

Exercise walk-through

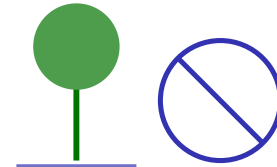
20.1

Food supply

IGCSE Biology

What we will cover

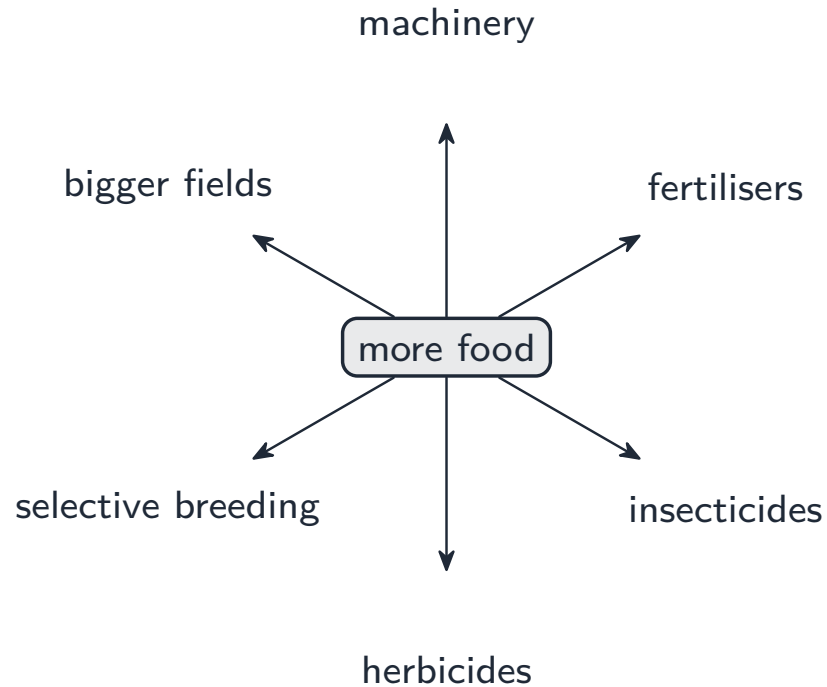
- 1 Increasing food supply
- 2 Habitat destruction
- 3 Water pollution
- 4 Plastics & climate change
- 5 Conservation



protect, do not clear

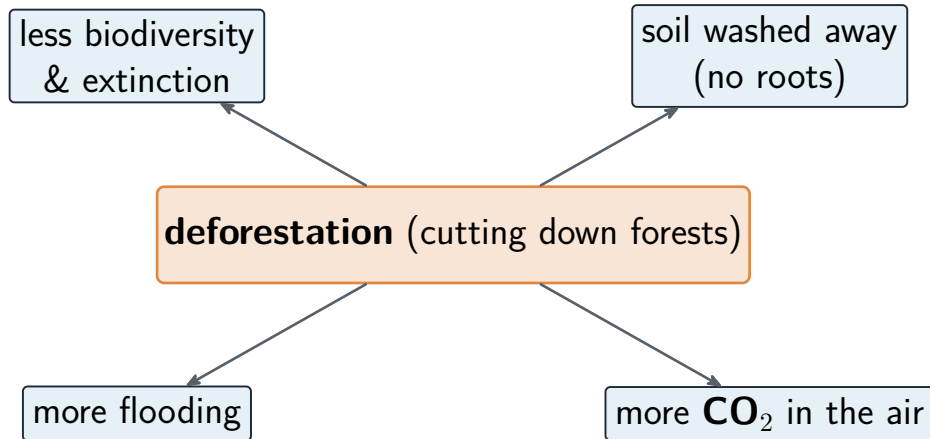
conservation

Increasing food supply



- **agricultural machinery** to farm larger areas quickly.
- a **monoculture** – one crop over a large area – gives a big, easy harvest, but one pest or disease can take the whole thing, and it lowers **biodiversity**.
- chemical **fertilisers** to improve **yields**.
- **insecticides** to kill insect pests.
- **herbicides** to kill **weeds** that compete with the crops.

Habitat destruction



- clearing land for housing, crops and livestock – and with fewer trees, more **carbon dioxide** stays in the air.
- changing **food chains** and **food webs**, which harms species that were never the target.
- extracting natural **resources**, such as by mining.
- **pollution** of fresh water and the sea.
- lower biodiversity and the **extinction** of species.

Exercises 2.1-2.2

2.1 State two methods used to increase crop yields.

[2]

2.2 State what a monoculture is.

[1]

Exercises 2.1·2.2

2.1 State two methods used to increase crop yields. [2]

2.1

- any **two** of: machinery / fertilisers / insecticides / herbicides / selective breeding
-

2.2 State what a monoculture is. [1]

2.2

- a monoculture is **growing one crop over a large area**

Exercise 3.1

3.1 Herbicides are used in farming to:

[1]

☐

A kill insect pests

B kill weeds

C add nitrate

D breed crops

Exercise 3.1

3.1 Herbicides are used in farming to:

[1]

☐

A kill insect pests

B kill weeds

C add nitrate

D breed crops

3.1 B

- herbicides **kill weeds**
- A is insecticides; C is fertiliser; D is breeding

Exercise 3.2 (a)

3.2 A farmer grows a large monoculture.

(a) State one advantage of a monoculture.

[1]

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(a) State one advantage of a monoculture.

[1]

(a)

- a **big / easy harvest**

Exercise 3.2 (b)

3.2 A farmer grows a large monoculture.

(b) State two disadvantages of a monoculture.

[2]

Exercise 3.2 (b)

3.2 A farmer grows a large monoculture.

(b) State two disadvantages of a monoculture.

[2]

(b)

- one pest or disease can **destroy the whole crop**
- it **lowers biodiversity**

Exercise 3.3 (a)

3.3 A farmer plants one crop across a whole large field, uses fertiliser and pesticide, and keeps hens indoors in cages.

(a) Name **three** methods used to increase food supply, other than the ones described above. [3]

Exercise 3.3 (a)

3.3 A farmer plants one crop across a whole large field, uses fertiliser and pesticide, and keeps hens indoors in cages.

(a) Name **three** methods used to increase food supply, other than the ones described above. [3]

(a)

- any **three** of: **machinery** / **irrigation** / **selective breeding** or **GM**

Exercise 3.3 (b)

3.3 A farmer plants one crop across a whole large field, uses fertiliser and pesticide, and keeps hens indoors in cages.

(b) State **two** advantages and **two** disadvantages of monoculture.

[4]

Exercise 3.3 (b)

3.3 A farmer plants one crop across a whole large field, uses fertiliser and pesticide, and keeps hens indoors in cages.

(b) State **two** advantages and **two** disadvantages of monoculture. [4]

(b)

- advantages: same machinery for one crop, so **efficient**; a **large amount** of one product
- disadvantages: pests **spread easily**; the same minerals are removed, so **fertiliser use rises** and biodiversity falls

Exercise 3.3 (c)

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(c) Explain how intensive indoor livestock production increases the yield of meat. [3]

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(c)

- animals are kept **warm**, so less energy goes on temperature
- **movement is restricted**, so less energy is used moving
- more food energy is converted into **growth**

Exercise 3.3 (d)

3.3 A farmer plants one crop across a whole large field, uses fertiliser and pesticide, and keeps hens indoors in cages.

(d) Give **two** concerns raised by intensive livestock production.

[2]

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(d) Give **two** concerns raised by intensive livestock production. [2]

(d)

- **animal welfare**: they cannot move or behave naturally
- **antibiotics** encourage resistance, and waste can **pollute water**