Biology

Delprov A2

engelsk version

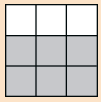
ÅRSKURS 9

Elevens namn och klass/grupp

Skolverket

12. Research shows that the human being needs the sun's radiation for the body to work well. At the same time, research also shows that it can be dangerous for the body to expose itself to the sun's radiation for a long time.

Start from your knowledge about the body's organs, for example the skin, and reason about the need for, and the risk with, the sun's radiation.



Reason starting from one need and one risk in two steps.

13. Insects as food

The article is about the use of insects as food.

Source: Forskning och framsteg (popular scientific journal). Published 2012-03-08.

Insects for dinner?

80% of all nations in the world have insects on the menu. This is most common in the tropical parts of Africa, Asia, and South America. It's foremost we Europeans that have problems with eating insects.

In total, at least 1400 species are used for food. And that's not so hard to understand, insects are so rich with nutrients. If you dry them, the content of proteins can be 60% of the total weight. This can be compared with a regular steak with a protein content of approximately 22%. Even eggs from insects and pupas contain large amounts of protein which are easy to digest.

To produce 1 kg of steak, about 10 kg of fodder is needed. The same amount of fodder gives 9 kg of grasshoppers.

In poor countries, lack of calories is as large a problem as lack of protein. The amount of fat – and thereby the number of calories – varies between different types of insects. Caterpillar and termites are some of the most calorie-rich insects. Insects also contain high amounts of minerals and important trace elements.

It is because of all these advantages, the Food and Agriculture Organization of the United Nations has over the last few years put in a lot of resources to investigate the possibility of using insects as human food.

In countries of the Third World, hard work is done to spread knowledge about eatable insects, and to increase availability at local markets.

For the Western World, this is about making products that are more appetizing than whole insects. For example, experiments are done to help produce a protein powder based on cropped insects. The idea is that this might be used to enrich the nutritive value of ready-made meals, for example pizza.

a) In the article, scientific advantages with insects as food are given. State one of them.

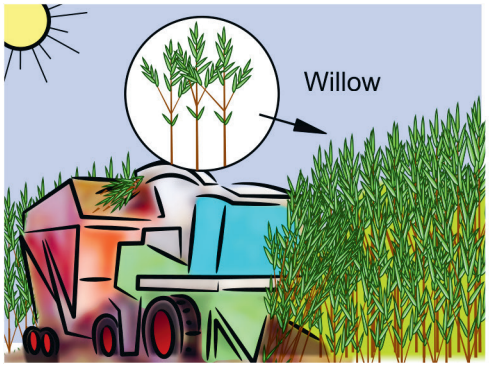
b) Examine the article from a perspective of source criticism. Reason about the article's trustworthiness from two different source-critical perspectives.

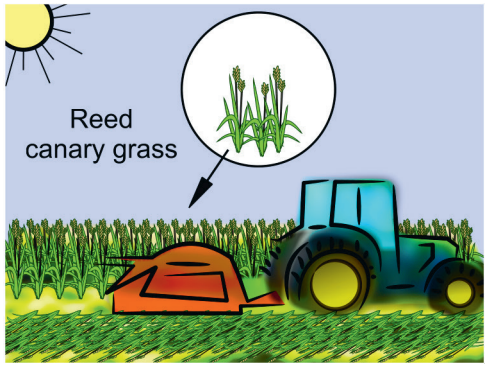
a)

b)

14. Willow or reed canary grass as biofuel?

Many countries are trying to be less dependent on fossil fuels and instead support renewable energy, for example biofuels. One way to enhance access to biofuels, is to farm plants, so called energy crops.





Facts about willow	Facts about reed canary grass
• Tree	• Grass
• Energy value: appr. 4.4 kWh/kg.	• Energy value: appr. 4.1 kWh/kg.
• Growth per year: appr. 9 ton/hectare.	• Growth per year: appr. 7 ton/hectare.
• Can be harvested every third year.	• Can be harvested every year.
• Can be farmed up to the south of Norrland.	• Can be farmed all over Sweden.
• Gives food to bumblebees in the spring.	• Can be farmed in wetlands.
• Can be used for the production of heat and electricity.	• Can be used for the production of heat and biogas.

Your task is to use the information from the fact box and write a text where you shall:

- Take a stance for either willow or reed canary grass.
- Formulate two arguments in two steps arguing for the biofuel you have chosen
  and
  formulate one argument in two steps arguing against one of the two biofuels.
- Use scientific concepts for context in the arguments.

My stance is:

Write your text:

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