

LAMB LOSSES FROM BIRTH TO 6 MONTHS . . .

ewes into an early and late lambing flock and treat them separately for the purpose of the second vaccination; this is done so that as many ewes as possible will get the second dose of vaccine about 2 weeks before lambing.

In subsequent years it is necessary to give the ewes only one injection of vaccine to boost the immunity just before lambing. One difficulty that you may strike is the unknown vaccination history of bought in ewes, so that you do not know whether they have been vaccinated once or twice or if ever.

As the immunity conferred by the milk of the vaccinated mother lasts for only a few weeks, vaccination of the lambs is necessary if most losses tend to be in lambs over 6 weeks. To give really good protection two injections should be given. It should be convenient to give the first injection at marking time at about 2 to 3 weeks and the second can be given 3 to 4 weeks later. The first dose of vaccine does confer some immunity, but it often is insufficient if a bad outbreak occurs later. What the first dose really does is sensitise the body to a second injection later and when this second dose is given the body responds more quickly and gives a stronger and longer lasting immunity.

If you wish, you can, having given the first injection, delay the second until an outbreak of pulpy kidney is threatened. Now don't take me up wrongly over this.

I don't mean that you go out one morning to have a look at your flock and say "Ah yes, I think we're going to have an outbreak of pulpy kidney, I'd better vaccinate the lambs again," just as you'd look at the sky and say "Mrn, I think it's going to rain." You don't know that an outbreak is threatened until you start to get losses. This method is obviously a bit risky, for there is a delay of a few days before the second injection takes effect.

Now if you haven't vaccinated the ewes or the lambs and you have an outbreak of pulpy kidney, all is not lost, for you still have pulpy kidney antiserum to fall back on. This is more expensive than vaccination, but has the advantage that it gives immediate though only a short protection. A few years ago the antiserum was used very little, but during the past 2 years there has been an unprecedented increase in the amount of antiserum used. Reports from veterinary surgeons who have used antiserum in serious outbreaks show that the antiserum can be of very great value and in many cases losses ceased immediately.

Apart from these methods of prevention and control certain other recommendations are usually made. Anyone who has had experience of this disease in his lambs knows that

the most serious losses usually occur in the best and fastest growing lambs on very good pastures. Because of this we advise farmers to give the flock a check by moving it to a poorer pasture, if one is available. This will often cut losses considerably, but has obvious disadvantages, for it is well known that young growing animals take a long time to pick up again after a check like this. Vaccination alone sometimes causes sufficient check to growth to hold an outbreak until immunity develops. Whereas the disease is most common in the most forward lambs, it is by no means unknown in flocks that are not doing well, so it would not be wise to check them any more by cutting down the food intake. Over-eating of lush pasture is not, then, the only factor predisposing lambs to pulpy kidney.

This now brings me to the relationship between tapeworm infestation and pulpy kidney. There does seem to have been an increase in some areas in both these conditions in lambs and because both occur at the same time we have heard it said that tapeworms cause pulpy kidney. I will agree that this could look like cause and effect, but just because two things happen at the same time it does not follow that one caused the other.

There is no doubt as to the true cause of pulpy kidney and that is the production of a toxin by a specific organism in the intestine. Tapeworms by interfering with the passage of the contents of the intestine either through their bulk or perhaps by irritation to the intestine may well predispose a lamb to pulpy kidney, but they **do not** cause it.

I have seen many lambs that died of pulpy kidney both with and without tapeworms and I have seen many that had a heavy tapeworm infestation and were sold as first-class fat lambs.

My advice to you would be this: if you feel you must do something about the tapeworms, dose the lambs with nicotine-copper sulphate drench, but if pulpy kidney is also occurring, don't neglect to do something about it too.

The subject of pulpy kidney is very complex. For this reason it is impossible and would indeed be foolish of me to say that you must do this, that, or the other to prevent or control pulpy kidney on your farm. Each case must be considered on its merits and advice given accordingly; if you are worried by this problem, have a talk with your veterinary surgeon or Livestock Instructor and get the advice to suit your farm.

Other Causes of Lamb Losses

Most other causes of lamb losses tend to be sporadic and as an overall percentage they are very low, but on individual farms they can be quite

serious. Some of the more important of these are copper and cobalt deficiency, white muscle disease, leptospirosis, and stomach worm infestation. White muscle disease occurs in the South Island only and occurs mainly on legume-dominant pastures and is somehow tied up with a deficiency of vitamin E.

The other four conditions can either be prevented or controlled and I intend to make only a few comments on each.

Copper deficiency is usually seen in lambs under 4 months and is shown by either a staggering gait or very fragile bones which fracture easily. It does not cause unthriftiness. An affected lamb cannot be saved by dosing with copper, but a soil deficiency can easily be overcome by top-dressing.

Cobalt deficiency rarely occurs until after weaning and causes unthriftiness and marked loss of weight if the deficiency is severe. Dosing with cobalt gives a rapid response.

Leptospirosis has been seen in a number of flocks from different districts in lambs about 3 to 6 weeks old. The main features are jaundice and redwater. This disease is transmissible to man and causes a very serious illness, so if you find any lambs which die and have a distinctly yellow skin leave them alone. Call in your veterinary surgeon at once and get advice on how to treat any sick lambs and prevent it in the remainder.

Stomach worm infestation, or haemonchosis, is not in our experience a serious cause of losses in lambs up to 6 months, but may occasionally cause trouble. Lambs should not have to run the risk of heavy worm infestation if the ewes are kept relatively free from worms. If heavy infestation does happen, remember that these worms are blood suckers and can be killers and that lambs in prime condition can and do die from stomach worms alone. This is a fact which many sheep farmers are loathe to accept.

Immediate drenching with phenothiazine as soon as stomach worm infestation is diagnosed is imperative if the lambs are to be saved, but do not expect dramatic improvements in condition, for lambs which have become anaemic will pick up slowly. Put them on to your best pastures and give them every chance to get back into good condition.

This is by no means a complete list of the causes of lamb losses, but I have covered the important ones. I do not expect you to become your own veterinary surgeon and be able to diagnose all these diseases, but if you remember that you can keep navel infection and pulpy kidney under control and make an honest effort to do something about them, most of your worries about lamb losses in this age group will be over.