

Evaluating a Beer Trap-out Strategy to Control Slugs in Strawberries

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Introduction

In New York, strawberries are attacked by a number of fruit damaging pests and diseases. After the tarnished plant bug and Botrytis fruit rot, slugs cause the most injury to ripe strawberry fruit. Because slugs are, for the most part, omnivorous, those plants that are low to the ground, such as strawberries, are highly susceptible to slug injury. Slugs thrive in damp environments with high humidity levels, thus high populations are commonly found during wet springs that follow mild winters. Many growers mulch their strawberries to prevent injury during the winter months. This mulch provides a warm and damp environment that attracts the slugs. Organically grown strawberries are particularly susceptible to slug injury because of the high moisture content of the soil due to high organic matter, and the limited use of pesticides.

The species of slug most commonly found damaging strawberries in NY is the gray garden slug, *Deroceras reticulum*. This slug is cream or dark colored with spots, and measures about 5 cm in length when fully grown. It produces a milky white slime when disturbed that distinguishes it from other species of slugs, which, in contrast, commonly produce a clear slime.

The gray garden slug has several characteristics that make it particularly difficult to control. The species is hermaphroditic, which allows for occasional self-fertilization. During a relatively long life span of nine to thirteen months, a female may lay anywhere from 300 to 500 eggs. These eggs are particularly resistant to cold and drying, allowing for easy over wintering and high survival rates. If winters are relatively mild or if the ground provides sufficient protection from the cold, adults may also survive. Perhaps the characteristic that impedes control of this species the most is that they often feed during the night, making it difficult to remove them directly from the plant by hand. The slugs are rarely seen on the plants during the day. Instead, they most commonly emerge from surrounding debris, such as logs, stones, and straw, on rainy or damp nights.

Several methods of slug population control have been defined and tested. Some growers narrow the rows and thin the canopy to remove excessive shelter surrounding the plants. Others may remove the slugs directly from the plant at night, destroy egg masses, increase predation by encouraging the presence of toads and garter snakes, or use poison baits.

Studies have shown that beer is an effective attractant of slugs, and if a high density of baited traps were used, a trap out strategy could be an effective method to reduce slug damage in strawberries. Therefore, the purpose of this study was to determine whether a high density of beer baited traps would provide an efficient and effective method to reduce slug damage in organically grown strawberries.

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