

January 1966

1966 POTATO INSECT CALENDAR
by
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E. M. 2109 (Revised)

Season Or Month	Pest	Possible Damage if Soil or Crop is not Treated	Pesticide and Amount of Active Ingredient Recommended Per Acre	Time or Frequency of Application
Spring: Not before April 1-15, or when the soil temperature at 6-in. depth is 50° F., or above.	WIREWORMS	Larvae damage seed and developing tubers	Parathion, 4 lb. Diazinon, 3-4 lb.	Broadcast 40 lb. 10% parathion granules, or 21-29 lb. 14% diazinon granules per acre before planting and thoroughly mix with top 6-9 in. of soil. Keep out of parathion treated fields for at least 48 hours.
Spring to late summer when temperature of soil at 6-in. depth is between 45 and 90° F. Allow 2-3 weeks before planting.			Ethylene dibromide 3 gal. of 83% solution. Telone, 20 gal. D-D, 25 gal. Vidden-D, 25 gal.	Apply any of these fumigants undiluted, or mix fuel oil with ethylene dibromide and increase volume to meet equipment re- quirements. Apply 8-9 in. in the soil with chisel, sweep or blade equipment. Space chisels 12 in. apart. Compact soil slightly after application.
Summer - not later than August. For control the following year.			DDT*, 10 lb.	Broadcast granular, dust or spray formulations and mix thoroughly with top 6-9 in. of soil. Repeat after 5-7 years, or when worms average 1 per sq. ft. Treat only new land, or land not treated with DDT for 4-5 years.

1/ Entomology Research Division, Agric. Res. Serv.

* Do not feed potatoes from DDT-treated fields to dairy cattle.

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May and often through August until extremely hot weather stops reproduction.	APHIDS	Very small numbers of aphids, either winged or wingless, can spread leaf roll between or within fields. (Leaf roll is a cause of net necrosis) Insecti- cides alone may not be sufficient to prevent leaf roll spread. Plant clean seed, rotate fields, destroy volunteer potato plants in old fields and in cull piles from April 15 to June 15.	Di-Syston, 3 lb. *	On early plantings (Feb.-April) : Side-dress 30 lb. 10% granules per acre when 75% of plants have emerged and irrigate immediately. DO NOT SIDE-DRESS AFTER MAY 20. Start endosulfan foliage treat- ments June 15 and apply at least 4 applications.
				On later plantings (May-June) : Apply 30 lb. 10% granules per acre in bands at planting time. Irrigate when plants emerge. Start endosulfan foliage treat- ments June 15, or later, when 75% of the plants have emerged. Di-Syston alone has not provided <u>season-long protection against</u> <u>aphid attack.</u>
May through August.	CUTWORMS	Cut off plants or defoliate them. Occasionally feed on the tubers.	Endosulfan, 1 lb. * (Thiodan)	Start spraying foliage June 1; continue bi-weekly for at least 5 applications.

* Do not mix Di-Syston granules with dry fertilizer: the granules tend to separate out and this results in erratic rates of application and insect control. Either apply Di-Syston granules separately with calibrated applicators or apply a dry fertilizer on which a liquid Di-Syston concentrate has been sprayed at the required rate.

** Do not feed potatoes from DDT or Endosulfan treated fields to dairy cattle.

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May through August	TUBER FLEA BEETLE AND/OR WESTERN POTATO FLEA BEETLE	Adults chew holes in leaves; larvae make tunnels in the tubers.	DDT*, 1-1/2 lb. Endosulfan, 1 lb. (Thiodan)	Apply dusts or sprays to foliage when adults average 2 per 10 sweeps. The tuber flea beetle has not been found in the Basin; the western potato flea beetle seldom requires control.
May through September	COLORADO POTATO BEETLE	Adults and larvae strip plants and lower yields.	Di-Syston, 3 lb. Endosulfan, 1 lb.* (Thiodan) DDT*, 1 lb.	Apply DDT in May if adults are unusually abundant. The Di- Syston plus endosulfan program for aphid control will also con- trol potato beetle larvae through June to August. If neither is being used on a schedule against aphids, apply endosulfan when larvae outnumber eggs.
Spring or Autumn - when temperature of the soil at 6-in. depth is between .45 and 90° F. Allow 2-3 weeks before planting.	GARDEN SYMPHYLLAN	Sympylian damage to tubers re- sembles tunnels made by flea beetle larvae.	Telone, 25 gal. D-D, 30 gal. Vidden-D, 30 gal.	Effective only in sandy or loam soils worked into seedbed con- dition. Fumigants are effective when soil is neither very wet nor very dry. Inject the fumi- gant 8-9 in. deep and slightly compact the soil.
June through August	LYGUS BUGS	Adults cause the terminal leaflets to wilt and die.	Endosulfan, 1 lb.* (Thiodan) DDT*, 2 lb.	Should be no problem where the recommended aphid control pro- gram is followed. Apply spray's as needed after Lygus have mi- grated from cut hay or weeds killed from drought.
June through September	LEAFHOPPERS	Leafhoppers can spread aster yellows and curly top.	Endosulfan, 1 lb.* (Thiodan) Di-Syston, 3 lb.	The endosulfan or Di-Syston plus endosulfan treatment programs recommended for aphid control will control leafhoppers.

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Mid-June through August	TWO-SPOTTED SPIDER MITE	Mites kill leaves and hasten maturity	Carbophenothion, 1 lb. (Trithon) Kelthane, 1 lb.	Treat foliage when first mites are found, or at first signs of feeding injury. Carbopheno- thion is most effective in the Moses Lake-Othello area and Parathion 2% + sulfur Kelthane at Quincy. Apply Parathion no later than 5 days before harvest. **
July through September	IRIS WHITEFLY	Scale-like larvae weaken plants. The eggs resemble those of the potato DDT*, 1 lb.	Endosulfan, 1 lb.* (Thiodan)	The endosulfan treatment program recommended for aphid control will control the iris whitefly. More than 1 application of either insecticide may be required to control adults.
July through August	THrips	Adults and larvae scar lower side of leaves.	Endosulfan, 1 lb.* DDT*, 1-1/2 lb.	The endosulfan treatment program recommended for aphid control will control thrips' or apply DDT spray when thrips are abundant.
July through August	BLISTER BEETLES	Adults consume the leaves	DDT*, 1-1/2 lb. Dibrom, 1 lb.	Treat infested areas quickly.
July through August	GRASSHOPPERS	Insects devour leaves and stems	Malathion, 1/2 to 3/4 lb. Toxaphene, 1-1/2 lb.	Treat adjacent, infested, uncultivated land or 12-ft. wide non-crop border of field.
Summer - not later than August for con- trol the follow- ing year.	WHITE GRUBS	Larvae damage seed and developing tubers	DDT*, 10 lb.	Broadcast granular, dust or spray formulations and mix thoroughly with top 6-9 in. of soil. Repeat 5-7 years later, if required.

* Do not feed potatoes from DDT or Endosulfan treated fields to dairy cattle.

** Use prepared or custom mixtures of parathion and sulfur.

Precautions in Handling Insecticides

Insecticides are poisonous; handle them with care. Follow directions and heed all precautions on container labels.

Insecticide and insecticide-fertilizer mixtures should be kept in closed, well-labeled bags or other containers where they will not contaminate food or feed and where they can not be reached by children, livestock or pets. Wear clean, dry clothing and wash hands and face before eating or smoking. Avoid repeated or prolonged inhalation of insecticides in any form. If you spill some on the skin or clothing, wash it off the skin and change clothing immediately. If some gets in your eyes, flush them with water for 15 minutes and get medical attention.

DDT, Kelthane, Malathion, sulfur and Toxaphene can be used safely without special protective clothing if they are in dilute dust, water-spray or granular forms. Diazinon, endosulfan (Thiodan), naled (Dibrom) and Toxaphene can be absorbed directly through the skin in harmful quantities. When working with these insecticides take the same precautions as with concentrates. Carbophenothion (Trithion), D-D, Di-Syston, ethylene dibromide, parathion, Telone and Vidden-D are extremely poisonous and may be fatal if swallowed, inhaled, or absorbed through the skin. They should be applied only by persons who are thoroughly familiar with their hazards and who will assume full responsibility for safe use and comply with all of the precautions on the labels. Reduce the danger of skin exposure by wearing protective clothing and respiratory devices.

Do not transfer ethylene dibromide, D-D, Vidden-D or Telone from one container to another in a closed room; do not breathe the fumes.

Avoid drift of insecticides to nearby crops, livestock and into bee yards. Do not clean applicating equipment or dump excess insecticides near streams, lakes or ponds or where this may contaminate pastures or other feed. Carefully dispose of empty bags and other containers and bury these and surplus insecticides in a sanitary landfill dump, if possible. If this is not available, burn empty bags and cardboard containers and bury the ashes where they will not contaminate water supplies. Break or crush glass and metal containers and bury with excess insecticides in a hole dug at least 18 inches deep in some isolated place where the insecticides will not contaminate water supplies and cover with soil.