

11 AGRICULTURE

11.1 Vocabulary

linking ideas

A Look at the diagram on the opposite page.

- 1 Add the five names from the box next to the diagram that best describe each aspect.
- 2 Discuss how the examples of each factor might affect the environment.
- 3 Give more examples of each aspect.

B Study the linking words and phrases in box a.

- 1 Put them into two groups for:
 - a discussing reasons and results
 - b building an argument
- 2 Is each linking word used to join ideas:
 - a within a sentence?
 - b between sentences?
- 3 Can you think of similar linking words?
- 4 Put the linking words in question 1b in a suitable order to list points in support of an argument.

C Study the words in box b.

- 1 Sort the words into two groups according to whether they are concerned with *agriculture* or with *change*.
- 2 In pairs, explain your decisions.
- 3 Are the words nouns, verbs or adjectives? What is their stress pattern?
- 4 What other words or phrases have the same meaning?

D Read the text on the right.

- 1 Complete each space with some of the words from box a and all of the words from box b. Change the form if necessary.
- 2 Can you think of other words or phrases with the same meaning as the blue words?
- 3 Match the words and phrases below with a later word or phrase that refers back to them.

Example:

agricultural production – crops/plants/produce

farmers

produce

livestock

cultivation

E Do the sustainable food quiz on the opposite page.

a another point is as a result because
finally firstly for example in addition
moreover one result of this is secondly
since so

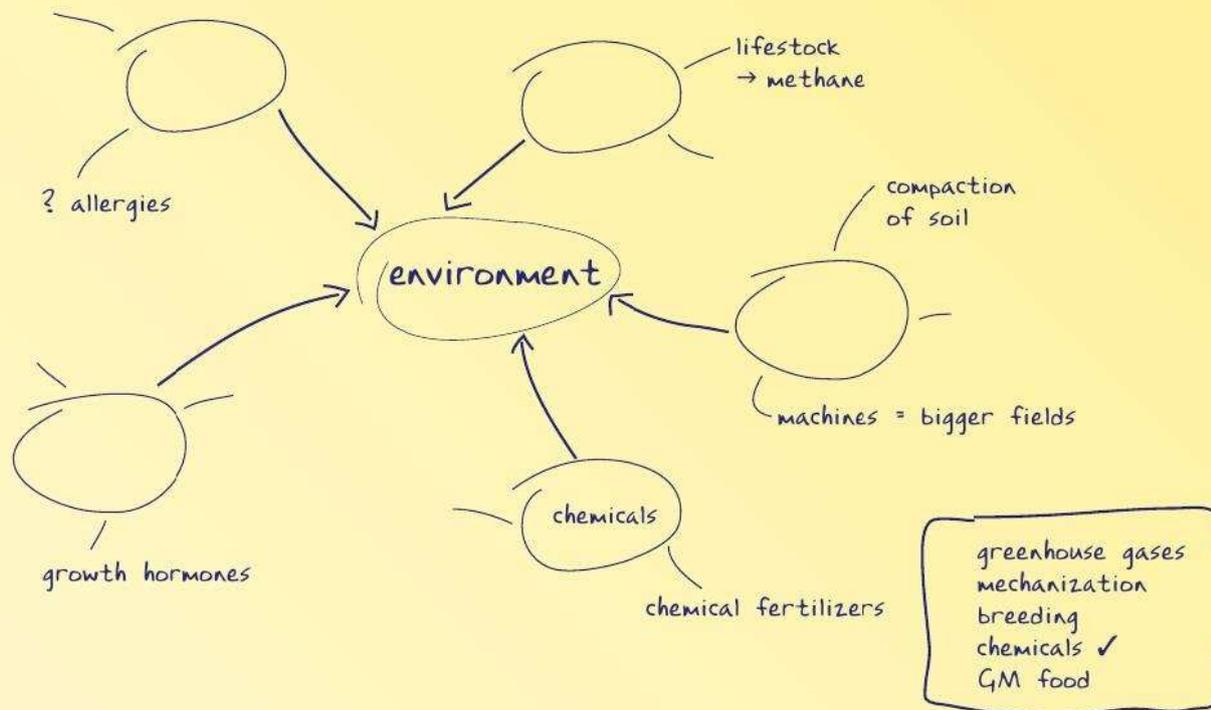
b affect crop developing diversify
livestock modify mutate organic
produce rethink revolution
subsistence sustainable

The next farming revolution

There are many changes to **agricultural** production **methods** which will _____ farmers **profoundly** over the next 25 years. Firstly, a _____ in the way we grow _____ will **occur**. For _____, scientists are already genetically _____ plants and even _____ to produce higher yields and more resistant strains. _____ of this, _____ farmers in the _____ world should be able to reach a higher standard of living and it should also **allow** cultivation **worldwide** to become more _____. However, many experts have started to _____ their attitude to the introduction of GM food. Although there are clear economic advantages to producing this type of food, they now believe GM could have serious **repercussions** for the natural world if modified plants start to _____. _____, many doubt that the companies who are developing this science really have the well-being of growers or the general public at heart.

However, some farmers are _____ into new ways of growing food which focus on a more sustainable approach, often called _____ farming. This method does not use **artificial** chemicals in the growing of plants and the rearing of animals for food and other products and therefore has a less damaging impact on the environment. _____, organic _____ does not contain artificial chemicals that can lead to serious health problems in people.

What aspects of modern farming have a negative effect on the environment?



HADFORD University

Sustainable food quiz

- | | |
|---|---|
| 1 What proportion of people in the UK buy organic food regularly? | a) everybody b) $\frac{1}{2}$ c) $\frac{3}{4}$ d) $\frac{1}{4}$ |
| 2 What is the reason most people buy organic food? | a) environmental b) health c) GM free |
| 3 What proportion of the UK population do not want GM crops? | a) everybody b) $\frac{1}{2}$ c) $\frac{1}{4}$ d) $\frac{3}{4}$ |
| 4 Where is most fuel used in food production? | a) processing b) transport c) processing |
| 5 How much of an average nation's energy does the production and distribution of food take? | a) 25% b) 20% c) 15% d) 10% |
| 6 What proportion of Europeans want to be able to choose whether they eat GM food? | a) 50% b) 75% c) 95% d) everybody |
| 7 How much has artificial fertilizer usage increased in the last 50 years around the world? | a) 100% b) 250% c) 500% d) 1000% |
| 8 What is the average lifespan of an intensively reared cow? | a) 6 months b) 11 months c) 2 years |

11.2 Listening

recognizing the speaker's point of view • making notes • writing up notes

A You are going to listen to a lecture by a guest speaker in the Environmental Science faculty at Hadford University. Look at the poster on the right.

- 1 What is the lecture going to be about?
- 2 Decide how you are going to make notes. Prepare a page in your notebook.

B  Listen to Part 1 of the lecture and make notes.

- 1 What is the focus of the lecturer's talk?
- 2 What are the three main topics the lecturer will cover?
- 3 What two positive changes to farming practices does the lecturer mention?
- 4 Is the lecturer completely opposed to modern farming techniques?

C  Listen to Part 2 of the lecture and make notes.

D Using your notes, answer the questions on the handout on the right.

E Refer to the model Cornell notes on page 105.

- 1 Check your answers with the model.
- 2 Complete the *Review* and *Summary* sections of the Cornell notes.

F  The lecturer talks about GM food. Listen again to part of the lecture. Which words tell us whether the information is fact or opinion?

G  Study the phrases in the blue box. Which type of information below follows each phrase in the blue box? Listen to some sentences from the lecture.

- definite point
- restatement
- summary of a source
- example
- statement of a topic
- another point
- tentative point
- clarification
- purpose for speaking

H Write out one section of your notes in complete sentences.

See *Skills bank*



Visiting speaker: Dr Marc Branson
15th February 5.00 p.m.

'Modern farming: a threat to ourselves and the natural environment?'

Dr Branson will explore how modern intensive cultivation is damaging the well-being of both the natural world and human populations.

- 1 What general topic does the lecturer discuss first?
- 2 Why does the lecturer think that modern farming is damaging to the environment?
- 3 What three specific aspects of modern farming will the lecturer focus on?
- 4 What happened to farming after WWII?
- 5 What have been the main advantages of mechanization?
- 6 What have been the downsides to mechanization?
- 7 Since 1940, what has been the percentage increase in the use of artificial fertilizers and pesticides?
- 8 What are some of the environmental and animal welfare issues surrounding modern rearing systems?
- 9 What might be the environmental effects of using GM crops?

- 1 that is to say ...
- 2 Don't misunderstand me, ...
- 3 To some degree, ...
- 4 it is fair to say that ...
- 5 in an attempt to ...
- 6 Not only that, but ...
- 7 to the extent that ...
- 8 with respect to ...
- 9 ... is a case in point.
- 10 ... gives a detailed account of this in ...
- 11 Briefly, [he] explains how ...

11.3 Extending skills

stress in phrases • building an argument

A Study the phrases in box a.

- 1 Mark the stressed syllables in each phrase.
- 2  Listen and check your answers.
- 3 Which phrases have adjective + noun? Which word has the stronger stress in these phrases?

B Look at these topics:

- pesticide use in farming
 - chemical fertilizer use in farming
 - greenhouse gases caused by farming
- 1 What would you like to know about these topics?
 - 2 Prepare a page in your notebook to make some notes.
 - 3  Listen to the final part of the lecture (Part 3) and make notes. If there is information which you miss, leave a space.
 - 4 Compare your notes with someone else. Fill in any blank spaces.

C Answer the questions on the Hadford University handout, using your notes.**D** Study the stages of building an argument (a–f) in box b.

- 1 Put the stages in an appropriate order.
- 2 Match each stage (a–f) with a phrase from box c.

E Look at box b again.

- 1  Listen to a section from the lecture. Make notes on what the lecturer says for each stage of the argument (a–f).
- 2 Check your answers to Exercises D and E1.

F Use your notes to write 75–100 words about the main points in the final part of the lecture.**G** In groups, discuss the research task set by the lecturer. Talk about these questions:

- 1 What aspects of intensive farming are having a negative impact on the environment in your country?
- 2 Which farming sector will you choose to research?
- 3 What ideas do you have for making farming less environmentally damaging in this sector?
- 4 What kind of information will you need to find?

Report back to the class on your discussion. In Lesson 11.4 you will take part in a seminar on this topic.

- a**
- global warming
 - agricultural sector
 - human populations
 - intensive farming
 - artificial chemicals
 - toxic residues
 - farming sector
 - food production



- 1 According to the lecturer, pesticides have been blamed for killing target pests and what other organisms?
- 2 How do toxic residues from pesticides enter human water supplies?
- 3 What ecological problems do chemical fertilizers cause?
- 4 Define eutrophication.
- 5 List two greenhouse gases emitted by modern farming.
- 6 What is the research task?

- b**
- a giving a counter argument
 - b giving your opinion
 - c stating the issue
 - d supporting the reason with evidence
 - e rejecting a counter argument
 - f giving a reason for your opinion

- c**
- It's quite clear that ...
 - The question is ...
 - The research has concluded that ...
 - I'm afraid that just isn't true.
 - Some people claim ...
 - The evidence lies in the fact that ...

11.4 Extending skills

stress in phrases • making effective contributions to a seminar

- A** Study the terms in box a.
- 1 Explain the meaning of the terms.
 - 2 Mark the main stress in each term.
- B** Study the words in box b. Match the words in columns 1 and 2 to make phrases.
- C** Study the organic soil web page on the opposite page.
- 1 What types of farming approaches are shown in the pictures?
 - 2 How do these two green farming approaches benefit the environment?
- D** Study the phrases in box c.
- 1 What purpose would you use these phrases for in a seminar?
 - 2 Which phrases can you use for linking your new point to a contribution by another speaker?
- E**  Listen to some students taking part in a seminar. They have been asked to discuss recent developments in farming, including GM crops and organic farming. While you listen, make a note of:
- 1 the main topic of each extract
 - 2 further details of each topic.
- F** Study the GM food web page and discuss these questions.
- 1 Does the website take a neutral or biased position on GM food?
 - 2 What can people do to evaluate the potential effects of GM food?
 - 3 Look at the arguments for and against.
 - a Refer back to the notes you made from the seminar. Can you add any additional items to either list?
 - b After listening to the seminar and reading this web page, what is your position on GM food?
- G** In your group, discuss your research findings on the negative effects of modern farming in one farming sector in your country and possible changes that can be made to make it more environmentally friendly. One person from the group should report the conclusions of the discussion to the class.

a

climate change tax
 eco-friendly livestock farming
 green arable systems
 organic crop production
 renewable energy source
 waste disposal regulation

b	1	2
	agricultural	agriculture
	animal	chemical
	artificial	crop
	energy	farming
	environmentally	fertilizer
	genetically modified	friendly
	intensive	input
	nitrogen	residue
	organic	sector
	toxic	welfare

c

I'd like to start by explaining ...

To carry on from this first point, I want secondly to look at ...

I don't think that is the main reason.

That seems like a very good point X is making.

I'm going to expand the topic by mentioning ...

On the other hand, you might want to say that ...

As well as this issue, we can also look at a very different issue.

So to sum up, we can say that ...

Does anybody have any opinions or anything they would like to add?

I think we need a different viewpoint.

OK, to continue then ...

Following on from what X has said ...

A

Organicsoil.com

We are a leading environmental organization promoting sustainable organic farming and working to improve human health.

NEWS

- [Organic crop production becomes more profitable due to fuel price increase](#)
- [Government launches new organic advice service for farmers](#)
- [Latest statistics on organic production in England](#)
- [Pollution prevention](#)
- [Laws on hazardous substances and emissions](#)
- [Climate change tax for farmers?](#)

Converting to organic farming

- Adopt organic farming practices today and save money and help the environment!




Green arable systems

The main aspects of organic arable systems are:

- [Crop rotation](#)
- [Organic seed](#)
- [Organic crop storage](#)
- [Renewable energy sources](#)
- [Waste disposal regulation](#)

Eco-friendly livestock farming

- [Why should we rear organic livestock?](#)

Problems with animal welfare issues and human health issues

- [How to feed and house your livestock organically](#)
- [Look here for organic farming opportunities and support in your region](#)

B

GM Food: an answer to all our prayers?

What is genetically modified food? Most scientists understand GM food as being plants which have had their genetic structure altered. This is done by removing a gene from one plant or animal and putting it into another's DNA to add a new characteristic. This genetic manipulation can, for example, allow cereal crops to produce more grain or perhaps allow plants to grow in very dry or cold environments which would normally be very difficult. Those who support GM food say that this technology will allow for a great increase in food production, and that food prices will therefore be substantially cheaper. However, opponents of GM believe that interfering with nature on such a fundamental level could create future problems for people and the environment.

Arguments for:

- 1 Most GM crops use fewer agro-chemicals such as pesticides.
- 2 GM crops can be enriched with nutrients and produce bigger yields, resulting in more efficient use of farmland.
- 3 Supporters of GM say there is no evidence that modified crops cause illness in humans.

Arguments against:

- 1 Modified crops could 'escape' and cross with wild plants, with unknown consequences.
- 2 More chemicals are used on some GM fields, which may have a negative impact on other plants and wildlife.
- 3 GM food could be harmful to people.

The general public needs to know how GM food could affect them.

For a full fact sheet and advice on GM food, go to <http://www.foodandyourhealth.com>

Vocabulary bank

Linking words

We use linking words and phrases to join ideas together in a sequence, to show how the ideas are related.

Some linking words can be used to join independent and dependent clauses in a sentence.

Examples:

Farmers have become highly efficient in many countries **because** *they have become more specialized.* OR **Because** *farmers have become more specialized, they have become highly efficient in many countries.*

Other linking words join sentences in a text.

Example:

Scientists are already genetically modifying plants and even livestock to produce higher yields. As a result of this, subsistence farmers in the developing world should be able to reach a higher standard of living.

When building an argument, it is a good idea to use linking words to add points.

Examples:

Firstly, ... *Another point is ...* *In addition, ...* *... whereas ...*
For example, ... *Secondly, ...* *Moreover, ...* *Finally, ...*

Using words with similar meanings to refer back in a text

It is a good idea to learn several words with similar or related meanings. We often build cohesion in a text by using different words to refer back to something previously mentioned.

Examples:

First mention	Second mention	Third mention	Fourth mention
<i>arable wheat farmer</i>	<i>grower of wheat</i>	<i>agriculturist involved in cultivating wheat</i>	<i>wheat producer</i>
<i>fewer ...</i>	<i>falling numbers of ...</i>	<i>declining ...</i>	<i>reduced ...</i>
<i>parts of the world</i>	<i>countries</i>	<i>areas</i>	<i>lands</i>

Recognizing fixed phrases from academic English (3)

In Units 7 and 9, we learnt some key fixed phrases from general academic English. Here are some more to use when speaking.

Don't misunderstand me. *the history of ...*
I'm afraid that just isn't true. *the presence of ...*
in an attempt to ... *there is a correlation between ... and ...*
... is a case in point *to some degree ...*
not only that, but ... *to the extent that ...*
Some people say ... *What's more ...*
the effect of ... *with respect to ...*

Skills bank

Writing out notes in full

When making notes we use as few words as possible. This means that when we come to write up the notes, we need to pay attention to:

- the use of numbers, letters and symbols for words and ideas, e.g.,
Notes: (a) mechanization, e.g., manual labour replaced with machinery.
One example of the effect of mechanization can be seen in the replacement of manual labour by machinery.
- making sure the grammatical words are put back in, e.g.,
Notes: spontaneous mutation of modified organism is possible → environmental problems
The spontaneous mutation of a modified organism is possible and can lead to environmental problems.
- making the implied meanings clear, e.g.,
Notes: environmental factors (e.g., loss of habitat, soil exhaustion)
Environmental factors which affect local ecosystems include, for example, loss of habitat, soil exhaustion.

Building an argument

A common way to build an argument is:

- 1 First, state the issue:
Can we alter people's perception that change in the way we grow food is inevitable?
- 2 Next, give a counter argument:
Research has shown that changing attitudes is extremely difficult.
- 3 Then give your opinion:
In fact, minimizing the environmental cost of growing crops is far from being a new idea.
- 4 Then give evidence for your opinion:
As far back as the mid 1970s environmentalists were reassessing the ecological impact of modern intensive farming.

Linking to a previous point when your contribution is new

When you want to move the discussion in a new direction, introduce your comments with phrases such as:

Following on from what X said, I'd like to talk about ...

I'm going to expand the topic by mentioning ...

As well as (organic farming), we can also look at a very different sort of issue.

Summarizing a source

When we talk about the ideas of other people in a lecture or a seminar, we often give a summary of the source in a sentence or two.

Examples:

A book by (name of writer) called (name of book) published in (year) gives an explanation of how ...

Briefly, (name of writer) explains how ...

An introduction to (topic) can be found in (name of writer).