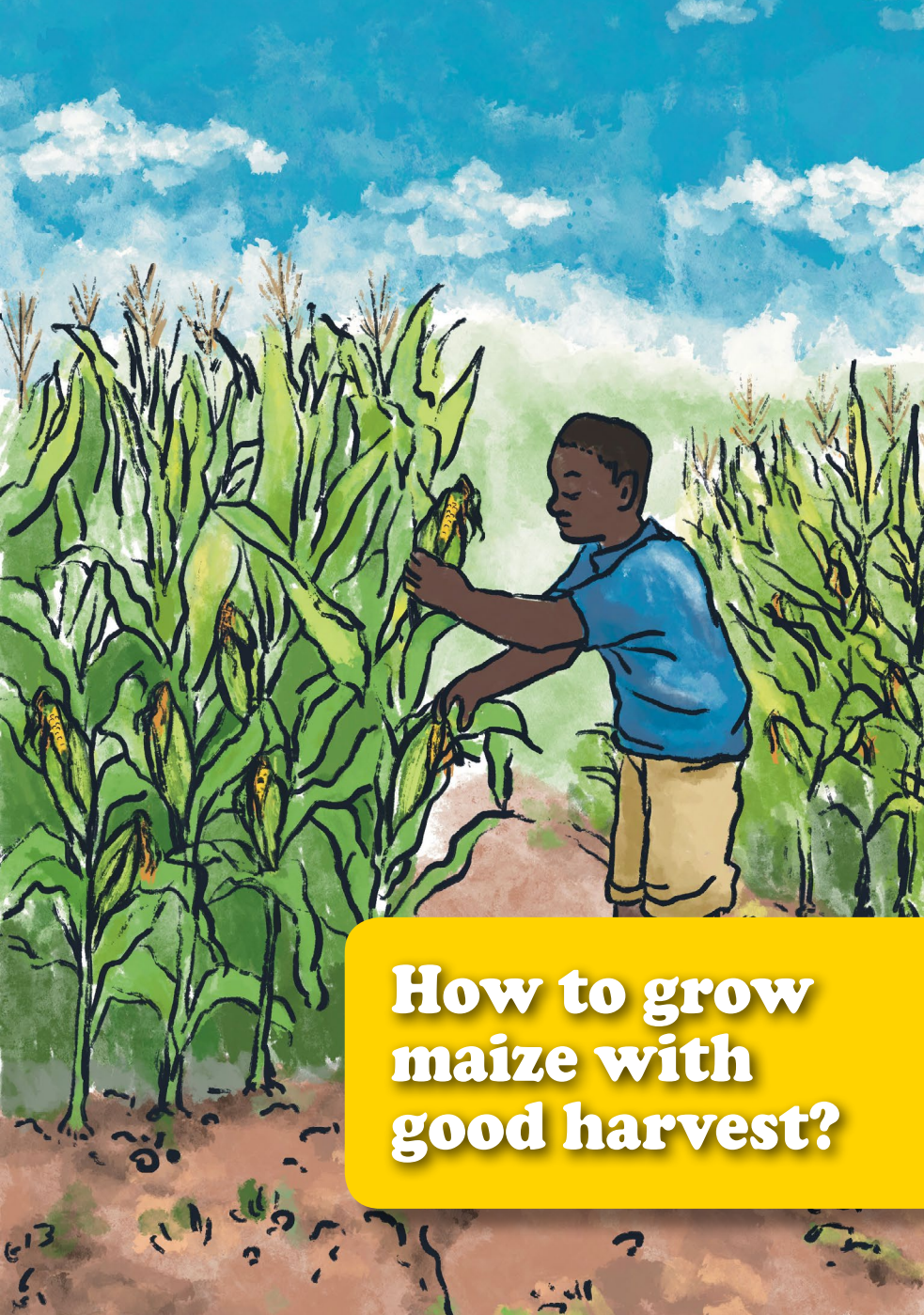

How to grow maize with good harvest?

contents

I Soil preparation and seed sowing

The following are the steps to prepare the soil for planting maize:

i) Prepare the soil for planting by loosening it with a tractor plough or hand hoe (to a depth of 20-30 cm or 8-12 inches).

ii) Make sure that the soil surface of the plot is smooth before sowing your seeds.

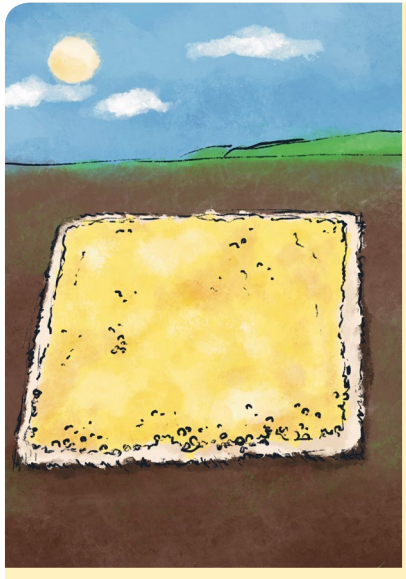
iii) Apply starter fertilizer to the loosened soil close to seed holes, in order to provide essential nutrients to the soil to ensure good growth of maize in the future.

The following are the steps for the selection and preparation of seeds to be sowed.

i) Select high-quality seeds based on the ecological zone and altitude of a specific area.; (before buying the seeds it is better to consult Agricultural Extension Officer for more advise);

ii) Check the seeds to guarantee a high germination rate; (check if the seeds was certified by TOSCI);

iii) Guarantee that all seeds are of genetic purity and physical purity.

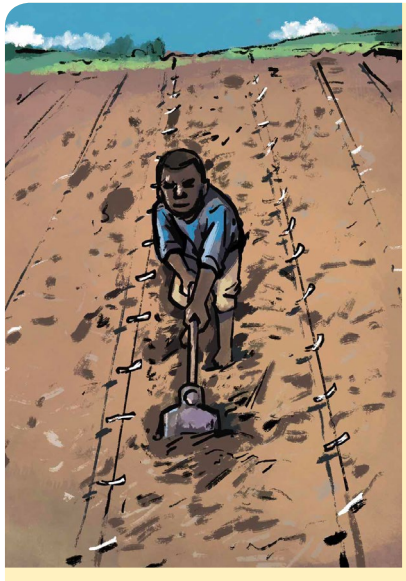


iv) Treat the selected seeds with care; keep the seeds in dry environment.

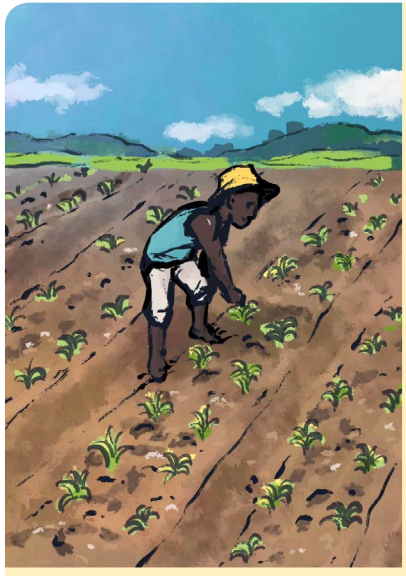
v) Dry the seeds evenly on rush mats in sunshine for 1 or 2 days.

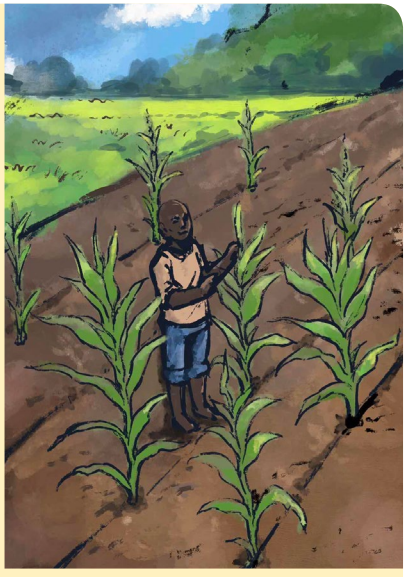
vi) Coat the seeds in order to protect it from diseases and pests or dress the seeds in seed coating agents to have similar effect.

The following are the steps for sowing the seeds.

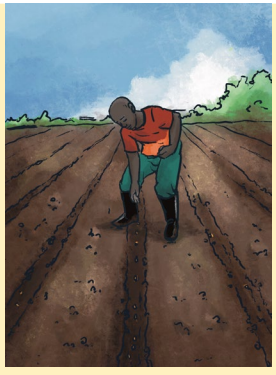


i) Calculate row spacing and plant density to ensure optimum plant population (75 by 30 cm planting spacing will give around 18,000 plant populations per acre).





ii) Plant dwarf maize varieties more densely.



i) Use dibble seeding, row-sowing, or precision-seeding.

ii) Firm the soil to ensure that the seeds will germinate adequately.

II Field management in the growing season

i) After planting seeds inspect the maize plot to see germination. Seeds should be highly germinated; Seedlings should be strong and healthy; check the holes with no germinated seeds.

ii) Maize plot should have reasonable moisture to allow proper germination, too much water might spoil the seeds and a shortage of water might lead to poor germination.

iii) When three leaves sprout on a young plant, seeds with failed germination can be replaced by transplanting seedlings. Transplanting should be made with soil and watering afterwards.

iv) When four to six leaves appear on a young plant, unwanted weak plants should be removed (without disturbing remaining roots). Hoeing should be done timely to loosen the soil and to remove weeds.

v) When five to seven leaves appear on a young plant, fertilizers should be used and irrigation should be minimized since maize is drought enduring in this period.

vi) At tasseling stage maize plants need adequate nutrients and water to keep sizable cobs so it is recommended to apply second fertilization.

vii) The second weeding and earthing up should be done before tasseling. Make earthing up so as to make the roots of maize to be strong and resist falling down by wind. Weeds should be removed from the plot or buried when under the soil during weeding.

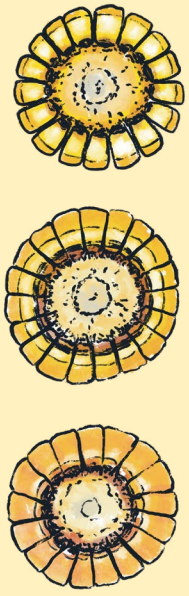
viii) Soil should be well-drained during rainy seasons; plants with soaked roots won't produce good maize cobs.

ix) Green leaves with adequate fertilizer can produce corn ears with full and plump kernels; a shortage of fertilizer may lead to thin kernels and withered leaves.

x) Adequate irrigation is critical in flowering stage and milking stage.

xi) Inspect the maize field frequently and take measures if abnormalities like diseases, pests appear (Combat pests and diseases by using agro-chemicals as advised by Agricultural Extension Worker).

III Techniques for harvesting



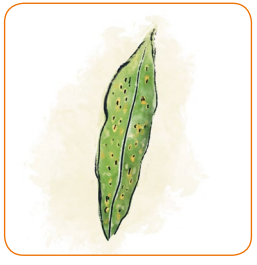
i) Maize becomes mature with milk-lines appear on the kernels, leaves close to the roots turning yellow and kernels getting firmer, and then husk leaves of the maize ears turning yellow and loose.

ii) The maize is ready for harvest when the milk-lines on the kernels disappear.

iii) Sun drying should be done immediately after the harvest.

iv) Maize kernels should be clean of impurities after threshing.

IV Prevention and control of maize diseases and pests



i) Maize growers should be aware of maize diseases and pests. Consult experts for advice if abnormalities like diseases or pests appear.

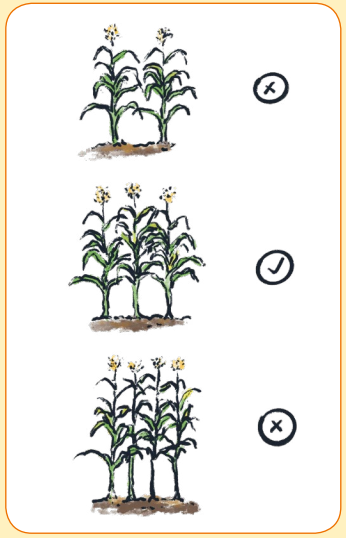
ii) Early prevention and control of maize diseases and pests can minimize loss.

iii) It is necessary to learn measures that can be used to deal with maize diseases.

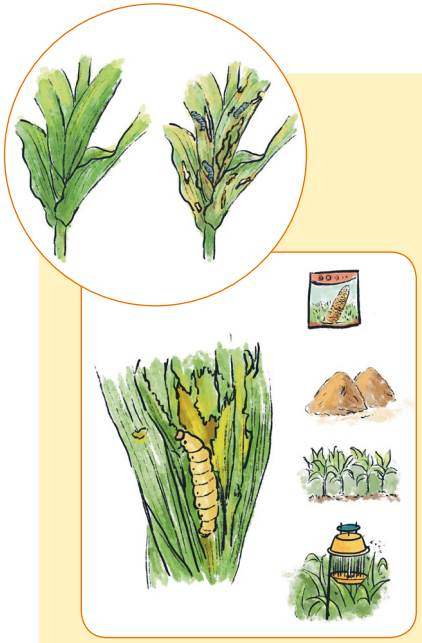
vi) It is a signal to take some action when abnormal color, tar spots or bumps start to appear on maize leaves or stalks.

v) Rotation planting is an effective measure to eliminate diseases.

vi) Adequate fertilizer can make maize plants healthier.



vii) Reasonable planting density can guarantee maize plants with adequate light and air and prevent the appearance of sick and withered leaves.



viii) Maize borers are most common pests that eat maize leaves or make stalks hollow.

ix) It is advisable to choose anti-pest maize varieties.

x) Dried stalks after harvest should be crushed or deep-buried in the field.

xi) Insecticidal lamps should be installed properly; natural enemies of pests should be protected as part of an integrated pest management strategy; pesticides should be applied when necessary.

xii) Scientific planting knowledge should be used whenever working on crop fields.

College of International Development and
Global Agriculture, China Agricultural
University in collaboration with
Morogoro Regional Commissioner's Office