

# INTRODUCTION TO THE CENTRAL VETERINARY LABORATORY

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The Central Veterinary Laboratory of the Livestock Branch of D.P.I. is at Kila Kila in Port Moresby. The main function of the Laboratory is to help to improve the health of the livestock of Papua New Guinea.

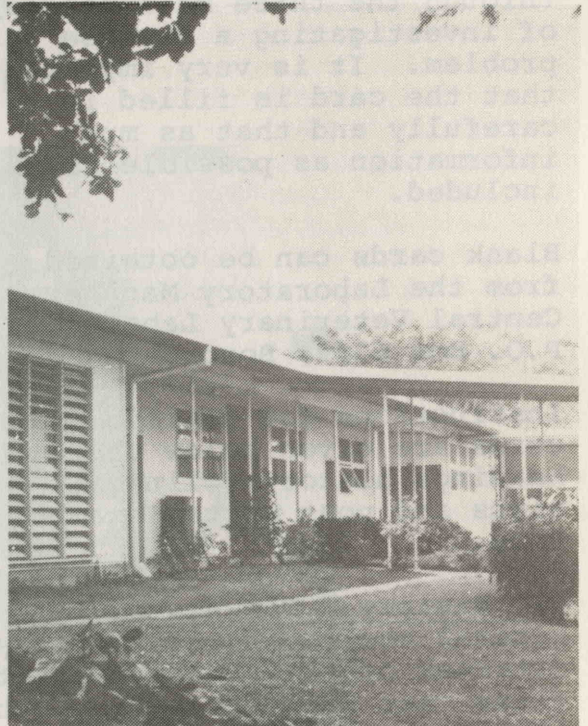
One of the ways in which the Laboratory does this is by helping extension officers to find out the cause of any sickness in animals in their area.

Three different areas of scientific study are involved in this work.

a) Microbiology. This is the study of microbes (germs) and includes the study of viruses (virology), bacteria (bacteriology), fungi (mycology) and serum (serology).

b) Parasitology. This is the study of parasites. It includes the study of worms (helminthology), protozoa (protozoology), and flies, fleas, lice, ticks and mites (entomology).

c) Pathology. This is a broad term meaning 'the study of disease'. Often, it is used in a narrower sense to include only the study of tissues (histopathology), the study of blood (haematology) and the study of the chemistry of the body (biochemistry or clinical pathology).



*The Central Veterinary Laboratory*

Any extension officer who finds sick animals on a project can get help from the Laboratory. To do this, he must send information about the animals and some specimens or samples for analysis. The information should be written on a special form called a Veterinary Specimen Advice Card, but if the Officer does not have any of these cards he can write the information on ordinary paper.



This article includes information on how to fill in a Veterinary Specimen Advice Card, and how to pack and send specimens to the Laboratory. Later articles will give information on how to take different specimens for examination.

#### VETERINARY SPECIMEN ADVICE CARD

This card is filled in by an extension officer as he goes through the three main stages of investigating a disease problem. It is very important that the card is filled in carefully and that as much information as possible is included.

Blank cards can be obtained from the Laboratory Manager, Central Veterinary Laboratory, P.O. Box 6372, Boroko.

Instructions for filling in the cards are given below under the headings history, clinical signs and post mortem examination.

a) History. The history or general background to a disease outbreak often gives important clues that help in finding out the cause of the disease. This section should include details of the animals involved and the property where they are kept. The name, address and telephone number of the owner and of the extension officer carrying out the examination should also be written on the card. Try to print neatly so that the Laboratory staff can read what you record.

Follow these instructions to fill in the history section of a Veterinary Specimen Advice Card correctly.

First record the species, breed, age and sex of the sick animals and the number of animals on

the property. Ask the owner or manager if a similar disease or any other diseases have occurred before and write down the answer. Also note the number of sick animals (morbidity) and the number of animals which have died (mortality).

Take special notice of the amount and quality of the feed and water available for the animals and record these details on the card. Many diseases are made worse or are even started because of poor nutrition. This includes overgrazing, presence of poisonous weeds and poor water supply.

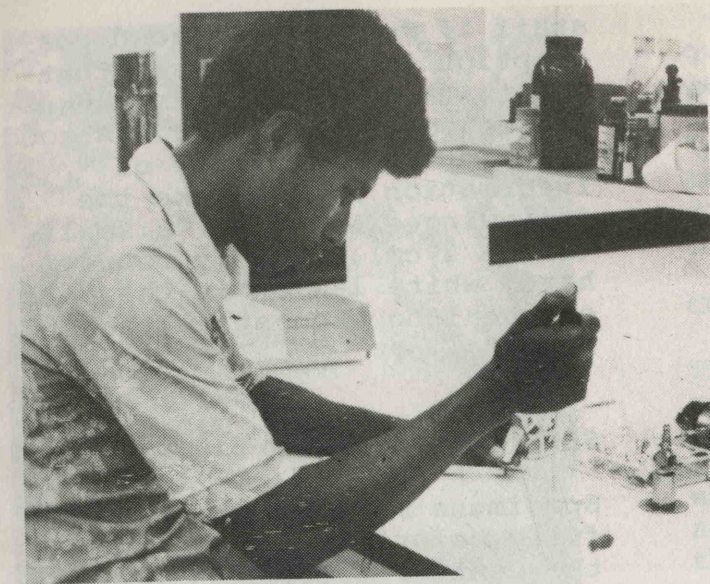
Finally, ask what, if any treatment has already been given and write down full details of any vaccinations, antihelmintics, antibiotics or other treatments which the animals have had.

b) Clinical signs. These details are noted on the card during the clinical examination. This should include examination both of those animals the owner reports as ill and of those he does not think are ill.

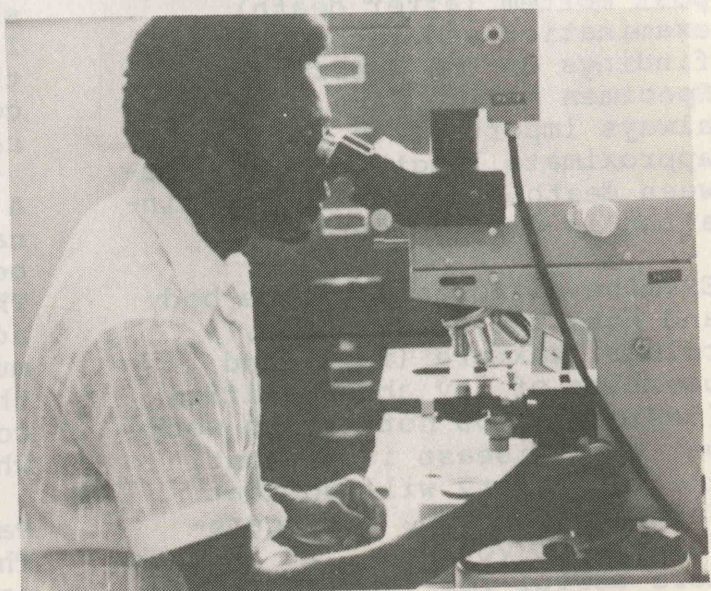
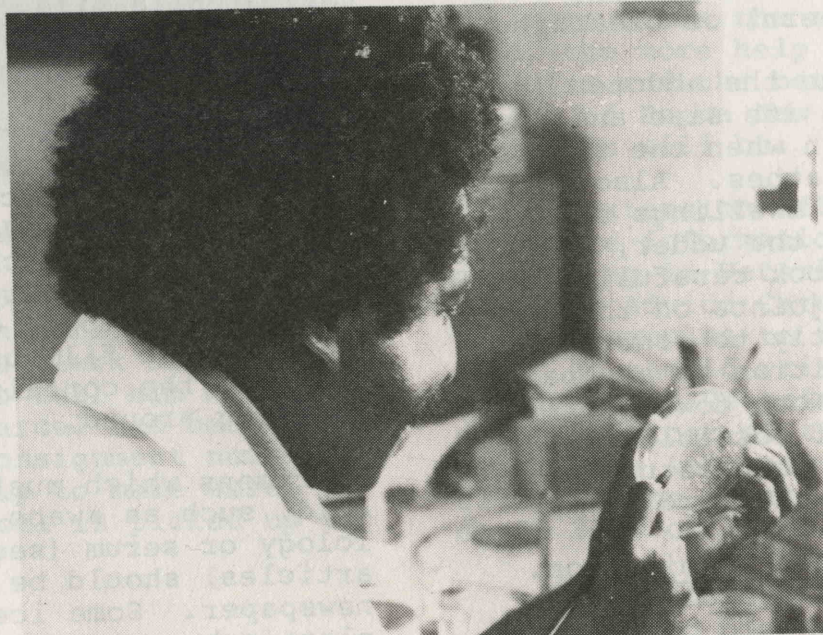
To perform a clinical examination, begin with a general inspection of the animals and then carry out a detailed examination of one or more animals.

In general inspection, note the attitude of the animals, for example, whether they are sleepy and depressed or bright and alert. Take particular notice of how they walk and stand and record anything abnormal (unusual). The general body condition, for example whether they are fat, good, thin or very thin, should also be noted. Look for any sores, parasites or other skin problems and record details of what you find. Ask the owner or manager about the animals'





Laboratory staff analysing samples at the .....



.. Central Veterinary Laboratory,  
Kila Kila.



behaviour, for example whether they are eating normally and whether droppings and urination are normal. Write down the answers he gives to your questions.

For detailed examination, begin at the head and work towards the tail, making notes on the card of what you find. Look carefully for any discharges (pus etc.) from the eyes, nose or mouth. Also look for abnormal swellings of the head and neck. Examine the thorax (chest) and note the breathing rate (number of breaths per minute) and the depth and rhythm (pattern) of breathing.

Next, examine the abdomen (belly) and note its size and any signs of pain when the animal moves or breathes. Also note any abnormal swellings or discharges from the udder, vulva or penis. Look carefully for any swollen joints on the legs and feel gently to find the size and position of any painful areas. Note down your findings. If possible, take the animal's temperature and record it on the card.

#### c) Post mortem examination.

If any animal has died, then the officer should carry out a post mortem (after death) examination and record his findings on the Veterinary Specimen Advice Card. It is always important to record the approximate length of time between death and when the examination is carried out.

Examine all organs of the body and note the size, shape, colour, texture (feel) and position of any abnormalities (lesions). Do not try to work out what disease is present, the laboratory will do that. Instead, describe very carefully what you see. It is much more useful for the laboratory

staff if you write a good description than if you say that you think that the animal has tuberculosis or cancer. A good description has plenty of information in it, like the following example:- "a small (about 2 cm), roughly round, hard, white lesion in the part of the lung closest to the heart".

#### SENDING SPECIMENS

Specimens must be packed carefully before they are sent to the Central Veterinary Laboratory at Kila Kila.

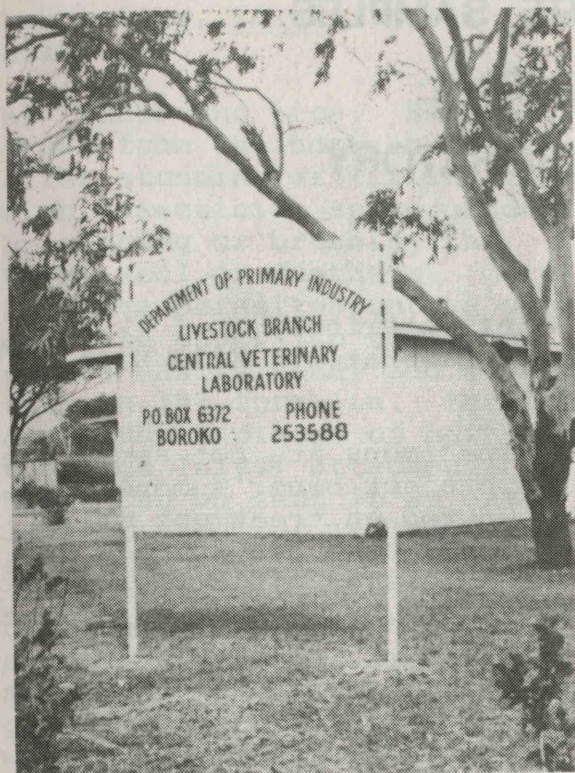
Any jars containing liquid preservatives such as formalin (see later articles on taking specimens) must have their lids sealed on with sticky tape to prevent leakage. Jars and tubes should be packed carefully in a cardboard box with plenty of crumpled or torn newspaper to fill up the spaces and stop the containers from rattling around.

Specimens which must be kept cold, such as swabs for bacteriology or serum (see later articles) should be wrapped in newspaper. Some ice, in a plastic bag or other container, should be wrapped up with them. If possible, this parcel should then be packed in an insulated container such as an 'esky' rather than in a cardboard box.

A correctly filled out Veterinary Specimen Advice Card must be included in each package. The extension officer's name address and telephone number must be given on the card so that the laboratory staff can contact him quickly to tell him what they find out.

Packages should be addressed to The Central Veterinary Laboratory, Kila Kila, Port Moresby





*Send your samples to this address!*

and be sent by air freight. The extension officer must telephone the clerk of the Laboratory to tell him which flight the parcel has been sent on and the consignment number. This will help to make sure that the parcel is picked up as

Photographs by Kath Perry.

quickly as possible. This is especially important when the specimens have not been fixed (put in preservative). The telephone number to use is 25 3588 or 25 4510.

## CONCLUSION

The Central Veterinary Laboratory exists to help extension officers with disease problems in livestock. It is up to the extension officers to take advantage of the services which the laboratory staff offer.

The more often the service is used, the more help the staff can give and the better the health of Papua New Guinea's livestock will be.

If any extension officer would like more information or advice on filling in Veterinary Specimen Advice Cards or on sending samples to the Laboratory, he should write to the Acting Chief Veterinary Research Officer at the Central Veterinary Laboratory, P.O. Box 6372, Boroko or telephone him on 25 3588 or 25 4510.