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Overview of Glyphosate Research for Managing Invasive Cattail to Disperse Blackbird Roosts

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Introduction

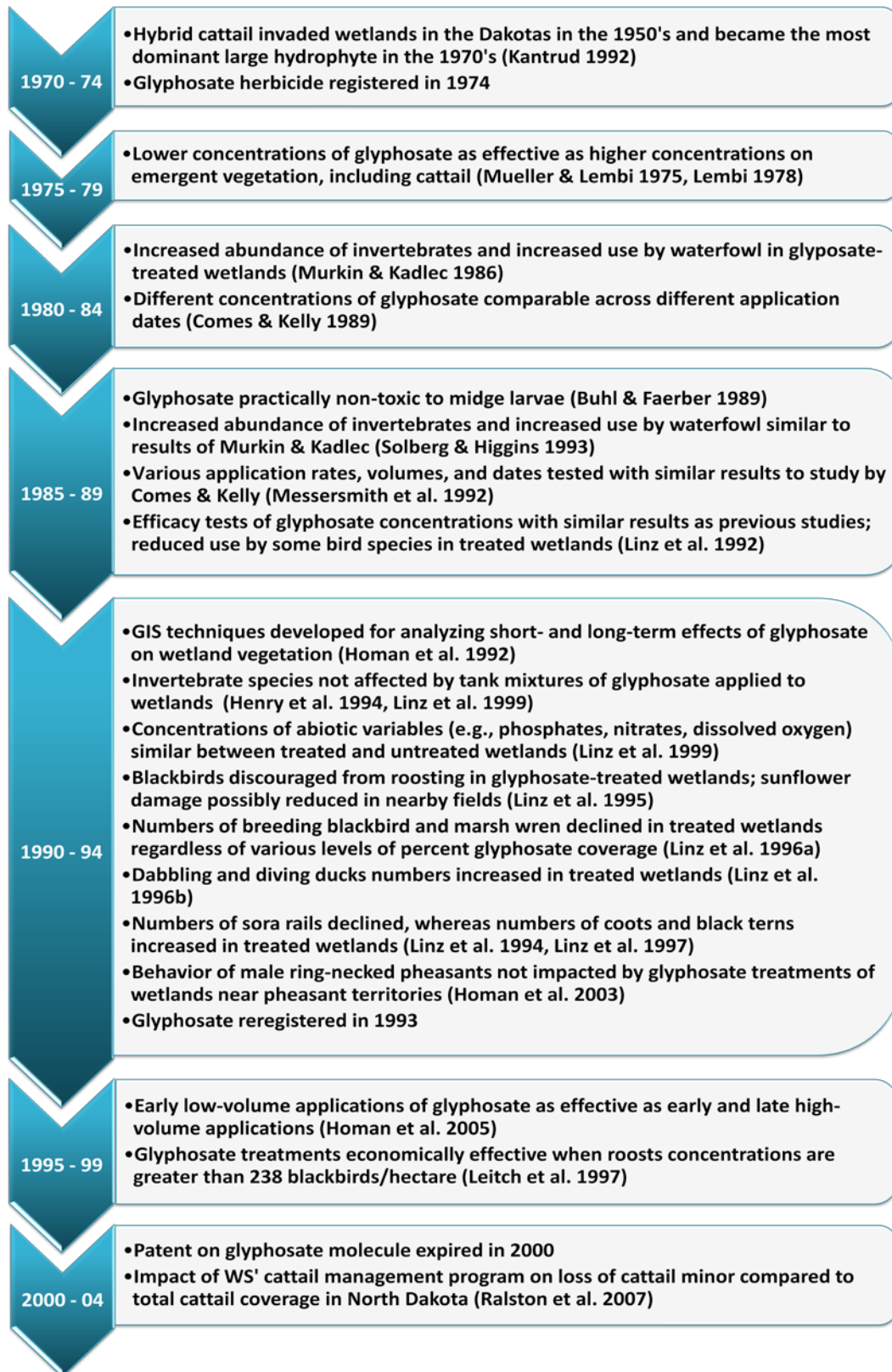
Beginning in 1991, USDA's Wildlife Services (WS) began aerially spraying cattail-dominated wetlands with glyphosate herbicide to reduce sunflower damage by blackbirds. The techniques used by WS were developed by scientists over 20 years of research that included types of spray patterns, percent basin coverage, environmental impacts, and glyphosate concentrations and volumes. As the cattail management program enters its 20th year, we review published research that was used to support scientific needs of the management program.

Background

Hybrid cattail is the dominant emergent vegetation in many wetlands in North Dakota and South Dakota. Ripening crops, especially sunflower, planted near cattail-dominated wetlands can sustain considerable economic damage from blackbirds during late summer and fall. Growers can obtain assistance at no cost from WS. Several management techniques are available. However, cattail management has been one of the most effective. Wetlands near sunflower fields are sprayed with glyphosate herbicide in late summer. The herbicide eliminates cattails destroying the birds' roosting and loafing habitat.

Research began on the use of glyphosate to manage dense cattail stands in the mid 1970's. Most of the research on ways to reduce blackbird damage using glyphosate was conducted by scientists at the National Wildlife Research Center's North Dakota field station. It began in 1989 with a focus on efficacy and environmental safety. In this poster, selected studies are displayed in a time line, and we briefly describe their importance to the cattail management program.

Time Line



Discussion

In 2000, WS updated their cattail management protocol after years of cumulative research on glyphosate efficacy and application methodology. The changes included lowering the spray volume and the application rate to a below-label rate.

A lower spray volume was particularly important to the cattail management program, because it allowed helicopters to compete with fixed-wing aircraft in cost effectiveness. The deployment of helicopters in 2000 caused a chain of protocol alterations that led to a reduction in the minimum basin-size requirement and elimination of drift retardant.

Wildlife groups often disagree on the methods used by agriculture to solve wildlife conflicts. The WS cattail management program, however, appears to meet the environmental needs of wildlife interests as well as the production needs of agriculture. Fragmenting dense cattail stands with glyphosate 1) returns wetlands to their original physiognomies, 2) does not impair numbers of invertebrates, and 3) promotes avian diversity while preventing the formation of large roosting aggregations of blackbirds.

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