

Garden Centipede

summer flooding has advantages in controlling pest in asparagus fields

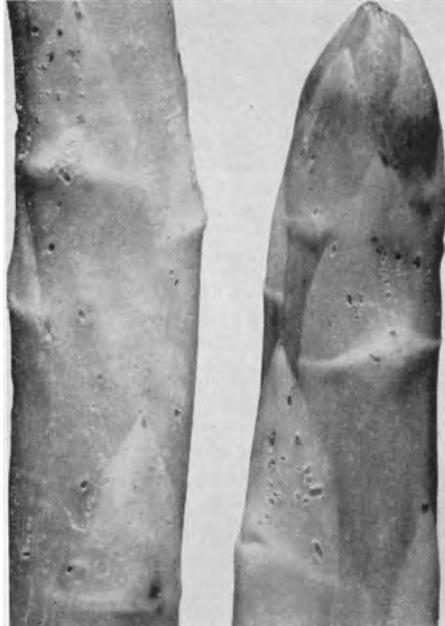
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The garden centipede, *Scutigera immaculata* (Newp.)—a white organism about 1/4" long which lives in the soil—is difficult to control with chemicals.

In established asparagus plantings—a crop seriously injured by the garden centipede—the pest can be controlled by flooding the fields in the dormant season. Winter flooding is effective only if the water is held on the field one foot deep for at least two weeks. Even in the delta region of the Sacramento and San Joaquin rivers, where water is abundant, it is not always possible to meet these requirements. In some areas there is excessive seepage or the land is too uneven, or there is danger of flooding and injuring adjacent crops. Where winter flooding is practiced it is necessary that strong levees be constructed so that they can withstand the excessive washing to which they are sometimes subjected.

Investigations showed that the garden centipede is much more easily killed by summer flooding. When flooding is done during the hottest part of the year the pest is killed in a very few days, and the water need not be a foot deep. The area must be entirely covered, for islands—even the smallest protruding clump—furnish protection to hundreds of garden centipedes.

Summer flooding has some serious disadvantages. The crops must be planned so they are harvested by the hottest part of the summer. Also, it is difficult to flood many fields without dividing them into several parts. Where this is done, the garden centipedes will not be killed where there are levees. When the levees are knocked down, there is some danger of spreading the pests. However, if there is sufficient time, new levees can be con-



Typical injury of asparagus spear by the garden centipede.

structed so that the portions of the field missed by the first flooding can be covered by a second flooding.

When maximum temperatures reach about 100° F, most of the garden centipedes are killed within the first 48 hours of flooding. However, where possible, the flooding period should last at least 10 days but a longer period is more desirable.

Land to be planted to asparagus should be summer flooded. It is much easier to free the land from the pest before than after it is planted. A thorough job of flooding will insure a good stand. It is important that high spots in a field



An asparagus field where the stand has been severely reduced by the garden centipede.

be covered, for it is in these areas that the garden centipede is likely to be found in greatest abundance.

In some cases the garden centipede reappeared three or four years after effective flooding was done. Some of these reinfestations are due to migrations of the pest from the untreated edges of the fields. The spotty nature of others indicates the possibility that the garden centipede may have been carried into the fields when they were irrigated. Where water is brought to the fields in ditches, these should be flushed with a heavy head of water to remove any loose soil from their banks before the water is turned into the field. The pests can be carried by water, for they are not easily wetted and usually a tiny bubble of air encloses the body. In this form the garden centipede may be carried long distances in a dry condition, and will be able to crawl away if the bubble is broken.

The garden centipede feeds upon the parts of plants that grow underground and is very destructive to a number of field, truck, and greenhouse plants throughout California.

Where crops other than asparagus are to be grown it is not necessary to be as careful in flooding as on land to be planted to asparagus. A job that would be unsatisfactory for asparagus fields might be adequate for several years where the land is devoted to the production of annual crops.

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Left: Effective winter flooding. Right: Summer flooding to control the garden centipede. During hot periods in the summer it is necessary only to have the soil barely covered with water. For this reason, the levees need not be as strongly constructed as for winter flooding.

