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Flea Beetle Damage to Garden Crops

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Most gardeners fail to recognize the destructive work of small flea beetles. This is due to the small size of the pest and its ability to quickly leave the scene of action when disturbed. The all too common injury in the form of holes the size of pin pricks on such crops as potatoes, tomatoes, radish, beans, eggplant, mustard, cabbage, and other crops, is the work of flea beetles. There are several different species of flea beetles which attack the different garden crops. They vary in color, some being black, some greyish, some brown, and some have dark and light stripes. They may also vary some in size, but the typical ones are all small, about the size of a pin head, and equipped with jumping hind legs, from which they get the name flea beetles.

Some of the flea beetles are rather general feeders, attacking several different crops while others may be restricted primarily to a single crop. In some cases, the adult beetles attack the foliage of the crop, while the small, white grub bores in the stems or feeds on the roots below ground. In most cases, the winter is spent in the adult stage hidden away under leaves, grass, or other protection in the garden along fences or in adjoining waste areas. When conditions are favorable for the pest, it may move into a garden from waste ground in such numbers as to seriously damage or destroy crops. Generally speaking, the most serious damage is done early in the season, due to the heavy feeding of the beetles before they mate and lay their eggs. The life history of the different species varies, some having only one generation a year while others may develop more rapidly.

Control.—With pests of this type, which may also feed and breed on various weeds which are botanically closely related to the garden crops, it is important that the grower keep down weeds in and near

the garden plot. Also, if a new tract of ground is to be used for a garden it should be plowed in the late summer or fall prior to planting in the spring to eliminate weeds and harbors of the flea beetles. In the spring, prior to planting the different crops, the ground should be cultivated to keep down weeds which may attract the beetles to the garden.

When heavy infestations develop prompt applications should be made of bordeaux mixture and a poison insecticide such as lead arsenate. This combined spray is an effective repellent as well as an effective poison if any of the beetles insist on feeding on the sprayed foliage. Prepared bordeaux is usually supplied by spray dealers who handle other garden sprays. Just as soon as injury appears, spray and repeat in a week if the pest continues abundant.

Some growers prefer to make dust applications, and in such cases use 1 part of lead arsenate and 5 parts of hydrated lime or flour. If applied when the plants are moist with dew, dust applications work very well. Apply the spray or dust so that it coats both the lower side and the top of the leaves. Dust applications should be repeated several times at intervals of a week or less.

In case of mustard and other leafy vegetables, a non-poisonous insecticide containing pyrethrum or derris should be used. If not available, some find that frequent applications of 1 tablespoonful of nicotine sulphate to 1 gallon of soapy water works very well in reducing flea beetle injury. To protect cabbage, tomato, tobacco, and other plants in the seedbed, one can keep the bed covered with cheesecloth. When such plants are being set out the tops should be dipped in a solution containing three tablespoonfuls of lead arsenate to a gallon of water to protect them until the plants get a good start. The secret of success in fighting flea beetles is to be ready to spray or dust when they show up.

While it is important that gardeners keep everlastingly on the lookout for outbreaks of these and other crop pests and be ready to use sprays or dusts promptly, they must not overlook the far-reaching importance of garden sanitation and proper cultural practices. Now when it is so important to increase crop production and when insecticides, equipment, and help are scarce and at a premium, cultural practices or other preventive measures which will reduce garden insect abundance and the later need for insecticide control should be used. Prompt disposal of crop residues, with the insects still attacking them, will help. Fall or winter cleanup and spading or plowing of the garden will often go far in reducing next year's insect losses. Keeping down weeds around the garden and clean cultivation to get rid of weeds in the garden will serve the same end as the use of sprays and dusts.