

1963 RECOMMENDATIONS FOR CONTROL OF WIREWORMS IN POTATO FIELDS

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In 1962, some lots of potatoes grown in the Columbia Basin area contained residues of aldrin in excess of the tolerance established by the Food and Drug Administration. It appears that these excessive residues were the result of non-recommended practices of applying insecticides, such as banding a mixture of insecticide and fertilizer, annual applications of insecticides or the use of insecticides in excess of recommended amounts. Chemical analysis of potatoes and soil samples from potato fields show considerable variation and it is not possible to pin point which type of treatment resulted in excessive residues. For the present, aldrin or dieldrin will not be recommended on potatoes or potato fields.

In order to prevent excess insecticide residues on potatoes, the following suggestions should be considered:

1. The past history of insecticide application to all fields to be planted to potatoes should be obtained before any additional applications are made.
2. In cases where 5 pounds of actual aldrin or 3 pounds of actual dieldrin or 10 pounds actual DDT have been applied as a soil application within the last 5 or 6 years, no additional soil treatment should be required during 1963 and possibly 1964. If lesser amounts of these materials have been applied, a careful check of the field should be made to determine whether wireworms are present. Soil sampling may be used to help determine the presence of wireworms.
3. Be sure that wireworms are present in sufficient numbers to require insecticidal control.

Soil Sampling Procedures

Twenty well scattered test holes, made a foot deep with a 6-inch post-hole auger or an irrigation shovel should be enough for each acre. Soil samples should be screened through 4-mesh hardware screen then through 8 and 16 mesh window screens. Soil should be sampled for wireworms in the spring or fall. If no wireworms are found in the twenty test holes, it should be safe to plant any crop. If as many as five wireworms are found, considerable damage can be expected, particularly to beans and potatoes. If ten or more are found, damage may be severe. For further information estimating wireworm populations refer to Farmers Bulletin No. 1866, "Wireworms and Their Control on Irrigated Lands" available from your county agent.

Recommendations for 1963

1. New land coming under irrigation and previously in sage brush or grain is often infested with the dryland wireworm which will cause injury to

potato tubers. Such land can be treated with 10 pounds actual DDT per acre. The insecticide should be broadcast evenly over the soil surface either as a dust or spray and thoroughly mixed in the soil to a depth of 6 to 9 inches by discing, plowing and cross-discing. It is very important that the insecticide be thoroughly mixed with the soil. One application of DDT will protect potatoes from wireworms for at least 8 years. DDT, however, will not prevent all damage to the current season's crop, but should reduce it.

2. Soil fumigation with ethylene dibromide at the rate of 3 to 5 gallons (12 pounds per gallon) per acre will control wireworms. This can be applied without dilution in equipment constructed to distribute 3 to 5 gallons per acre. If such equipment is not available, dilute 3 gallons with 7 gallons of any petroleum thinner and apply at the rate of 10 gallons per acre. Agitate the mixture thoroughly before using. Place the ethylene dibromide solution at least 8 inches deep in the soil. Do not seed or set plants for at least 3 weeks after fumigation.