




















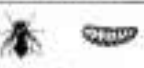










Animal Production

Handout 2

Application to Treat Parasites

							
							
Mange, Ear-mange	 <i>Sarcoptes sp.</i> <i>Psoroptes sp.</i>		•		•	•	•
Red mites in poultry	 <i>Dermatophagoides</i>						•
Ticks With 1, 2 or 3 hosts	 <i>Ixodes</i> <i>Amblyomma sp.</i>	•	•		•		•
Spinose Ear ticks	 <i>Oribatius negrosi</i>	•	•		•		•
Fowl ticks	 <i>Argas persicus</i>						•
Fleas	 <i>Ceratophyllus sp.</i>				•	•	•
Biting lice, Mallophaga	 <i>Dactylopus</i> <i>Hippoboscus sp.</i>	•	•		•	•	•
Poultry lice, Body louse, brown louse, head louse	 <i>Echinopsyllus sp.</i> <i>Degeomeles sp.</i> <i>Liposcelis sp.</i>						•
Sucking lice	 <i>Haemataphysalis sp.</i>	•	•		•	•	•
Warble flies and grubs	 <i>Hypoderma sp.</i>	•	•				
Human bot-flies and grubs	 <i>Cerambyx femoralis</i>	•	•				
Horse bot-flies and larvae in the horse's stomach	 <i>Gastrophilus spp.</i>				•		
Sheep nasal bot-flies and larvae	 <i>Oestrus ovis</i>				•		
Myiasis Screw worm Blowfly-Strike	 <i>Calliphora</i> <i>Lucilia sp.</i>		•		•		•
Sheep-Keds	 <i>Melophagus ovinus</i>				•		
Blood-Sucking Flies Horn fly, buffalo fly, stable fly, horse fly	 <i>Tabanus</i> <i>Simulium</i> <i>Tabanus spp.</i>	•	•		•	•	•

Dipping

Cattle

1. Plunge-dip

Previously, when arsenic was the most important dipping-substance, large dipping tanks were generally used as it forced the animal to swim through, thus ensuring it to be in contact with the dipping-fluid for a longer period. Nowadays only proper wetting of the animal with the modern organic dipping-compounds is necessary.

Smaller dipping-tanks are now recommended (\pm 15 000 litre) as this helps in keeping costs down when making use of the more expensive dipping compounds. For efficient control of parasites, it is essential to wet the whole animal with a properly constituted dip-wash at the correct strength. (To obtain this the label on the container should always be read carefully). The dipping-tank must be constructed in such a way that there are 5 to 6 steps at the entrance leading down to the water-level. This provides **the animal with something to kick against when jumping into the tank, positioning the animal's body** in such a way that the head is forced below the water surface when it plunges, ensuring complete wetting with the dip wash.

To maintain the dip-wash of modern dips at the correct strength, (tank tests are time consuming or not available) it is easy and fairly accurate if done in the following way:

- Calibrate the tank and mark each 500 litres on the wall of the tank as well as on the dipstick.
- After preparing the contents of the dipping-tank correctly at the fresh filling rate, record the tank level when the day's dipping is completed.
- Before commencing the next dipping, measure the tank-capacity and compare this with that at the end of the previous dipping to establish whether rain has diluted the dip-wash.
- If the latter is the case replenish with dipping fluid necessary for the volume of extra water which has entered the tank.

This easy, on the spot check, when done regularly at each dipping, will ensure a fairly accurate dip-strength. To protect the dip-wash in the tank as much as possible, avoid dirt and exposure to the sun.

A footbath, 3 - 5 metres long, through which the animals have to walk before plunging, is of great help to clean the hooves and avoid soiling of the dip-wash. A well-constructed roof over the tank, to avoid evaporation and to prevent dilution by rain, is just as essential as a foot-bath.

2. Spray-races

The spraying of cattle was adopted with the introduction of modern organic chemicals which were costlier and more difficult to test than arsenic; and so the development of the spray-race. Spraying of

cattle has the advantage that the dip is freshly made up at full strength before it is used, thereby giving maximum control and at the same time any uncertainty regarding the dip strength is eliminated.

The spray-race has an advantage to plunge-dips, provided the following points are observed:

- Only use a manufactured spray-race approved by a pharmaceutical company.
- These are synchronised with regard to the size of the nozzle, type of nozzle, speed of the pump, size of the pump, the pressure and position of the pipes and nozzles in order to ensure proper wetting of all parts of the animal.
- Mix enough dip required for the day's spraying so that no dirty dip remains in the sump or pump until the next dipping.
- Flush all pipes and the sump with clean water after use to prevent blocking.
- Ensure that the pump pulley runs at $\pm 2\ 000$ rpm. When all nozzles deliver freely, this ensures a delivery rate of 700 litres per minute at a pressure of 1, 4bar.
- Ensure that all the nozzles and the strainer are clean before spraying is started. Use clean water only.
- Never build a spray-race near to or under trees, as seeds and leaves may block the strainer and nozzles.
- Build the spray-race with the entrance facing north, if possible. In doing this, the animals, when entering, will walk away from the sun and not facing it. Also keep in mind the prevailing winds when erecting a spray-race.
- Wetting of the ears and under the tail is not always as efficient as in a plunge dip, necessitating special attention to these parts (e.g. hand dressing.)

Hand-spraying This should only be used when less than 25 animals are involved. It has been proved over and over again. When herds (larger than 25 head) were hand-sprayed weekly, the affectivity is greatly diminished. It must be remembered that for hand spraying at least 10 litres of dip-wash is required per animal in order to wet it properly. It is also very difficult to wet all parts of a beast standing still. Moreover, a high-pressure spray pump is needed to ensure thorough wetting of the skin.

3. Hand-dressing

This method is sometimes used where animals cannot be brought to the dipping tank or where a severe infestation of ticks are present, clustering the ears and underneath the tail.

Only apply hand-dressing materials (patch-treatment) to parts where ticks are clustering. Never treat large areas of the animal, as the animal may become poisoned.

Products such as "Tick dressing S" (chlorphenvinphos) can be used for cattle.

- Pour-on solutions - Products that can be poured on or painted on the infected parts of cattle and sheep/goats include: "Drastic Deadline", "Clout" and "Swift Pour-on".
- Aerosol - An aerosol product such as "Bacdip aerosol" **can be applied to heavily infected body parts.**

4. Calibration of dip- or spray-tanks

The most accurate way to fill a dipping-tank is by using an open oil drum as a measure. When filled to the top the drum contains 200 litres.

The dipping-tank is filled with this container. Every time a container is emptied into the dipping-tank's sump, the dipstick is marked (calibrated) clearly at the same time. The dipstick is then used to measure **the remains after a day's dipping session.**

The following formula can be employed:

Dipping tanks:

Measure:

- a. = Length at water-level
- b. = Length at bottom
- c. = Breadth at water-level
- d. = Breadth at bottom
- e. = Depth of water

Now calculate as follows:

$$\frac{a + b}{2} \times \frac{d + c}{2} \times e = \text{cubic capacity of dip-tank}$$

NB: 1 cubic metre = 1 000 litres

Spray-races:

Measure:

- a. = Length of sump
- b. = Width of sump
- c. = Depth of sump

Now calculate as follows:

$$a \times b \times c = \text{cubic capacity of the spray-race sump}$$

Add the capacity of the sump foot valve

Sheep

1. Plunge-dipping

Two types of dipping-tanks are recommended: the oblong dipping-tank and the circular dipping-tank. Both types work extremely well, provided the following requirements are full filled:

- The draining-pen must be well constructed to facilitate draining and should be large enough to allow complete draining without delaying the dipping process.
- The sheep handling-facilities (i.e. kraals etc.) must be adequate in order that it do not slow down the dipping process.
- The exact capacity of the dipping-tank should be known to ease the preparation (correct concentration) of dip-wash for the dipping process.
- The dipping-tank must be calibrated to facilitate accurate replenishing.
- The presence of a replenishing tank next to the dip will speed up the dipping process and ensure that the dip-concentration is maintained.
- Ensure that each sheep is plunged underneath the fluid level at least twice for proper wetting.

NB. There is a distinct advantage in dipping sheep when the wool is short, i.e. 10 - 14 days after shearing - both as far as thorough wetting and economy are concerned.

2. Foot- and belly-dipping

Foot-dipping is recommended for the control of the paralysis ticks. The depth of water through which the animals walk, should be 15 to 30 cm. Belly-dipping is recommended for the control of the paralysis ticks. The depth of the dip-wash should be 50 - 60 cm.

3. Maintenance of dip-strength

This point cannot be overstressed when dipping sheep. Whether it is plunge, foot or belly dip, the following points must be kept in mind:

- The exact capacity of the dipping-tank must be known to establish the dip **wash's correct** strength initially.
- Replenishing must be done regularly and continuously to maintain the correct strength.
- This will ensure that the first as well as the last animal dipped will come into contact with the correct concentration of dip-wash to ensure good results. Larger dipping-tanks (4 000 to 5000 litres capacity) are replenished less often than smaller tanks (2000 to 3 000 litres). Nevertheless, it is essential to replenish with fresh water and dipping-compound at the prescribed replenishing rate, before one third of the dip wash has been removed by the animals.

- There is a lot of merit in constant replenishing from a replenishing tank standing next to the dipping-tank. In the case of belly-dipping or foot-dipping where the dip-wash depth is of the utmost importance. The constant replenishment method is also recommended. This ensures both correct strength and depth of dip-wash throughout the dipping process.

Horses

Methods which can be followed are:

- Dipping or spraying, as for cattle.
- (Hand-spraying with dipping compounds.
- (Dusting with dip-powders.

Pigs

Dipping of pigs or spraying may be applied to small numbers. It is necessary to wet the pig thoroughly to obtain good results. Pigs with advanced mange should be scrubbed to ensure thorough wetting. It may also be necessary to add a wetting agent to the dip-wash.

Poultry

Dusting of poultry under each wing and tail may be done mechanically or by means of a sandpit with dip-treated sand.

Internal Parasites

Normally there are two methods to control internal parasites; dosing or drenching. There are a lot of drenching remedies on the market; some of them can be administered orally while the other can be injected e.g. Dectomax.

The following are examples of different internal parasites that may occur in your area:



Book for farmers - Stock diseases