Brush-Cutting in County Roadsides:
Safety & Utility

Ethan Evans • Tallgrass Prairie Center • University of Northern Iowa

Brush removal is a vital yet often overlooked part of county roadside management. While activities like sawing down trees or spot-herbicide application can appear counterproductive or environmentally harmful, they are an important part of the integrated roadside vegetation management (IRVM) toolkit, which keeps Iowa's roadsides safe and ecologically sound.

The primary goal for roadside tree and brush control was defined by the Iowa Highway Research Board as motorist safety; drivers need to have unobstructed lines of sight, a recovery zone without immovable objects or substantial/chronic snow drifting, and reduced shade, which prolongs ice on the road (2002). Counties that follow IRVM principles maintain a clear zone of short vegetation approximately ten feet (three meters) wide adjacent to the road, and avoid seeding areas close to intersections with native plants. Outside of maintaining line-of-sight visibility and a clear zone, Iowa law is not specific about the level of brush control a county must provide. Roadside professionals recommend adopting a rotation with the goal of working through all county roads in a slated period of time, such as five years.

Herbaceous perennials in roadside ROW

Keeping tree and shrub populations low helps keep tallgrass prairie plantings robust. Roadside plantings are particularly susceptible to shrub encroachment, due to their heavy bird activity and lack of grazing and regular fire. Over time, brush removal can reduce tree and shrub regrowth activity within a prairie; a Canadian study of mixed grass prairie showed that prairie grasses suppress shrub growth at the same rate that

three times more biomass (Köchy and Wilson 2000). Periodic brush removal is considerably more effective than a one-time removal. The number of native species and amount of ground cover decreases most sharply once the net leaf area of shrubs and trees reaches an intermediate stage, rather than when shrubs and trees are just getting established (Taft and Kron 2014).

While brush removal in any form helps to increase the density and number of native species in tallgrass prairie plantings, periodic burning is especially effective. Natural historians agree that the tallgrass prairie region depended on periodic wildfires, as well as animal grazing, to prevent succession toward woody vegetation (Anderson 2006). Fires also help to return nitrogen and other nutrients into the soil, and increase microbial activity. Studies have found that frequent burning in tallgrass prairie environments is associated with maximum species richness and diversity for vascular plants (Bowles and Jones, 2013). Details about conducting burns near roadsides can be found in the IRVM Technical Manual (Brandt et al. 2011).

Brush management also helps protect counties from legal liabilities stemming from vehicular accidents in which cars enter roadside right-of-way (ROW). Grassland vegetation provides a soft landing for errant vehicles, and absorbs kinetic energy from these vehicles more effectively than trees or woody shrubs.

Our Advice

Brush control also requires diligent communications with homeowners, particularly in suburban areas. When burning or cutting near homes, it is advisable to warn property owners in advance; veteran roadside managers recommend sending letters or distributing informational door hangers a week in advance. Since brush cutting can appear environmentally harmful, it's important to inform interested citizens of its value for ecological restoration and vehicular safety.

References

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