

KABOURA JOINT EVALUATION

NAME..... ADMISSION NO.....

SIGNATURE.....DATE..... School.....

July/August 2024

AGRICULTURE

PAPER 1

2 HOURS

INSTRUCTIONS TO CANDIDATES

- 1. Write your name admission number and the name of your school in the spaces provided above
- 2. Sign and write the date of examination in the spaces provide above.
- 3. This paper consist of three sections A, B and C.
- 4. Answer **all** the questions in section A and B and any **two** questions in section C.
- 5. All answers should be written in the spaces provided.
- 6. All answers must be written in English.
- 7. This paper consist of 11 printed pages.
- 8. Candidates must check to ascertain that all the pages are printed as indicated and that no question is missing.

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	Candidate's score
A	1-15	30	
B	16 -19	20	
C	20-22	40	
Total score		90	

SECTION A (30 Marks)

Answer **all** the questions in this section in the spaces provided.

1. Name four practices in agriculture that make it an art (2 marks)

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2. State four reasons for applying phosphatic fertilizers during planting (2marks)

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3. Give two reasons for carrying out each of the following operations in land preparation:

(a). Rolling (1 mark)

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(b). Leveling. (1 mark)

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4. Give **four** reasons for treating water. (2marks)

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5. Name **four** entries that can be made in animal breeding records. (2marks)

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6. List **four** branches of livestock farming. (2marks)

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7. State **four** characteristics of a good site for a tomato nursery bed site. (2marks)

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8.State **four** natural factors that may encourage soil erosion. (2marks)

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9.(a) Define the term land reform (1mark)

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(b) State **four** benefits of a land registration certificate in farming. (2marks)

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10. What is meant by each of the following in agroforestry. (3 marks)

(a) Pollarding

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(b) Coppicing

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(c) Lopping.

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11. State **four** disadvantages of using organic manure in crop production. (2 marks)

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12. State **four** reasons for top dressing Nappier grass. (2marks)

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13. State **four** features that should be considered when choosing water pipes for use on the farm. (2 marks)

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14. State **four** minimum tillage practices. (2 marks)

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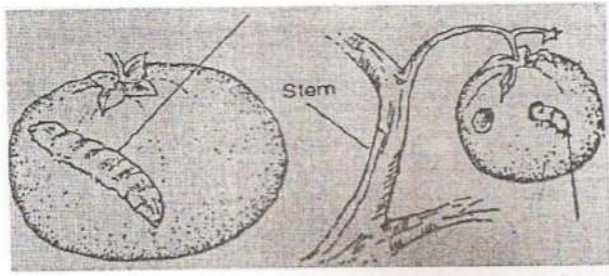
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15. State **four** roles of women based organisations in farming (2 marks)

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SECTION B (20 Marks)

Answer **all** the questions in this section in the spaces provided.

16. The diagram below illustrate a tomato fruit infested by a field pest



(a) Identify the pest. (1 mark)

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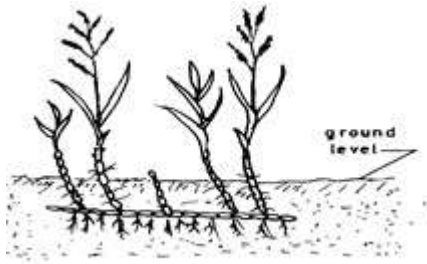
(b) State **three** ways in which the pest is economically important. (3 marks)

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(c) State **three** cultural ways of controlling the pest. (2 marks)

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17. Below is a diagram of a weed. Study the diagram carefully and answer the questions that follow.



a) Identify the weed illustrated above. (1 mark)

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b) Why is the weed illustrated above difficult to control? (1mark)

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(c). State **two** cultural ways of controlling the weed (1 mark)

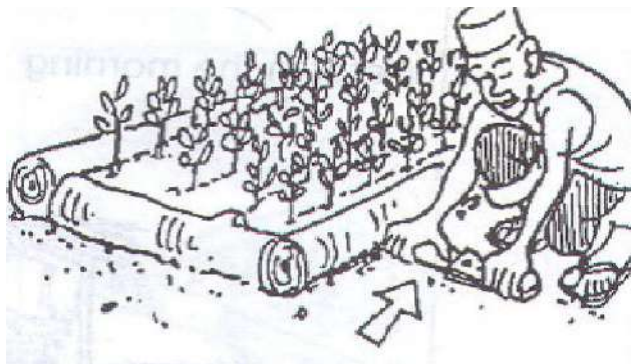
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18.The illustration below shows a tree seedling nursery management practice.



(a). Identify the practice (1mark)

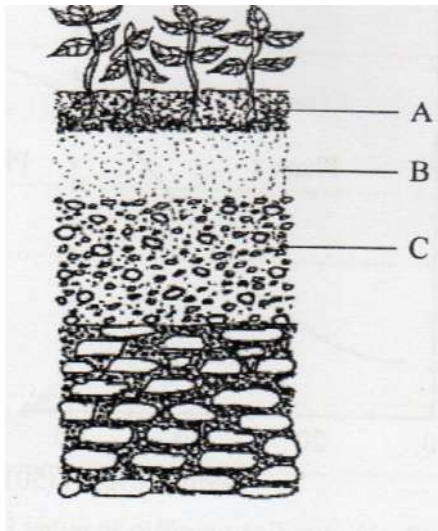
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(b). Give **two** reasons for the practice above (2marks)

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(c). Apart from the practice above, state other **three** practices carried out on seedlings in the nursery (3 marks)

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19. The diagram below illustrates a feature observed after digging the soil several meters deep. Study the diagram carefully and answer the questions that follow.



(a) Identify the feature that the diagram above represents in the study of soil. (1 mark)

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(b) Name the parts of the diagram labeled A and B . (2 marks)

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(c) State **two** ways in which the knowledge of the above feature would be of benefit to a farmer. (2 marks)

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SECTION C (40 Marks)

Answer any **two** questions from this section in the spaces provided.

20.(a) Describe the production of maize under the following sub-headings

(i) seedbed preparation (3 marks)

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(ii) planting; (2 marks)

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(iii) harvesting. (2 marks)

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(b). Describe **seven** physical methods of controlling pests in crops . (7marks)

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b) Explain **five** ways in which HIV/AIDS limits agricultural production. (5marks)

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(c). State **six** reasons why a nursery is important in crop production. (6marks)

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22.(a)(i). Describe how sugar cane is harvested. (4 marks)

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Marking scheme

<u>No.</u>	<u>Answer</u>	<u>Marks</u>
1.	Name four practices in agriculture that make it an art (2 marks) ✓ Tilling of land ✓ Feeding and handling animals. ✓ Measuring distances.	1

	<ul style="list-style-type: none"> ✓ Machine operations. ✓ Harvesting of crops. ✓ Marketing of agricultural produce. ✓ Constructing farm structures 	
2.	<p>State four reasons for applying phosphatic fertilizers during planting (2marks)</p> <ul style="list-style-type: none"> ✓ Less soluble ✓ Promote root development ✓ Slight scotching effect ✓ Long residual effect ✓ Not easily leached 	2
3.	<p><u>Give two reasons for carrying out each of the following operations in land preparation:</u></p> <p>(a) <u>rolling</u> (1 mark)</p> <ul style="list-style-type: none"> ✓ Increases seed soil contact ✓ Compacts soil/seeds to protect it against agents of erosion <p>(b) <u>leveling</u> (1 mark)</p> <ul style="list-style-type: none"> ✓ Ensures uniform depth of planting/uniform germination/uniform fertilizer application ✓ Ensures uniform water level in paddy rice fields ✓ To remove depressions which collect water leading to rotting of seeds. 	2
4.	<p><u>Give four reasons for treating water for use on the farm.</u> (2 marks)</p> <ul style="list-style-type: none"> ✓ Remove chemical impurities/softening of water ✓ Kill disease causing organisms/kill germs/pathogens ✓ Remove bad smells and taste ✓ Remove impurities of solid particles 	2
5.	<p><u>Name four entries that can be made on animal breeding records.</u>(2 marks)</p> <ul style="list-style-type: none"> ✓ Name/number of the sire/dam 	2

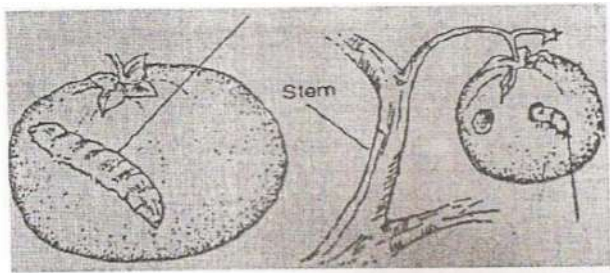
	<ul style="list-style-type: none"> ✓ Date of service ✓ Expected date of calving ✓ Actual date of calving ✓ Sex of the calf ✓ Weight of the calf ✓ Breed of the calf ✓ Service number ✓ Date of pregnancy diagnosis ✓ Remarks 	
6.	<p>List four branches of livestock farming. (2 marks)</p> <ul style="list-style-type: none"> ✓ Pastoralism/Mammalian livestock farming ✓ Fish farming/aquaculture ✓ Apiculture/bee keeping ✓ Poultry rearing 	2
7.	<p>State four characteristics of a good site for a tomato nursery bed site.</p> <ul style="list-style-type: none"> ✓ Near a reliable water source ✓ Well drained area with deep fertile soils ✓ Gently sloping area ✓ Secure area ✓ Sheltered area ✓ Should not have been used for the same crop species in the previous season 	2
8.	<p>State four natural factors that may influence soil erosion. (2 marks)</p> <ul style="list-style-type: none"> ✓ Amount of rainfall and rainfall intensity ✓ Topography/slope 	2

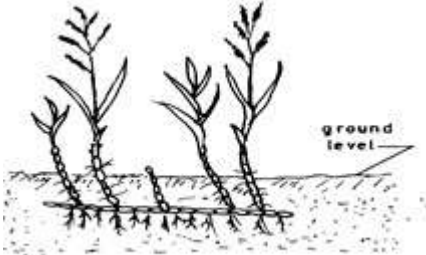
	<ul style="list-style-type: none"> ✓ Type of soil ✓ Size of watershed/catchment ✓ Length of the slope ✓ Vegetation cover ✓ Wind velocity/strength of wind ✓ Soil depth. 	
9.	<p>(a) <u>What is meant by the term land tenure reform?</u></p> <ul style="list-style-type: none"> ✓ It's any organized action designed to improve land use and ownership <p>(b). <u>Importance of land registration certificate</u></p> <ul style="list-style-type: none"> ✓ Used to secure credit facilities for land development ✓ Land disputes are minimised ✓ Encourage farmer to carry out long term investment on the land ✓ Enables owner to lease the farm and thus get extra income ✓ Provide security of ownership 	<p>1</p> <p>2</p>
10.	<p>(a) Pollarding - cutting back the crown and the top branches of a tree;</p> <p>(b) Coppicing - cutting down trees about half a meter from the ground;</p> <p>(c) Lopping - cutting one or more branches from the stem</p>	2
11.	<p><u>State four disadvantages of using organic manure in crop production.</u></p> <ul style="list-style-type: none"> ✓ Low nutritive value per unit volume/weight. ✓ Likelihood of spread of disease,pests and weeds. ✓ Bulky;difficult to store,transport and apply. ✓ Looses nutrients if poorly stored. ✓ May burn crops if not fully decomposed 	2
12.	<p><u>State four reasons for top dressing nappier grass</u> (2 marks)</p> <ul style="list-style-type: none"> ✓ Add soil nutrients and ensure proper nutrient balance 	2

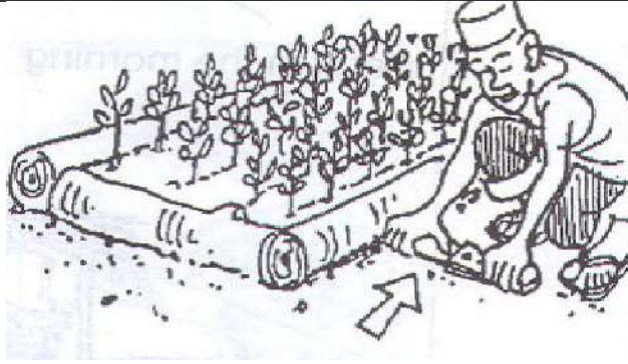
	<ul style="list-style-type: none"> ✓ Increase herbage yield ✓ To improve the nutrient value of the crop ✓ Correct or amend soil physical and chemical properties ✓ Promote soil microbial activities 	
13.	<p><u>Features that should be considered when choosing water pipes for use on the farm.</u> (2 marks)</p> <ul style="list-style-type: none"> ✓ Durability ✓ Strength/ability to withstand pressure/thickness of the wall of the pipe ✓ Diameter/size of the pipe ✓ Workability ✓ Colour 	2
14.	<p><u>State four minimum tillage practices.</u>(2 marks)</p> <ul style="list-style-type: none"> ✓ Application of herbicides ✓ Mulching ✓ Timing cultivation ✓ Restricting cultivation to planting areas ✓ Cover cropping ✓ Uprooting/slashing weeds 	2
15.	<p>State four roles of agricultural based women groups in farming.(2 marks)</p> <ul style="list-style-type: none"> ✓ Loaning members to finance their activities. ✓ Enlighting members on improved/modern farming techniques/emerging issues. ✓ Promote income generating activities for members. ✓ Assist in marketing agricultural produce for the members. 	2

	<ul style="list-style-type: none"> ✓ Buy farm inputs in bulk and sell to members at a low price. ✓ Collectively assist members in their farm operations. ✓ Guarantee members for loans ✓ Gathering information in intended projects/visibility/studies ✓ Act as agents of change in the community 	
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SECTION B (20 MARKS)

16.	<p><u>The diagram below illustrate a tomato fruit infested by a field pest</u></p> <div style="text-align: center;">  </div> <p>(a) <u>Identify the pest.</u> (1 mark)</p> <ul style="list-style-type: none"> ✓ American-bollworms <p>(b) <u>State two ways in which the pest is economically important.</u> (2 marks)</p> <ul style="list-style-type: none"> ✓ Reduces the quality of produce by boring holes on fruits ✓ Increase the cost of production by purchase of pesticide <p>(c) <u>State three cultural ways of controlling the pest.</u> (3 marks)</p> <ul style="list-style-type: none"> ✓ Early planting ✓ Field hygiene/Removal and destruction of affected crop residues ✓ Plant Mexican marigold in the field ✓ Destruction of alternate host ✓ Close season ✓ Crop rotation ✓ Intercropping 	<p>1</p> <p>1</p> <p>3</p>
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17.	<p>Below is a diagram of a weed. Study the diagram carefully and answer the questions that follow.</p>  <p>a). Identify the weed illustrated above. (1 mark)</p> <p>✓ Couch grass</p> <p>b) Why is the weed illustrated above difficult to control? (1 mark)</p> <p>✓ presence of underground stems/rhizomes which are difficult to control</p> <p>(c). State two cultural Ways of controlling the weed.(1 mark)</p> <p>i) Mulching</p> <p>(ii) Cover cropping</p> <p>(iii) Crop rotation</p> <p>(iv) Timely planting</p> <p>(v) Proper spacing;</p> <p>(v) Flooding</p> <p>(vi) Clean seedbed</p>	
18.	<p><u>The illustration below shows a tree seedling nursery management practice.</u></p>	<p>2</p> <p>2</p>



(a). **Identify the practice** (1mark)

✓ Root pruning/trimming

(b). **Give two reasons for the practice above** (2marks)

✓ Encourages development of short, dense and strong rooting system for faster establishment after transplanting.

✓ It facilitate/ease lifting of seedlings/minimize root damage during transplanting.

(c). **Apart from the practice above, state other four practices carried out on seedlings in the nursery** (3 marks)

✓ Disease and pest control

✓ Shading

✓ Foliar feeding

✓ Watering

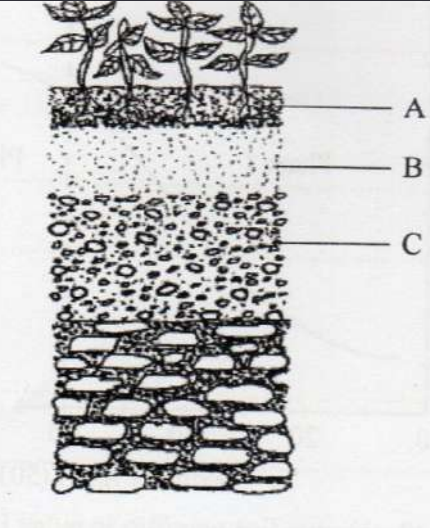
✓ Hardening off

✓ Pricking out

19. The diagram below illustrates a feature observed after digging the soil several meters deep. Study the diagram carefully and answer the questions that follow.

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3

	 <p>(a) Identify the feature that the diagram above represents in the study of soil. (1 mark)</p> <p>✓ Soil profile</p> <p>(b) Name the parts of the diagram labeled A and B . (2 marks)</p> <p>A ✓ Top soil</p> <p>B ✓ Sub-soil</p> <p>(c) State two ways in which the knowledge of the above feature would be of benefit to a farmer. (2 marks)</p> <p>✓ Helps the farmer to choose appropriate crop to grow</p> <p>✓ Helps to determine depth of ploughing</p> <p>✓ Helps the farmer to determine the kind of foundations for farm structures</p>	2
<u>SECTION C (40 Marks)</u>		
20	<p>(a). (a) Describe the production of maize under the following sub-headings:</p> <p>(i) seedbed preparation (3 marks)</p> <p>✓ Bush clearing.</p> <p>✓ Carry out primary cultivation.</p> <p>✓ Carrying out secondary cultivation.</p> <p>✓ Prepare land early during the dry season.</p>	7

	<ul style="list-style-type: none"> ✓ Use of scarecrows /scaring away the pests ✓ Use of physical barriers to prevent infestation by the pests ✓ Use of electromagnetic radiation to kill the pests. <p>(c). <u>Reasons for practising crop rotation</u></p> <ul style="list-style-type: none"> ✓ Maximizes utilisation of nutrients ✓ Control soil borne pests and disease build up ✓ Improvement of soil structure ✓ Control soil erosion ✓ Controls weeds that are specific to certain crops e.g. striga on cereals . ✓ Improves soil fertility when legumes are included 	
21.	<p>(a). <u>Describe the environmental conditions that may lead to low crop yields</u></p> <ul style="list-style-type: none"> ✓ Hailstorm damage ✓ Poor soil fertility ✓ Extreme light intensity ✓ Poor weed control ✓ Inappropriate temperature ✓ Inadequate rainfall ✓ Poor soil PH ✓ Pest and disease attack ✓ Extreme relative humidity <p>(b). <u>Ways in which HIV/AIDS limits agricultural production</u></p> <ul style="list-style-type: none"> ✓ Shortage of labour ✓ Lack of motivation to invest in agriculture ✓ Increased cost of living leading to low investment in agriculture/lack of resources for Agricultural production.; ✓ Government and NGOs are spending a lot of time and resources controlling the 	<p>9</p> <p>5</p>

	<p>✓ Break the flower stalks to maintain quality.</p> <p>(b). <u>Describe eight importance of budgeting in agricultural production.</u> (8 marks)</p> <p>✓ Acts as a record for future reference.</p> <p>✓ Helps in deciding the viability of the enterprise</p> <p>✓ Assist in securing credit.</p> <p>✓ Helps to predict the profitability of the enterprise.</p> <p>✓ Aids in detecting problems easily hence correction is done in good time.</p> <p>✓ Aids in making management decisions especially when comparing between enterprises.</p> <p>✓ Helps in making changes in the farm.</p> <p>✓ Ensures periodic analysis of the farm business.</p> <p>✓ Encourage the farmer to be efficient so as to meet the target.</p> <p>(c). <u>cultural methods of soil and water conservation</u></p> <p>✓ Grass/ Filter strips:- reduce speed of flowing water/ filter soil</p> <p>✓ Cover cropping;prevents surface flow/ reduces impact of rain drops/ prevents evaporation/ volatilization</p> <p>✓ Contour farming;creates ridges of soil which hold up water/ reduce speed of run-off</p> <p>✓ Mulching;reduces impact of rain drops/ prevents evaporation/ surface run-off</p> <p>✓ Rotational grazing;allows grass to recover for soil and water conservation</p> <p>✓ Crop rotation;maintains soil cover for protection against soil erosion/ improves soil structure thus increasing water infiltration</p> <p>✓ Inter cropping; provides adequate cover on the soil</p> <p>✓ Strip cropping;the different strips reduce speed of run-off/filter soil from run off</p> <p>✓ Grassed/ vegetated waterways;slow the speed of water/ trap eroded soil from run off</p> <p>✓ Afforestation/Re-afforestation;act as water catchments/ stabilizes soil/canopy intercepts raindrops/ wind</p>	<p>2</p> <p>3</p> <p>3</p>
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	<ul style="list-style-type: none">✓ Agroforestry; stabilises soil/ canopy intercepts raindrops/act as water catchment✓ Use of manures/fertilizers; promotes vegetative growth which covers soil against evaporation and erosion✓ Correct spacing of crops; ensures adequate soil cover.	5
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