Sun Helps Geraniums Poison Japanese Beetles

An insect poison that seems to need the aid of the sun to develop its best effects has been observed in connection with the campaign against the Japanese beetle. It has been known for some time that geraniol, an oil which occurs in geraniums and some other plants, is very effective in attracting the beetles, and this bait or attrahent has been used to concentrate beetles on a single tree where they can be killed by a poison.

It has also been known that the beetles feed on geraniums, and that such feeding is often followed by paralysis or death. Articles suggesting that geraniums could be used for controlling beetles have frequently appeared in newspapers in the districts infested by the pest.

The effects of geraniums on the Japanese beetle have been studied by Charles H. Ballou, of the Bureau of Entomology. He found that the insects are drawn to the plant and eat it, both flowers and foliage. Many of the beetles are paralyzed and fall beneath the geranium plants. In the ordinary course of events some of the beetles recover and others die. But in making observations of the effect of geranium poisoning, Mr. Ballou observed that if beetles fed on geraniums in the sun many more were paralyzed than when they fed on geraniums in the shade. He also found that the flowers of the geranium were somewhat more poisonous than the foliage of the plant, although either would cause the death of a considerable proportion of the beetles feeding. One of the most interesting facts discovered was that 24 hours after death by geranium poisoning the entire digestive system of the beetle was destroyed.

Because of the poisonous effect of geraniums on the beetles Mr. Ballou suggests that a thorough study of the chemical nature of the plant might lead to the discovery of a new and better poison than any used for control of the beetles at present.

Zonate Eye-Spot Disease of Turf Grass

By Arnold S. Dahl

In the summer of 1928 a leaf-spot disease was common on certain strains of bent grass. The disease probably occurred in all of the northern states east of the Mississippi River. It was observed at Minneapolis, Kansas City, Chicago, Detroit, De Kalb (Ill.), La Fayette (Ind.), London (Ohio), the Metropolitan district (N. Y.), Philadelphia, Cumberland (Md.), Washington, and Richmond, where it caused more or less injury, in some cases severely thinning the grass on the putting greens and reducing the vigor of the plants in nursery rows. At Cumberland it was reported that several putting greens had large areas severely damaged by this disease. At the Country Club of Virginia, Richmond, some of the greens observed were completely defoliated. This was also the case with some of the plots at the Arlington Turf Garden.

The disease is caused by the fungus *Helminthosporium giganteum*. This fungus is related to those which cause net-blotch, spot-blotch, and stripe disease of many of the cereal crops. Many other species of Helminthosporium cause diseases of a variety of plants, including