

## Get ready!

1 Before you read the passage, talk about these questions.

- 1 In what ways can soil be damaged?
- 2 What parts of your country have the best soil?

## A Guide to Soil Conservation

Without healthy soil, farmers can't produce healthy crops. But soil faces many threats, including **nutrient depletion** and **erosion**. Fortunately, several methods of **soil conservation** can turn unhealthy soil into a plant paradise.

One method, **crop rotation**, solves nutrient depletion. **Cover crops**, or **green manure**, are rotated with other crops. This process increases the amount of nitrogen in the soil and reverses **land degradation**.

In addition to addressing nutrient-depletion, farmers also combat erosion. Several practices can prevent erosion. Planting **windbreaks** stops topsoil loss from wind. **Perimeter runoff control** prevents erosion from water. For example, **grassways** slow water and direct it away from fields.

**Contour-farming** techniques, such as **keyline design**, also prevent water from eroding soil. In one method, farmers plow rows **perpendicular** to hills. The water slows as it reaches the rows, which results in less soil loss.

windbreak

erosion

cover crops

perpendicular

## Reading

2 Read the magazine article. Then, choose the correct answers.

- 1 What is the main purpose of the article?
  - A to show the benefits of soil additives
  - B to describe soil conservation methods
  - C to recommend soil conservation products
  - D to explain the financial costs of soil damage
- 2 Which is NOT a suggestion made in the article?
  - A planting cover crops
  - B using keyline design
  - C applying manure fertilizer
  - D having perimeter runoff control
- 3 Which would be the best solution for nutrient depletion?
 

A crop rotation	C windbreaks
B soil conservation	D contour farming

## Vocabulary

3 Match the words (1-8) with the definitions (A-H).

- 1 — nutrient depletion
  - 2 — contour farming
  - 3 — cover crops
  - 4 — green manure
  - 5 — soil conservation
  - 6 — grassways
  - 7 — keyline design
  - 8 — perimeter runoff control
- A a name for cover crops that add nitrogen
  - B process where nutrients are taken from soil
  - C grassy areas that slow water flow
  - D the practice of maintaining soil
  - E plants that add nutrients to soil and prevent it from washing away
  - F a method of plowing to prevent erosion
  - G the use of plants near a field's borders to prevent erosion
  - H design that maximizes water resources

**4 Write a word that is similar in meaning to the underlined part.**

- The rows are at right angles to the fence.  
p \_ \_ p e \_ d \_ \_ \_ \_ a \_
- The farmer needs a way to stop wind or water removing the soil in his fields. \_ \_ o \_ \_ \_ n
- Tree barriers shelter fields from the wind.  
\_ \_ n \_ \_ \_ \_ a \_ \_
- Growing different crops at different times helps keep soil healthy.  
c \_ \_ \_ r \_ \_ \_ t \_ \_ \_
- The forest experienced negative effects on the land after the flood.  
\_ \_ n \_ \_ e \_ \_ \_ d \_ \_ \_ \_ n

**5 Listen and read the magazine article again. What is the importance of perimeter grassways? What do they do?**

**Listening**

**6 Listen to a conversation between two farmers. Mark the following statements as true (T) or false (F).**

- The farmers are concerned about nutrient depletion.
- The land the farm sits on is flat.
- The farmers will plant a grassway.

**7 Listen again and complete the conversation.**

Farmer 1: I'm really worried about the soil in the fields. It's  
1 \_\_\_\_\_ soggy.

Farmer 2: Yeah, there's been so much rainfall the 2 \_\_\_\_\_.

Farmer 1: The soil is 3 \_\_\_\_\_. We have to do something.

Farmer 2: I agree. But what can we do?

Farmer 1: I think contour farming is a good option.

Farmer 2: I'm 4 \_\_\_\_\_ that. We'd have to re-design our fields.

Farmer 1: True, but look at our land! We have 5 \_\_\_\_\_.

Farmer 2: Well, you 6 \_\_\_\_\_ there. Contour-farming could be good for us in the next few years. But we have to do something sooner than that.

Farmer 1: How about starting with a grassway?

Farmer 1: I like that. We can buy some sod and install it next weekend.

**Speaking**

**8 With a partner, act out the roles below based on Task 7. Then, switch roles.**

**USE LANGUAGE SUCH AS:**

*I'm worried about the soil in the fields.*  
*We have to do something.*  
*We'd have to re-design our fields.*

**Student A:** You are a farmer.

Talk to Student B about:

- soil condition
- future plans
- immediate plans

**Student B:** You are a farmer.

Talk to Student A about soil.

**Writing**

**9 Use the conversation from Task 8 and the magazine article to fill out the farmer's plan.**

**Plan for Field 7**

Problem: \_\_\_\_\_

Solution: \_\_\_\_\_

Problem: \_\_\_\_\_

Solution: \_\_\_\_\_

Problem: \_\_\_\_\_

Solution: \_\_\_\_\_

## Get ready!

1 Before you read the passage, talk about these questions.

- How are fields in your country prepared for planting?
- What planting methods are the most common in your country?

## Reading

2 Read the section of The Farmer's Guide. Then, mark the following statements as true (T) or false (F).

- Amendments add nutrients to soil.
- Herbicides should be applied weeks after planting.
- Broadcast seeding is effective with oats.

## Vocabulary

3 Match the words (1-5) with the definitions (A-E).

- |  |  |
|--|--|
| 1 <input type="checkbox"/> seeds per pound   | 4 <input type="checkbox"/> amendment             |
| 2 <input type="checkbox"/> broadcast seeding | 5 <input type="checkbox"/> seeds per square foot |
| 3 <input type="checkbox"/> plant density     |  |

- A a method of scattering seeds  
 B amount of seeds planted per square foot  
 C the number of seeds in a pound of seeds  
 D the number of plants in a certain area  
 E a substance added to improve soil



plant density

broadcast seeding

## The Farmer's Guide



## Chapter 1: Preparing, Seeding, and Planting

Although different crops demand different preparation, some practices apply to almost any crop. And what you do before planting is just as important as what you do after. Preparing the **topsoil** is always key. Test it in late summer to determine if **amendments** like lime, sulfur, or phosphorous are needed to adjust acidity. If the soil is nutrient-deficient, add fertilizer.

Likewise, most fields require treatment with an **herbicide**. Waiting two weeks to plant after using some herbicides is recommended.

Once the **soil temperature** is right, planting can begin. The **seeding rate** is determined by the ideal **seeds per pound** and **seeds per square foot**. Be sure to calculate the appropriate **plant density**. A miscalculation will result in low **emergence**.

The actual planting of seeds will vary by crop. **Broadcast seeding** may work for some seeds, while seed drills work better for small grains such as wheat or oats.



topsoil



herbicide

fertilizer

4 Fill in the blanks with the correct words and phrases from the word bank.

**Word BANK**

soil temperature    topsoil    seeding rate  
herbicide    emergence    fertilizer

- The farmer used \_\_\_\_\_ to improve the soil.
- The weeds died after Mary used \_\_\_\_\_.
- It is still too cold to plant the seeds; the \_\_\_\_\_ is 25 degrees.
- During droughts, the \_\_\_\_\_ can be blown away by strong winds.
- The farmer was pleased to have 90 percent \_\_\_\_\_ of the newly planted crops.
- This field's \_\_\_\_\_ is 10 pounds per acre.

5 Listen and read the section of The Farmer's Guide again. Which month would be best to test the topsoil?

**Listening**

6 Listen to a conversation between two farmers. Check (✓) the items the farmers plan to implement to increase production.

- increased plant density
- fewer seeds per square foot
- fertilizer
- planting more fields

7 Listen again and complete the conversation.

**Farmer 1:** Well, our production has been down. We didn't produce 1 \_\_\_\_\_ this year as we did last year.

**Farmer 2:** That's true. You think it's because we planted 2 \_\_\_\_\_ close together?

**Farmer 1:** Yes, exactly. I know we were trying to grow more wheat per field. But it's 3 \_\_\_\_\_ effect.

**Farmer 2:** So what do you suggest?

**Farmer 1:** We'll 4 \_\_\_\_\_ our seeding rate and plant fewer seeds per square foot.

**Farmer 2:** I guess that would work. But we can do more to increase production.

**Farmer 1:** What were 5 \_\_\_\_\_?

**Farmer 2:** Well, just the usual. Adding 6 \_\_\_\_\_, things like that.

**Speaking**

8 With a partner, act out the roles below based on Task 7. Then, switch roles.

**USE LANGUAGE SUCH AS:**

*Our production has been down.  
What do you suggest?  
We can do more to increase production.*

**Student A:** You are a farmer. Talk to Student B about:

- crop production
- plant density
- improving soil

**Student B:** You are a farmer. Talk to Student A about your fields.

**Writing**

9 Use the conversation from Task 8 to fill out the farmer's email to the farm owner.

Dear Mr. Owens.

I want to change how we \_\_\_\_\_.

This year, \_\_\_\_\_.

I think this is due \_\_\_\_\_.

I recommend that we \_\_\_\_\_.

We can also \_\_\_\_\_.

Please let me know what you think of these changes.

Sincerely,

\_\_\_\_\_



## Vegetables

## SEEDS UNLIMITED

Poblano Pepper \$3.19/pack

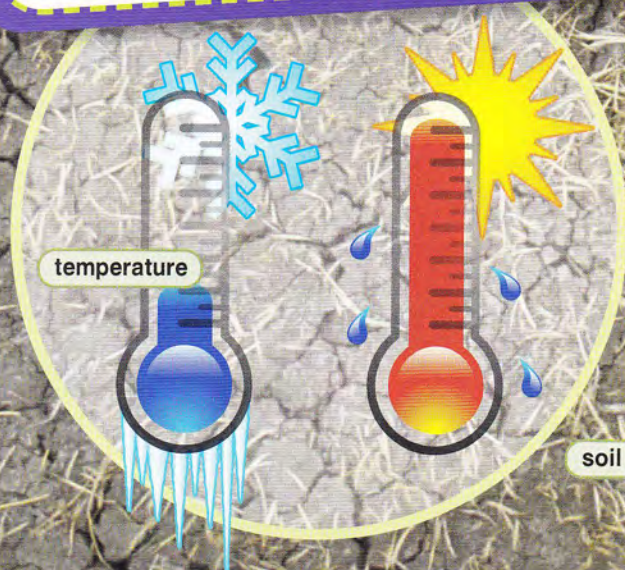
Plant in: full sun / soil temperature: 68-90 degrees Fahrenheit

Description: Poblanos are flavorful peppers that are perfect for spicing sauces. They grow in warm areas with moderate **humidity**. Check your **hardiness zone** to make sure Poblanos grow in your region. Plant seeds about twelve weeks before **last frost**. A local **long-range forecast** will help you determine when to plant. Poblanos need some water, but just to keep the soil slightly damp. Do not over-water. Harvest after 14 to 16 weeks.

Famosa Cabbage \$3.79/pack

Plant in: partial shade / soil temperature: 59-64.4 degrees Fahrenheit

Description: The Famosa Cabbage is a crispy vegetable that grows in cool **climates**. Famosas need lots of water, so areas with high **precipitation** are ideal for growing. Use plenty of **mulch** to maintain healthy **soil moisture**. These cabbages need only partial sun. Plant six weeks before last frost. Harvest in late autumn for best results.



## Get ready!

1 Before you read the passage, talk about these questions.

- 1 How does the climate in your country affect farming?
- 2 How can weather help and harm crops?

## Reading

2 Read the seed catalog. Then, mark the following statements as true (T) or false (F).

- 1  Poblano peppers grow best in areas with high precipitation.
- 2  Both types of seeds require full sun.
- 3  The cabbage should be harvested in the fall.

## Vocabulary

3 Fill in the blanks with the correct words and phrases from the word bank.

## Word BANK

precipitation last frost  
temperature hardiness zones

- 1 If the \_\_\_\_\_ falls too low, the plants will die.
- 2 Don't plant any seeds until after the \_\_\_\_\_.
- 3 If there is enough \_\_\_\_\_, you won't have to irrigate.
- 4 Different plants may have different \_\_\_\_\_.

**4 Match the words (1-5) with the definitions (A-E).**

- 1 \_\_\_ climate
- 2 \_\_\_ humidity
- 3 \_\_\_ mulch
- 4 \_\_\_ long-range forecast
- 5 \_\_\_ soil moisture

- A weather conditions in a particular area
- B the amount of water in the soil
- C the amount of water in the air
- D material that is spread on the ground to protect plants
- E a prediction of future weather conditions

**5 Listen and read the seed catalog again. What kind of location would be perfect for growing Famosa cabbage?**

**Listening**

**6 Listen to a conversation between a seed store employee and a customer. Mark the following statements as true (T) or false (F).**

- 1 \_\_\_ The Scottsdale seeds grow best in warm climates.
- 2 \_\_\_ The man suggests a different seed type.
- 3 \_\_\_ The last frost of the season has passed.

**7 Listen again and complete the conversation.**

**Customer:** Excuse me. Can you help me  
1 \_\_\_\_\_ some seeds?

**Employee:** 2 \_\_\_\_\_, \_\_\_\_\_. What type of crop do you want to grow?

**Customer:** I'm going to plant some lettuce. I found these Scottsdale lettuce seeds.

**Employee:** Oh, I wouldn't plant the Scottsdale. It needs a 3 \_\_\_\_\_ climate. I 4 \_\_\_\_\_ the Waldmann's lettuce.

**Customer:** 5 \_\_\_\_\_, \_\_\_\_\_? Why is that?

**Employee:** The Waldmann's is very hearty. It can 6 \_\_\_\_\_ weather around here.

**Speaking**

**8 With a partner, act out the roles below based on Task 7. Then, switch roles.**

**USE LANGUAGE SUCH AS:**

*Can you help me pick out some seeds?  
I'm going to plant some ...  
I recommend the ...*

**Student A:** You work in a seed supply store. Talk to Student B about:

- type of crop
- seed types
- weather and climate

**Student B:** You want help choosing seeds. Answer Student A's questions.

**Writing**

**9 Use the conversation from Task 8 to fill out the customer feedback form.**

**Simon's Seed  
CUSTOMER FEEDBACK FORM**

Customer Name: \_\_\_\_\_

Items Purchased: \_\_\_\_\_

Was our employee helpful? Y / N

Please describe your experience: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_