EVERPRESENT SLUGS

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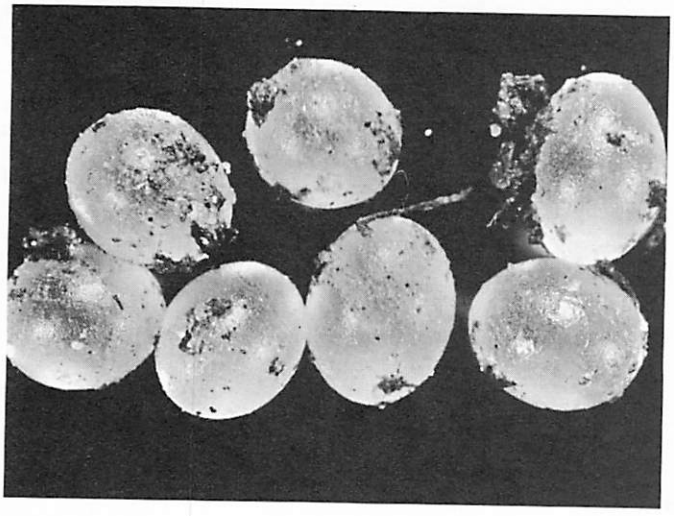
Recent investigations into the habits and activities of slugs indicate that they can be injurious on virtually every major field and floricultural crop. Last summer damage to corn and beans was extensive and expensive, because of extremely favorable climatic conditions. Because ideal conditions for slugs are present in greenhouses, New York State floriculturists find slugs their constant companions. Over 92% of the greenhouses in New York State are inhabited by one or more kinds of slugs. The total number of different kinds of slugs and snails in New York greenhouses is 25, fortunately only a few of these species are consistently injurious.



Slug eggs enlarged

When attacking floricultural crops a slug does not have to destroy large numbers of plants to be a serious pest. A flower grower is selling "looks" or "aesthetic appeal" and so only a few slug holes in the leaves of foliage plants make them unsalable. In addition to chewing holes in the leaves and flowers, slugs leave a slimy trail wherever they travel. These slimy trails are not appealing to grower or consumer and reduce salability.

What are slugs?

Slugs are close relatives of snails, clams and oysters. They most resemble a snail except that they do not have any external shell. Slugs can be readily recognized by their soft slimy bodies.

How do slugs live?

Slugs prefer moist cool places to live. They are often found beneath pots or broken fragments of clay pots in the greenhouse. Slugs are peculiar creatures in that they are both males and females. They become males first and then become both females and males in the same individual. Like most animals they have an intricate and involved courting and mating habit. At night you can often find two slugs "chasing" each other around in a large circle. The circle becomes smaller and smaller until the individuals entwine, bumping and biting one another and finally mating. All slugs lay eggs in small clusters called clutches. Usually only 20-30 eggs are found in a cluster but occasionally 100 eggs may be found in a single cluster. Baby slugs look just like their parents only smaller and somewhat transparent. If climatic conditions are just right when they hatch the baby slugs will feed right after hatching. If they hatch during a hot dry day, they will wait until the cool and relatively moist evening to feed. The feeding of baby slugs is very hard to recognize because the slugs are not big enough to chew right through the leaves. They merely chew holes into the leaves, not through them. All slugs and snails like the same kind of environments, so if you see one kind of slug present in your garden or greenhouse, chances are there are other kinds also present.

Although slugs like to live in moist places, too much water can be harmful. Slugs usually do not survive if kept underwater for longer than 24 hours. Slug eggs, on the other hand, can survive underwater for as long as four days. As a result, floods may reduce the slug populations, but they do not eliminate the slugs and may in fact make conditions ideal for rapid development of the surviving eggs.

Not all slugs feed on the same parts of the plants. Some slugs are climbers and are more likely to feed upon the leaves and blossoms of tall plants; whereas, other species are burrowers and feed upon the roots, stems, and buried organic matter. Many species feed upon the foliage of low growing plants.

Dereceras laeve, a common and destructive slug hiding under a pot, a favorite resting site. Note the damage on the leaves of the ageratum.

Distribution of slugs from one grower to another occurs largely through the distribution of plants and plant parts from one floricultural establishment to another. They can get into greenhouses from the outside by transfer of soil or flats from outside the greenhouse to the inside.

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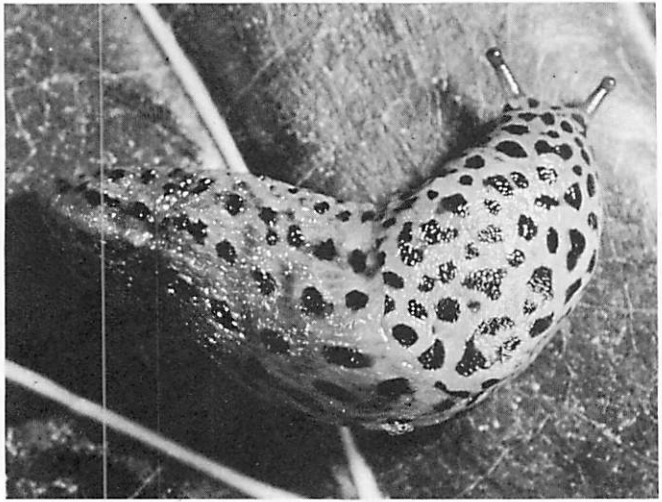
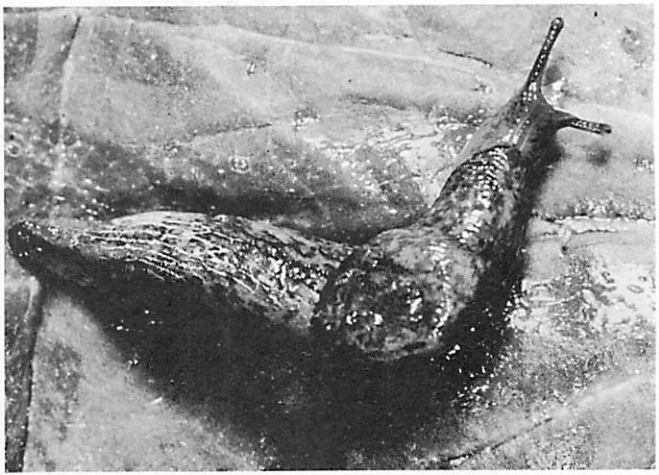
Slugs--Con't from page 3.

How to control slugs?

Both chemical and mechanical methods of control are effective. The mainstay of an effective control program is chemical and based upon METALDEHYDE. The most effective formulation of metaldehyde is the 15% metaldehyde dust. Other metaldehyde formulations provide good control, but do not last as long as metaldehyde dust. For example, metaldehyde liquid formulation provides as a good initial kill as metaldehyde dust, but does not last as long. Baits containing metaldehyde are effective for a short period of time, but tend to mold quickly and soon become unattractive for the slugs. Improvements in bait formulations may make baits more desirable for general use.



Limax maximus, the largest slugs found in greenhouses. This species is uncommon in New York State greenhouses.



Deroceras reticulatum, one of the most common and destructive slugs found in greenhouses.

If you are not squeamish, hand picking will provide control. Slug populations need not be large to be troublesome and injurious. Therefore, several hours spent picking and destroying slugs in a small area such as greenhouse or home garden is rewarding in that it will noticeably reduce the slug population.

Sanitation is an important adjunct to good slug control. Slugs hide, mate, and oviposit under debris of all sorts. Therefore, remove all debris such as boards, broken pots and weeds from under greenhouse benches or from around or in the garden.

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