

Wildlife Crop Damage Study – 2004-2006

Purpose:

Many agricultural landowners believe that they are experiencing reduced crop yield and quality as a result of wildlife damage. Lanark Soil and Crop Improvement Association (LSCIA) along with the Community Stewardship Council of Lanark County (CSCLC) are performing a three year study to better determine the effect wildlife has on crops yield. The study will attempt to reduce as many biases as possible and recognizes that there may be instances that require outside organizations input. Crop specialists, wildlife specialists and community involvement have all been involved in developing the protocol for this study.

Methods:

2004 Summary of Work

Beginning in 2004 initial contact with landowners was made by the Lanark County Soil and Crop Improvement Association. Membership of this group was canvassed for their interest in being part of this study. Response was excellent. Twenty-five landowners have taken part in year one of this study. Cages were constructed by the Lanark Stewardship Council (CSC) crews. All crop sampling was completed by the CSC crew under the direction of Guelph University. Crop samples were analyzed by Guelph University.

The crop types identified for this study include; barley, wheat, soybean, and hay forage mix. Landowners were asked to rate the perceived damaged to their crops by wildlife, as being, heavy, medium or light.

Figure 1a+b: Installation of Control Enclosures



A total of 84 control enclosures were deployed in study areas starting in June. Hay cages were placed on June 21, 22 and August 17 after first cuts were completed.

Crop sampling began on July 26 (hay) and ended on September 29 (soybean)

Figure 2a+b: Assessment of Wildlife Crop Damage.



10 hay forage sites remained and were observed late fall. In late spring, these sites were again sampled for crop damage.

Out of the 84 control cages – 3 cages were compromised.

6 sites – Landowner possessed a (DRA) Deer Removal Authorization Permit . No reports from landowners were received on the number of deer that had been removed throughout the year. In total 336 crop samples collected.

2005 Summary of Work

Sampling began on April 28 and finished October 7, 2005. The greatest need identified for the improvement of this study was to increase the number of replications for each control across the study crops. For the 2005 production year, an additional 108 cages were constructed and distributed throughout the sample areas. This gave the study a total of 192 control cages.

Four landowners were not included in the 2005 study either do to crop rotation, where their field was not required or due to the landowner no longer wanting to be part of the study.

Hay 1 st cut	June 7 – June 22
Hay 2 nd cut	July 11 – Aug 2
Hay 3 rd cut	Aug 30 – Sept 9 (two sites)

A total of 792 samples were collected over the growing season from a total of 36 cages (6 sites) which remain for over winter survival

Results:

Table 1. 2004 Sample Sites

CROP	NUMBER OF SITES / PERCEIVED DAMAGE		
	Heavy	Medium	Light
Barley	2	3	4
Wheat	1	1	2
Grain	1	0	0
Hay mix	5	0	0
Soybean	5	1	3
Number of control cages	42	15	27

Table 2. 2005 Sample Sites

CROP	NUMBER OF SITES / PERCEIVED DAMAGE			
	Heavy	Med/Heavy	Medium	Light
Barley	4	3	1	1
Green Oats	1			
Wheat	1	2		
Hay mix	4		2	4
Soybean	4		4	1
Number of control cages	84	30	42	36

Note: Two control cages went missing
 One control cage was struck by combine

Summary:

2004 production year

1. No consistent pattern across all crops, distance from cover or perceived damage.
2. Distance from cover partially supported for cereals. 50' and 100' had the most yield differences
3. Most consistent damage was in cereals
4. Soya bean and hay had no difference in yield between controls and random sites

2005 production year

Sample analysis continues and a summary of conclusions are not available at this time.

Next Steps:

The data from the two years of the project will be summarized and extended to producers and wildlife managers in Lanark county and beyond.

With the support of OSCIA “Major Grant” funding and the continued support of our community partners this study will produce valuable information to the agricultural community and wildlife managers on the affect wildlife is having on crop production. The full protocol can be obtained by contacting any of the numbers below.

Acknowledgements:

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The project was organized and conducted by a coalition of the following groups:

- Lanark Soil and Crop Improvement Association
- Community Stewardship Council of Lanark County
- Kemptville College/Guelph University
- Ontario Ministry of Natural Resources

Project Contacts:

If more information is required please contact Jeff Ward, Lanark County Stewardship Council at (613)267-4200 ext. 153, Robert Campbell, Lanark County Soil and Crop Improvement Association (613)267-6461 or Wendy Asbil, Agriculture Canada (613) 225-2342 ext. 4340 / Guelph University, Kemptville Campus.