Stone Mulch

A Cost-Effective Way to Reduce Herbicide Use in Buffer Plantings

Stroud Water Research Center has conducted research trials since 2013 comparing the use of stone mulch versus herbicides for rodent control around young trees. Our data suggest that stone is a superior mulch material and that tree survival rates are comparable between the two methods. Stone is long lasting, flood resistant, and generally rodent resistant. While this method costs more up front, it saves on labor and costs over time: stone mulch is applied once and lasts for years, whereas herbicide is applied twice per year for three to four years. Though eleminating herbicides completely may not be possible in every case, stone much can provide an extra layer of protection from rodents and possibly reduce the need for herbicide.

SEASON

Stone or gravel mulch is best applied when the ground is firm to reduce damage to fields from a tractor or skid loader carrying gravel.

SITE PREP

The site of application should be bare ground, short grass, or a nonaggressive ground cover. If leaving grass to grow, mow the area prior to planting. Kill reed canary grass at each planting spot with herbicide.

APPLICATION

Plant trees and install shelters as usual. Apply two heaping shovels full (20 to 25 pounds) of 2A modified stone around the base of each tree shelter, extending out to a diameter of 12 to 15 inches. Pile gravel higher at the center, about two to three inches high, so that it slopes downward toward the outside edge. See video demonstration at stroudcenter.org/restoration.

MATERIALS AND EQUIPMENT

- 2A modified stone. One-inch-diameter stone and smaller with stone dust creates a sealant that blocks voles from burrowing. Larger stones may leave voids large enough for rodents to tunnel through.
- Shovels.
- A tractor with bucket is helpful for larger plantings.

MAINTENANCE

Periodic mowing is usually necessary (about twice during the growing season). Site conditions may warrant more frequent mowing and/or application of herbicide around shelters to control invasive plants.

ESTIMATED COST

About $3 per tree for 15”-diameter rings of stone mulch if installed by a contractor.

Apply two heaping shovels of 2A modified stone around each tree shelter out to a diameter of 12 to 15 inches. Pile gravel higher at the center, about two to three inches high, so that it slopes downward toward the outside edge.

QUESTIONS?

Email buffers@stroudcenter.org to connect with one of our watershed restoration professionals.