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WINTER INJURY AND DRYING OF RHODODENDRON

Rhododendrons throughout Connecticut often exhibit symptoms of winter injury and drying. Symptoms are present on shrubs of all ages and on those growing in both wind-swept and sheltered locations. This type of injury is a result of many environmental factors which often have little in common but that they occur during the winter. The causal factors are very diverse and include sudden temperature fluctuations, excessive or late season fertilization, lack of snow cover, drying winds, and late spring frosts. The most common type of winter injury on rhododendron is excessive drying. This results from factors which create a water deficit in the shrub. This type of injury occurs when water evaporates from leaves on windy or on warm sunny days during the winter or early spring. Drying occurs because this water is not replaced since the roots cannot take up enough water from cold or frozen soil.

Winter injury is important in and of itself but it also predisposes the shrubs and renders them more vulnerable to secondary or opportunistic pests. Another important characteristic of winter injury is that quite often, the symptoms are not evident until sometime **after** the injury has occurred. Symptoms may appear in early spring when growth is just beginning or they may not appear until early-summer or even later in the season. This can make diagnosis difficult.

SYMPTOMS:

Symptoms of winter injury and drying can be varied but are usually characterized by tip or marginal browning of leaves, dieback of tips and branches, desiccation of growing tips or twigs, and longitudinal rolling of leaves along the mid-vein. Symptoms can develop on one or two individual branches or on the entire shrub. This year, poor root health contributed to more extensive and widespread damage than usual on many rhododendrons throughout Connecticut. Particularly hard hit were recently transplanted shrubs which lacked well-developed or established root systems and established shrubs of all sizes and ages which had root systems that were predisposed and damaged by excess water or drought.

MANAGEMENT STRATEGIES:

We obviously can't control the weather but there are steps that we can take that are aimed at minimizing the effects of winter injury. These include: 1) select the appropriate site for planting and maintain optimum growth by using proper growing practices; 2) have sufficient moisture in the root zone before the soil freezes- this can be accomplished by giving the shrubs a deep

watering before the ground freezes in the fall; mulching also helps to increase moisture retention in the winter; 3) avoid late summer and early fall fertilization- this stimulates and encourages growth late in the season which may not harden-off properly for the winter; 4) prune and remove any dead twigs or branches which can serve as sites for secondary invaders or opportunistic pests, and 5) provide physical protection from water loss and drying winds- this is especially important for new transplants or plants in exposed locations; burlap wraps and sprays of anti-transpirants or anti-desiccants can be helpful.

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