

Drenching goats for internal parasites

I thought about writing this article after going to a talk on drenching of goats which confirmed the value of several of the procedures we have adopted for drenching for internal parasites. These have been based on experience, advice from other breeders and work with the Orange Veterinary Research Laboratory. This is not an expert article, just my opinions. Unfortunately, until we can have a large enough goat population in Australia to make it worthwhile for drug companies to do the necessary research for them to register their product for goats, goat breeders are dependent on advice of other breeders and their local vet for information on goat management, including drenching. It is worth remembering that we are actually breaking the law if we use drench products not registered for goats without specific direction from a vet.

Unless you live in an area where your goats are browsing most of the time, or are only eating grass higher than 8cm from the ground, you will need to be aware of the likelihood of internal parasites (mostly worms) and you will probably need to treat the goats to prevent worm problems. Do not forget that it is the worms (and indirectly the paddocks) which are affected by the drench, not the goats.

Goat meat producers should bear in mind the withholding periods after drenching during which goats may not be sent for human consumption. Be careful to check for that on the label.

Testing – Faecal Counts

The best thing to do is to have worm tests done to see if there are worms in your goats. This is the first question and the procedure is simple. Faeces pellets are collected and sent to a testing laboratory and you are told what number of worm eggs are present. Someone, probably your local vet, will interpret the numbers to tell if you if you need to do anything. The complexity of the information you get can vary from a simple count from a sample of pellets from a mob of goats to counts from individual mobs or from individual goats. If appropriate you can have the worm types identified.

You can also have various tests done to identify test the extent to which “your worms” are responding to the different drenches you could use. Or you may choose to test a certain time after you have drenched, to test the effectiveness of the drench you have used or to test the relative effectiveness of several different drenches. These procedures are a bit more complicated as you have to identify goats which had had different drenches, or no drench. Your vet, or the testing laboratory will help you design and interpret these experiments.

Drench Regimes

If you do not choose to have tests done, at least at first, you will be wise to consult your Rural Lands Protection

Board vet (or government vet outside NSW) about the likelihood of your goats needing worm treatment, and about the appropriate drenching regime you should use. Sheep breeders used to drench when the need was “obvious”, usually when animals were scouring, and often as frequently as every 4 – 6 weeks. This frequent drenching is the quickest way to build up resistance as there will always be a proportion of the worms which survive and these “resistant” worms will form an ever-increasing proportion of the worms which are breeding, passing this resistance on to their progeny.

The current approach is to drench as little as possible to the different types of drenches. Programmes such as Wormkill, Drenchplan and Worm-a-Goat from NSW Department of Agriculture set out a programme of drenching such that the sheep and goats are generally drenched at times when they have low worm counts. With these programmes worm numbers do not build up and fewer worm eggs get spread on the pastures. In our area, this means drenching in December and February (the beginning and near the end of Summer because that is when we have our rainfall).

In Drenchplan, the programme we follow, goats over 2 years are only drenched at those times, except for 2 groups. We drench our kids at weaning, when they go on to a good clean paddock, and we drench our breeding does a few weeks before kidding as goats lost their tolerance of worms in the period leading up to kidding. (We do this at the same time as we vaccinate the does, to give the kids immunity, and drench them with our iodine, which is necessary in many regions including ours.) Sheep can have the minimum drenching when they reach one year of age but goats apparently take longer to develop worm tolerance and need to have more frequent drenching, about 4 times a year until two years old. The NSW Department of Agriculture, and no doubt others, produces information on drenching plans and pamphlets are available from the RLPB or the Department. Be sure you get any page referring directly to goats as well as the more general pamphlet.

Dose Size

Something which is not always widely recognised is that goats have a different metabolism from sheep so that the usual advice to give goats the same dose, for their weight, as sheep is often not effective. We worked with the Orange Lab and experimented with one-and-a-half and double size doses of certain drenches (not all, it is for instance dangerous with Seponver) and those did not harm and appeared to be effective. However, the best procedure, and I have read this somewhere and we confirmed it with Orange, is to give the normal dose twice, 24 hours apart. (Actually the article

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recommended giving one dose and then giving a half dose 12 hours later, followed by another half dose after a further 12 hours.) We did try this but it is a lot of hassle and we find the two doses 24 hours apart is effective.) We use this “double” procedure with broad spectrum drenches like Ivomec, but we do not use it for Seponver. An Ivomec representative suggested using one-and-a-half times the sheep dose twice, 24 hours apart, on an empty stomach, for Ivomec, for goats.

It is important to have your goats' stomachs reasonable empty before drenching, so they have to stay on fairly low rations (say a bit of hay, or a poor-feed paddock) from about 12 hours before the first drench until a few hours after the second. It is also important to hold goats off pasture paddocks, preferably on slats but otherwise in a yard or small non-feed paddock, for 12 hours or so after drenching, particularly after the first dose. This allows the worms and eggs to drop out before the goats return to “clean” feed paddocks, so the feed is not contaminated.

Paddock management

It is important to remember that it is really for the paddocks that you are going the drenching. Eggs from affected goats drop on to the pastures and the larvae when they hatch climb up the grass (to a height of about 8 cm) and wait to be eaten and turn into worms. It is not always possible to put goats on to “clean” paddocks after drenching but with good management it is often possible to schedule drenching to correspond with the paddock changes.

I understand that the worst worm burden for a paddock is from does running with their unweaned kids, so that is not the paddock to return either of them to after weaning. A paddock which had recently had weaner kids (who were drenched at weaning) is better, as is a paddock which has had adults. A paddock which has had cattle on it will have had a lot of worms “mown” up by the cattle and a paddock which has had not stock on it for at least one summer should have few worm larvae. It is not enough to leave the paddock free over winter because, although frost and snow may kill larvae, the eggs will not hatch until the weather gets warmer so that there will be a concentration of larvae available to the goats in early summer. However, hatched larvae will die if they do not find a host. A paddock which has been ploughed and has a new crop should be “clean”.

Drenches

There are lots of oral drenches which are available for sheep and which are used for goats. The two major groups of broad spectrum drenches are the “white” and the “clear”. Goat breeders generally agree that “clear” drenches are ineffective with goats and the problem with both white and clear drenches is that a lot of goat and sheep worms have become resistant to their main ingredients and drenching is ineffective in many cases. You may be able to determine if this is happening if

your goats continue to “scour” and show lack of thrift but the best way to find out is to test after drenching and see if there are still significant numbers of eggs. If your worms are resistant to the basic drenches you will probably be put on to one of the “mectin” drenches of which Ivomec is the most well-known. These use completely different chemicals from the white and clear and are generally more expensive but resistance is, at this stage, an exceptional rate in Australia.

To reduce the likelihood of resistance developing, it is recommended that you rotate drenches, using one for 12 months and then another for the next 12 months. We change with the first Summer drench. Unfortunately, once you have resistance to any type of drench this tends to stay on the property for years (we had a 5 year break after discovering resistance when we tried a white drench again), so you can't rotate with a drench for years after you have established resistance to that type of drench in your paddocks. However, in our case we have found that the “combination” drenches, such as Scanda, are effective, even though they are a combination of white and clear, so we can rotate with Scanda. A vet will advise you on the procedure you should follow. (N.B. Ivomec is colourless and Scanda is white and these are different from the “white” and “clear” drenches.)

The usual drenching instructions say to weigh the heaviest goat and use a dose suitable for their weight to drench the whole mob. This is because underdosing can be a common reason for resistance to develop. (Don't forget that a drench gun can be inaccurate and can underdose, so test its output (say 5 doses) with a measure.) in the case of Scanda, or any more concentrated drench, we weigh more of the goats and vary the dose so that a small goat does not get a serious overdose. Used in sheep, and now being used in goats are “bullets” which release the drench drugs slowly over about 3 months which reduces the oral drenching even further. We have not used them and I understand that they should only be used once in a 2 year drench regime, but they would obviously replace several drenchings if given at the right time. To get this programme right you would certainly need professional advice.

Other Treatments for Parasites

The broad spectrum drenches discussed target many worms, such as ostertagia (brown stomach worm), black scour worm and various others. However, they have a limited effect on some other parasites, for instance, they may affect only one of the several stages of the parasite's growth cycle. We take precautions about some other internal parasites with specific narrow spectrum drenches. With experience and professional and amateur advice each breeder will discover their specific problems and remedies. Ours include:

- Barber's Pole worm (*Haemonchus*) is partly dealt with using Ivomec, but the specific drench Seponver knocks more of the stages and we use that (one dose, not repeated) in addition to the broad spectrum drench.

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- Some breeders have said that tapeworm is a problem, especially in young goats. We have not identified this problem in our goats and have been told that all goats carry tapeworm without ill effect to most of them. However, there are specific drenches for tapeworm. The First Drench product deals with tapeworm but it is based on a white drench and does not work on white drench-resistant worms of other kinds, so it is of little use to us.
- Liver fluke is dealt with easily with Fasinex. The host of fluke is a snail which lives on swampy ground around stock which drink from dams are forced into a concentrated area around a dam which is low because of drought. We had thought it was likely to be around in wet times, but dry times are more dangerous.
- Coccidia are protozoa whose dangerous effect is almost entirely on young animals as most adults have been in contact with it and have developed tolerance. This has been a problem for us at times, particularly when rain comes after a dry period. It can be dealt with by a number of products. We have found that Baycox (supplied by a vet, very expensive, and you may have to persuade the vet that it works for goats, not just poultry is the most effect and usually for goats, not just poultry) is the most effective and usually works with one dose, but

you have to get in quickly – look for mucousy faeces often with blood in it and the goat is obviously in real (intestinal) pain.

In most cases you will need to identify the effects of these parasites and the vet will advise you of the appropriate treatment. It would be good to be able to say that good management does away with all these problems but, though it can certainly minimise them, I don't believe you can avoid them altogether. I would very much like to see evidence that there are "natural" remedies but have so far seen none.

As a final thought, there are now sheep studies undertaking regular worm counts in sheep and calculating an EBV (estimated breeding value) for breeding animals based on this information (presumably the characteristic has been shown to have significant heritability). While I do not know of any goat studs yet doing this, we should be aware of the possibility of selecting stock that are less susceptible to worm infestations.

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Article from Issue 15 of Boer Briefs
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