

University of Nebraska - Lincoln

## DigitalCommons@University of Nebraska - Lincoln

---

USDA National Wildlife Research Center - Staff  
Publications

U.S. Department of Agriculture: Animal and  
Plant Health Inspection Service

---

January 2001

### HAS AN INTEGRATED PEST MANAGEMENT APPROACH REDUCED BLACKBIRD DAMAGE TO SUNFLOWER?

George M. Linz

*USDA/APHIS/WS National Wildlife Research Center, george.m.linz@aphis.usda.gov*

Brian D. Peer

*North Dakota State University, Fargo*

H. Jeffrey Homan

*USDA Wildlife Services, National Wildlife Research Center*

Ryan L. Wimberly

*USDA ND/SD Wildlife Services*

David L. Bergman

*USDA Wildlife Services*

*See next page for additional authors*

Follow this and additional works at: [https://digitalcommons.unl.edu/icwdm\\_usdanwrc](https://digitalcommons.unl.edu/icwdm_usdanwrc)



Part of the [Environmental Sciences Commons](#)

---

Linz, George M.; Peer, Brian D.; Homan, H. Jeffrey ; Wimberly, Ryan L.; Bergman, David L.; Bleier, William J.; and Penry, Linda B., "HAS AN INTEGRATED PEST MANAGEMENT APPROACH REDUCED BLACKBIRD DAMAGE TO SUNFLOWER?" (2001). *USDA National Wildlife Research Center - Staff Publications*. 554. [https://digitalcommons.unl.edu/icwdm\\_usdanwrc/554](https://digitalcommons.unl.edu/icwdm_usdanwrc/554)

This Article is brought to you for free and open access by the U.S. Department of Agriculture: Animal and Plant Health Inspection Service at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in USDA National Wildlife Research Center - Staff Publications by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

---

**Authors**

George M. Linz, Brian D. Peer, H. Jeffrey Homan, Ryan L. Wimberly, David L. Bergman, William J. Bleier, and Linda B. Penry

## HAS AN INTEGRATED PEST MANAGEMENT APPROACH REDUCED BLACKBIRD DAMAGE TO SUNFLOWER?

GEORGE M. LINZ<sup>1</sup>, BRIAN D. PEER<sup>2</sup>, H. JEFFREY HOMAN<sup>1</sup>,  
RYAN L. WIMBERLY,<sup>3</sup> DAVID L. BERGMAN<sup>4</sup>,  
WILLIAM J. BLEIER<sup>2</sup>, AND LINDA B. PENRY<sup>1</sup>

<sup>1</sup>USDA Wildlife Services, National Wildlife Research Center, Bismarck, ND 58501

<sup>2</sup>Department of Zoology, North Dakota State University, Fargo, ND 58105

<sup>3</sup>USDA ND/SD Wildlife Services, Bismarck, ND 58501

<sup>4</sup>USDA Wildlife Services, Riverdale, MD 20737

Since the mid-1970s many new and modified damage abatement methods have been used to reduce blackbird damage to ripening sunflower in the northern Great Plains. To assess the overall impact of these techniques, we analyzed the dynamic relationship between breeding blackbird densities and sunflower damage. Breeding density estimates were made at both the regional and county levels, whereas, sunflower damage estimates were made at the county level only. Periodic regional estimates of breeding densities between 1967 and 1998 for red-winged blackbirds (*Agelaius phoeniceus*), common grackles (*Quiscalus quiscula*), and yellow-headed blackbirds (*Xanthocephalus xanthocephalus*) showed no differences among years. To increase our ability to detect changes in breeding density, we started intensive county-level surveys in 1996. These surveys, in four counties in North Dakota and South Dakota, showed that blackbird densities were greater in 1998 and 1999 than during the previous two years. We surveyed sunflower damage in two of these counties from 1994 to 1998 and found no difference in damage ( $\bar{x} = 1.8\%$ ) among years. In 1997 and 1998, with the two other counties added to the survey, we found that damage was similar between years, averaging 2.2%. Dollar loss per hectare was trending lower in three of the study counties that had a historical database for comparison. This supports the idea that 'local' breeding densities are not correlated with damage levels. We will continue to use annual estimates of breeding densities and sunflower damage to assess the effects of an evolving Integrated Pest Management program.

Published in *Proceedings of the 23rd Sunflower Research Workshop* (January 17–18, 2001, Fargo, ND). National Sunflower Association, Bismarck, North Dakota, USA.

Research articles from subsequent workshops (2002– ) are available online at :

<http://www.sunflowernsa.com/research/default.asp?contentID=70>

The National Sunflower Association (NSA) is a non-profit commodity organization working on problems and opportunities for the improvement of all members. Membership in the NSA includes growers and the support industry.

NSA Contact Information:

**National Sunflower Association**  
**4023 State Street**  
**Bismarck, ND 58503-0690**

<http://www.sunflowernsa.com/>

(701) 328-5100  
fax (701) 328-5101  
(888) 718-7033

