

CASE

*Curriculum for Agricultural
Science Education*

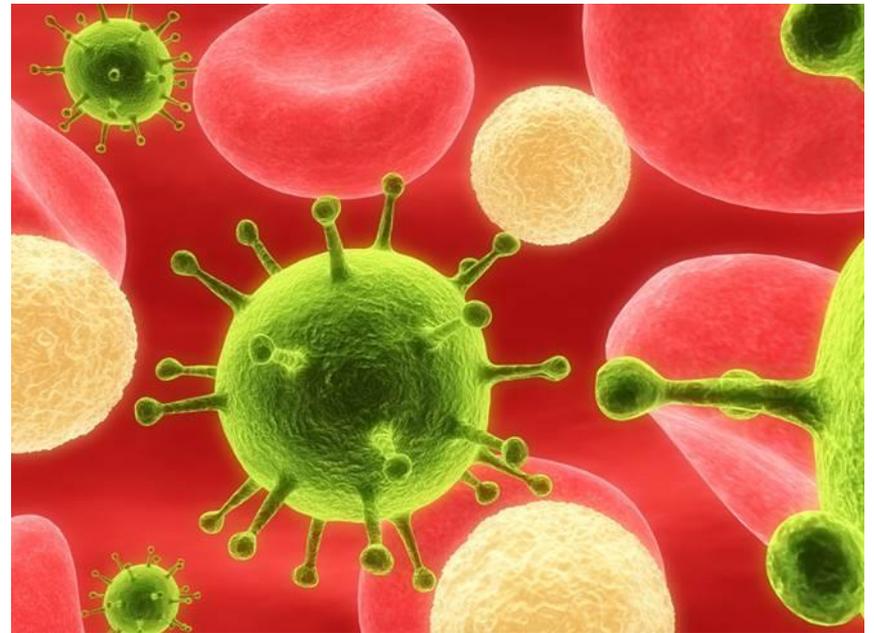
Principles of Agricultural Science – Animal

Infectious Disease Causing Agents

Unit 8 – Lesson 8.1 Popular Pathogens

Agents That Infect Animals

- Bacteria
- Virus
- Fungi
- Protozoa
- Prions



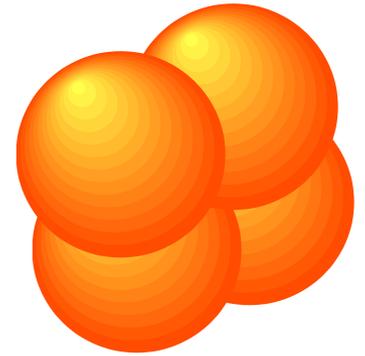
Bacteria

- Prokaryotes – single-celled organisms
- Organelles are not membrane-bound
- Three basic shapes:
 - Cocci
 - Bacilli
 - Spirilla



Bacteria Shapes

- Cocci:
 - Spherical or egg-shaped
 - Chains are streptococci
 - Clusters are staphylococci
 - Examples: strep and pneumonia infections



Bacteria Shapes

- Bacilli:

- Rod shaped

- Examples: anthrax and salmonella



- Spirilla:

- Spiral or corkscrew shaped

- Examples: leptospirosis



Virus

- Very tiny
- Have a core of nucleic acid with a protein covering
- Characteristics of both living and nonliving material
- Only grow and reproduce inside a living cell

Virus Size

- To see a virus, go to
 - <http://www.cellsalive.com/howbig.htm>
- What is a nm?
 - Nanometer = .00000004 inches
- Example: influenza



Fungus

- Eukaryotes – have membrane-bound organelles
- Common forms include molds and yeasts
- Example: Ringworm



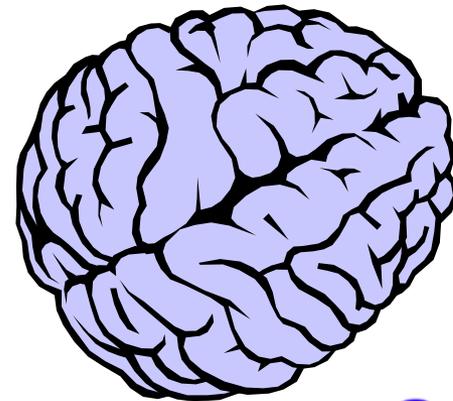
Protozoa

- Eukaryotes – single-celled organisms
- Often parasitic
- Examples: Coccidiosis in animals, malaria and giardia in humans



Prions

- Abnormal form of protein that clumps together inside a cell
- Causes brain-wasting diseases, such as scrapie and Bovine Spongiform Encephalopathy (BSE)



References

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