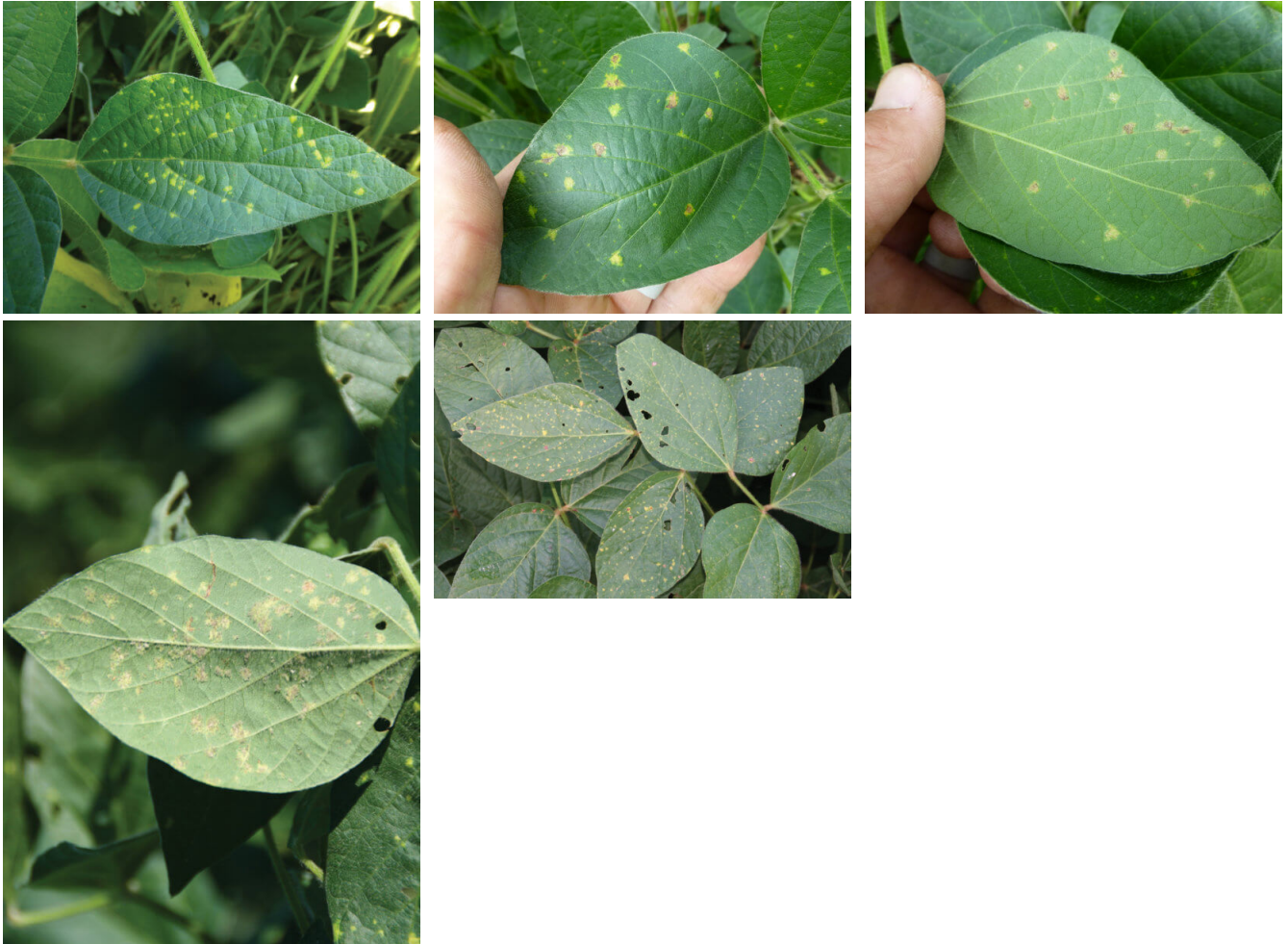


# DOWNY MILDEW



## Soybean Diseases



## Overview

Downy Mildew is a common fungal leaf disease of soybean that occurs wherever soybeans are grown, especially when weather conditions are rainy and humid.

The downy mildew pathogen, *Peronospora manshurica*, survives in crop residue and on the seed surface. The pathogen is in the same group of water mold pathogens that cause Phytophthora root rot and Pythium seedling blight of soybean and late blight of potato. Like these other pathogens, the pathogen that causes soybean downy mildew has swimming spores and needs water or high humidity for infection. Spores are carried onto plants by wind and rain and infection can spread quickly through a field during periods of cool, wet, or humid weather.

## Scouting

Downy mildew is very weather-dependent and is most likely to occur during periods of cool, wet weather. Younger leaves are more susceptible to downy mildew than older leaves, so the disease will generally appear first on the upper surface of young leaves.

Look for pale green to light yellow spots which enlarge into pale to bright yellow spots. The center of the spots eventually turns brown, bordered by yellow margins. Check the leaves for signs of grayish to pale-purplish spores on the lower leaf surface during humid weather. The presence of this sporulation is diagnostic for downy mildew. If in doubt, place the leaf in a plastic bag with a moist paper towel and examine again for sporulation in about 6 hours.

Some soybean varieties express mild leaf distortion that may resemble symptoms caused by common soybean viruses.

Pods can also be infected without obvious external symptoms. Infected seed has a dull white appearance and is partially or completely covered with a pale coating of fungal spores which can be confused with white mold.

## Management

The disease rarely reduces yield, so fungicides are not recommended for downy mildew management. Implementing cultural controls to reduce the risk of downy mildew is generally all that is needed.

- **Plant clean seed.** Growers planting non-GMO varieties should use certified, disease-free seed. Do not plant seed from fields infected the previous year.
- **Rotate crops and manage crop residue.** The downy mildew fungus survives in crop residue and on the surface of seed. Longer crop rotations and placing crop residues into contact with the soil after harvest will help reduce future infections.
- **Resistant varieties.** Because downy mildew is not considered to be yield limiting, most seed companies do not provide resistance ratings. However, numerous sources of resistance are available. If high levels of downy mildew appear in a variety, consider removing that variety from your line-up in future years.

## Distribution

[Downy Mildew of Soybean](#), *Crop Protection Network*

[Soybean Downy Mildew](#), *North Dakota Crop & Pest Report*



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