INDOT Research

TECHNICAL *Summary*

Technology Transfer and Project Implementation Information

TRB Subject Code: 40-7 Roadside Maintenance *March 2005*
Publication No.: FHWA/IN/JTRP-2004/9, SPR-2398 *Final Report*

New Combination Treatments for the Control of Johnsongrass along Roadsides

Introduction

Considerations of cost savings, safety and appearance are among the major reasons for justification for seeking improved roadside maintenance practices. For Johnsongrass, there are several additional, even more compelling, reasons.

Johnsongrass is a noxious weed. The need for its control is dictated by law. Therefore, roadside Johnsongrass must be controlled. There are no alternatives.

An estimated 10,000 acres (4,000 ha) of Johnsongrass-infested roadsides are within the roadside maintenance programs of the Districts in the southern 1/3 to1/2 of the State of Indiana. Current costs of mowing and herbicide treatment are estimated to be between $300,000 and $500,000 annually.

Johnsongrass eradication (control) has traditionally been one of the most difficult weed control problems in both crop and non-crop situations. Some materials, effective on seedling Johnsongrass in cropland are of limited effectiveness on established Johnsongrass along roadsides. At present, Johnsongrass represents the last major roadside weed problem for which no satisfactory recommendation for control existed when this project was initiated.

The objectives of the research were to provide for eradication (control) of Johnsongrass along Indiana roadsides and to reduce current costs of maintenance by at least $100,000 annually by reducing the need for mowing and by eliminating repeat applications of expensive, ineffective herbicides.

Findings

Combined target-directed laboratory and greenhouse studies identified a new candidate herbicide, Outrider which when combined with a new additive designated TR-IV gives eradication of Johnsongrass when applied to plants after less than 20 inches (70 cm) of growth or regrowth following mowing. The combination does not harm oversprayed established fescue or bluegrass. Based on limited implementation activities (two years experience), the recommendation is as a spot treatment.

A cold-adapted Johnsongrass ecotype has been identified in the Northern-most tier of counties in Indiana which provides a further threat of encroachment of roadside-established Johnsongrass onto adjacent cropland of considerable potential economic consequence.

Implementation

It is suggested that the recommendation of the SAC Committee to create a committed roadside Johnsongrass research area with controlled mowing and date of spraying be followed as a means of implementation. The recommended area was US-63 from Jct. I-74 south to Jct.

US-36. A moderately low traffic highway and centrally located where Johnsongrass is abundant. The roadsides are fenced so that adjacent landowners are less likely to interfere. State and contractual activities would be carefully regulated and selected no mow and no spray areas would be posted. This is probably imperative if we are to achieve the goal of chemical control eradication of Johnsongrass along Indiana roadsides.

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