

Shirck, Lane, et al (1946) state that under Idaho conditions, red clover is one of the crops most commonly associated with the build-up of wireworm populations. Small grains, particularly barley and wheat are favorable host plants and therefore produce rapid growth of wireworms. Extreme dryness of soil is harmful to wireworms and alfalfa serves well as a soil-drying crop. Wireworms in the pupal stage are soft and easily crushed and unable to enter the soil if thrown on top. Many of them can thus be destroyed by plowing the ground in early August.

References

Greenwood, Douglas E.

1947. Hexachlorocyclohexane and Wireworm Control. Conn. Agr. Expt. Sta. undated mimeographed circular. 3 pp.

Lane, M. C.

1947. Personal letter from Bur. Ent. and Plant. Quar., Walla Walla, Washington, dated August 28.

Munro, J. A.

1940. Summer fallow as Relating to Control of Prairie Grain Wireworm. N. Dak. Expt. Sta. Bimonthly Bulletin 2(4) :3-5.

Munro, J. A. and Telford, H. S.

1941. Wireworm Population as Related to Potato Tuber Injury. N. Dak. Agr. Expt. Sta. Bimonthly Bulletin 4(1) :4.
1942. Recent Progress in Wireworm Control. N. Dak. Agr. Expt. Sta. Bimonthly Bulletin 5(2) :7-11.

Pepper, B. P., Campbell, J. C. and Wilson, C.

1947. Benzene hexachloride for Wireworm Control. N. J. Agr. Expt. Sta. undated mimeographed circular, 4 pp.

Shirck, F. H., Lane, M. C., Shull, W. E. and Manis, H. C.

1946. Cultural Control of Wireworms. Univ. of Idaho. Extension Circular No. 89, 4 pp.

Strickland, E. H.

1942. Variations in the Life Cycle of Wireworms. Journ. Econ. Ent. 35(1) :109-110.

Thomas, C. A.

1940. The Biology and Control of Wireworms. Penn. State Coll. Expt. Sta. Bulletin 392. 90 pp.

A Method of Submitting Blood Samples for Serological Tests

By

D. F. Eveleth, Veterinarian

Every fall poultrymen, hunters and others interested in diseases of birds submit blood samples to laboratories for tests for the diagnosis of such diseases as pullorum disease, paratyphoid infections, and Newcastle disease. Many times these samples arrive at the laboratory in such a decomposed state that they are unfit for serological tests. The following directions are given for those desiring to submit samples for testing.

First, the person submitting samples should prepare a report giving dates, location of outbreak of disease and symptoms. Any other information that would add to the history should be

included. A chart should accompany each lot of samples so that when a report is returned to the one submitting the samples he can identify the birds, or if game birds the area from which they came. Each sample should be clearly marked with a number corresponding to the history in the chart. Frosted glass areas on the tubes or pasted on labels should be used as wax markings are often rubbed off.

The most satisfactory tube is a small one usually about 12x 90 mm. Tubes for this purpose can be obtained from all diagnostic laboratories. The tube should have a tight stopper, preferably rubber and should be clean and sterile.

If the blood is to be shipped to the laboratory the following procedure is recommended. A piece of cord is doubled and the double end pushed to the bottom of the test tube. The free ends are left extending an inch or so beyond the end of the tube. The free flowing blood is then collected by means of a syringe or by puncturing a wing vein and obtaining the blood before a clot forms. For game birds the blood can usually be collected by pulling off the head as quickly as possible after the bird is shot. It is desirable to collect a liberal sample of blood, hence when possible, fill the tube half full. The tubes containing the blood should then be stoppered and placed in a horizontal position and left in that position for at least one hour. At no time should a blood sample cool to as low as 32° F nor be heated above 90° F. After the blood has clotted the tube is placed in an upright position and left 8 to 12 hours. The stopper is then removed and the strings held firmly while the tube is rotated. This manipulation frees the clot from the walls of the tube and it can easily be lifted out and discarded. By carefully following this method a serum completely free from red cells and portions of clot can be obtained. This type of serum remains satisfactory for serological tests for considerable time.

The tube is then restopped and packed so that in transit breakage will be held to a minimum. It should be shipped to the laboratory by the most direct route, using care that the shipment will not be in an express or post office over a week end holiday. If it is not possible to send the sample of serum to the laboratory at once, a drop of chloroform will prevent its spoiling.

If these simple directions are followed the person submitting samples will be able to obtain quicker reports and reports of greater validity. The laboratory worker is frequently unable to make satisfactory tests on blood samples submitted because of the hemolysis or putrefactive changes in the blood held in storage before shipping to the laboratory.