



AVRDC - The World Vegetable Center

# Fact Sheet

## Tomato Diseases

# Leaf Mold

*Fulvia fulva*

Found in the tropics and subtropics, and worldwide in greenhouses



### Symptoms

Yellow spots without a definite margin appear on the upper leaf surface, and olive-green to brown or purplish masses of spores and velvety growth appear on the lower leaf surface. Disease symptoms appear first on the older leaves. As the disease progresses, the leaves become chlorotic, then necrotic, followed by drying and defoliation.

Although this is primarily a foliar disease, unripe fruit may occasionally develop dark leathery lesions.

### Conditions for Disease Development

Tomato is the only crop that is affected. High relative humidity (greater than 90%) and warm temperatures (22–24 °C) are required.

In the tropics, the disease is more severe during cooler periods and especially when either relative humidity exceeds 90% or leaf wetness occurs.

In greenhouses of temperate regions, the disease may be more common during the summer and autumn growing periods when conditions are more favorable for periods of high relative humidity. Once the disease appears, there is potential for it to spread very rapidly

## How to Identify Leaf Mold



*Pale green to yellow spots appear on the upper leaves (left photo) and olive-green to brown spots appear on the lower leaves (center photo). Older leaves show the first symptoms (right photo).*

through the crop. Large numbers of spores may be readily disseminated throughout the growing season, primarily by air currents, but also by water, workers moving through the affected plants, or by insects.

The fungus may survive on residues from previous crops or in the soil. The fungus spores are known to survive at least one year under adverse conditions. There is no record of seed-borne transmission of the fungus.

### **Control**

Reduce plant densities to improve air circulation within plants, thereby reducing periods of leaf wetness.

Reduce high rates of nitrogen fertilization, which make tomato plants more susceptible to infection by the fungus.

Remove and destroy infected crop residues from the field. Avoid planting new tomato plants while diseased plants remain nearby. The transfer of spores from the older, diseased plants to the younger plants in the same location and subsequent infection will cause

higher levels of disease at an earlier stage of development in the young crop.

The severity and frequency of leaf mold outbreaks has decreased due to availability of resistant varieties and means of chemical control. Susceptible varieties can be grown if humidity is low and periods of leaf wetness are brief; however, resistant varieties are preferable. Local extension agents should be consulted about varieties that possess resistance against local populations of the fungus.

Protectant fungicides can be used, but growers should rotate broad-spectrum fungicides to prevent strains of the fungus from developing. Tomato crops should be checked regularly for early detection of the disease; this will reduce the number of fungicide sprays that may need to be applied later.

**For more information on the production of tomato and other vegetables, go to <[www.avrdc.org](http://www.avrdc.org)>.**