makes it easier to understand why the possibilities of successful medicinal treatment are so limited.

Coccidiosis is caused by an organism which is invisible to the naked eye. Coccidia are not confined to domestic fowls, but also occur in wild birds and most animals. Fortunately, those species found in animals and birds do not infect poultry, but wild birds will occasionally spread the disease by carrying coccidia organisms on their feet. This may account for some of the sudden outbreaks observed from time to time on new farms and on farms where the disease has not previously been observed.

Coccidia pass through a complicated life history, but two main phases of this life cycle are of interest to poultrykeepers. The first stage is when the organisms are living and multiplying in the bodies of infected birds and thus setting up the disease, while the second stage must be completed outside the birds in litter or in the soil over which birds are running. This second stage occurs after the organisms have passed out of infected birds in their droppings. Healthy birds may now pick up these coccidia-infested droppings when feeding, but these organisms must undergo a change, which takes from two to four days, while outside a bird's body before they can infect a healthy bird. This is of



The digestive system of a fowl. No. 1 is the small intestine, and No. 3 the caeca.

considerable importance, as will be seen later.

A further important fact is that during the second stage spent in the soil the organisms are well protected against cold, draught, and heat, and may, under favourable conditions, remain alive for as long as a year. It is also important for the poultrykeeper to realise that while the organisms are living and multiplying within an infected bird they are embedded in and destroying the delicate lining of the caeca or small intestine.

## Treatment and Control

No entirely satisfactory medicinal treatment for either caecal or duo-denal coccidiosis has yet been found. Medicines which are strong enough in chemical action to destroy the coccidia will also destroy the delicate lining of the intestine itself. On the other hand, it is thought that if an acid condition is set up in the intestines of infected birds the multiplication of the coccidia is checked, while a mild scouring of the bird is set up which causes a large number of the organisms to be carried out in the droppings. It has been seen that these organisms are not able to infect healthy birds for two to four days after leaving the infected birds, so that if these coccidia are removed by the careful cleaning of the house they can be burnt before again becoming dangerous. It has been found that this method of attempting to overcome an outbreak is more effective against caecal than duodenal coccidiosis.

While it is not intended to suggest that treatment for caecal coccidiosis in this manner is always effective, the following method has been found useful on a number of occasions under practical conditions. Success depends to a great extent upon noting an outbreak at an early stage and acting immediately.



The Brand TOMOANA ensures . . .

- Guaranteed PROTEIN CONTENT
- Tomoana meat meals are manufactured from carefully selected raw materials processed by the most up-to-date methods, handled with the utmost care. Tomoana meals are always fresh and palatable.

TOMOANA MEALS

- UTMOST DIGESTIBILITY
- MAXIMUM ASSIMILATION
- BASED ON SCIENTIFIC PRODUCTION