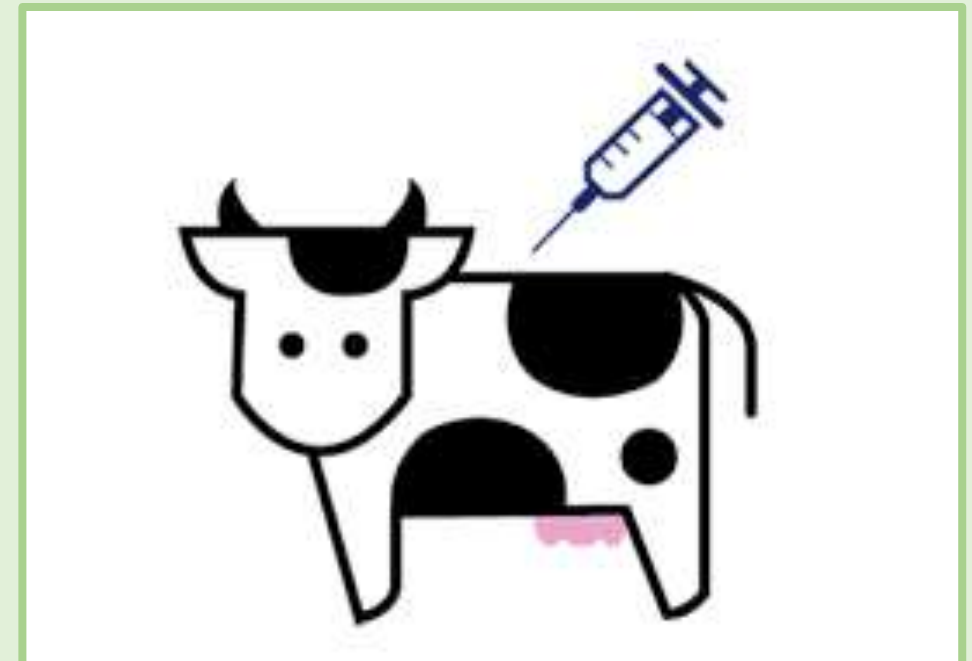


# VACCINATION SCHEDULE AND PLANNING (Level 1)

Topic	Training & information Content
9.1	Introduction to Animal health (Prevention vs curative health care)
9.2	Health signals
9.3	Biosecurity of dairy farms
9.4	Tick born diseases (Prevention and treatment)
9.5	Worm infections (Prevention and treatment)
9.6	Vaccination schedule and planning
9.7	Mastitis prevention and treatment
9.8	California Mastitis Test
9.9	Usage and storage of veterinary medicines on dairy farms
9.10	Administering of medicines to dairy cows
9.11	Instruction use of injectors into teat canal
9.12	Key performance indicators (KPIs) for monitoring health status of dairy herd



## 1. You will learn about (learning objectives):

- What is a vaccine?
- How does it work?
- When to use it?
- Which diseases?



Anthrax and black quarter vaccination in Rwanda



## 2. What is a vaccine?

A **vaccine** is a medicine that provides immunity to a particular infectious disease\*.

- A vaccine contains a substance looking like a germ or virus.
- A vaccine stimulates the body's immune system\*\*
  - to recognize the germ or virus as a threat
  - to destroy it for now and in the future.
- Vaccines can be prevent the effects of a future infection by a germ or virus.

Source Wikipedia



French picture celebrating that Jenner, an English scientist, made the first vaccine against small pox by the end of the 18<sup>th</sup> century, by injecting people with cow pox extracted from the hand of a milk maid.

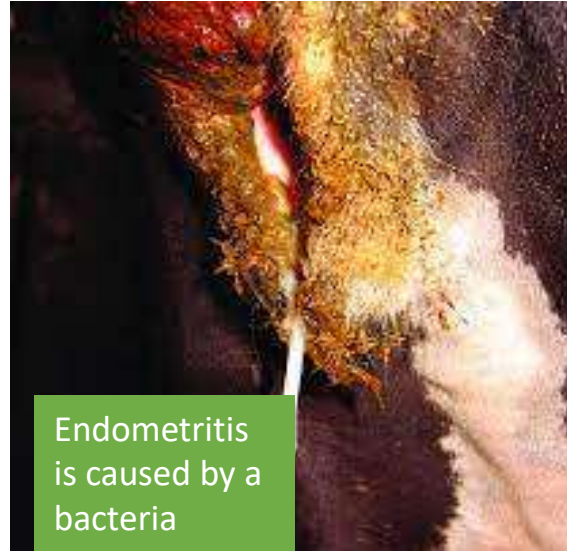
### 3. What is an infectious disease?

According to the world health organization:

- Infectious diseases are caused by sick making microorganisms, such as bacteria, viruses, parasites or fungi; the diseases can be spread, directly or indirectly, from one animal to another.

Sick making organisms

- Bacteria
- Viruses
- Parasites (protozoa, worms, ticks, etc.)
- Fungi



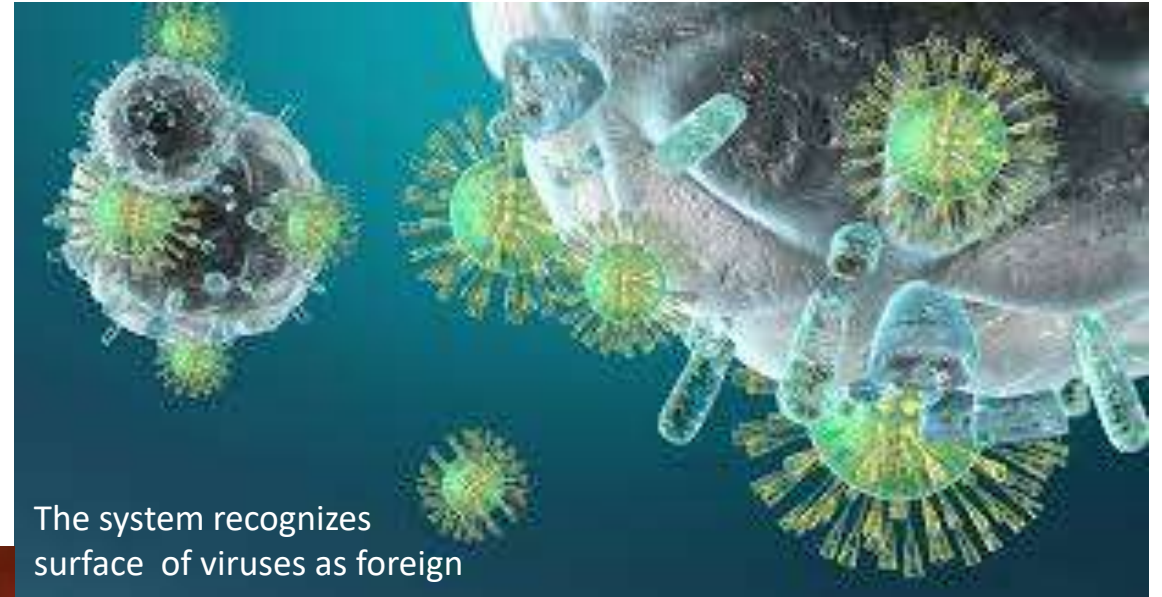
## 4. The Immune system

- The immune system is a complex network of organs, cells and proteins that defends the body against infection.
- It includes a memory system for future infections

Source Australian Government



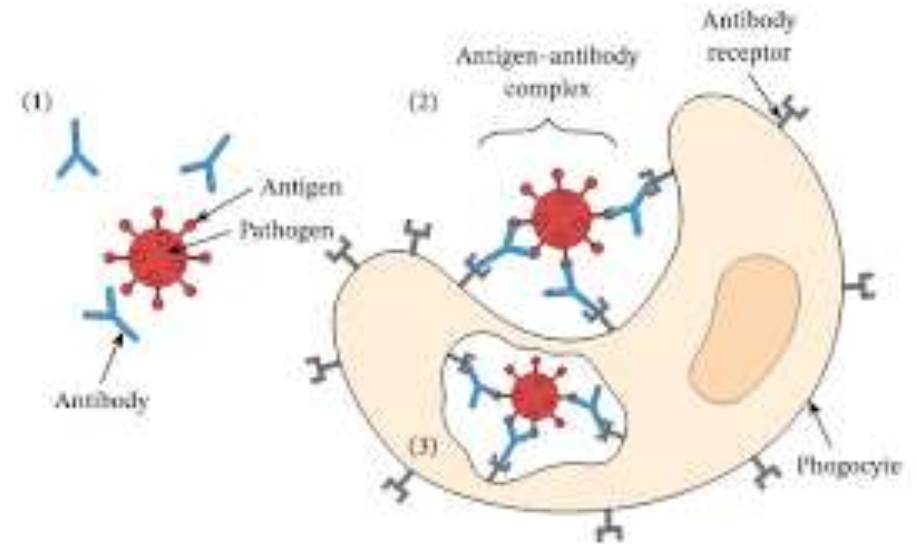
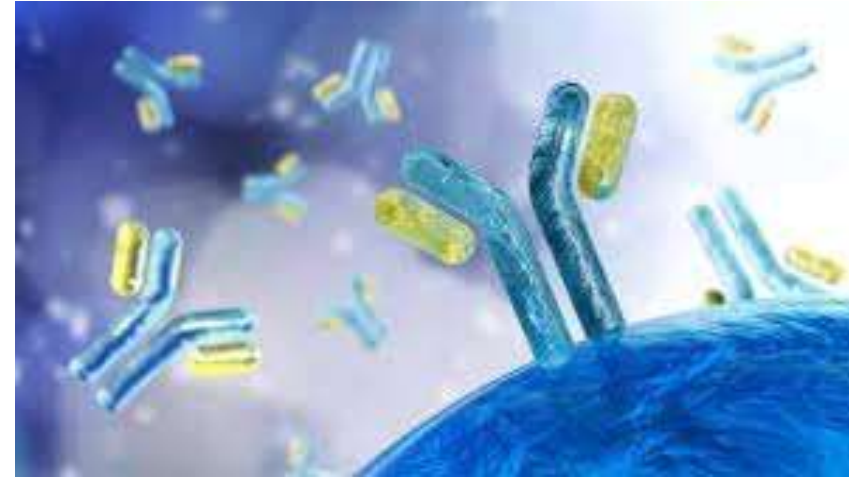
These foreign molecules (antigen) will be attacked by antibodies.  
Like the corona virus In this picture



The system recognizes  
surface of viruses as foreign

## 5. About vaccines...

- Vaccines help to building immunity against infectious diseases, without causing the illness.
- Once cattle have been vaccinated and the immune system the germ, it responds quickly and creates antibodies and memory cells to give the body protection.
- Vaccination is the most effective preventative measure against serious diseases.



Source Australian Government

## 6. Are Vaccines safe?

- Millions of animals, people – many of them babies and young children – are immunised every year, with no side effects.
- Vaccines are much safer than getting sick from a disease. Diseases that can be prevented by vaccines can cause lifelong complications or death.

Source Australian Government



Vaccines are  
**Safe** and **Effective**



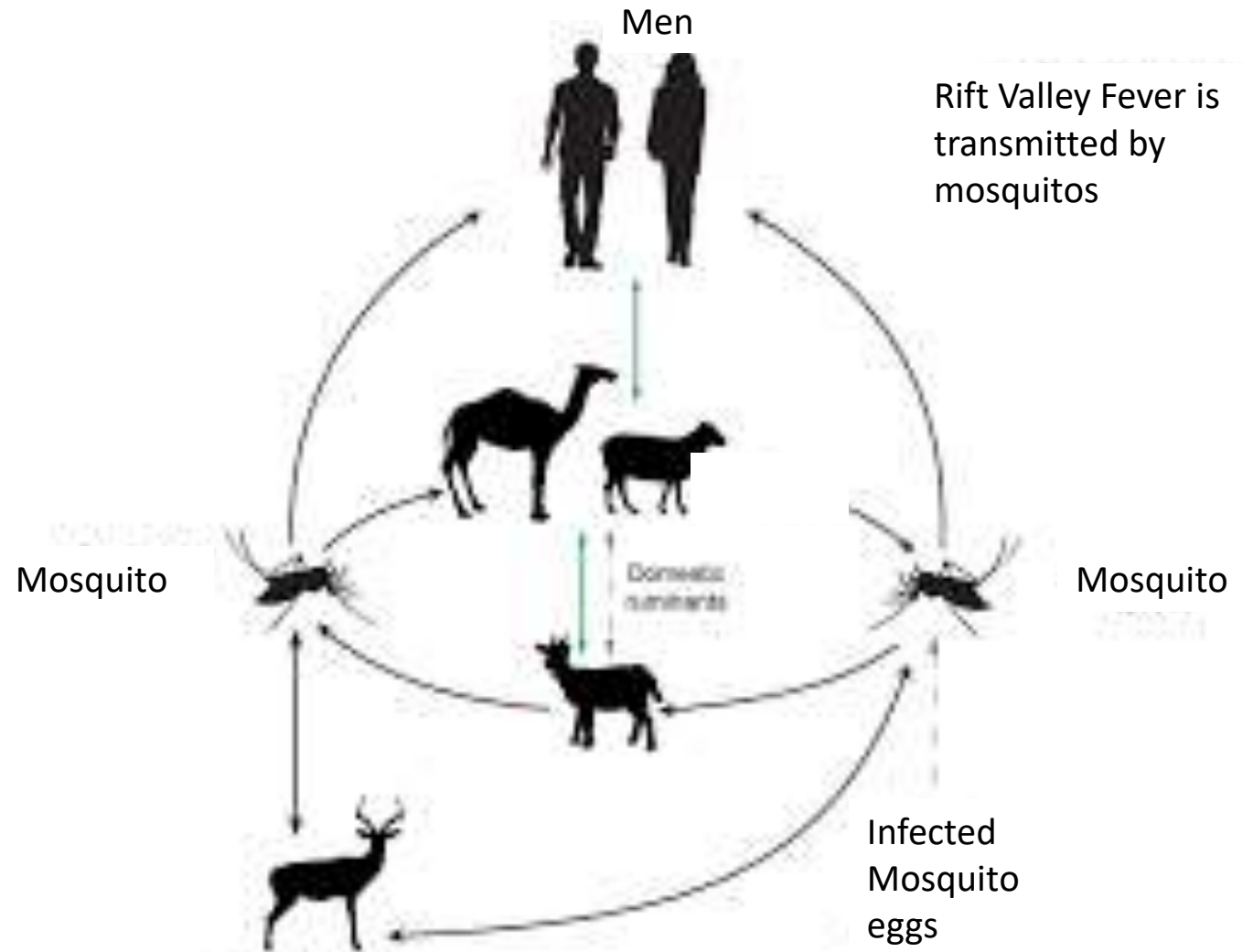
### What's in a vaccine?

What makes an immunologist  
[www.immunology.org](http://www.immunology.org)



## 7. Which Vaccines are available?

1. Brucellosis\*
2. Anthrax\* & Blackquarter
3. Contagious Bovine Pleuropneumonia (CBPP)
4. East Cost Fever
5. Foot & Mouth Disease\* (FMD)
6. Rabies\*
7. Rift Valley Fever\*
8. Lumpy Skin Disease
9. \* Zoonoses





## 8. Who vaccinates?

- All vaccines should be given by a licensed veterinarian. (This is obligatory for good reasons).
- Always consult a veterinarian if planning a vaccination.
- The veterinarian can advise
  - ✓ If a vaccination is necessary
  - ✓ When to apply it
  - ✓ Which animals
  - ✓ Cost effectiveness



## 9. Other Vaccines

- The list of vaccines just described is an overview of the vaccines relevant and available in East Africa.
- There are worldwide more cattle vaccines against dozens of other diseases in cattle for example against:
  - ✓ Rabies
  - ✓ Calf scour
  - ✓ E. Coli
  - ✓ Bovine virus diarrhea
  - ✓ Infectious Bovine Rhinotracheitis



## 10. Summary (Take Home Messages)

- Against many, but not all, infectious cattle diseases vaccines are available.
- Vaccines are an excellent tool to prevent diseases.
- Vaccines when used according to label are safe.
- Side effects are rare.
- Only use them after consulting a veterinarian.
- Only registered veterinarians are allowed to administer vaccines

