

## BAITING BLACKBIRDS DURING SPRING MIGRATION IN SOUTH DAKOTA

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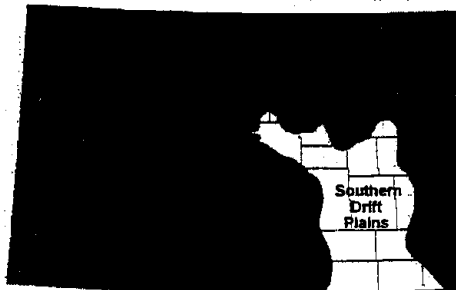
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### Introduction

In the northern Great Plains, 75 million blackbirds continue to plague commercial sunflower producers despite the intensive use of bird dispersal techniques. In 2001, producers in the southern Drift Plains of North Dakota (Fig. 1), where about one-third of the crop was grown, lost 5.6% or \$2.5 million to blackbirds.

Figure 1. Location of the southern Drift Plains in North Dakota.



Decreasing the northern Great Plains population of red-winged blackbirds, prior to breeding, is being deliberated during the preparation of an Environmental Impact Statement. Effective population management is contingent upon development of an efficient baiting strategy that can be quickly implemented with minimal costs.

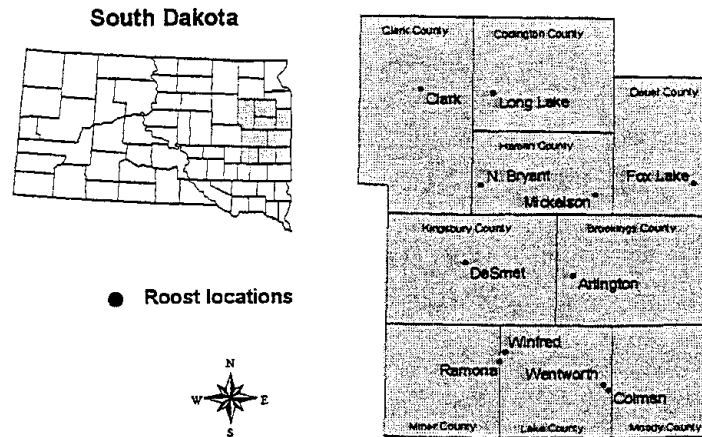
### Objectives

We determined the phenology of blackbird migration during spring migration in east-central South Dakota, a region where annual baiting is being considered. We also documented blackbird foraging habitats while staging in this area.

## Study Area and Methods

Our studies were conducted in Brookings, Clark, Codington, Kingsbury, Lake, and Miner counties from late March to late April 1994-1999 (Fig. 2).

Figure 2. Location of blackbird roosts in east-central South Dakota during March and April 1994 through 1995



In 1994-1999, we estimated roost size and species composition using standardized methodology. In 1994, 1995, and 1998, we conducted 0.4 km fixed-radius point counts of blackbirds at specified road intersections. During a 3-min period, we recorded the numbers of blackbirds observed in stubble corn fields, small grains/soybeans, grass/pasture, woodlots, wetlands, and miscellaneous habitats.

## Results

Peak numbers of blackbirds occurred from early to mid-April, when up to 800,000 blackbirds were present (Fig. 3). Numbers dwindled after mid-April, but more than 100,000 birds were still present in late April during some years.

Male red-winged blackbirds arrived in east-central South Dakota from mid- to late March and the females arrived 1-2 weeks later (Fig. 4). Adult males tended to migrate north before the females and immature males.

Across 1994, 1995, and 1998, habitat at the census points consisted of 31% grass/pasture, 26.5% small grains/soybeans, 21% corn, 17% wetland, and 4% woodlots. Blackbirds were more prevalent in woodlots (50%), than in corn (22%), grass/pasture (12%), wetlands (10%), and small grains/soybeans (6%) (Fig.5).

Figure 3. Weekly averages of roost populations from 1994 to 1999 in east-central South Dakota. Roost sample sizes: 1994 and 1995 (n=4), 1996 and 1997 (n=2), 1998 (n=5), and 1999 (n=6).

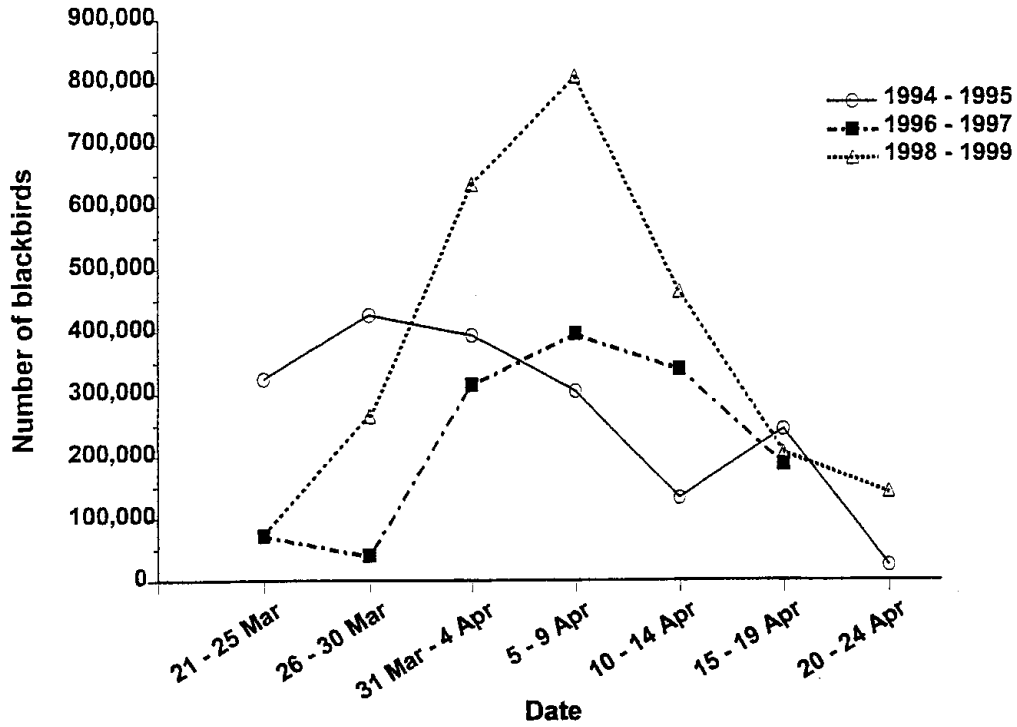


Figure 4. Weekly averages of blackbird species composition during March and April 1994, 1995, and 1998 in east-central South Dakota. In 1994-1995, species composition was estimated at four roosts; whereas, in 1998 species composition was obtained from feeding flocks.

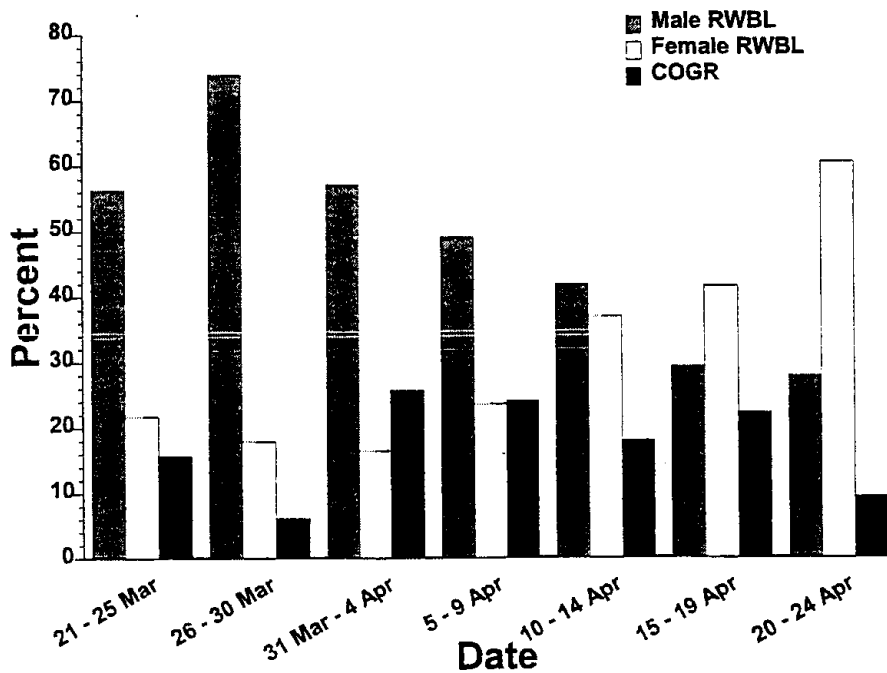
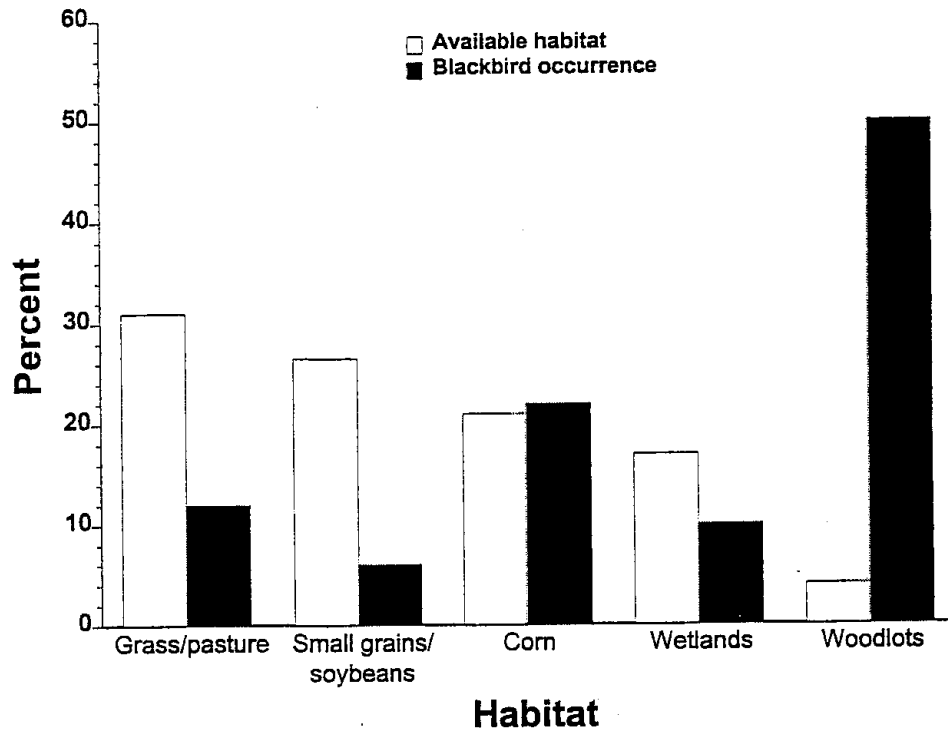


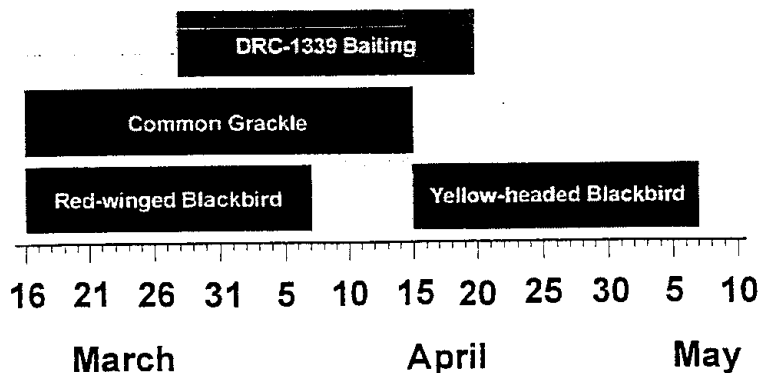
Figure 5. Comparison between habitat availability and habitat preference for foraging blackbird flocks in east-central South Dakota.



### Discussion

Our purpose was to synthesize data and present a science-based strategy for baiting blackbirds in east-central South Dakota. We found that the arrival and departure dates of blackbirds migrating through eastern South Dakota were consistent with dates reported by the South Dakota Ornithologists' Union (Fig. 6). Population and species composition changes occurred at all roosts within and among years. Ecological factors, such as available roosting space, microclimate, and quantity of palatable foods in the area surrounding the roost, contributed to the dynamics of the roosts.

Figure 6. Average arrival dates of three blackbird species in east-central South Dakota compared to the timing of a potential baiting program.



Feeding flocks were usually found in corn and shortgrass/pasture habitats. Harvested cornfields contained waste corn and weed seeds whereas, shortgrass/pasture areas contained plant seeds and waste grains in cattle manure.

We conclude that blackbirds can be successfully baited from late March to late April. Because of label restrictions, baiting in pastures would be limited. Therefore, corn stubble fields located near trees would be the best sites for baiting.

#### Acknowledgments

This study was supported by Wildlife Services' National Wildlife Research Center, a unit within the United States Department of Agriculture, Animal and Plant Health Inspection Service, and by the Department of Biological Sciences at North Dakota State University. Original data were primarily obtained from the M.S. theses of A. Barras and R. Sawin.

**Proceedings of the 24th**

**SUNFLOWER  
RESEARCH  
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The 2001 Sunflower Research Workshop, sponsored by the National Sunflower Association, took place on January 17 and 18, 2002, at the Ramada Plaza Suites, Fargo, ND. The workshop was very well attended and received by public and private researchers from the United States and Canada, as well as other interested parties.

This volume contains nearly all the presentations given at the 2001 workshop. Some of the papers are summarized or abstract form.

The National Sunflower Association would like to extend its appreciation to those presenting papers/posters at this annual Sunflower Research Workshop and to those who participated by their

attendance and questions. Special thanks are extended to the NSA Research Forum Planning Committee, Dr. Gary J. Brewer, NDSU, Dr. Laurence D. Charlet, USDA-ARS and Pat Duhigg, Seeds 2000. Thanks also to Gerald Seiler, USDA-ARS-NCSL, Burton Johnson, NDSU, and Bob Benson, Mycogen Seeds for their expertise in moderating the workshop sessions.

Questions regarding these proceedings may be directed to the National Sunflower Association, 4023 State Street, Bismarck, ND 58503.

**Note:** The papers in these proceedings should not be reprinted in part or in total without the expressed consent of the author(s) involved.

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