

volves several species or is unknown. The names of such cultivars may follow the generic name directly as in *Lillium* 'Algoma'; *Clematis* 'Ramona'. Although this format is permissible with any cultivar name, even if the cultivar is a selection of one species it is generally advisable to retain the species name when possible, especially in highly variable genera, or when the cultivar name is in Latin form. The inadequacy of a designation such as *Crataegus Stricta* or *Picea* 'Conica' is obvious.

When an unambiguous vernacular name is

available for a genus or species, a cultivar name may be used with this name. For example, one has the option of writing *Acer rubrum* 'Armstrong'; Red Maple 'Armstrong'; or 'Armstrong' Red Maple.

As the examples above indicate, the name of a cultivar is not italicized, regardless of whether it is in Latin form or in a modern language. The initial word and all major words in a cultivar name are begun with capital letters.

ROYAL BOTANICAL GARDEN
HAMILTON, ONTARIO, CANADA

ABSTRACT

Peterson, G.W. and D.A. Graham. 1974. **Dothistroma needle blight of pines**. USDA Forest Service, Forest Pest Leaflet 143. 5 p.

Dothistroma needle blight, caused by the fungus *Dothistroma pini*, is the most damaging disease of pines in the Southern Hemisphere. Severe damage has been caused by this disease in North America too, especially in plantings. The disease seldom has been detected in young seedlings in North American nurseries, yet experience with epidemics in isolated new plantings in the Great Plains indicates that trees infected in the nursery must have been responsible. The fungus commonly has been found on older pine transplants in nurseries in the Central States which produce pines for landscape plantings.

Twenty pine species and hybrids are known hosts in North America; the fungus has been found in 23 of the United States and four Provinces of Canada, but has not been reported in Mexico.

Symptoms develop in the fall of the year of infection in the central United States and British Columbia. Early symptoms on the needles consist of yellow and tan spots and bands that appear water-soaked. The spots and bands may turn brown to reddish brown. The reddish bands are more distinctive and numerous on infected needles of pines in the western United States where this disease is often referred to as red band disease. Commonly, the distal ends of infected needles become chlorotic, then necrotic, with the base of the needles remaining green. Needles may develop extensive necrosis 2 to 3 weeks after the first appearance of symptoms.

Infected needles drop prematurely. Infected second-year needles are cast before infected first-year (current-year) needles. In some seasons, second-year needles are cast in late fall of the year they became infected. In other seasons, loss of needles is not extensive until late the following spring or early summer. Needles that become infected the year they emerge often are not shed until late summer the following year.

Copper fungicides effectively prevent infection by *Dothistroma* needle blight. Bordeaux mixture (8 pounds of copper sulfate, 8 pounds of hydrated lime, 100 gallons of water) applied twice in the growing season has provided essentially complete control. The first application (mid-May) protects previous seasons' needles; the second application (July) protects current-year needles. The second application can be made after considerable new growth has occurred, since current-year needles of these species are initially resistant to infection and do not become susceptible until mid-summer.