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Thrips: A Destructive Pest

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SUMMARY

Thrips are the most common arthropod pest of onions in Texas. They can attack green onions and dry bulb onions at any time during the growing season, but dry bulb onions are mostly a late-season pest. This is most likely due to the dry bulb onions' long growing season and the warmer weather late in the production season.

INTRODUCTION

It is a serious onion pest that can reduce yields by up to 50% in heavy infestations. Thrips nymphs and adults sucked the sap from the leaves, causing silvery leaf spots and white blotches. Excessive damage lowers a plant's capacity to photosynthesize, lowering bulb weight. Thrips also serve as a vector for the Iris Yellow Spot Virus (IYSV), a devastating onion virus that can result in crop collapse. It's a worldwide pest with polyphagous habits, parthenogenesis, and a proclivity for developing pesticide resistance. We've compiled a list of available management choices for onion producers in this post.

Identification

Adults: Have narrow and long wings fringed heavily with fine hairs. Nymphs: Are wingless. They are minute, about 1 mm long, slender, fragile and yellowish in colour.

Host Plants: Polyphagous in nature. It also infects cole crops, cotton, cucurbits, onion and chillies etc.

Nature of Damage

Nymphs and adults can be found between leaf sheaths and stems, piercing the epidermis of leaves and sucking the sap that is exuded. Silvery white spots appear on the damaged leaves, which later turn brownish and get twisted from the tips downwards, wilt, and eventually dry out. Heavy infestation at the seedling stage causes growth retardation and severe scarring of the leaves, eventually killing the seedlings. In the event of a subsequent significant infestation, the bulbs will stay small and twisted in shape.

Life History

40 to 60 eggs are laid in notches in the epidermis of the leaves. 8-9 days I.P. Nymph: 4-6 days N.P. Pupa: Pupation takes place in the soil, and the prepupal and pupal periods span two and three days, respectively. Seasonal occurrence: Pests are active all year round. It is found on onion and garlic from November to May, then migrates from these hosts to cotton and other summer crops in June, and finally to cole crops in September and October. It multiplies quickly when there is a long period of dry weather.

Management

- Thrips densities in a field are influenced by a variety of biological, cultural, and ecological factors. However, most thrips management involves sampling to determine pest populations, setting thresholds to activate pesticide applications, and selecting the right insecticides for the type of thrips present.
- Only small differences exist in thrips' preferences for onion varieties, as well as onion varieties' responses to thrips damage. These tiny changes have no bearing on variety selection and have little impact on thrips management.
- While a number of natural adversaries, such as pirate bugs, predatory thrips, and predatory mites, attack thrips, none of them are successful in averting economic damage. The most visible thrips predators in South Texas are minute pirate bugs.
- Individual plants are examined for thrips, particularly the necks of the onions and the leaf folds. Adult and young thrips prefer to congregate in these enclosed, sheltered areas.

- Because thrips distribution within a field might be clumped, especially early in the establishment of an infestation, plants should be collected from multiple sites across each field.
- According to studies, even a single thrips per plant over the course of a growing season might result in significant financial loss. Unfortunately, a threshold this low is unworkable due to a lack of effective controls and thrips biology.
- Current control measures are unlikely to keep the number of thrips on a plant below 20.
- **Chemical**: Spraying with 0.05% thiamathaxam/ imidacloprid 17.8 SL.

CONCLUSION

Thrips is a major pest of onion in India. Farmers commonly use chemical pesticides are widely to combat this pest menace in onion. Considering the cost of production, natural enemy's safety, pesticide residue, insecticide resistance and environment, sole reliance on chemical pesticide is not advised. In this context, combining all IPM strategies could be more cost-effective and viable solution. Hence, all the available pest management strategies are compiled and provided in this article. The information provided here would be much more useful to the Indian onion growers.

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