

Mechanical Damage of Trees

What is Mechanical Damage?

When equipment or machinery, such as lawn mowers and weed trimmers, bang into a tree or shrub it can crush the cambium layer or tear off bark and break branches. The site of injury is usually the root flare: the area where the tree meets the turf and gets in the path of the mower or trimmer.

What are the effects?

Repeated bumping of the trunk or stems, especially in young trees and shrubs, can severely damage or kill sections of the cambium layer just below the bark. Sap flow is interrupted between the roots and leaves, causing some twigs or branches to die. Mechanical damage also opens the tree or shrub to disease and insect organisms, which may further damage the plant.

How can it be avoided?

Newly planted, young trees need our help to become established in the landscape. They are the trees most commonly and seriously affected by maintenance equipment. All tree wounds are serious when it comes to tree health. No matter what size the wound is, the damage done is irreversible.



Here are some injury prevention tips:

- Physically remove turf or prevent grass and weeds from growing at the base of the tree. This low tech solution can eliminate a potentially serious problem.
- Spray herbicides to eliminate vegetation around the base of the tree to decrease mowing maintenance costs. Be sure to use care when applying herbicides around trees. Carefully follow label directions.
- Add a mulch ring, when possible, to help reduce the competition for water and nutrients. Mulch or other ground coverings reduce mowing requirements in the landscape.
- Add a 2" to 3" layer of mulch on the root zone of the tree to provide an attractive and healthy environment for the tree to grow. This also provides a visual cue to keep equipment away from the tree. Be sure to not "volcano mulch". Leave the area next to the bark of the tree free of mulch so there is no contact between the mulch and bark.
- Add trunk guards or similar devices to give the tree additional protection. White, expanding tree guards can help help trees withstand equipment contact and also can help to reduce winter injury.

Sources:

<https://extension.umd.edu/hgic/topics/mechanical-injury>

<https://www.extension.purdue.edu/extmedia/fnr/fnr-492-w.pdf>

<https://www.mortonarb.org/trees-plants/tree-and-plant-advice/horticulture-care/tree-root-problems>