

## Gaillardia Smut

### Introduction

Gaillardia or blanket flower occasionally has mysterious yellow spots on its leaves that are caused by a white smut disease. The target audience of this fact sheet is commercial greenhouse growers.

### Symptoms

Look for white to yellowish-green spots, up to ¼ of an inch long. At first, one may see very faint spots that could be confused with tomato spotted wilt virus (TSWV) symptoms. Light to dark-brown spots later develop in the center of these spots. One will not see fungal fruiting bodies on the surface of these leafspots. As the disease advances, spots may appear brown surrounded by yellow areas.



Figure 1: Early and late stages of white smut on gaillardia. Photos by L. Pundt



Figure 2: Tomato spotted wilt virus (TSWV) symptoms, with closeup of ringspots (on left) (Photo by J. Allen) and yellow spots on leaves (on right) (photo by D. Ellis).

### Causal Agent and Host Range

White smut on gaillardia is caused by fungi in the genus *Entyloma*. This smut disease is most severe on *Gaillardia* but can also infect *Aster*, *Echinacea*, *Helianthus* and

*Rudbeckia*. Cool, humid conditions favor this disease which is more common in production yards with close plant spacing and overhead irrigation.

Microscopic examination is needed to see the distinctive thick-walled resting spores known as ustiliospores. These resting spores enable the fungus to overwinter. White spores are also formed on the surface of the leaf spots, which are spread via air currents. A white coating may be visible on the leaf surface.

Gaillardia smut may be seed-borne. Certain cultivars may be more susceptible. It has been reported on the Gaillardia cultivars Goblin, Baby Cole, and Fanfare.

### Monitoring

Look for the white to yellowish-green spots in the late spring or early summer.

### Management

- Keep leaves dry by watering in the morning so leaves dry by nightfall.
- Give plants plenty of space.
- Apply preventive applications of fungicides, especially those fungicides that perform well against rust diseases. Systemic fungicides can be rotated with protectant fungicides.
- See the latest edition of New York and New England Management Guidelines for Greenhouse Floriculture and Herbaceous Ornamentals for more information available from the [Northeast Greenhouse Conference](#).

By Leanne Pundt, Extension Educator, UConn Extension, 2020, latest revision August 2024. Reviewed by Dr. Li, CAES.

### References

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