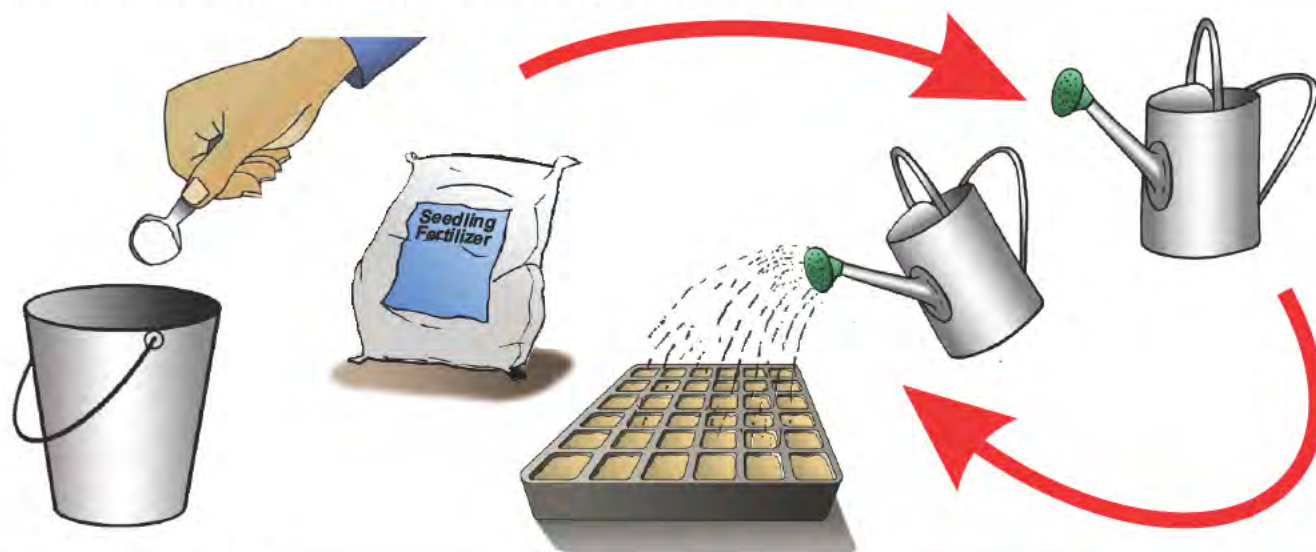


After 2 to 3 days put trays side by side and raise the trays off the ground. This is to prevent the roots from carrying on growing

SEEDLING PRODUCTION (cont.)

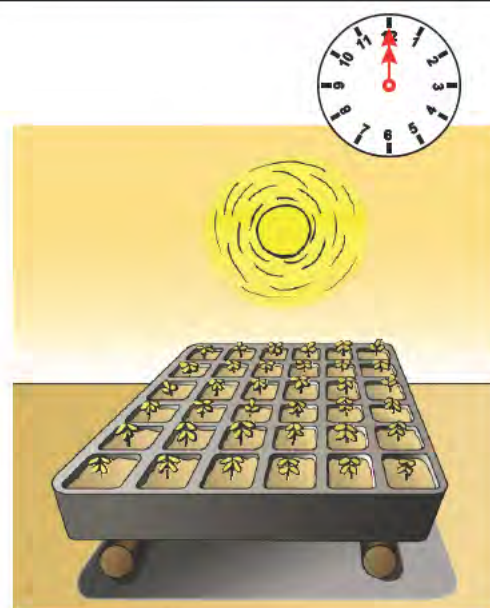


Mix 1 teaspoon of seedling fertilizer per 5l water



Water every morning with seedling fertilizer

When very hot water at lunch time



Plant out seedlings at 6 to 7 weeks





Choose a level area and mark off at least 2 paces by three paces



Grass



Leaves



Straw



Kitchen waste

Kitchen waste = vegetable and fruit peels, eggshells and even bits of newspaper

Start making a heap by layering the following:

- 1) Plant material
- 2) Animal manures
- 3) Soil

4

3

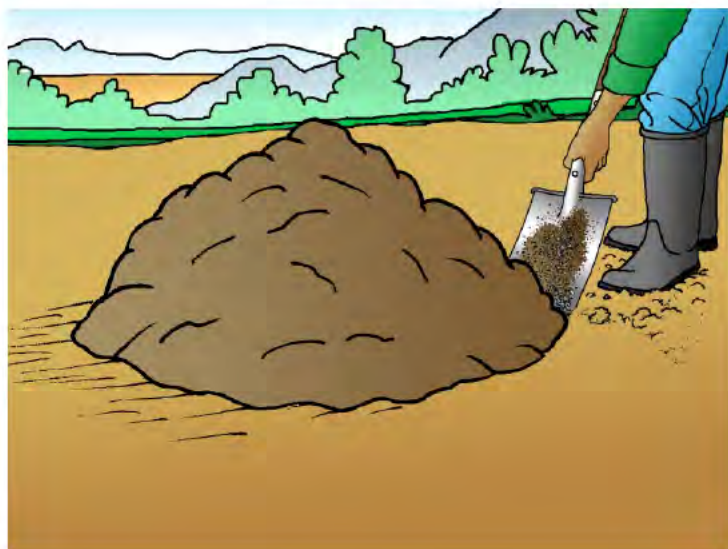
2

1



Make another three of the same layers on top of the first to make the heap higher

MAKING COMPOST (cont.)



Wait for the compost to heat inside and cool again. Then turn the heap over and water with a watering can



After three months the compost should not be smelly anymore. It is now ready to use. Over an area of 1 pace long and 1 pace wide where you want to plant, spread 5 litres of compost



Thoroughly dig the compost into the soil. Make sure to break up any clods



South Region

P/ Bag X6005Tel : (033) 343 8300
HiltonFax: (033) 343 4396
3245

Physical address

4 Pinoak Ave
Quarry Centre
Hilton

North Region

Richards Bay Regional Office contact details
Telephone: (035) 780 6700
Fax:(035) 789 0366

General Manager's office

Direct line: (035) 7806719
Direct fax: (035) 789 0660

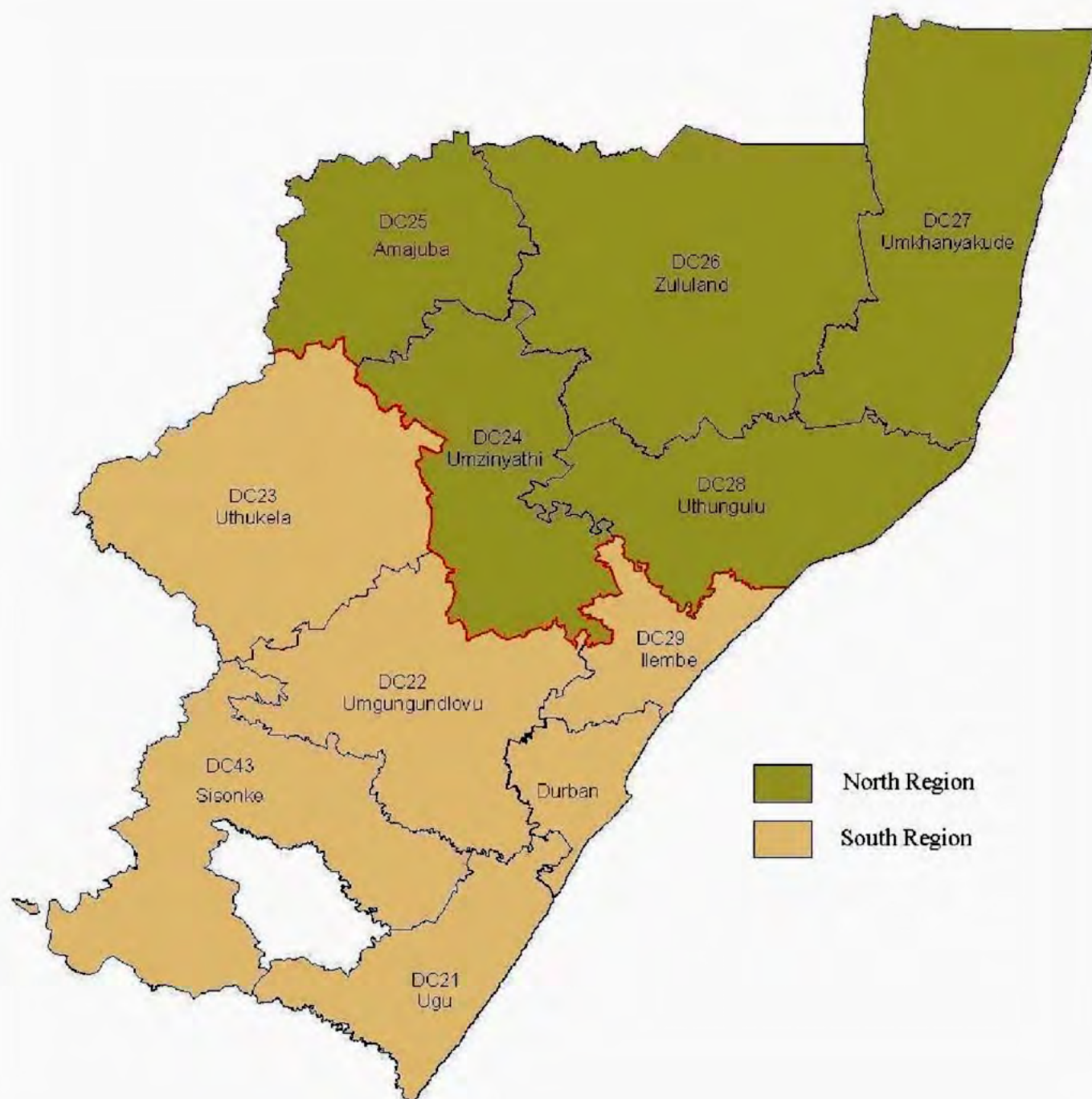
Postal address

Private bag x1049
Richards bay
3900

Physical address

4th floor ABSA building
Penny lane
Richards Bay
(Opposite Boardwalk Shopping Complex)

MAP OF KWAZULU-NATAL







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and Rural Development*



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