12 Sustainable farming


compost


intercropping


monoculture

Get ready!

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

1 What sustainable farming practices are common in your country?

2 What challenges does sustainable farming present?

Reading

2 Read the flyer for a discussion on sustainable farming. Then, mark the following statements as true (T) or false (F).

1 __ The focus of the event is farming basics.

2 __ Mr. Arnold will receive an award at the event.

3 __ JFCA speakers will address soil amendments.

Vocabulary

3 Match the words (1-6) with the definitions (A-F).

1 __ sustainable
2 __ biodiversity
3 __ intercropping
4 __ off-farm impact
5 __ systems perspective
6 __ non-renewable resource

A able to last a long time

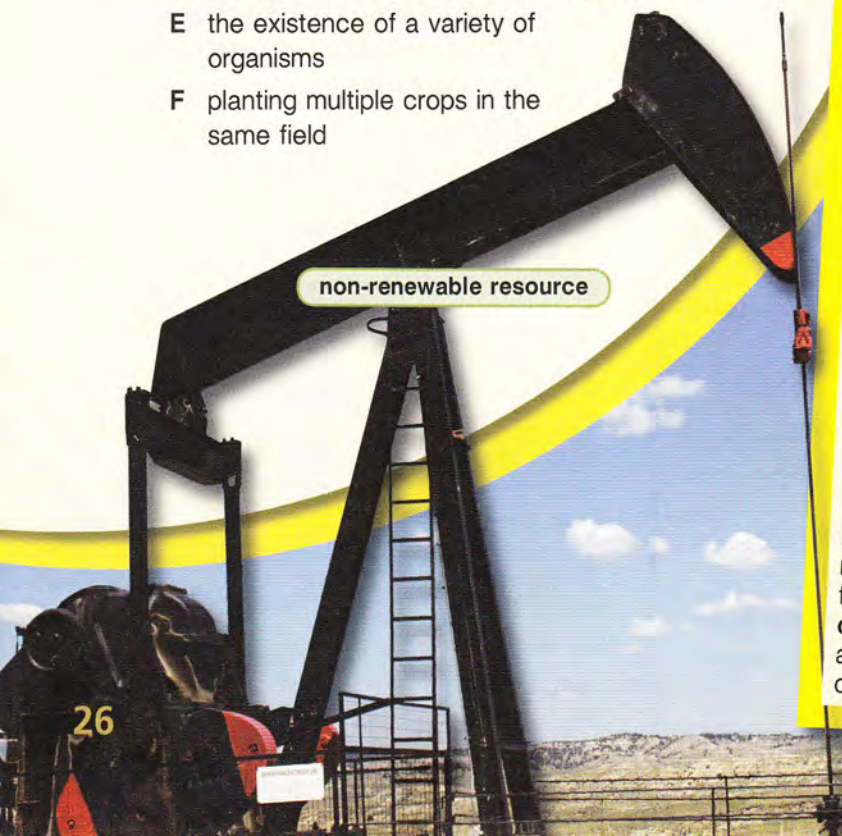
B the effect of farm activities on other areas

C something that exists in a limited amount

D a broad view of the effects of agriculture

E the existence of a variety of organisms

F planting multiple crops in the same field


non-renewable resource

FARMING IN YOUR BACKYARD

Join the Johnson County Farmer's Association (JCFA) for a discussion on **sustainable** farming. Several experts will give lectures and answer questions. Come and enjoy free food from local farms and learn about agriculture in your community.

When: April 10th at 6:00 PM
Where: Johnson County Community Center
Admission: Free

- Fred Arnold, author of *Modern Farming*, will talk about reducing dependence on **non-renewable resources** like petroleum. The talk will cover the importance of expanding the whole community's **systems perspective**. Mr. Arnold won the JCFA's Excellence Award for improving local **economic sustainability** through alternative energy sources.

- Lisa Perry, Professor of Agriculture, will discuss methods for successful farming. Her lecture will focus on ways to make crops stronger and more reliable. Topics include the benefits of **intercropping** and the advantages of **biodiversity** over **monoculture**. Ms. Perry teaches a class on farming basics at Johnson University.

Members of the JCFA will give advice on limiting negative **off-farm impact**. The presentation will cover tips for producing your own **soil amendments** like **compost** and manure. The JCFA encourages audience members to ask questions and share their own farming techniques.

4 Read the sentence pair. Choose where the words best fit the blanks.

1 **compost / monoculture**

A _____ is disappearing as more farmers embrace biodiversity.

B Using _____ is a great way to fertilize soil.

2 **economic sustainability / soil amendments**

A A farm will fail if it lacks _____.

B Most farmers add _____ to fields.

5 Listen and read the flyer for a discussion on sustainable farming again. What will Lisa Perry's lecture focus on?

Listening

6 Listen to a conversation between a farmer and a sustainable farming expert. Choose the correct answers.

1 What is the man seeking advice about?

A preparing fields for the growing season

B planting two kinds of vegetables together

C using pesticides to get rid of flies

D giving a presentation on agriculture

2 How do onions protect carrots?

A pests will attack the onions instead

B pests do not like how the onions smell

C carrots' smell is masked by the onions

D onion leaves hide the carrot tops

7 Listen again and complete the conversation.

Farmer: Professor Perry, I **1** _____ _____ _____ _____ _____ _____, if you don't mind?

Speaker: **2** _____ _____ _____ _____.

Farmer: Well, I grow onions and carrots, but I've always **3** _____ _____ _____ _____ _____ fields. Do you think I should try intercropping?

Speaker: Absolutely, Ed. Onions and carrots grow **4** _____ _____. Onions are perfect for protecting carrots from pests.

Farmer: Really? How does that work?

Speaker: Well, **5** _____ _____ _____ _____ different types of crops. You've **6** _____ _____ _____ attacking your carrots.

Speaking

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

USE LANGUAGE SUCH AS:

I have a question for you, if you don't mind.

Do you think I should try intercropping?

Really? How does that work?

Student A: You are a farmer. Ask Student B about:

- intercropping
- crops you grow
- avoiding pesticides

Student B: You are a sustainable farming expert. Answer Student A's questions.

Writing

9 Use the conversation from Task 8 to write notes on a talk about sustainable farming. Include information about intercropping and its benefits.

Sustainable farming

_____

_____

_____

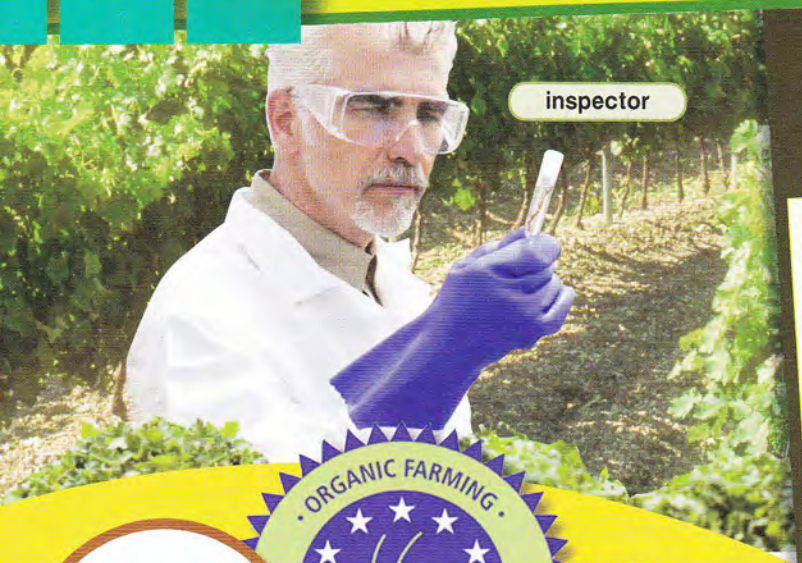
_____

_____

_____

_____

14 Organic farming



Going Organic?

What to do to get your certification

1. Find a Certifier: To be considered **organic**, you must comply with specified eco-friendly standards. Each **certifier** has its own guidelines, but all certifiers stress environmental sustainability and eco-friendly production practices.

2. Apply: Submit an application and **organic system plan** to a certifier. If the certifier approves your plan, an **inspector** will schedule a visit to observe your production facility.

3. Prepare for Inspection: Documentation of production must be accessible to the inspector. It is important to keep your **field activity log** up to date as the inspector will examine it.

4. Inspection: All inspections are performed onsite. There are three types of inspectors that specialize in examining different aspects of production.

- Crop inspectors monitor the health of the plants, soil, and water. They also observe whether there is **compliance** with pest-control regulations.
- Livestock inspectors judge the health of animals and their living conditions. Have vaccination reports prepared as well as a list of **material inputs**.
- Processing inspectors check for **organic integrity** in production facilities. These inspectors assess whether there is **contamination** or **commingling** with crops from on-site non-organic fields or materials.

5. Certification: If your facility fulfills the organic standards you will be certified. Keep **audit trail documents** on file as proof of the organic authenticity of your products.

Get ready!

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

1 What are the challenges of organic farming?
2 Are organic products popular in your country?

Reading

2 Read the publication on organic farming. Then, choose the correct answers.

1 What is the magazine article mainly about?
- A organic crop growers
- B organic farmer certification
- C organic pest control
- D organic farming standards

2 Which is NOT a type of inspector?
- A crop inspector
- B livestock inspector
- C documentation inspector
- D processing inspector

3 What can you infer about organic facilities?
- A They can also produce non-organic crops.
- B They must be inspected every year.
- C They must report changes in material inputs.
- D They pay membership fees to certifiers.

Vocabulary

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

WORD BANK

compliance commingle
contamination certifier organic

1 The farm maintains _____ with regulations.
2 The inspector is checking for _____ of organic crops with non-organic materials.
3 John is preparing for a visit from the _____.
4 The farm offers _____ produce.
5 Don't _____ organic and non-organic produce.

4 Match the words (1-6) with the definitions (A-F).

1 __ organic system plan
2 __ organic integrity
3 __ audit trail document
4 __ inspector
5 __ material inputs
6 __ field activity log

A someone who examines facilities, crops, and animals
B a written statement describing methods
C adhering to certifier's rule for organic products
D a record to prove organic authenticity
E a record of additives and work in fields
F supplies used in production

5 Listen and read the publication on organic farming again. What are the three types of inspectors?

Listening

6 Listen to a conversation between a farmer and an organic inspector. Mark the following statements as true (T) or false (F).

1 __ The man hopes organic labels will attract attention to his produce.
2 __ The woman certifies the farm as organic.
3 __ The farm received a random inspection.

7 Listen again and complete the conversation.

Farmer: So, Ms. Walton, what did you think of the tour?
Inspector: It went well, Mr. Davis. You seemed prepared for our visit.
Farmer: That's good to know. We're hoping **1** _____ _____ _____ _____ attention with an organic label.
Inspector: I understand. Organic goods are in high demand these days.
Farmer: Do you think we'll be certified?
Inspector: **2** _____ _____ _____ _____ _____. But your field activity logs showed your practices to be in compliance with our regulations.
Farmer: **3** _____ _____ _____ _____ _____. We've worked very hard.
Inspector: **4** _____ _____ _____. There didn't seem to be any contamination with non-organic produce.
Farmer: Oh, we're very careful about that. So, **5** _____ _____ _____ _____ to hear if we'll be certified?
Inspector: **6** _____ _____ _____ _____. The certifier needs to review the documents you supplied.

Speaking

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

USE LANGUAGE SUCH AS:

Do you think we'll be certified?

There didn't seem to be any contamination ...

The certifier needs to review the documents.

Student A: You are a farmer. Ask Student B about:

- becoming certified
- time to respond
- what to do next

Student B: You are a crop inspector. Answer Student A's questions.

Writing

9 Use the conversation from Task 8 and the publication to write a crop inspector's report. Include information about: field activity logs, compliance and organic integrity.

Report

Name: _____

organic inspector

_____

_____

_____

_____

_____

_____

15 GMOs

SMITH'S SEEDS Inc.

About Us

Smith's Seeds offers the best seeds that technology can produce. Each **biotech seed** contains favorable **traits** carefully selected by our genetic engineering team. Sustainability is important to us, and that's why we're producing more than a **conventional seed.**

Available Seeds

Soy #7: This variety is characterized by both **herbicide-resistance** and **insect-resistance**. If pesky insects are affecting your crop yields, this is the seed for you. These plants will withstand many conventional herbicides.

Wheat #5: This variety is characterized by its incredible output. Wheat #5 seeds can be planted more closely together than conventional wheat seeds. Because these plants occupy little space, you can expect marked **yield enhancement**.

Corn #10: This variety is characterized by its great yields that result from **nitrogen efficiency**. These seeds will grow even in compromised soil conditions. If soil quality has decreased your corn production, Corn #10 is your solution.

Sorghum #2: This variety is characterized by its **drought-resistance**. If you farm in a dry area that receives irregular rainfall, this is the perfect variety for you. Expect a hardy plant and big yields from this remarkable seed.

Safety Concerns

All of our **genetically modified organisms** (GMOs) undergo extensive **analysis** before they are sold. Our **animal performance assessments** guarantee the safety of our products.

Get ready!

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

1 How can genetically modified organisms help farmers?

2 How do consumers feel about genetically modified organisms in your country?

Reading

2 Read the webpage from a seed company. Then, mark the following statements as true (T) or false (F).

1 __ Soy #7 is designed to thrive in poor soil.

2 __ Sorghum #2 grows well in dry climates.

3 __ The company tests their products on animals.

Vocabulary

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

1 __ drought-tolerant

2 __ GMO

3 __ animal performance assessment

4 __ nitrogen efficiency

5 __ yield enhancement

A increasing the size of a harvest

B able to withstand dryness

C the ability to use minimal nitrogen

D organism produced by genetic engineering

E a test of the effects of a product

4 Read the sentence pair. Choose where the words best fit the blanks.

1 **biotech seed / analysis**

A This ____ can resist herbicides.

B ____ suggests that the product is safe.

2 **herbicide tolerant / insect-resistant**

A ____ seeds counter pest populations.

B ____ seeds let farmers kill weeds.

3 **conventional seeds / traits**

A Scientists are enhancing desirable ____.

B Some farmers prefer ____ to GMOs.

5 🎧 **Listen and read the webpage from a seed company again. Which variety will grow in compromised soil?**

Listening

6 🎧 **Listen to a conversation between a seed developer and a salesman. Choose the correct answers.**

1 What is the main benefit of the seed?

- **A** nitrogen efficiency
- **B** drought-resistance
- **C** insect-resistance
- **D** herbicide-resistance

2 Why does the woman believe the seed will benefit the environment?

- **A** Less land will be used per season.
- **B** More farmers will plant in dry regions.
- **C** Animals will have healthier feed.
- **D** Less irrigation will be needed.

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

Salesman: Carol, please come in. **1** _____ _____ your new seed is almost ready for marketing.

Developer: It is. After the animal performance assessments, it will be **2** _____ _____ _____ _____.

Salesman: Wonderful. **3** _____ _____ _____ _____ _____. I want to know the best way to advertise it.

Developer: Well, the main benefit is that it's extremely **4** _____ - _____.

Salesman: Okay. So we'll **5** _____ _____ _____ it to farmers in dry regions.

Developer: Yes. We'll **6** _____ _____ where rainfalls are unpredictable.

Salesman: Okay. What else?

Developer: We should emphasize the dependability of our seed. Tests showed that the yields produced during rainy seasons and those produced during droughts varied very little and they're better for the environment than conventional seeds.

Salesman: How?

Developer: With fewer crops failing during drought seasons, there'll be greater yields. That means **7** _____ _____ _____ _____ _____ per season.

Salesman: Excellent, Carol.

Speaking

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

USE LANGUAGE SUCH AS:

I want to know the best way to advertise it.

We should emphasize ...

Excellent point.

Student A: You are a salesman. Ask Student B about:

- a new seed
- seed benefits and traits

Student B: You a seed developer. Answer Student A's questions.

Writing

9 **Use the conversation from Task 8 and the web page to write product descriptions of two new seeds. Include the crop types, seed traits, and benefits.**

Crop Type: _____

Traits: _____

_____

Benefits: _____

_____

_____

Crop Type: _____

Traits: _____

_____

Benefits: _____

_____

_____