

DRENCH RESISTANCE TEST PROTOCOL

1. Conduct a faecal worm egg count on weaner sheep/cattle that are less than 12 months of age and preferably animals that have not been drenched before. The ideal time to test is around 1-2 weeks before weaning or at weaning itself. It is also OK to use animals that have had one drench at marking.
2. A worm egg count around 300 epg or higher is required before the resistance test can be conducted.
3. If a count of less than 300 is obtained, draft off 120 "tail enders" from the mob and run them as a separate management group. Re-test these sheep in 2 weeks' time. The balance of the mob (minus the 100 you have drafted off) can be drenched at weaning.
4. When a count of 300 epg or higher is reached, Call Steve at Dynamic Ag who can arrange the setup of the trial or provide you with all the equipment to do it yourself.

5. If you want to set the trial up yourself:
 - a. A standard drench resistance test requires approx. 100 animals (7 drench groups + a control (no drench) group)
 - b. Run the 100 animals into the yards
 - c. Remove any visually larger, smaller or weak animals by drafting these off and remove these animals from the trial.
 - d. You will need a minimum of 96 animals for the trial. A more comprehensive trial including more drench groups can be set up and this will require a larger number of animals plus additional lab testing costs. See table over the page for other products that can be tested.
 - e. Out of the remaining 100 animals you have selected for the trial, pick 5-6 visually larger animals and weight them. Record the weight of the heaviest animal.
 - f. Set all drench guns to appropriate dose rate based on the heaviest liveweight animal as conducted in *step (e)*
 - g. Dose rates of products supplied by Dynamic Ag are listed over the page:
 - h. Walk through the pen of animals before you load the drenching race to mix them up and ensure random animals enter the drench race
 - i. Fill up the drench race with animals (not too tight).
 - j. With the orange spray marker provided, randomly select 12 animals in the race and spray their heads with orange marker. Ensure you spray on the top-knot to ensure the paint will stay there for 2 weeks. Part the wool on the head and get the spray nozzle right down onto the skin surface and right through the wool fibres. The mark only needs to be the size of a 50c coin. These are your control sheep.
 - k. Repeat step (i) above, this time spray another 12 random animals with the red paint and drench them with the corresponding drench as shown in the table over the page. Ensure you drench them as soon as you spray them to avoid errors with mis-drenching.
 - l. Repeat step (j) on the remaining sheep until you have used all the drenches and colour sprays as described in the table. Re-fill the race with more sheep as required and continue the process until all animals have a coloured mark on their head and have been drenched.
 - m. Keep all trial animals as one mob and preferably in a paddock that is reasonably close to the yards so these can be drafted off into their colour groups for collection in 10-14 days time.

6. **Trial Collection**
 - a. After 10-14 days, run the trial animals into the yards early in the morning
 - b. Draft each of the drench groups into their colour groups
 - c. Let animals sit for 2 hrs before collection. The animals will "empty out" when they are yarded making immediate collection of samples difficult. After 1-2 hrs there will be enough faeces present making collection easy and fast.
 - d. After 2hrs, run the first treatment group into the race and collect 10 individual faecal samples and place in the relevant tray provided. NOTE – Some treatment groups require two samples from each animal - one for counting and one for culture. These groups are:

- i. CONTROL
 - ii. BZ/Lev
 - iii. Ivomec
- e. The trays are already labelled and numbered
 - f. Spray a line across the rump of animals that you do not get a sample from. If you can't collect 10 samples from 10 individual sheep within each treatment group because some are "empty", you will need to run these animals back around at the end and try again.
 - g. Once you have collected ALL samples, close the trays up properly to avoid spills and to seal air out. Refrigerate these trays immediately and either post or deliver samples to Dynamic Ag.
 - h. You should now drench the control animals (orange heads) with a triple combination drench before letting them back out into the paddock.
 - i. If posting samples, use an express post bag and only post Monday – Wednesday to avoid samples sitting in the post over the weekend.
 - j. **CLEAN OUT THE NAPFIX, TRIGUARD, TRIDECTIN AND BZ/LEV DRENCH PACKS ONLY. REMOVE THE LID FROM THE CONTAINER AND SQUIRT THE CONTENTS OF THE DRENCH GUN AND HOSE BACK INTO THE CONTAINER. NOW – HOLD THE DRAW OFF TUBE UNDER A TAP AND PUMP WATER THROUGH THE DRENCH GUN UNTIL CLEAN. ENSURE YOU REMOVE ALL THE WATER FROM THE GUN AND DRAW OFF TUBE BEFORE REASSEMBLING BACK ONTO DRENCH CONTAINER.**
 - k. After the worm egg counts and cultures are completed, you will receive a comprehensive report detailing the effectiveness of the drenches tested against the worms species identified on your property.

Trial drenches and dose rates

GROUP	DOSE RATE	SPRAY on HEAD	Number in group	Active
Control (No Drench)	NIL	ORANGE	12	nil
BZ/LEV (DuoCare)	1mL/5kg	RED	12	40g/L Levamisole 25g/L Fenbendazole
BZ/Lev & Abamectin (Triguard)	1mL/5kg	RED Blue	12	1g/L Abamectin 22.7g/L Oxfendazole 33.9g/L Levamisole
Ivermectin (Ivomec)	1mL/4kg	Purple	12	0.8g/L ivermectin
Abamectin (Virbamec)	1mL/4kg	Blue	12	0.8g/L Abamectin
Monepantel (Zolvix)	1mL/10kg	Green	12	25mg/ml monepantel
Moxidectin (Cydectin)	1mL/5kg	Green/ Purple	12	1mg/ml moxidectin
Aba/Nap/BZ (Napfix)	1mL/5kg	Green/orange	12	135g/L Napthalaphos 1g/L Abamectin 25g/L Albendazole
Mox/BZ/Lev (Tridectin)	1mL/5kg	RED Green	12	1g/L moxidectin 40g/L levamisole 25g/L albendazole

Other products that can be tested:

GROUP	Active ingredients	Colour (if inc. in trial)
Startect	Derquantel + Abamectin – Dose @ 1mL/5kg	Orange/purple

NOTE – BE CAREFUL WHEN USING NAPFIX. WEAR GLOVES AND BE MINDFUL NOT TO TILT THE ANIMALS HEAD BACK TOO FAR WHILE DRENCHING. DRENCHING ONTO THE LUNGS CAN CAUSE MORTALITIES. ENSURE YOU MIX EACH DRENCH THOROUGHLY BEFORE USE.

NAME..... ANIMAL WEIGHT.....

DATE TRIAL SET UP...../...../..... DATE TRIAL TO BE COLLECTED/...../.....

DAYS POST DRENCHING TIME