

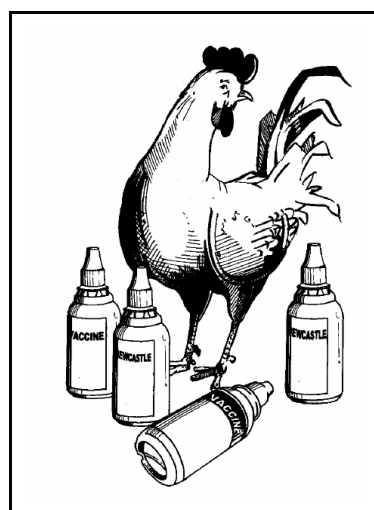
Training Notes
For
Community Animal Health Workers

**Newcastle disease
vaccination**

Small Scale Livestock Promotion Program
PO Box 1604, Lilongwe Malawi



Newcastle disease vaccination



Illustrations courtesy of Kyema Foundation

Session 1: About Newcastle disease

Session Objectives:

At the end of this training session, each participant should:

1. Understand the importance of Newcastle disease in the context of village chickens in Malawi
2. Know the common signs of Newcastle disease in chickens
3. Understand the principles of control of Newcastle disease through vaccination
4. Understand the difference between treatment and prevention of disease
5. Understand that there is no treatment for Newcastle disease

What is Newcastle disease?

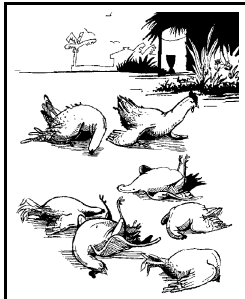
- Newcastle disease is a disease which kills many chickens and makes other chickens very sick.
- Newcastle disease comes periodically, kills chickens, then disappears for a few months before returning. Rural people know the disease and know something of its behaviour.



What causes Newcastle disease?

- Newcastle disease is caused by a virus, a tiny germ. The virus is spread by chickens which are sick and by other birds, and by humans who have handled sick chickens.

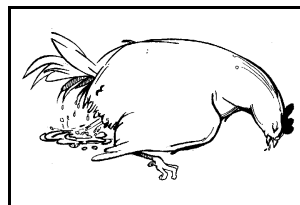
How important is Newcastle disease?



- Newcastle disease is **very** important. It is the biggest killer of village chickens in Malawi.
- Other diseases may kill chickens but they are not as common as Newcastle disease.

What are the signs of Newcastle disease?

- Newcastle disease affects mainly the brain, the lungs, and the gut of chickens.
 - If the brain is affected, we see chickens with necks twisted, or circling, or falling over.
 - If the lungs are affected, we see chickens which are coughing or wheezing with runny nostrils.
 - If the gut is affected, we see chickens with greenish diarrhoea.



- Sometimes Newcastle disease is very severe in the flock and all the chickens die. Sometimes it is not so severe and a few die but many get sick.

How can we treat Newcastle disease?

- Treatment and prevention of a disease are different things.
 - Treatment cures a disease after it has started to make the animal sick.
 - Prevention stops the disease from causing sickness in the animal.
- There is no treatment for Newcastle disease. Once the disease has entered a village, many of the chickens will die.

- If someone tells you they have a herb or drug which cures Newcastle disease, they are wrong.

How can we prevent Newcastle disease?

- The only effective way to prevent Newcastle disease is to vaccinate the chickens. Vaccination is a simple and cheap procedure.
- In other countries, people protect chickens by keeping them away from all other birds. However, this is not possible for village chickens in Malawi.

Session 2: Newcastle disease vaccination

Session Objectives:

At the end of this training session, each participant should:

1. Understand the broad theory of how vaccination works
2. Be able to vaccinate chickens proficiently
3. Be able to answer some common questions about Newcastle disease vaccination

- If Newcastle disease virus attacks a chicken, it will get sick after about one day. It will probably die about a day later. If the chicken does not die but recovers, its body develops a defence mechanism called "immunity". Development of this defence mechanism takes about a week. If this same chicken is attacked by Newcastle disease again, the defence mechanism destroys the virus immediately and the chicken does not become sick.
- Newcastle disease vaccination creates immunity in the chicken **before** it is attacked. Thus, the chicken has a strong system of defence. A vaccinated chicken does not get sick if the Newcastle disease virus tries to attack.
- However the vaccine cannot create the immunity immediately; it takes about a week. So if the animal is already sick from Newcastle disease when it is vaccinated, it will die before it has time to build up the defence mechanism.
- So the vaccine is used for prevention of Newcastle disease. It is of no use as a treatment for the disease.
 - If the chicken is already sick from Newcastle disease on the day it is vaccinated, it will probably die.
 - If Newcastle disease attacks the chicken at the time of vaccination or a few days later, it will probably die.
 - If Newcastle disease attacks the chicken a week or more after vaccination, it will probably not get sick.
- After about four months, the chicken's defence mechanism starts to weaken, so it must be strengthened again by doing another vaccination.
 - **Vaccination must be repeated every four months.**
- Newcastle disease vaccine prevents only the one disease it is designed for, Newcastle disease. It will not protect against other diseases. Chickens which have been vaccinated can die of other diseases.
- Newcastle disease vaccine is harmless. If chickens get sick or die after vaccination, the cause is not the vaccine; it is something else.

- Newcastle disease vaccine is harmless. It does not affect the chicken nor does it alter the taste of the meat.
- Vaccination must not be done on chickens that are sick. It must be done on healthy chickens before the disease has appeared in the village.
- If chickens are sick when they are vaccinated, the vaccine will not work.
- If sick chickens are vaccinated, they will die anyway. If that happens, the owner will believe the vaccine killed the chickens and will refuse to vaccinate in future. His chickens will be left unprotected.
- There are several different types of Newcastle disease vaccine. We will discuss the I-2 type which is available in Malawi and which is well suited for field use.

How to keep I-2 vaccine

- Never let the vaccine freeze.
- Never leave the vaccine in the sun.
- It is best to keep the vaccine in the fridge.

Recommended storage times for vials of I-2 vaccine

In the refrigerator	Four months or until the expiry date on the label		
Outside the refrigerator		Very hot weather (over 30 °C)	Warm weather (20-30 °C)
	Unopened vials	2 days	2 weeks
	Opened vials	2 days	3 days

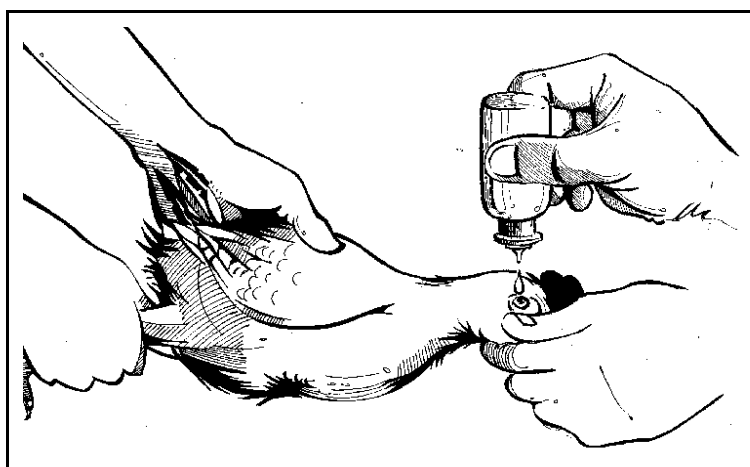


A good basket for carrying vaccine in the field
(a wet cloth is inside)

- The vaccine stays healthy and strong at constant low temperatures.
- The warmer the vaccine gets the weaker it gets. It does not recover if you put it back in cool conditions.
- Store it as carefully as possible and use it soon after taking it out of the refrigerator.

How to use I-2 vaccine

- Every chicken in the flock should be vaccinated. Even day-old chicks should be vaccinated.
- One drop of the vaccine should be dropped into the eye of the chicken.
- This is done on just one eye, not both. However, if more than one drop is given, it will not harm the chicken.
- Choose a shady area to do the vaccinations.



- Each vial contains about 200 drops. One vial can be used to vaccinate about 200 chickens.
- To avoid spread of diseases, do not congregate chickens from different villages. Vaccinate all the chickens in one village, wash your hands with soap, then move on to the next village.
- One week after vaccination, the chickens will be protected from Newcastle disease. This protection will last four months.
- The vaccine is harmless. There is no problem if people wish to slaughter chickens which have just been vaccinated. There is no problem if people wish to eat eggs from chickens which have just been vaccinated.

Some possible questions from chicken owners and suggested answers:

1. My chickens are dying of Newcastle disease. How can you help me?

Suggested response: There is no way for me or anyone to stop the disease at this time. There is no treatment for Newcastle disease. You can only wait till it passes and in future vaccinate your chickens to protect them before the disease returns.

2. But my chickens are dying. Can't you vaccinate them to stop the deaths?

Suggested response: Newcastle disease vaccine cannot be used for treatment of chickens that are already sick or dying. The vaccine will have no effect in stopping the disease once it has entered the village. The vaccine can only be given to healthy chickens before they are attacked by Newcastle disease. There is no treatment for Newcastle disease. Once the disease has entered a village, many of the chickens will die.

3. I have no money. I can't pay for vaccination. What can I do?

Suggested response: If you have ten chickens, you can sell one and that will give you enough money to vaccinate all the others. If you don't vaccinate, the disease can kill all your chickens. You must decide whether it is better to have nine live chickens or risk having ten dead chickens.

4. The vaccine killed my chickens. They died just after being vaccinated.

Suggested response: The vaccine is harmless. It cannot kill chickens. It cannot harm chickens. The vaccine takes at least one week to protect the chicken. If your chickens died just after being vaccinated, they may have been attacked by the Newcastle disease virus before the vaccine had time to build up its protection. Alternatively, they may have died of some other cause.

5. The vaccine didn't work on my chickens. They died a few weeks after being vaccinated.

Suggested response: The vaccine works very well. It protects chickens from Newcastle disease. If they died a few weeks after vaccination, the cause of death was something else, not Newcastle disease. The vaccine does not protect against other diseases; it only protects against Newcastle disease. Vaccinated chickens may die of other diseases and the vaccine cannot prevent that.

6. The vaccine didn't work on my chickens. They died about six months after being vaccinated.

Suggested response: The vaccine did work on your chickens. It works very well. But it only protected your chickens for a period of four months, not six. Chickens have to be re-vaccinated every four months to remain protected.

Newcastle disease vaccination record form

Vaccinator's name: _____

Date: _____

Name of owner	Village	Total No of chickens owned	No of chickens vaccinated	Amount paid

Newcastle disease vaccination reporting form*

Name of vaccinator: _____

Date(s) of vaccination: _____

Number of bottles at start of vaccination: _____

Number of bottles left after vaccination: _____

Village	No of chickens present	No vaccinated
Total:		

* When you finish vaccination, please send a copy of this form to the government Assistant Veterinary Officer or the Agricultural Extension Development Officer responsible for your area.

BEWARE OF Newcastle disease



Courtesy of Kyema Foundation

VACCINATE YOUR CHICKENS TO PREVENT NEWCASTLE DISEASE

Vaccine against Newcastle disease will be available at:

Village:	
Date:	
Price per chicken:	K10

Thank you