



WHAT'S BUGGING YOU? A SURVEY ON AG ENTOMOLOGY EXTENSION IN ALBERTA FOUND OUT!

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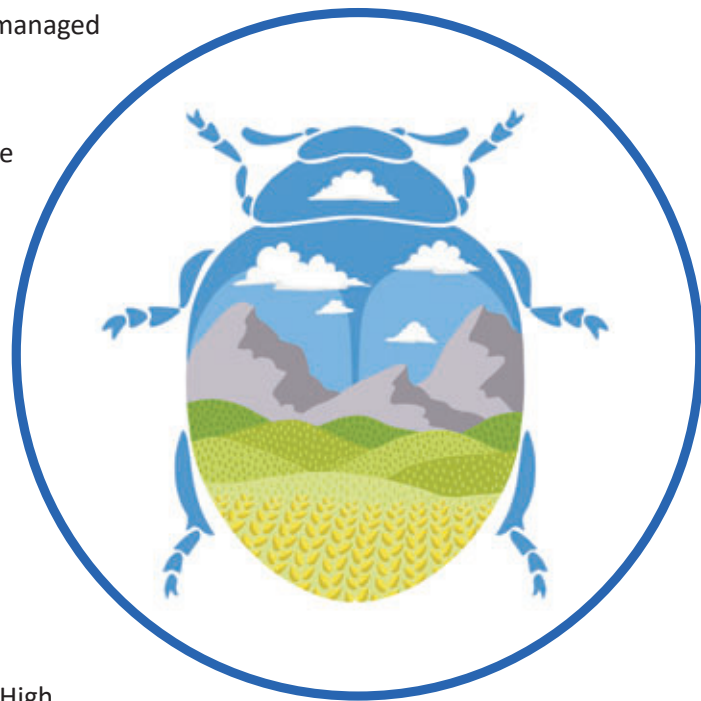
Alberta Pulse Growers (APG) members may recall being asked to fill out a survey on the status of entomology extension in agriculture in Alberta at various ag conferences and online. This is an update on the results of this project funded by APG and Results Driven Agriculture Research.

The data collected via 'What's Bugging You? A survey on the status of entomology, extension in agriculture in Alberta' provides novel insight into the preferences and needs of producers in a changing extension ecosystem. It also provides guidance on the enhancement of current and development of future entomological extension efforts in agriculture in Alberta. The project highlights key pest management issues faced by producers, and potential areas of focus to improve extension in the province and thereby sustainable food security.

We received over 300 surveys from producers and over 350 surveys from extension workers across a wide variety of demographics in 2022-23. Farms of respondents were larger (mean=1,518 ha) than the provincial average (mean=479 ha), indicating a possible underrepresentation of small farm operators. Small farm operators may have been less likely to fill in our survey at in-person events due to a lack of capital or time for conference attendance.

The most common pests managed by producers aligned with those identified by the Western Committee on Crop Pests, and these were mostly identified through field observations and sweep net sampling (top pests include flea beetles [63%], grasshoppers, cutworms, and lygus bugs [~50%]). Major concerns from producers include pest damage severity, and the high cost of pest management, with some variation by region. This highlights how local extension information is crucial due to regional variations in pest management issues. High use of synthetic chemicals, with more foliar insecticides and seed treatments were reported compared to census data, likely due to an underrepresentation of farmers growing hay and other forage.

Loss of chemical control options, increased input costs, and damage from insect pests were the main pest management issues from both perspectives of producers and extension workers, while extension issues from the producer perspective included the reliability of insect forecast maps, and support for monitoring efforts. The need for more extension support and dedicated personnel is echoed by extension workers. Extension



workers note that public knowledge of insects is low, which can make extension challenging due to factors like insect identification. Producers and extension workers echo that there is a lack of clear guidelines for accessing extension information. Extension workers call for a centralized platform for entomological information as they recognize a need to increase the access and availability of entomology extension information, a common theme among the open-ended comments provided. Additional challenges in accessing extension exist through cultural and physical barriers of some rural communities.



Ilan Domnich shared information about the survey at AgriTrade and other industry events.

Remarkably, environmental stewardship is a top priority for farmers during pest control, along with the effectiveness of the pest control tactics. Priorities for extension workers when producing extension material include timeliness and accessibility of information, with strong emphasis on the building of long-lasting relationships with producers.

A shift from public to private extension services has created challenges in information accessibility and trust. Producers value trusted sources like peers and local agronomists over private and digital sources, but usage and trust are not aligned for some sources such as social media and scientific articles. Effective communication for extension will involve multiple methods, and many extension agents report that they are already using a wide variety of communication channels, though some methods like mobile applications are underutilized due to high startup and maintenance costs. There may be more room to expand on the potential of digital

tools like mobile apps in the future and advance the use of social media as a regular extension tool by reputable organizations and individuals.

Extension workers note their support for a long-term provincial insect specialist position as the primary way to enhance entomology extension in Alberta. They also note that increased coordination among agricultural groups could streamline communication efforts, prevent duplication of extension material, and improve information transfer.

Ongoing evaluation of extension systems and professional development is essential to determine effectiveness and guide improvements. A quarter of extension workers did not track or evaluate their extension activities, which is a common challenge globally. Support for extension may be omitted from research proposals due to a lack of direct measurable benefits from financial investments. Evaluation will help quantify impacts of extension to help political backing for extension efforts.

A product of this project is the map created to visualize extension efforts in Alberta to highlight opportunities for collaboration and ideally reduce the duplication of resources. The map will require ongoing updates to remain relevant, but currently includes 85 extension efforts and providers, categorized into seven types of agencies and arranged in a nested structure to indicate relationships. The map features searchable keywords to help users find the type of information they seek based on 15 categories, with external links to the resources. The extension map could enhance coordination of extension efforts in the province by fostering connections.

The APG-supported survey confirms Alberta's entomology expertise but suggests a need for more consistent application and evaluation of extension efforts. This study also highlights the importance of tailored, reliable extension services to support sustainable agricultural practices and address emerging pest management challenges in Alberta.