



Photo: Blake Hauptmar

Typical Spruce tree winter injury symptoms.

Winter injury on spruce trees is very common across Wyoming. The typical symptom of winter injury on spruce is purple discoloration of the needles appearing in spring. Often times existing needles show symptoms, but buds survive. Those buds can give rise to new growth and improve the plant's appearance during the next growing season. In severe cases, trees may not recover. Winter injury can be the result of extreme cold temperatures, drought stress, winter desiccation (cold dry winds draw moisture out of the needles when the ground is frozen and roots are unable to replace moisture to the needles), or a combination of these problems. Symptoms generally appear in winter and spring. Spruce trees infested with aphids or pine needle scale can increase spruce tree susceptibility to winter injury. Monitor for these and other pests and treat as needed.

TREE

SPRUCE

WINTER

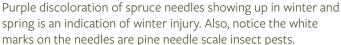
INJURY

Irrigating adequately is the best recommendation to prevent winter injury and to help trees recover following winter injury, although severely affected trees may not recover or improve in appearance even with supplemental water. Spruce trees should receive irrigation year-round. Water trees regularly throughout the growing season until the ground freezes in fall and water occasionally in winter during a thaw. While watering with a drip line can be sufficient for a newly planted tree with a very small rootball, drip irrigation is often inadequate for larger trees. Hand watering with a hose or overhead sprinklers will do a better job of irrigating large areas.

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Grass growing around the base of a spruce tree can compete for



Spruce trees planted too close together compete for water, nutrients, and light.



water and nutrients.

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