

## Viruses

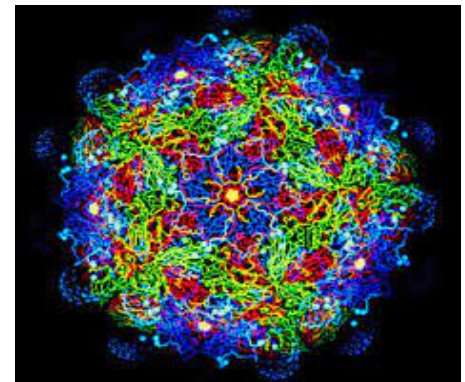
Viruses are extremely small micro-organisms which multiply only in living cells. They are the cause of many animal and plant diseases. One of the most serious viral animal diseases is foot and mouth disease, also known as epizootic apthra or apthous fever. It is a highly infectious notifiable disease of cattle, sheep, goats and pigs; it is caused by a rhinovirus and characterised by vesicles in the mouth and feet. Although it causes high rates of mortality only in young animals, the farmer's loss is substantial because animals affected by it do not put on weight, and the milk yield of dairy cows is reduced. In some countries, animals affected by foot and mouth disease must be slaughtered immediately and the carcasses burned or buried.

Viral infections are transmitted between plants mainly by insects called vectors or carriers, in particular aphids, and also eelworms. Infections are spread from one animal to another by insects, by contact, or by inhalation of droplets expelled by coughing or sneezing. Viruses are resistant to antibiotics; a substance which can inhibit the reproduction of viruses within living cells is interferon, but it can only be used on a limited scale and under strictly controlled conditions, because of other effects it can have on living cells.

A practice which aims to protect the animal by improving its natural defence against infectious disease agents is vaccination. It consists of the injection of a vaccine containing antigens which provoke the production of antibodies in the animal. The antibodies give a temporary or permanent protection to the animal against a particular virus or bacterium. A good vaccine should contain enough antigens, should not be toxic and should not cause disease in the animal.

Exercise A: Match the words from the text with the meanings on the right.

- |                 |   |
|-----------------|---|
| 1. highly       | a. bovines, cows                              |
| 2. notifiable   | b. to butcher, to kill                        |
| 3. cattle       | c. the body of a dead animal                  |
| 4. dairy        | d. to expel from the nose                     |
| 5. to slaughter | e. milk producing                             |
| 6. a carcass    | f. to be reported (to the health authorities) |
| 7. eelworms     | g. to expel from the mouth                    |
| 8. to sneeze    | h. to have a purpose                          |
| 9. to cough     | i. to impede/limit                            |
| 10. to aim      | j. nematodes                                  |
| 11. to inhibit  | k. very                                       |



*foot and mouth virus*

Exercise B: Understanding the text. Answer the questions with complete sentences

1. What is a virus?
2. What are the other names for foot and mouth disease?
3. Which animals does it affect?
4. How does it affect them?
5. What control measures are used against this disease?
6. Which word describes insects that transmit diseases to plants?
7. How do infections spread between animals?
8. Can antibiotics treat viruses?
9. What is the problem with using interferon?
10. What is the aim of vaccination?
11. How does the vaccine function?
12. What are the qualities of a good vaccine?