

Richland Soil and Water Conservation District

Plant of the Month

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mistletoe

Pervasive, parasitic, and poisonous are not the first words one associates with romance. Yet, they describe a jolly symbol of love and everyone's favorite excuse to smooch – mistletoe. You can usually spot mistletoe quietly attached to door thresholds during the holiday season. Long valued for its (supposed) medicinal and mystical properties, references to mistletoe are common in ancient history. The Ancient Greeks were known to have used mistletoe against ailments including ulcers and spleen disorders. It was also used as a heart tonic for those suffering from typhoid fever.

The plant's romantic associations date back at least as far as the 1st century A.D., when Celtic Druids believed mistletoe to be a sacred symbol of health, as the evergreen plant continued its spread through the harshest of winters. The Druids treated infertility among animals and humans with mistletoe, in hopes to mimic its vitality. There is a similar folklore across many other cultures, and in more modern times, mistletoe has become a symbol of good luck to ring in a bountiful new year. Couples kiss when they stand beneath a sprig of the green plant, and with each peck, remove a white berry from the sprig. When the sprig runs out of berries, so does its luck – or so the story goes.

Given its fruitful and adorned history, it might be surprising to learn that mistletoe is actually a parasitic flowering plant. It attaches itself to the vascular system of a tree or shrub, implants a root system within a host tree's trunk or twigs, and steals the host tree's nutrients and water. Though a tree can still live while hosting mistletoe, the additional stress will weaken a tree with pre-existing health problems. Most species of mistletoe

are also able to produce their own food by conducting photosynthesis with sufficient leaf exposure to the sun. This only makes the mistletoe stronger and more dangerous to an at-risk tree. Mistletoe only dies when its host plant dies; otherwise, it will remain on a host until and unless it is physically carved off.

Mistletoe is highly specious, and species vary in aggressiveness and likely hosts. The Eastern mistletoe (*Phoradenron serotinum*) grows best on deciduous trees, such as the oak, and is common in South Carolina and in other southeastern states. It requires pollination by wind, flies, or other insects to produce fruits (berries) and seeds; these seeds are spread by fruit-eating birds. When a mistletoe seed falls upon the bark of a host tree, it can adhere and begin its slow, yet persistent growth. Another species called Dwarf mistletoe (*Arceuthobium* spp.) prefers conifers as host trees and can eject seeds from its parent plant to another host at speed of 50 miles per hour using hydrostatic pressure. Its adaptations and diverse speciation make mistletoe a competitive parasite; however, mistletoe is not just dangerous for trees: it can also be poisonous to humans and animals.

When it comes to mistletoe's poisonous properties, there are two main distinctions in species of mistletoe: European and American. While the ingestion of European mistletoe is known to have caused poisoning and even death, the ingestion of American mistletoe is not credited with any serious health effects. Across a study of nearly 2,000 people (92% of whom were children) who ingested American mistletoe, there were no fatalities and only three cases of gastrointestinal upset. Luckily for us Carolinians, our Eastern mistletoe falls under the American speciation, but it is still best to keep mistletoe-munching to a bare minimum as the effects of copious consumption remain unknown.

However, mistletoe isn't all bad. It can serve as a pollinator habitat and provides food for certain animals. During the winter, deer, elk, and chipmunks are among the many to eat mistletoe berries when food is limited. At least three species of butterfly rely on mistletoe for survival: the great purple hairstreak, the thicket hairstreak, and Johnson's hairstreak. These species nest in mistletoe and feed on the plant's nectar, and their young can eat the leaves.

At the very least, mistletoe can give you the perfect excuse to "plant one" on your holiday crush.

References: [National Geographic](#), [The History Channel](#), [Aborillogical](#), [Brittanica](#), [Poison Control](#), [National Wildlife Federation](#)

