

Iris Yellow Spot Virus

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Introduction

The Iris Yellow Spot (IYS) virus is a relatively new disease of onions, being first observed in Israel and Brazil. It has now been confirmed on several fields in the Treasure Valley. The disease has probably been present in the area for some time.

The IYS virus is of the genus tospovirus, which is a relatively new genus. This genus of virus is considerably smaller than other viruses, making it more difficult to detect. These tospoviruses are readily spread by thrips. IYS is only spread by the onion thrips. Western flower thrips is not known to carry this virus.

Symptoms

IYS is known in Israel as “straw bleaching” because of the straw colored appearance of severely infected fields. The IYS lesions are straw colored and chlorotic or necrotic. Chlorotic means the plant stops making chlorophyll and the lesion turns yellow. Later the lesion tissue dies (necrotic) and turns white. The leaf tissue of severely infected fields has an appearance similar to that caused by fusarium plate rot, except that the virus does not affect the roots or bulb.

IYS is spread only by onion thrips. Studies from Israel report 1/3 to 1/2 of the onion thrips present in onion fields carried the virus. The onion thrips were about 50% efficient in transmitting the virus.

The IYS virus is not seed borne. It does not carry over in the soil. It does not move from the leaves into the bulb or roots so volunteer plants from last years infected plants will not have the virus.



Strategies for Control

The virus must over winter in a living host. These hosts include seed onions, over wintering onions, iris bulbs and over wintering onion thrips. It is currently thought that the seed and over wintering onions are the major source of inoculum for next years bulb crop.

- Do not plant bulb crops near seed and over wintering onion fields.
- Keep onion thrips populations low.
- Plant resistant varieties (It appears that some varieties are less susceptible but a formal study has not yet been done).
- Keep plants from being stressed – The virus rarely kills the plant. The virus weakens the plant and allows other stresses to kill the plant. Such stresses are moisture, fertility, salts, calcareous areas of the field, sandy areas, etc.

Good management of the crop is the best protection currently available.