

impact

University of Idaho Extension programs that are making a difference in Idaho.

UI Extension's insect identification website supports Idahoans and the environment

AT A GLANCE

The Idaho Insect Identification website helps Idahoans make economically and environmentally sustainable decisions by providing a critical service.

The Situation

According to the National Pesticide Information Center (NPIC) only one to three percent of all insect species are pests. Despite this, humans continue to use more and more pesticides presenting ongoing environmental and human health risks in addition to monetary costs. In the United States, over 1 billion pounds of pesticides are used annually. In Idaho pesticides are frequently used in cropping systems, rangeland, at home and in the garden. Since Idaho has an agriculturally focused economy, sustainable pest management is critical to its long-term success. The most widely used sustainable pest management practice is Integrated Pest Management (IPM), which focuses first on proper identification. Without the proper identification managers may treat unnecessarily or improperly, killing beneficial insects or spending money that could be used for other needs. To assist in this effort, we developed a website focused on helping Idaho farmers, ranchers, homeowners, gardeners, Extension professionals and other pest managers identify insects or other arthropods and provide research-based recommendations. Understanding insects, spiders and other arthropods can help managers have a greater peace of mind as they learn about beneficial arthropods and all their available options to deal with potential pests.



Idaho Insect Identification logo with a submitted photo from a user (bottom) that was submitted to our team of experts.

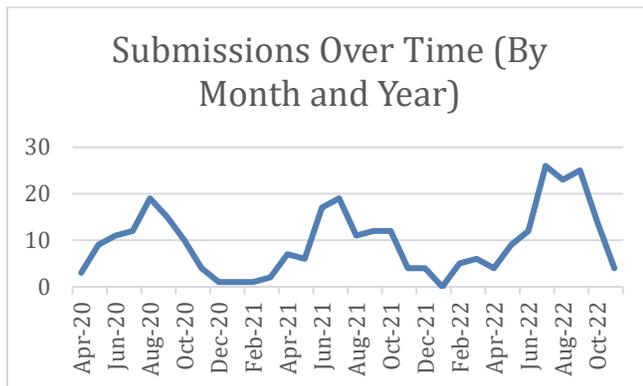
Our Response

To create a system that allowed us to handle requests from across the state we developed a website in conjunction with the College of Agricultural and Life Sciences (CALs) Communications in early 2020 (<https://www.uidaho.edu/insect-id>). The website created became known as the Idaho Insect Identification (III) website. The website was primarily developed by Jason Thomas. It includes educational videos created by Thomas emphasizing IPM practices. The site allows users to submit a request for identification assistance. Users do so by also filling out a short informational form and submitting pictures or videos through a smart phone or similar device. Within the form users are also asked questions about their concerns and what

action they plan on taking before receiving our input. This data is then reviewed by our team of entomologists, who either come to a consensus, or seek additional help from other experts. Our response time is typically one to two business days following submission.

Once the site was tested and reviewed by a group of Extension peers, we officially launched it in April of 2020. Initially we used the website just to address identification requests for our respective counties. Once we got familiar with the system, we began marketing the website by creating fridge magnets with QR codes, putting on a zoom training about the website and sending materials to every UI Extension office in the state. As of Dec. 15, 2022, we have had 310 requests for identification support.

Though demographic information is limited, we do know that most requests came from Idahoans (306/310). We did also receive one request from Utah, one from Oregon, one from Illinois and one from Paris, France.



Program Outcomes

Most users (197/310 or 64%) believed that the specimens they took a picture of were pests. Of these individuals 53 indicated they planned on treating with

pesticides on their own and 44 indicated they would hire out pest control services. After review of each submission the following recommendations were made by our team, providing the following financial and environmental benefits.

- Contacting a pest control company was only recommended in two cases in which bed bugs (*Cimex lectularius*) were involved, even though 44 individuals indicated they planned to call a pest control service to treat the problem. According to a 2022 Home Advisor report, the average national cost for a one-time targeted pest control service for ants, spiders, moths or cockroaches is \$220. Using this average, we calculate an average savings of \$9,240 for Idahoans.
- Of those who intended to treat with pesticides on their own, only in one case with heavy grasshopper populations was a pesticide treatment deemed necessary. This means that 43 unnecessary pesticide treatments were potentially prevented saving Idahoan's an estimated \$2,080 (\$40 each for pesticides, time and equipment) and reducing pesticide exposure to humans and potentially beneficial organisms in the environment.
- Of those specimens indicated as pests by users, 50 submissions (25%) were identified as beneficial species. These individuals were taught about the importance of beneficial insects and gained knowledge about the benefits that insects and arthropods provide.

Jason Thomas and Brad Stokes also submitted a poster to the virtual National Entomological Society of America conference in 2020, highlighting the success of this specific website and UI Extension's impact and outreach regarding entomological science.

FOR MORE INFORMATION

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