



Arkansas Plant Health Clinic Newsletter

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Oak

Slime Flux, or Bacterial Wetwood, is a bacterial disease of trees such as Oak, Ash, Elm, Aspen, Mulberry, Cottonwood, Poplar, Box elder, and other trees. Bacteria associated with wetwood are common in soil and water and probably enter trees through wounds. Symptoms of Slime flux include a yellow-brown discoloration of the wood, generally confined to the central core of the tree. Affected wood is wetter than surrounding wood and is under high internal gas pressure. Pressure and high moisture content cause an oozing or bleeding of slime from wood and branch crotches, hence the common name. The ooze often is foul-smelling and slimy because it has been colonized by yeast organisms and additional bacteria when exposed to air. The slime attracts insects which feed on the ooze. Sap beetles, bees and wasps are particularly attracted to trees with Slime flux. The insects themselves do no harm to the tree. When the slime dries, it leaves a light gray to white crust on the bark. The slime is toxic to the cambium and other tree parts it contacts. It will kill leaves and twigs it drips onto, as well as killing any plants under the tree that it contacts. There is no real control for Slime flux. It occurs most often on trees suffering from drought or

other stresses. Trees afflicted with the disease should be kept well-watered. Nutritional deficiencies may be a factor. A soil test and a fertilizer program may be helpful. The condition is often not fatal, and sometimes spontaneously resolves itself.

Bacterial Wetwood (Slime Flux)- various bacteria



**Photo by Michael Paskewitz, University of Arkansas
Cooperative Extension**

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Bacterial Wetwood (Slime Flux)- various bacteria



Photo by Jason Osborn, formerly University of Arkansas Cooperative Extension

Bacterial Wetwood (Slime Flux)- various bacteria



Photo by Don Plunkett, formerly University of Arkansas Cooperative Extension

Bacterial Wetwood (Slime Flux)- various bacteria



Photo by Shawn Payne, University of Arkansas Cooperative Extension

Cucumber

Root knot nematodes, *Meloidogyne spp.*, have a wide host range. They attack over 2000 species of plants.

Roots damaged by nematodes do not use water and fertilizers effectively. Infestation by



Sherrie Smith
Keiddy Urrea

Root knot nematodes results in poor growth, reduced quality and yield, and increased susceptibility to diseases and drought stress. Above ground symptoms include stunting, yellowing, wilting, and death. Below ground symptoms are roots with swollen galls and knots. Nematicides are available for commercial growers. Homeowners must rely on crop rotation, sanitation, resistant cultivars, and soil solarization. When using soil solarization, clean up crop debris and till the garden area. Lay clear plastic, (2-4ml), over the area and bury the edges to seal. Stick a hose in and thoroughly wet the area being treated. Leave plastic on for at least 2 months. Soil solarization is most effective during the hot months of the year. Broccoli and cauliflower crops tilled under after harvest naturally inhibit nematodes, as do French marigolds.

Cucumber Root Knot Nematode Galls-*Meloidogyne spp*



Photo by Sherrie Smith University of Arkansas Cooperative Extension

Cucumber Root Knot Nematode female inside a root gall



Photo by Sherrie Smith University of Arkansas Cooperative Extension

Pistachio

Panicle and shoot blight of Pistachio is a serious threat to the Pistachio industry in some parts of the United States and overseas. It is caused by the fungus *Botryosphaeria dothidea*, a common fungal pathogen of many crops. Symptoms appear in mid-late spring as circular, black spots, 1-2mm in diameter, on leaves, shoots, and rachises. Black lesions develop at the base of shoots originating from infected buds. Leaves on infected shoots wither in 3-5 days. Petiole lesions kill individual leaflets and entire leaves. Dead leaves begin dropping by July. Clusters of elongated spots appear on the midribs of leaflets. Small, round, black, spots appear on leaf blades. As the season progresses, the spots enlarge into irregularly shaped brown lesions, up to 15mm in diameter,

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surrounded by a diffuse, slightly chlorotic halo. The spots may coalesce into large tan blotches. Defoliation can be severe in late summer. A hundred or more tiny, black pin sized lesions may develop on the fruit. The fruit turns black as the lesions enlarge. Entire clusters may be damaged. Cankers can develop around bud scars and wounds. Control is best achieved fungicides, pruning, and irrigation management. Multiple applications of strobilurins, dicarboximide, or de-methylation inhibitor fungicides are required in summer. One application of benzimidazole at bloom improves the efficacy of the summer treatments. Prune infected parts 5cm below the blighted margins in late summer. Lower the sprinklers so the spray does not reach the canopy. Clean up fallen leaves.

Pistachio Leaf lesions- ***Botryosphaeria dothidea***



Photo by Sherrie Smith University of Arkansas
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Pistachio Shoot lesions- ***Botryosphaeria dothidea***



Photo by Sherrie Smith University of Arkansas
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This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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