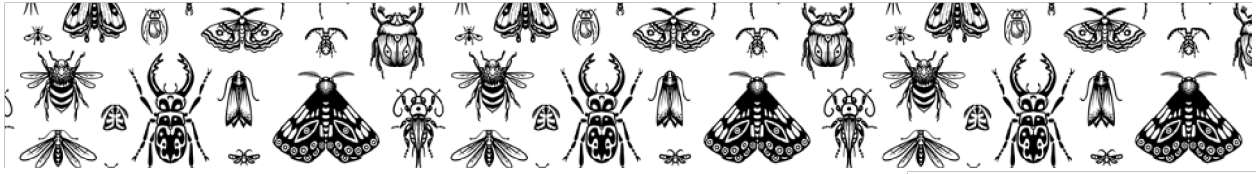


Domnich, I. and Evenden, M. 2026. The status of agricultural entomology extension in Alberta, Canada: perspectives of extension professionals and development of a map to virtual extension tools. *The Canadian Entomologist*, **158**: e2610008.

Supplementary material, File S1. Questionnaire used to survey extension workers about entomology extension in agriculture in Alberta.



What's Bugging You?

An assessment of entomology extension in agriculture in Alberta

Part 2: The Extension Survey

As someone working with producers to discover problems and helping to provide answers, which falls under the umbrella of “extension”, you’ve been invited to fill out the following survey. Prompted by recent discussions at RDAR (Results Driven Agriculture Research) meetings, this survey is part of a MSc research project in the Faculty of Science at the University of Alberta that will scientifically assess the effectiveness and producer preferences for entomological extension in agriculture in Alberta.

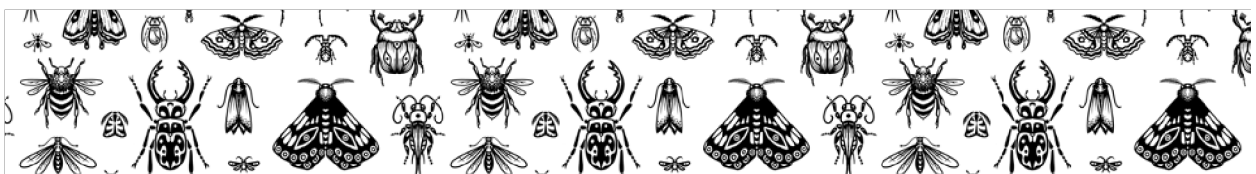
This survey will take approximately 7 minutes to complete. You can leave out any questions with which you are not comfortable. Please complete the survey by following the attached link. We appreciate your responses.

For any questions or comments, please contact MSc candidate Ilan Domnich at domnich@ualberta.ca, or Dr. Maya Evenden (Principal Investigator) at mevenden@ualberta.ca, Department of Biological Sciences, University of Alberta.

You can contact the University of Alberta Research Ethics office at reoffice@ualberta.ca if you have questions about the research ethics approval for this project.

You may take this page with you when submitting the survey if you’d like to save this information.

Funded by:



Please enter your email or phone number: _____ *Required

*Your email or phone number is used as an identifier for your survey responses and will not be shared or published in any way. All contact information will be deleted once data analyses are complete.

1. Which group(s) do your professional activities fall in? *(Select all that apply)*

- Academia
- Applied Research Associations (ARA's)
- Crop commissions
- Federal government
- Private agronomist (self-employed)
- Private service or product provider
- Provincial Government
- Municipal Government

2. Do you consider communication of insect information to and from agricultural producers, as part of your work mandate?

- a. Yes
- b. Not officially
- c. No

3. In your experience, how often do producers inquire about the following types of entomology information relative to each other?

	<i>Rarely</i>	<i>Sometimes</i>	<i>Often</i>	<i>I don't know</i>
Best insect management practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chemical control options for insects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conservation or promotion of beneficial insects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Current insect issues faced by other producers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Economic thresholds for insect pests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Invasive and introduced insect species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identification of insect damage in crop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New pest control technologies and strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pest forecasts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Species identification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Select all the modes of communication that you (or your organization) use for entomology extension: *(Select all that apply)*
- Apps
 - Electronic newsletters and bulletins
 - One-on-one interactions with individuals
 - Podcasts, radio, webinars
 - Presentations at agricultural conferences/events
 - Print material (ex. agronomist newsletters, bulletins, fact-sheets)
 - Scientific publications and journals
 - Social media
 - Websites
5. How do you or your organization keep track of the impact of your extension activities? (Ex. number of people reached, trends, impact stories, etc.) *(Select all that apply)*
- Asking for feedback from users
 - Impact stories from users
 - Tracking the number of people reached or involved
 - Tracking trends in usage of material
 - Tracking shifting attitudes and behaviours resulting from extension
 - Do not keep track of the impact of extension activities
 - I don't know

6. How would you rank the importance of the following factors when implementing or participating in entomological outreach and extension?

	<i>Not a priority</i>	<i>Of Interest</i>	<i>High priority</i>
a Accuracy and relevance of entomological information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b Focus on beneficial insects and conservation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c Forming lasting relationships and connections with producers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d Information is easy to find for producers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e Providing information in a timely manner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f Teaching practical skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g Understandability of information to producers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. In your opinion, how important are the following entomological issues faced by producers?

	<i>Not important</i>	<i>Somewhat important</i>	<i>Very important</i>
a Actively monitoring and using economic thresholds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b Access to up-to-date and relevant entomology information (such as local pest forecasts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c Availability of diverse non chemical pest management options (such as agronomic options and host plant resistance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d Cost of insect pest management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e Development of insecticide resistance in pests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f Implementing practices to promote beneficial insects (predators, parasitoids, pollinators)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g Invasive and introduced insect species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h Lack of insects to control weeds within crops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i Loss of insecticide options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. How problematic are the following issues in the Alberta extension environment?

	<i>Not problematic</i>	<i>Somewhat problematic</i>	<i>Severely problematic</i>
a Reaching producers through current communication channels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b Clear guidelines for producers to access entomological extension across Alberta	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c Communication of needs/wants of producers to researchers/specialists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d Communication among organizations providing entomological extension (ex. crop commissions, ARAs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e Funding and/or support for entomological extension activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f Opportunities for one-on-one information transfer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Which of the following do you think is high priority to enhance Alberta agricultural extension activities? (*Select all that apply*)
- A comprehensive and searchable list of individuals and organizations working in agricultural extension in Alberta that is regularly updated
 - A comprehensive and searchable list of entomology extension activities in Alberta that is regularly updated
 - Maintain a long-term Provincial Insect Specialist position to oversee entomology extension efforts in the whole province
 - Decreased privatization of extension resources to increase access to experts for all producers
 - Increased communication among key entomological extension players through a central organization
 - Increased use of program development models to develop and evaluate entomology extension activities in Alberta
 - Other (please describe):

10. In your opinion, what other issues do you see affecting high quality entomological extension for Alberta producers? Answer in the space below:

11. What is your age?

- a. 15-19
- b. 20-24
- c. 25-29
- d. 30-34
- e. 35-39
- f. 40-44
- g. 45-49
- h. 50-54
- i. 55-59
- j. 60+

12. What is your gender?

- a. Male
- b. Female
- c. Non-binary
- d. Other
- e. Prefer not to answer

13. In which county do you work?

Please note that you can withdraw your responses from the survey by contacting the researchers within 1 month of completing the survey.

Thank you for taking the time to complete this survey! By doing so you have provided insight into the agricultural entomology extension system in Alberta. If you're interested in the results of this study, please email Ilan Domnich at domnich@ualberta.ca and you will be contacted about our findings once the project is complete.