Wheat soilborne mosaic causes light green to yellow green to bright yellow mosaic patterns in leaf tissues. Symptoms are most evident on early spring growth, and warmer temperatures later in the season slow disease development. Symptoms of wheat soilborne mosaic are not always particularly distinctive and might occur as a more general yellowing similar to that caused by nitrogen deficiency. Infected plants may be stunted. This disease may be more severe in low lying, wet areas of a field. The soilborne wheat mosaic virus survives in the soil and is spread by the soil fungus Polymyxa graminis. Again, wet falls tend to favor outbreaks of wheat soilborne mosaic the following spring.

Barley yellow dwarf is an extremely widespread virus disease of cereals. Symptoms include leaf discoloration ranging from a light green or yellowing of leaf tissue to a red or purple discoloration of leaf tissue. Discoloration tends to be from the leaf tip down and the leaf margin in towards the center of the leaf. Plants may be stunted or may have a rigid, upright growth form. Symptoms are most pronounced when temperatures are in the range of 50-65°F. The barley yellow dwarf virus persists in small grains, corn and perennial and annual weed grasses. More than twenty species of aphids can transmit the barley yellow dwarf virus. Symptoms may be more severe and yield losses higher if plants are infected in the fall or early in the spring. Infections developing in late spring or summer may cause discoloration of upper leaves but little stunting of plants or yield loss.

The other virus disease likely to occur on winter wheat in Missouri is wheat streak mosaic, but symptoms of this disease are not usually evident until later in the season when air temperatures increase. Wheat streak mosaic causes a light green to yellow green mottling and streaking of leaves. Symptoms may vary with variety, virus strain, stage of wheat growth when plants are infected and environmental conditions. Plants may be stunted. As temperatures increase later in the spring, yellowing of leaf tissue and stunting of plants may become more obvious. The wheat streak mosaic virus is spread by the wheat curl mite. Symptoms are frequently found along the edges of fields where the mite vector first entered the field. Both the wheat streak mosaic virus and the wheat curl mite survive in susceptible crop and weed hosts. Thus, the destruction of volunteer wheat and weed control are important management options for wheat streak mosaic.

A management program for virus diseases of wheat should include the following steps.

- Plant good quality seed of resistant varieties.
- Avoid planting too early in the fall to minimize opportunity for insect vectors to transmit viruses to young plants.
- Destroy volunteer wheat and control weed grasses.
- Maintain good plant vigor with adequate fertility.

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Computer-Assisted Nutrient Management Courses Scheduled

By John Lory

A two-day course on how to write a nutrient management plan using computer software will be held three times in April and May.

The course will take participants step-by-step through the process of developing a nutrient management plan with particular focus on operations that use manure. The course will include hands-on computer instruction on using the AFOsite, Missouri Clipper, Spatial Nutrient Management Planner (SNMP), Purdue’s Manure Management Planner (MMP), RUSLE2 in MMP, and the new Missouri document generators to develop your plan reports.

Three two-day courses are scheduled:
- April 14-15, 2011 at Southwest Research Center, Mt. Vernon, MO
- April 19-20, 2011 at Bradford Technology Transfer Center, Columbia, MO
- May 5-6, 2011 at Bradford Technology Transfer Center, Columbia, MO

Courses will meet from 9:30-3:30 each day. Cost includes the use of a computer during the training and two lunches. We plan on applying for CEU’s for CCA’s for this course. Pre-registration is required. Cost is $215 per person.

For more information or to register for the course call Christina at 573-884-6311 or visit the website http://www.nmplaner.missouri.edu/training/#computer.

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