Mistletoe – Naughty and Nice
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The holidays bring with them many traditions – some old, some new – regardless, they serve as a point of comfort and reassurance during this joyful but often hectic time of year. Our traditions may encompass tree cutting expeditions, old family recipes, visits to special destinations and displays of seasonal plants at our celebrations.

One plant with a long history associated with the holiday season is mistletoe. While the mistletoe sprigs for sale might not be a Connecticut grown produce, there is a species of this plant found here. The eastern spruce dwarf mistletoe (*Arceuthobium pusillum*) is listed as rare or endangered.

The 1300 species of mistletoe, an evergreen plant found worldwide, are divided into 3 main groups: European mistletoe (*Viscum album*), American mistletoe (*Phorodendron* species), and dwarf mistletoe. Just the American and dwarf are native to North America. About 12 species of American or leafy mistletoes inhabit the more southern part of the country up to about New Jersey and can affect both deciduous and evergreen trees. The 16 species of leafless dwarf mistletoe choose spruce, pine and larch as host plants and are most problematic in the western states, northern New England, and parts of Canada.

All mistletoe are semi-parasitic or parasitic, meaning they derived some, if not all, of their water, nutrients and energy requirements from their host plants. The leafy types of mistletoe can photosynthesize, lessening the amount of carbohydrates needed from their host plants. All mistletoes are flowering plants that produce seed. The American or leafy mistletoe produces the mostly white but sometimes reddish berries that are used as holiday decorations. The European

mistletoe, also sold for decorations, produces white berries but is a much more toxic plant. The berries or fruits of dwarf mistletoe are small and reddish brown and not decorative.

The eastern dwarf spruce mistletoe is dioecious, meaning male and female flowers are produced on separate plants. The small, scaly, brownish flowers occur from late March until early June. Insects and wind aid in pollination. Fruits mature in late summer.

The berries are sticky and are spread differently depending on the species. Whitish American mistle berries are food sources for various species of birds and may be spread through their droppings or from seeds sticking to their bodies. When ripe, dwarf mistletoe seeds are explosively discharged and may land up to 55 feet away.

Seeds that land in a suitable spot on a host species germinate the following spring. As the radicle emerges from the sprouting seed, it grows along the bark surface seeking a place to penetrate the host's tissue. Young branches are more easily penetrated and infiltrated with a root-like network referred to as an endophytic system.

After being infected for several years, the tree's buds proliferate and a compact mass of branches, called a witches' broom, can be seen. As trees weaken due to mistletoe infection, they may be more susceptible to drought, insects and diseases. Tree mortality can occur within 15 years.

Fortunately, Connecticut residents don't have to worry much about dwarf mistletoe attacking their spruce, pine or larch trees. That leaves us dealing with mistletoe's romantic charm. When kissing under the mistletoe began is unclear but Celtic Druids and ancient Greeks believed in its healing and mystical powers and reveled in its ability to retain green leaves year-round.

Nordic myths had the goddess Frigg commanding plants not to harm her beloved son, Baldur but forgot to include mistletoe. Mischievous Loki tricked a blind god into killing Baldur with an arrow made from mistletoe. Being gods, Baldur was resurrected by Frigg who declared mistletoe to be a symbol of peace and love.

Kissing under the mistletoe was mentioned in a Washington Irving book published in 1819. Apparently, a kiss (on the cheek) could be had for each berry on the sprig. A berry was plucked with each kiss and when the berries ran out, kissing ceased.

Aside from encouraging romantic encounters, mistletoe plays an important ecosystem role. Not only do certain birds rely on its berries but in some locations so do elk, deer, squirrels and chipmunks. Porcupines can feed on leafy mistletoes. Witches' brooms provide cover for nesting birds including Coopers hawks and spotted owls. Flower nectar is sought by several species of bees and at least 3 butterfly species in the U.S. depend entirely on mistletoe.

So, keep any real mistletoe decorations away from kids and pets but do appreciate that it has a valuable role to play in our ecosystems. For your plant questions, contact the UConn Home & Garden Education at (877) 486-6271 or www.homegarden.cahnr,uconn.edu or your local Cooperative Extension Center.