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## EC58-124 Potato Disease and Insect Control Recommendations for 1958

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# Potato Disease and Insect Control Recommendations for 1958

Bob Roselle and John Weihsing

Extension Service  
University of Nebraska College of Agriculture  
and U. S. Department of Agriculture  
Cooperating  
W. V. Lambert, Director

# RECOMMENDATIONS FOR POTATO INSECT CONTROL

INSECT	INSECTICIDE & FORMULATION	AMOUNT PER ACRE	ACTUAL INSECTICIDE PER ACRE
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TUBER FLEA BEETLES	Aldrin, 4 lbs./gal.	5 pints	2.5 pounds
	Heptachlor, 2 lbs./gal.	3 quarts	1.5 pounds
	Dieldrin, 1.5 lbs./gal.	1 gallon	1.5 pounds

Apply the insecticide in water evenly to the seedbed and work lightly into the soil before planting. If Terrachlor is used as a row treatment for potato scab control, use a combination of Terrachlor with aldrin, heptachlor, or dieldrin at 1/2 the above rates.

WIREWORMS	DDT, 2 lbs./gal.	5 gallons	10 pounds
	Aldrin, 4 lbs./gal.	3 quarts	3 pounds
	Heptachlor, 2 lbs./gal.	1 1/2 gallons	3 pounds

Apply the insecticide in water evenly to the seedbed and work lightly into the soil before planting. Wireworm control recommendations will control all other important soil insects.

LEAF HOPPERS			
FLEA BEETLES			
PLANT BUGS	DDT, 2 lbs./gal.	3 quarts	1 pound
	DDT, 5% dust	30 pounds	1.5 pounds
	Malathion, 5 lbs./gal.	2 pints	1.3 pounds
	Malathion, 5% dust	25 pounds	1.25 pounds

COLORADO POTATO			
BEETLE & FLEA BEETLE			
ADULTS	DDT, 2 lbs./gal.	2 quarts	1 pound
	DDT, 5% dust	30 pounds	1.5 pounds
	Dieldrin, 1.5 lbs./gal.	1/3 gallon	1.5 pounds
	Heptachlor, 2 lbs./gal.	3 pints	3/4 pound

APHIDS	DDT, 2 lbs./gal.	2 quarts	1 pound
	Malathion, 5 lbs./gal.	2 pints	1.3 pounds

GRASSHOPPERS	Dieldrin, 1.5 lbs./gal.	2/3 pint	2 ounces
	Aldrin, 4 lbs./gal.	1/2 pint	4 ounces
	Heptachlor, 2 lbs./gal.	1 pint	4 ounces

BLISTER BEETLES	DDT, 2 lbs./gal.	1 gallon	2 pounds
	Toxaphene, 6 lbs./gal.	1/3 gallon	2 pounds

POTATO PSYLLIDS	DDT, 2 lbs./gal.	2 quarts	1 pound
	DDT, 5% dust	30 pounds	1.5 pounds



A regular seasonal control program for psyllids on early potatoes consists of repeated applications of DDT every 10 to 14 days, beginning when potatoes are about 6 inches high. This is essential when psyllids are numerous during the growing season. On late potatoes, it is feasible only if the infestation warrants. High pressure equipment, or nozzles on extensions from a spray boom, are recommended. This will allow the spray to reach the undersides of the leaves. When psyllids are not numerous the following schedules are recommended:

On nonirrigated potatoes, make one application of DDT according to the above recommendations when potatoes are six inches high. Repeat applications according to the psyllid situation as it develops and is reported.

On irrigated potatoes, make the first application of DDT when potatoes are six inches high. Repeat this application in 14 days, then repeat applications according to the psyllid situation as it develops and is reported.

Psyllid control with DDT can be combined with late blight control.

Psyllid control programs with DDT will control nearly all leaf-feeding insects of potatoes in Nebraska. DDT is not effective against grasshoppers.

#### OTHER INSECTICIDES FOR PSYLLID CONTROL NOT RECOMMENDED IN 1958

ENDRIN: Endrin has been reported to be effective for psyllid control. It has not been tested in Nebraska. Other states and the U.S.D.A. have not recommended it for psyllids to date. If endrin is used, 1 pint per acre is suggested. Endrin is one of the most toxic chlorinated hydrocarbon insecticides and must be handled with extreme care. Operators should use protective clothing and respirators.

DEMETRON: This material is marketed as Systox. It is recommended by Colorado at the rate of 1 1/2 pints per acre. It is systemic and cannot be used within 21 days of harvest. It is an extremely hazardous insecticide and should be used only by commercial spray operators with experience and adequate insurance. It is very expensive for a psyllid control program.

PARATHION: Parathion is not generally recommended in Nebraska for two reasons: (1) There is little research information available on potato psyllid control, and (2) Parathion is extremely hazardous, and should never be used by or recommended to farmers. If it is used, the following general precautions must be observed:

1. Parathion should be applied only by commercial spray operators who have protective equipment, gas masks, and adequate liability insurance. For their own safety and the safety of others, operators must be familiar with symptoms of parathion poisoning and antidotes for it. They should have atropine sulfate tables on their person, and inform local doctors that they are using this material.
2. Before application, fields should be posted clearly on all sides to indicate that a dangerous insecticide has been used, and warning all persons to stay out of the field. Signs should remain posted for three days.

3. During application, operators should never work alone, and fields should be flagged with stakes rather than by flagmen. The drift should be watched very carefully. Parathion should be applied only on a calm day.

BHC NOT RECOMMENDED FOR POTATO INSECT CONTROL OR FOR SOIL TREATMENT WHERE POTATOES MAY BE PLANTED IN THE FUTURE.

BHC (Benzene hexachloride) will be absorbed by potatoes and impart a musty flavor to the tubers. In the past, it has been used as a soil treatment for corn rootworms, and in several cases potatoes planted in the same ground have been unusable. BHC should not be used as a soil treatment if potatoes may be planted in the same ground in the future. Aldrin or heptachlor may be used for corn rootworm control and will not leave undesirable residues in the soil.



# RECOMMENDED FUNGICIDAL CHEMICALS FOR POTATOES

DISEASE	FUNGICIDE	RATE	METHOD OF APPLICATION	TIME OF APPLICATION	COMMENTS
Scab and black scurf	Pentachloronitrobenzene (PCNB)	Light sandy loam-50 lbs. actual PCNB/A Heavy silt loam-60 lbs. actual PCNB/A	Band treatment	Just prior to planting	
		Light sandy loam-100 lbs. actual PCNB/A Heavy silt loam-120 lbs. actual PCNB/A	Broadcast treatment		
Seed treatment for seed-borne scab	Formaldehyde	See method of application	Dip uncut potatoes for 3 to 4 minutes into a solution of 1 pint of formaldehyde in 15 gallons of water kept at 121° F. Drain and dry.	Four to six weeks before planting.	Treating seed potatoes with hot formaldehyde will materially aid in keeping scab in check when such treated tubers are planted in relatively scab-free soil.
Early and late blight	Maneb	2# of 70% material/100 gals. of water. 100-150 gals. /A.	High pressure spray (300 lbs. or greater)	When notified through public warning service. Those who wish to carry out a spray schedule should make first application when plants are 6-8 inches high and repeat every two weeks. If weather becomes favorable for late blight development, it will be necessary to spray once a week until harvest.	
	Zineb	2# of 65% material/100 gals. of water. 100-150 gals. /A.	A wetting agent should be added.		
	Nabam + Zinc Sulfate	2 quarts of 19% nabam + 1# zinc sulfate /100 gals. water			
	Bordeaux Mixture	8# copper sulfate + 8# hydrated lime in 100 gals. water.			
	Fixed copper	Follow manufacturer's directions.			
Treatment of cut seed potatoes for seed piece rots.	Captan	1 1/2 lbs. of 7.5% dust per 100 lbs. cut seed pieces	Any method which will permit thorough coating of cut surfaces with fungicidal dust.	Immediately after cutting the tubers. The treated tubers should be planted as soon as possible after treatment.	This treatment is most beneficial when planting conditions are unfavorable.
	Zineb	1 1/2 lbs. of 10% dust per 100 lbs. cut seed pieces.			
Disinfection of storage cellars, bins, crates, graders, etc., for ring rot control.	Copper sulfate	6 lbs. /100 gals. water	Thoroughly spray all potato storage cellars, machinery, etc.	Prior to storage or use of any of the equipment.	
	Copper A compound	4 lbs. /100 gals. water			
	Cuprocide	2 lbs. /100 gals. water			
	Tribasic copper sulfate	2 1/2 lbs. /100 gals. water			