

Is eating insects more humane than eating meat?

EXERCISE 1a Describe the photos below.

1b Would you try the food in the photos? Why (not)?



1 Gusanos. Andy Sadler, Public domain, via [Wikimedia Commons](#)



2 Entis BugBites oat snacks with cultivated cricket flour. By Antti30, CC-BY-SA 4.0, via [Wikimedia Commons](#).

EXERCISE 2 – VOCABULARY Fill in the blanks with the words from the box.

stimulus (pl. stimuli) • mammal • factory farming • cognition • sustainable • livestock • subjective
 • sustainable • neurological • animal welfare • (to) trigger • anaesthetics • spinal cord

- a) Keeping lots of animals (cows, pigs, chickens, etc.) in a small space is called _____.
- b) A _____ is something that causes a reaction.
- c) Animal _____ activists try to protect animals.
- d) Alzheimer's is a so-called _____ disease: It affects the brain.
- e) _____ are drugs that make sure you don't feel pain, for example while undergoing surgery.
- f) We still don't know a lot about animal _____ (= the way animals think).
- g) Pain is a _____ experience. Everybody experiences it differently.
- h) Bees are insects, whereas dogs are _____.
- i) Burning oil is not _____, as the amount of this fossil fuel is limited and it is very harmful to the environment.
- j) The burglar _____ed the alarm when he broke the window. (= He caused it to go off.)
- k) The _____ extends from your brain to your lower back. It transmits information between the brain and the peripheral nervous system.
- l) " _____ " is another word for "farm animals".

EXERCISE 3a Discuss with a partner: Is eating insects more humane than eating meat?

3b Now read the text on the next page and tick the right answers.

a. Recently it has been claimed that eating insects is ... than eating traditional meat.

- ☐ better for the environment
- ☐ healthier
- ☐ cheaper

b. In comparison to pigs and cows, insects suffer less in factory farming because

- ☐ they aren't social animals.
- ☐ it is similar to their living conditions in nature.
- ☐ it's more ethical.

c. Animals that have nociceptors ...

- ☐ can detect harmful things around them.
- ☐ can feel pain.
- ☐ do not have a nervous system.

d. What does the text say about insects' ability to feel pain?

- ☐ We need to know more about it before we start farming insects.
- ☐ A lot of research has been done on the topic.
- ☐ It is very unlikely that insects can feel pain.

e. Cats whose spinal cords have been severed ...

- ☐ don't experience pain.
- ☐ do not react towards stimuli that might cause pain.

f. Why does the author say that chemical euthanasia is not a good way of killing the insects?

- ☐ It doesn't work on insects.
- ☐ It might be harmful to humans who eat them.
- ☐ It might be painful for them.

EXERCISE 4a Complete the table below with information from the text.

In favor of eating insects	Against eating insects
- <i>more sustainable than raising conventional livestock</i>	

4b - RESEARCH Work with a partner. One of you researches arguments in favor of insect farming, the other one looks for arguments against it. The following guiding questions can help you:

- What are the health benefits of eating insects?
- How sustainable is it in comparison to other diets (e.g. carbon footprint)?
- How can it contribute to feeding the world's growing population?
- What problems could arise in the production process?
- How animal-friendly is it?

4c Now present the results of your research to your partner. Add the arguments to the table.

4d Discuss: Should governments try to promote insect farming, e.g. by subsidizing¹ it? Or are there better ways to produce healthy food in a sustainable way?

¹ When the government **subsidizes** something, they support it financially because they hope that it will serve their policies in the end. For example, the government may give some money to people who produce or buy electric cars because they want to reduce CO₂ emissions.

Is eating insects more humane than eating meat?

By Emily Anthes, <https://mosaicscience.com/story/farming-insects/>, CC-BY 4.0

1 Much of the recent hubbub about eating bugs has
stemmed from the discovery that farming insects
might be far more sustainable than raising
conventional livestock. But that's only part of
5 entomophagy's appeal: Some experts say that in
addition to their ecological advantages, insects
also benefit from ethical ones. Raising and eating
insects, they say, raises far fewer concerns about
animal welfare than producing other kinds of
10 meat.

For instance, one of the reasons cows, pigs and
chickens suffer on so many factory farms is that
they live out their days in unimaginably cramped
conditions, with little personal space or freedom
15 to roam. But in the wild, many species of insects
already live in large groups and at high densities.

"Insects naturally live in close quarters," says
Laura D'Asaro, the co-founder of Six Foods, an
American start-up that is manufacturing chips
20 [crisps] made with cricket flour. "So insect
farming makes sense in a way that is much more
natural than [farming] traditional livestock. It
makes more sense and it seems much more
humane."

25 However, it's difficult to assess the ethics of insect
farming as long as scientists remain in the dark
about one crucial question: do insects feel pain?

30 In animals, pain detection begins with
nociceptors, specialised receptors on nerve cells
that are capable of sensing environmental stimuli
that might cause bodily harm (e.g. extreme heat,
cold or pressure). The nociceptors pass nerve
signals to the spinal cord, brainstem and several
35 other regions of the brain. These messages may
trigger a reflexive response designed to help an
organism avoid further injury – by, say, quickly
pulling away a hand or a paw from an open flame.

40 Although insects' capacity to experience pain has
not been well studied, scientists have documented
that at least some species do possess nociceptors
and are capable of detecting, and responding to,
potentially dangerous stimuli. For instance, when
45 fruit-fly larvae feel a soldering iron press up against
their bodies, they display defensive behaviour and
quickly roll away.

But nociception, or the sensory detection of 'noxious
stimuli', is different to pain, which is the subjective,
emotional experience that often follows.

50 In mammals, at least, this pain experience relies on
the cerebral cortex – the top, wrinkled layer of the
brain responsible for high-level information
processing and cognition. Nociception, by contrast,
requires only lower-level brain areas, as well as the
55 spinal cord and the peripheral nervous system.

The two processes are complementary, but distinct.
For instance, cats and rats whose spinal cords have
been severed – and thus feel no subjective pain –
can still exhibit withdrawal reflexes in the face of
60 dangerous stimuli. The rolling response of fruit-fly
larvae may be similarly reflexive and does not
necessarily indicate that the insects consciously
experience pain. Insects' nervous systems are hugely
different to our own, and scientists simply don't
65 know whether they possess the requisite
neurological machinery.

But because we aren't certain, entomologists
suggest we should give the organisms the benefit of
70 the doubt and end their lives humanely.
Unfortunately, some types of chemical euthanasia
or anaesthetics may prove infeasible for animals
destined for the food system, and there is still
disagreement about which of the other methods –
75 from freezing to shredding – might be the most kind.
As with almost all the issues surrounding the use of
insects as food, there's a lot left to learn.

entomophagy = eating insects; **cricket**: dt. *Grille*; to **assess**: to evaluate, to judge; **brainstem**: dt. *Hirnstamm*; **soldering iron**: dt. *Lötlisen*; **cerebral cortex**: dt. *Hirnrinde*; to **sever** = to cut through; **withdrawal** = pulling away; **requisite** = necessary; **euthanasia** = killing sth./sb. to end their suffering, e.g. from an illness; **infeasible** = not practical / not possible; to **shred** = to cut/tear into very small pieces

Vocabulary list

anaesthetics
animal welfare
assess (v)
benefit (v)
brainstem
cerebral cortex
cognition
complementary
conscious
conventional
cramped
cricket
crucial
defensive
density
destined for
detection
distinct
euthanasia
exhibit
give (v) sb. the benefit of the doubt
hubbub
humane
in close quarters
indicate (v)
infeasible
livestock
lower-level
manufacture (v)
noxious
peripheral
raise (v) concerns
receptor
reflexive
requisite
roam (v)
sense (v)
sever (v)
shred (v)
soldering iron
spinal cord
stem from (v)
stimulus (pl stimuli)
sustainable
trigger (v)
withdraw (v)
wrinkled

Answer key

EXERCISE 1a In the first picture, somebody is holding a plate with some kind of worms or grubs on it. They look a bit crispy, like they've been fried. In the background, you can see a table with more plates, a bottle of water, some lime slices and some dip (maybe guacamole). The worms seem to be part of a meal.

In the second picture, you can see two bowls; they are filled with something that looks a bit like cereal. Behind the bowls, there are two plastic bags. You can read on the bags that they contain "bug bites", which seem to be rich in protein.

1b Individual solution; Example: *I would try the bug bites, but I wouldn't try the grubs in the first picture because they look disgusting to me.*

EXERCISE 2 a) factory farming, b) stimulus, c) welfare, d) neurological, e) anaesthetics, f) cognition, g) subjective, h) mammals, i) sustainable, j) (to) trigger, k) spinal cord, l) livestock

EXERCISE 3a Individual solution, example: *Personally, I can't imagine killing a cow or a pig, but I do kill flies and mosquitos sometimes. So to me, killing insects does not feel as bad as killing mammals or birds. However, insects are living beings, too. Maybe they, too, can be frightened or in pain – there is no way we would know. In that case, it wouldn't be more humane to eat them instead of farm animals.*

3b

a. Recently it has been claimed that eating insects is ... than eating traditional meat.

☒ better for the environment

b. In comparison to pigs and cows, insects suffer less in factory farming because

☒ it is similar to their living conditions in nature.

c. Animals that have nociceptors ...

☒ can detect harmful things around them.

d. What does the text say about insects' ability to feel pain?

☒ We need to know more about it before we start farming insects.

e. Cats whose spinal cords have been severed ...

☒ don't experience pain.

f. Why does the author say that chemical euthanasia is not a good way of killing the insects?

☒ It might be harmful to humans who eat them.

EXERCISE 4a

In favor of eating insects	Against eating insects
<ul style="list-style-type: none"> - more sustainable than raising conventional livestock - suffer less in factory farming 	<ul style="list-style-type: none"> - it's not clear if they can feel pain - we don't have a method to kill them humanely

EXERCISE 4bc

In favor of eating insects	Against eating insects
<ul style="list-style-type: none"> - tasty, add new flavours to the menu - already traditional in many areas of the world - contain lots of nutrients (protein, minerals, fatty acids) - causes fewer emissions than traditional livestock - uses up less resources (land, water) 	<ul style="list-style-type: none"> - Farming insects still uses up more resources and is more cruel than eating plants - In colder climates, farms have to be heated – not energy-efficient! - Conditions in farming are not the same as in nature – we can't say for sure whether the insects are comfortable!

EXERCISE 5 Individual solution, example:

I think it's a good idea to subsidize insect-farming. It's a new trend and a lot of interesting research is happening now. We don't know exactly what the conditions for farming might look like in the future, so this knowledge might be useful or even necessary one day. Nevertheless, I think the government should prioritize supporting plant-based meat alternatives because they are even more sustainable and less cruel than insect farming.