There is a widespread belief in Britain and elsewhere that infection is more readily conveyed to cattle by drinking water that is contaminated with Johne's bacilli than by grazing, and this is probably correct. Thus ponds, swampy pools, and other such surface waters which the cattle can stand in as well as drink from are especially dangerous, and should be replaced wherever possible by concrete drinking-troughs, which are less liable to contamination and can be kept clean. The farmer seldom realizes the potentialities of such contaminated water-supplies for conveying disease amongst his stock. It does not apply only to Johne's disease, but to tuberculosis and infectious diseases generally.

Chain-harrowing paddocks that have harboured infected cows is a most useful aid in control, as the beasts' droppings are then broken up and the sun is afforded a chance to dry them thoroughly and sterilize them. Sunlight is one of the most powerful disinfectants, but it needs to be given a chance.

Heavy dressings with burnt lime are to be recommended. They are considered in France, where Johne's disease is very common in certain areas, to have given good results, and in the Channel Islands also the liming of infected pastures is claimed to have been most beneficial in reducing the incidence of fresh cases. How burnt lime produces the effect claimed for it is not known, but it may act through some effect on the soil rendering conditions in it unfavourable for the bacillus so that it dies out.

It will be apparent that while these preventive measures have a highly important part to play, something more is required if much real headway is to be made. Especially is there need for some means of detecting animals in the early stages of the disease before symptoms are shown. Unless this can be done we have very little hope of controlling the spread of the disease through the country, because of the fact that an infected animal may be capable of infecting others for some years before showing symptoms itself. During those intervening years it may carry the infection into several herds. An instance of this sort was brought to the writer's notice recently: A pedigree bull was sold by A to B. Some four years later Johne's disease began to appear in B's herd. In the meantime the bull had been sold to C. About three years after his arrival, Johne's disease appeared in C's herd, and eventually the bull himself died of it. While there is no actual proof, inquiry provided strong circumstantial evidence that this seemingly healthy bull had carried the disease into both herds. Fortunately we now have a test which can be used to detect the presence of Johne's disease in the early stages.

The Johnin Test.

There is no need here to discuss the development of this method of testing for Johne's disease. It will suffice to say that it is done by injecting small quantities of Johnin (similar to tuberculin) into the animal's skin and noting the result. It is very similar to the modern method of testing for tuberculosis. The test is completed in seventy-two hours, and does not affect the cow in the slightest. This latter point is mentioned, as an owner sometimes expresses a fear lest the application of the test should put a cow off her milk.