



Managing Burrowing Rodents

Fact Sheet 2015

LOCATION: JOHNSON SITE

START DATE: JULY 2015

STATUS: IN PROGRESS

The development of action thresholds for burrowing rodents in a forage crop

Project Lead: Kim Wolfe, Research and Development Specialist – Ag resource, Manitoba Agriculture (MBAG), kim.wolfe@gov.mb.ca

Background

Rodents can have a significant impact on forage production when established at a high enough density. They consume vegetation and cause structural damage to the fields in terms of burrowing. It is estimated that 320 ground squirrels (1 animal unit) consume up to 22 pounds per day.¹

There is an existing and well established population of Richardson Ground Squirrels and Northern Pocket Gophers in the study area. In fact, the highest concentration of rodents is on the site of a forage evaluation project, which was the driving force behind studying the most effective way to lower their population.

Objectives

- To document the efficacy of lethal trapping methods;
- To monitor the costs associated with trapping; and
- To compare the cost of control with estimated damage to determine best management practices.

Project Design and Methods

Traps were set and left set at all times. Two paddocks were trapped at a time and traps were checked three times daily.

The students recorded how many of each trap type was set, the amount of time it took to set and check the traps and what was caught in each trap.

The trapping period lasted from July 17- August 12, 2015; a total of 17 days.



The Richardson Ground Squirrel is quite abundant at the Johnson site. Photo accessed July 20, 2016: https://nature.ca/notebooks/english/richgrds_p6.htm



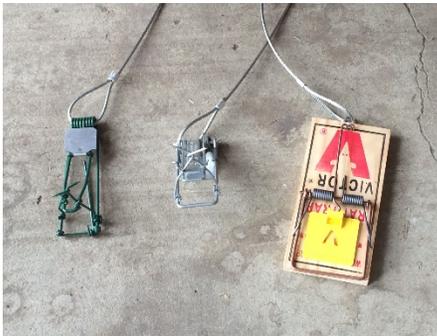
Kim Wolfe (MBAG) explains the rodent control project and the types of traps used at a tour of the Johnson site in September of 2015.



The Northern Pocket Gopher populates the Johnson site. Photo accessed July 20, 2016: <http://www.bentler.us/eastern-washington/animals/mammals/rodents/northern-pocket-gopher.aspx>

Description	Value
Traps deployed	992
Hours deployed	280
Rodents caught	37
Trap hours per rodent caught	7507
Hours of labor	60
Cost of trapping at \$12/hour	\$720
Cost per rodent (not including cost of trap purchase)	\$19

"The rodents could consume the equivalent of approximately 8-thousand pound bales. "



Three of the four types of traps are displayed above. From left: Macabee, Victor Easy Set, Rat Trap. Not pictured: black box

What did we find?

The population of ground squirrels and pocket gophers was characterized as a light overall infestation with some moderate areas due to family groups. Overall population estimates would be fewer than 50 animals per 10 acre plot for a total of 800 animals in the study area.

At this population it was estimated that the rodents would consume a total of 7975 lbs of forage per season; assuming a season of 145 days. In other words the rodents could consume the equivalent of approximately 8-thousand pound bales.

Control rates were far below anticipated levels with a catch rate of less than 0.01% per trap hour. This resulted in a cost per animal caught of \$19.45.

Key Messages

It is quite apparent that catching only 37 rodents with 60 hours of labor is not feasible for most producers. That is why some consideration has been given to why this value was so low and how it could be improved.

In future years of the study the trapping will start earlier in the year (April or May). This is recommended because the juveniles are young and easier to catch at the beginning of the season. It is also more difficult to catch the rodents when the forage stand is taller, further into the season.

Shooting will also be added to the methods in the next year of the project so that a comparison of traps and shooting can also be made.

The population of Richardson Ground Squirrels and Northern Pocket Gophers will continue to be monitored. It is expected that the cost per rodent caught and the man hours required can be reduced with the changes in methods noted above.

Manitoba Beef & Forage Initiatives Inc.

220-530 Century Street,
Winnipeg, MB, R3H 0Y4
www.mbf.ca

Collaborator:

Melanie Dubois, Riverian Ecosystems and Biodiversity – Western Canada, Agriculture and Agri-Food Canada

References:

1. Lacey, J. 1990. Forage Consumption Estimated Animal Unit Conversion. Montana State University Extension Service, Animal Range Science Dept.
2. Johnson-Nistler, C.M. et al. 2005. Considerations Related to Richardson's Ground Squirrel Control in Montana. Agronomy Journal 97:1460-1464.