Millet

Rust

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Identification and Life Cycle

Rust of millet is caused by the fungus *Puccinia substriata* var. *indica*. The pathogen has a complex life cycle, and requires eggplant (or one of several other solanaceous hosts) to complete sexual reproduction. Repeating cycles of asexual urediniospores are produced on millet during cool to moderate temperatures during periods of free moisture or high humidity. Urediniospores are easily disseminated by wind currents. The pathogen can survive in the soil or on infested crop debris as dormant teliospores. At least 11 races of the rust pathogen have been identified.

Plant Response and Damage

Rust symptoms first appear on the upper and/or lower surfaces of leaves as small yellow or white slightly raised spots. The upper leaf surfaces tend to be more heavily infected than lower surfaces. These spots enlarge and rise further to form reddish-brown or rust-colored pustules which are about 1/8 inch diameter and contain thousands of microscopic urediniospores, which allow the fungus to spread within and between fields. Pustules may be surrounded by a yellow border. Spores are readily released from the pustule and give a rusty appearance to anything they contact. Rust is a late-season disease of millet in the southeastern U.S., but appears to be a minor problem in the High Plains region.

Management Approaches

Biological Control

No biological control strategies have been developed for rust.

Cultural Control

Resistant varieties are available and should be planted if rust becomes a perennial problem. Avoid growing eggplant near millet. Use surface rather than overhead irrigation, if possible. Crop rotation may be of some value if the sexual stage occurs.

Chemical Control

Chemical controls are not available.

Categories: Millet, Disease, Rust

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