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SUGGESTIONS ON THE USE OF DDT FOR
VEGETABLE-GARDEN INSECT-PEST CONTROL

by

Don C. Mote

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AGRICULTURAL EXPERIMENT STATION
Oregon State College
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SUGGESTIONS ON THE USE OF DDT FOR
VEGETABLE-GARDEN INSECT-PEST CONTROL
by
Don C. Mote

This Circular of Information has been prepared for home vegetable gardeners and truck gardeners who desire information on the use of DDT in insecticidal preparations for the control of insects affecting vegetable crops. The information presented is based upon research conducted by the Oregon Agricultural Experiment Station and other State and Federal investigators. Since DDT insecticidal preparations have been available for experimental study on agricultural crops for only three years, much still remains to be learned - many questions still remain unsolved.

Insecticide manufacturers have developed a number of DDT insecticidal preparations for general distribution. The preparations now available are water dispersible powders of various strengths, emulsifiable oils containing several concentrations of DDT and dusting powders of various strengths. Of these preparations, the dusting powder containing 3% DDT is believed to be the best formula for the gardener to use. This formula gives good control of several vegetable insects and is the most economical. A 5% DDT dust may be necessary for effective control of squash bugs and other plant bugs.

Good control of vegetable insects may be obtained by light applications of the DDT powder. Until a tolerance for DDT is established by the U. S. Food and Drug Administration and more information is available upon the effects of the residue from the consumption of products, gardeners should refrain from dusting leafy vegetables and other vegetables soon to be consumed for food except as indicated in the table.

Gardeners are also warned that an increase in mites may result when DDT is used. There is, as yet, no very satisfactory control for mites on vegetable crops. Extension Bulletin 551, "Vegetable-Garden Insect-Pest Control," should be consulted for standard control recommendations.

DDT For Control of Pests of Common Vegetables

Crop	Insect	DDT results or indications
Asparagus	Common Asparagus Beetle	3% DDT dust applied when beetles first appear has given control for three weeks. Shoots should be cut before dusting in order to eliminate residue hazards.
	Cutworms	No experimental evidence. DDT has been reported by other investigators as being effective against some species of cutworms.
Beans	11-spotted Cucumber Beetle	3% DDT dust is effective against this pest. Dustings should be discontinued at the time of pod formation in order to avoid residue hazards. Mite populations may build up when DDT is used.
	Aphis	DDT not likely to be effective.
	Thrips	3% DDT dust is effective against many species of thrips. Dusts should not be applied after pods have formed. Contact of the insect with the dust may be a limiting control factor.
	Nitidulid Beetles	Evidence is inconclusive for control of this pest.
Beets	Flea beetles Leaf beetles	3% DDT dust is effective against flea beetles and leaf beetles. Crops grown for greens or salads should not be dusted.
Brussels Sprouts	Aphis	DDT as used has not been effective.
Cabbage Cauliflower Kale Broccoli	Cabbage Worms Diamond-back Moth	3% DDT dust is effective. Dusting should be discontinued after plants begin to head in order to avoid a residue hazard. Animals should not be fed DDT dusted crops.
	Cabbage root maggots	DDT as used has not been effective.
	Flea beetles	3% DDT dust has been effective for flea beetle control. Dusting should be discontinued after plants begin to head in order to avoid residue hazard. Animals should not be fed dusted crops.
	Cabbage aphis	DDT as used has not been effective.

Crop	Insect	DDT results or indications
Cucumber Muskmellon Squash Watermellon	Striped Cucumber Beetle 11-spotted Cucumber Beetle	3% DDT dust has been effective. Some injury to plant foliage has been reported from other states. This has not been observed under Oregon conditions.
	Aphis	DDT not likely to be effective.
	Seed-corn maggot	DDT not likely to be effective.
	Squash bug	3% and 5% DDT appears to be effective. Plants should be dusted at first appearance of leaves. 3 applications may be necessary for season. Rate of kill of adult squash bug is slow. No injury observed on dusted squash under Oregon conditions.
Egg plant	Flea beetle 11-spotted cucumber beetle	3% DDT dust effective against these beetles. Two to three applications may be necessary during the season.
Carrot	Carrot rust fly	3% DDT dust to crop in seedling stage has given favorable results. Some protection has been observed using 3% DDT dust as a seed treatment.
Horseradish	Diamond-back moth	No experimental results. 3% DDT dust handles this pest on cabbage.
Onion	Thrips appear in early spring but usually not serious before July	3% DDT dust is effective against many species of thrips and reports from various sources indicate that the onion thrips may be controlled by timely thorough applications. Contact of the thrips with the dust is one of the limiting factors.
	Onion maggots	DDT has not proved effective.
Pea	Pea weevil	3% DDT dust is effective. The dust is applied as soon as peas begin to blossom and should be repeated at ten-day intervals. Two or three applications may be necessary. The vines should not be fed to livestock because of residue hazard.
	Pea aphis	5% DDT dust has given promising results. Residue hazards similar to that listed under pea weevil.
	Seed corn maggot	DDT not likely to be effective.

Crop	Insect	DDT results or indications
Potato	Grub worm and wire worms	No experimental evidence.
	Flea beetles	3% DDT dust effective. See Station Circular of Information 227 (revised) for timing dust applications.
	Colorado potato beetle	3% DDT dust is effective.
Radish	Radish maggot	DDT as used has not been effective.
Spinach	Leaf miner	DDT should not be used on leafy vegetables.
	11-spotted cucumber beetle	DDT should not be used on leafy vegetables.
Sweet corn	Corn earworm	Tests have not been conclusive. Timing and applications have been limiting factors.
	Earwigs	No experimental evidence.
	Seed corn maggot	DDT not likely to be effective.
Tomato	Green tomato horn worms	No experimental evidence.
	Tomato fruit worm	No experimental evidence.
	Flea beetle 11-spotted cucumber beetle	3% DDT dust has been effective. Dustings should be discontinued after fruit has formed in order to avoid residue hazards. There has been no evidence of foliage injury under Oregon conditions.
Vegetables generally	Cutworms	No experimental evidence. DDT dusts and sprays have been reported to control some species of cutworms.
	Earwigs	No experimental evidence.
	Garden slug	No experimental evidence.
	Symphylids	Experimental evidence inconclusive. Good results have been obtained with 3% dust as a seed treatment when soil was in fine tilth. Similar treatments in cloddy soil gave poor control. DDT is toxic to some plants such as tomato if applied excessively about roots.

Crop	Insect	DDT results or indications
Vegetables generally	Red spider mites	Evidence has indicated that DDT may stimulate spider mite development. Plants such as beans, cucurbits, egg plant, potato, sweet corn and tomato may develop serious red spider mite populations after being treated with DDT
	Millipeds	No experimental evidence.
	Sow bugs	No experimental evidence.
	Wireworms	No experimental evidence.
	Lygus bugs Plant bugs	5% DDT dust is effective.