

**WILDLIFE MANAGEMENT TECHNIQUES –
QUALITY VEGETATION MANAGEMENT (QVM) FOR
RESTORATION OF EARLY SUCCESSIONAL VEGETATION
FOR WILDLIFE HABITAT IN ABANDONED FIELDS**

Definition: Quality vegetation management (QVM) is a technique that uses a combination of tools to restore early successional wildlife habitat through the removal of invasive, dense, undesirable woody species. To improve wildlife habitat conditions for many wildlife species in abandoned fields, QVM is used to remove the invasive, dense, undesirable woody species in open to semi-open abandoned fields (generally fields that have been unmanaged within the last five years) along with the removal of the grass thatch layer by using the combined application of the selective herbicide, imazapyr, and controlled burning or light strip disking.

Purpose: Open field areas dominated by native grasses, forbs and legumes provide critical habitat for many wildlife species associated with grasslands. In Mississippi, fire suppression and lack of active management (soil disturbance practices) in these open fields reduces early successional habitat desired by many wildlife species. When these fields are abandoned or left unmanaged for more than two to three years, natural succession leads to invasions of dense hardwood brush that inhibits germination of early successional herbaceous and shrub vegetation. If left unmanaged, fields can become completely overgrown with undesirable woody vegetation within five years. Management actions are needed to restore the early successional wildlife habitat that provides quality herbaceous food and cover plants in open fields. Restoration of herbaceous grassland communities through the removal of hardwood brush can release desirable native herbaceous species and improve early successional habitat quality of abandoned/unmanaged field areas. University research has shown chemical treatment to remove invasive dense hardwood brush with the herbicide, imazapyr, releases the desired native forbs, legumes, vines, shrubs, and grasses that are beneficial to wildlife inhabiting herbaceous grassland communities. Improved nesting and brood foraging habitats increase for ground nesting birds. Additionally, restoration of habitat with herbaceous vegetation cover and an open ground layer can increase avian diversity and abundance of regionally declining bird species (e.g. northern bobwhite and Bachman's sparrow).

Prescribed burning for wildlife habitat is applying a controlled fire to a predetermined area as a habitat management tool. It is used to improve wildlife habitat on early successional/grassland areas by setting back the successional stage of an area. This practice increases stand diversity, reduces weed competition, increases plant vigor, recycles nutrients, reduces thatch and ground litter, and reduces wildfire hazards. Ground nesting habitat is improved by reducing stand density. Brood habitat is improved by opening up the ground layer. Prescribed burning in late winter to early spring is the preferred method for maintaining healthy stands of native warm season grasses.

Management: This practice should be applied in unmanaged field areas that have a substantial hardwood brush component. The practice can be used as a spot treatment to impact areas of advanced brush growth within an old field. The practice can also be applied in corridors or lanes in a meandering fashion within old fields where a large portion of the field is in advanced brush growth. Treated corridors should be a minimum of 50 feet wide. Winter prescribed burning removes woody debris and promotes establishment of herbaceous vegetation, especially legumes.

Management:(cont.) Imazapyr is commercially available in two formulations, 2 pounds of active ingredient per gallon (lbs AI/gal) and 4 lbs AI/gal. Therefore the herbicide should be applied at a rate of 0.5 – 0.75 pounds active ingredient **per acre** to achieve hardwood brush control. Using this rate, hardwood brush control can be expected for approximately 10 years. Using a skidder with a tank and cluster nozzle spraying a 30 - 50 feet wide swath, the herbicide should be mixed in 20 gallons of water to treat one acre. In addition tanks/sprayers mounted on all terrain vehicles/farm tractors; herbicide wiping equipment, such as wickbars or weedsweeps; and helicopter spraying are other methods that can be used to apply the herbicide. All equipment must be calibrated to assure that the proper rate is applied. **BEFORE APPLYING, READ AND FOLLOW ALL LABEL DIRECTIONS FOR THE SELECTED HERBICIDE.** The “hack and squirt” method of application may be used according to guidelines in the MS-ECS-645-12A job sheet. Foliar spraying with non-calibrated hand held spray wands is currently not an approved application method.

Applying the herbicide alone will encourage the establishment of native vegetation. However, prescribed burning the treated area will enhance the establishment of the desired vegetation and speed the process considerably. Prescribed burning one to two years after the hardwood brush has been treated clears the leaf litter and small branches from the ground which allow sunlight to penetrate to mineral soil. This encourages the native plant seeds within the seed bank that require scarification to germinate. Prescribed burning every 3-5 years after the initial burn will help maintain the quality of the vegetation once the hardwood brush has been controlled. The prescribed burns should be conducted in late December through February (cool season) and should be primarily a backing-type fire. Consult with the County Forester or a consulting forester for information concerning prescribed burns. Light strip disking in fields to incorporate the litter layer and to expose the soil after the herbicide has been used to control the hardwood brush is a practice that will encourage vegetation growth in areas where prescribed burning is not an alternative. This method of soil disturbance scarifies the plant seeds in the seed bank and provides a good seed bed for their germination. **Consult NRCS technical specifications (such as Practice Codes 338 – Prescribed Burning and 645 – Upland Wildlife Habitat Management), technical notes, bulletins, and other job sheets for additional information concerning prescribed burning, light strip disking and woodland disking.**

Maintenance: Once the desired native vegetation has been established, a periodic cool season prescribed burn or light disking (every 3-5 years) will keep the vegetation in optimal quality for wildlife.

Considerations: This practice is not intended to be for site preparation for tree establishment.

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