

## Soilborne Wheat Mosaic Virus

### Symptoms

In spring, irregular patches of mild green to yellow plants become evident (Fig. 1).



Fig 1. Yellow patches are evident in low-lying areas of the field. Photo: CIMMYT.

Foliar symptoms start with mottling affecting the whole leaf, including the sheath (Fig. 2). Depending on the virus strain and cultivar susceptibility, moderate to severe stunting, even rosetting of the plants may occur.



Fig 2. Foliar symptoms vary from yellow mottling and stripes (right), to green islands and short streaks on yellow leaves (left). Photo: CIMMYT.

### Causal Agent

*Soilborne wheat mosaic virus* (SBWMV) is transmitted by the soilborne fungus *Polymyxa graminis*, a parasite of roots in many grasses.

### Inoculum Source and conditions

SBWMV particles survive for years in soil. In late fall or early spring, favored by high soil moisture, and cooler soils, the virus carrying fungus invades the roots. Warm weather (over 68°F) will slow and eventually stop symptom expression, where it will remain confined to lower leaves. Soil cultivation, wind, water, and other factors which permit the dispersal of infested soil will spread SBWMV.

### Management/Control

- Grow resistant or tolerant varieties.
- Improve field drainage, avoiding practices that may cause soil compaction.
- Delay seeding until late fall to reduce fall infections.
- Rotate crops avoiding wheat, triticale, rye, barley, and susceptible grasses.

### References

- Compendium of Wheat Diseases. 2nd Ed. 1987. M. V. Wiese. APS Press. The American Phytopathological Society.
- Wheat diseases Atlas. McCoy N. L. and R. W. Berry. Texas Agricultural extension Service. Texas A&M University System

Prepared by Dr. Diana Schultz<sup>1</sup> and Dr. Ronald D. French<sup>2</sup>

<sup>1</sup>Plant Pathologist (Fort Myers, Florida) <sup>2</sup>Assistant Professor and Extension Plant Pathologist (Amarillo, TX)  
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