

# SOLVE PEST PROBLEMS

September 2018

## Project Description

The purpose of Solve Pest Problems is to reduce the impacts of pests and pest management practices on people and the environment in non-agricultural settings. The resource will be built in English and Spanish and will address inequities in access to unbiased, science-based pest management information.

## Situation

Currently, there is no comprehensive educational resource to help Oregonians diagnose pest problems and determine effective, low-risk Integrate Pest Management strategies for homes, buildings, landscapes, natural areas, and other non-agricultural locations. There is a confusing array of information online and on store shelves, which makes it difficult for people to solve pest problems. There are also diverse communities who have been historically underrepresented in contributing to and accessing IPM information, and who are disproportionately impacted by pests and pesticides.

**Solve Pest Problems** is a collaborative vision to address these pressing issues while engaging diverse stakeholders in the development of content and technology as well as marketing, outreach, and evaluation. Diversity, equity, and inclusion are central to this effort.

**Solve Pest Problems** will help people quickly and easily diagnose pest problems and determine effective strategies for preventing and managing specific pests in non-agricultural locations. Recommended strategies will pose the least possible risk to people, property, resources, and the environment, while preventing intolerable levels of pest damage. *(Continued on page 2)*



Visual content will aid site users in navigation and diagnosis of pests and plant problems.

Photo: Whitney Cranshaw, Colorado State University, Bugwood.org

*(Continued from page 1)*

Solve Pest Problems will draw upon OSU's extensive research. Additional content will be developed and maintained in consultation with a range of stakeholders, including but not limited to culturally specific organizations serving Spanish-speaking communities.

Weed management, water quality and pollinator health will be among the priority topics included.

## The Process of IPM Will Underlay Content

1. Manage sites to prevent and mitigate pest problems.
2. Identify pests and learn their potential for damage and their life cycle.
3. Set site management goals and tolerances for damage.
4. Identify, select, and implement integrated methods that consider efficacy, cost, and risk.
5. Monitor and evaluate results to guide future action.

## Intended Audiences

Urban and rural residents who manage pests in their homes or yards

Public and private landscape and facilities management professionals

Retail nursery workers

OSU Master Gardener, Master Naturalist, and Master Beekeeper volunteers

Communities historically underserved by OSU's urban IPM resources

Communities facing disproportionate risks from non-agricultural pesticide exposure such as children, landscape professionals, and communities of color.

Anyone in the Western U.S. looking for practical, how-to information to manage pests on non-agricultural property.

***A resource for Oregon and beyond***



# Goals for Solve Pest Problems

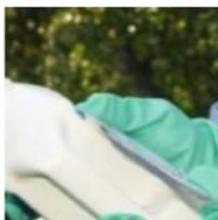
- Provide access to effective, low-risk, science-based IPM information for preventing or mitigating intolerable pest damage.
- Emphasize pest prevention through non-chemical methods, including cultural, physical, and biological management techniques.
- Reduce risks to people, property, resources, and the environment from pests and pest management practices.
- Reduce the use of pesticides by eliminating unnecessary pesticide use.
- Advise users about the risks of inaction for pest problems.
- Facilitate use of product labels, personal protective equipment, and pesticide use record-keeping.
- Advise users about the risks of specific management techniques and pesticides and provide information to help avoid/minimize the risk.
- Identify recommended practices for management of specific pests.

## Plain Language Approach

- Visual content (photos and videos) will lead the way to help people find information and solve their particular pest problem.
- Text will be written in plain language to ensure as wide an audience as possible.
- The information will retain its scientific accuracy.

### How to keep pesticides out of waterways

#### Read the label; follow instructions and best practices



Read the label, pay attention to environmental precautions



Follow label rates and application intervals



Always calibrate and maintain your equipment



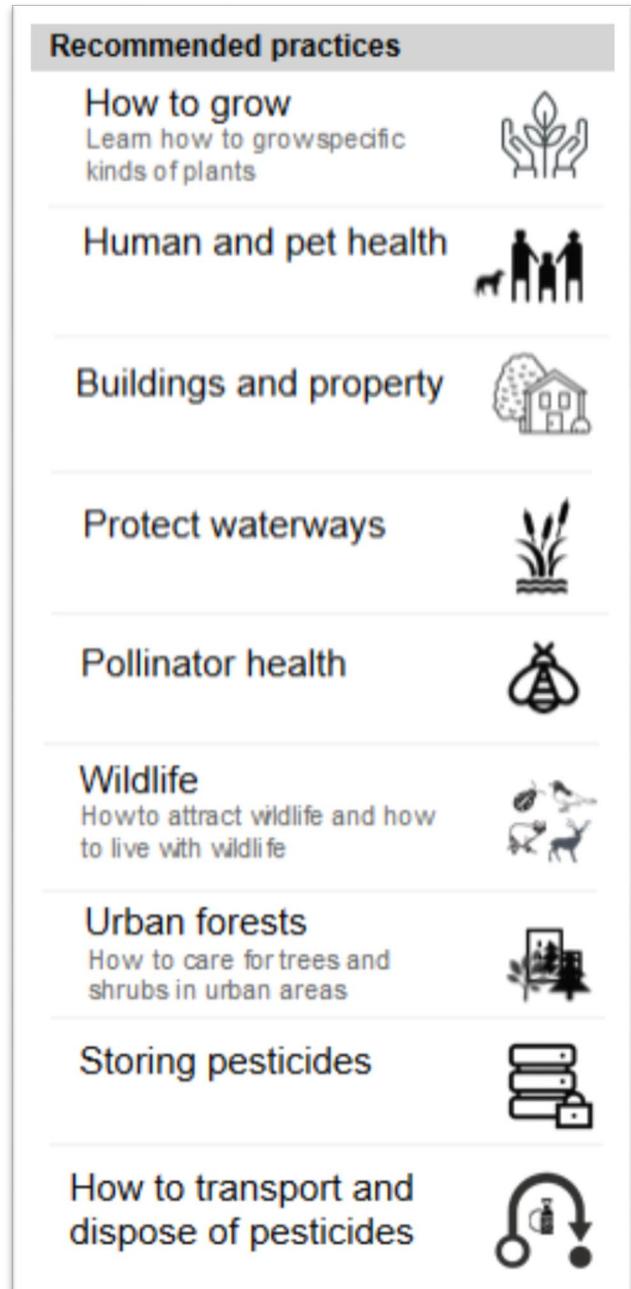
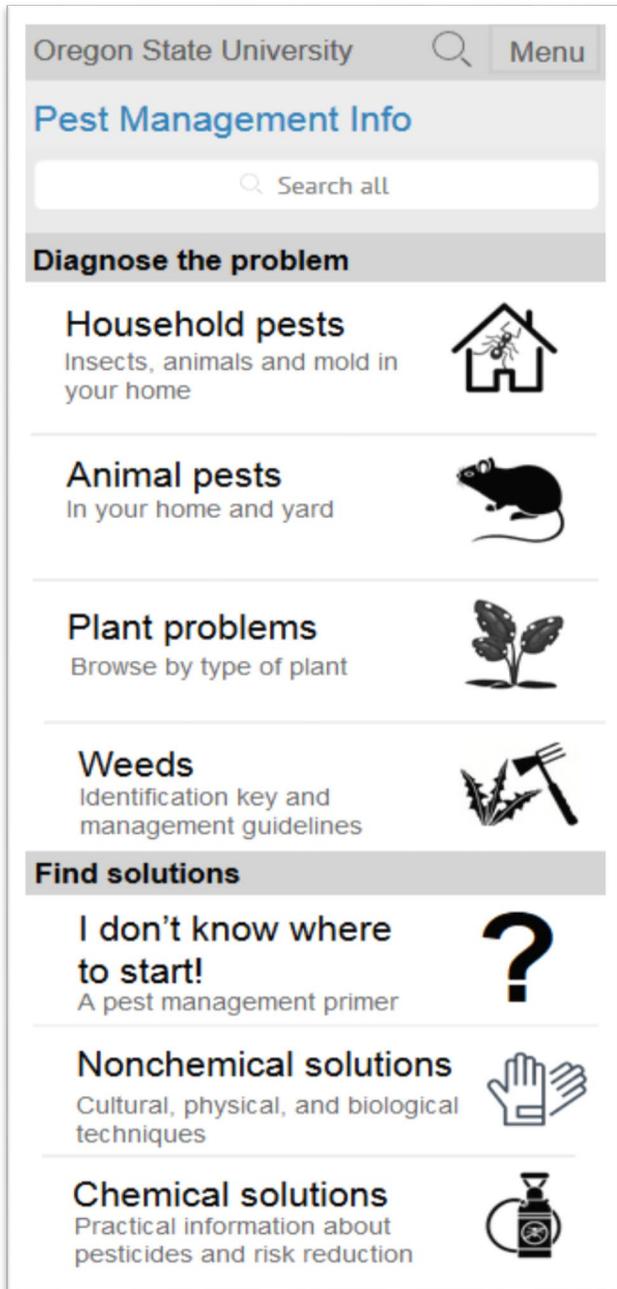
Don't mix pesticides in the gutter



Never drain pesticide containers or rinse water into storm drains!

*Photos and plain language text allow for easy site navigation..*

# Home Page Mock-Up: English



Initial home page mock-up (phone view) from January 2018 stakeholders' requirements report.

## Content development plan

This statewide resource will be reflective of the breadth of pest challenges faced across Oregon. Content pages in each category will be prioritized by stakeholders via our statewide engagement process. Stakeholders have identified at least 745 pages of content to address the breadth and depth of pest management challenges in Oregon.

# Home Page Mock-Up: Spanish

Universidad Estatal de Oregon  Menú

**Información de manejo de plagas**

 Buscar todos

**Diagnosticar el problema**

- Plagas domésticas 
- Plagas animales 
- Problemas de las plantas 
- Malezas 

**Buscar soluciones**

- No sé por dónde empezar 
- Técnicas culturales, físicas y biológicas 
- Soluciones químicas 

**Prácticas recomendadas**

- Guías de "Cómo trabajar en la horticultura" 
- Salud humana y de las mascotas 
- Edificios y propiedades 
- Proteger los cursos de agua 
- Salud del polinizador 
- Vida silvestre 
- Bosques urbanos 
- Cómo guardar los pesticidas 
- Cómo transportar y deshacerse de los pesticidas 

Initial Spanish-language home page mock-up (phone view) from January 2018 stakeholders' requirements report.

## Spanish-language integration

OSU will conduct a needs assessment through interviews with key Latinx community stakeholders to identify content and communication strategies and to inform the overall development of Solve Pest Problems. A Spanish-language advisory group has been convened to guide this process. At this time, we anticipate that the development of this service in Spanish language will be based on duplication of the English-language in its entirety, however, the engagement process moving forward will inform the approach ultimately selected.

# Sample Content: Knotweeds

Oregon State University

Solve Pest Problems

Home / Weeds / Japanese and giant knotweeds

Pest Japanese and giant knotweeds has been updated.

## Japanese and giant knotweeds

View Edit Delete Revisions Devel

*Fallopia japonica*, *F. sachalinensis* | Polygonaceae



Photo: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

### 1. Is this your pest?

- Knotweed clumps can grow in large clumps up to 10-15 feet tall. They have large leaves.
- The stems are segmented like bamboo.
- They have clusters of white flowers. Also look for stands of dead stems in the winter time.



Photo: John Cardina, The Ohio State University, Bugwood.org

### At a glance

#### 1. Is this your pest?

Knotweed clumps can grow in large clumps up to 10-15 feet tall. They have large leaves. The stems are segmented like bamboo. They have clusters of white flowers.

#### 2. What damage does it cause?

Knotweeds grow aggressively. They are easily spread by roots and fragments of the plant. They thrive in a variety of habitats. Knotweeds invade streams, roadside ditches, and waste areas. They cause erosion (movement of dirt) along rivers and streams.

Knotweeds are also difficult to control.

**\*\*invasive plant alert\*\***

Report invasive species by calling the Oregon Invasive Species Online Hotline: 1-866-INVADER (1-866-468-2337) or using their [online reporting form](#).

#### 3. What are your management options?

Management will require dedication for a number of years and should allow flexibility in methods.

If you use an herbicide, use a foliar application of herbicides during the growing season until the first hard frost.

Large established patches will require treatments over at least two to three years.

#### 4. Monitor and evaluate

Look for new shoots in the spring in areas that you treated in previous years. Plan to treat those areas during the growing season. It can take three to five years or more to successfully knock back large clumps of knot weed.

#### 5. Manage sites to prevent problems in the future

Don't let knotweeds become established. If you find it growing on land that you manage, make plans to control this invasive plant right away.

### Introduction

Knotweed clumps can grow in large clumps. They grow aggressively and are easily spread.

Knotweeds thrive in a variety of habitats. They can take over existing vegetation. They can degrade the quality of rivers and streams.

Knotweeds are difficult to control manually. Apply herbicides during the growing season. Monitor the area and re-apply as needed in future years.

Don't let knotweeds become established. It is easier to control small plants than large infestations.

### Solve your pest problem

#### 1. Is this your pest?

Identify it and learn about its biology

These tall, fast-growing herbaceous (not woody) plants. These perennial (live for many years) plants spread aggressively by roots and small pieces of roots and stems. Knotweeds thrive in moist areas. They can take over land once they become established. Knotweeds are difficult to control.

#### 2. What damage does it cause?

What happens if you do nothing? What is at stake?

**Don't let knotweeds come established!**

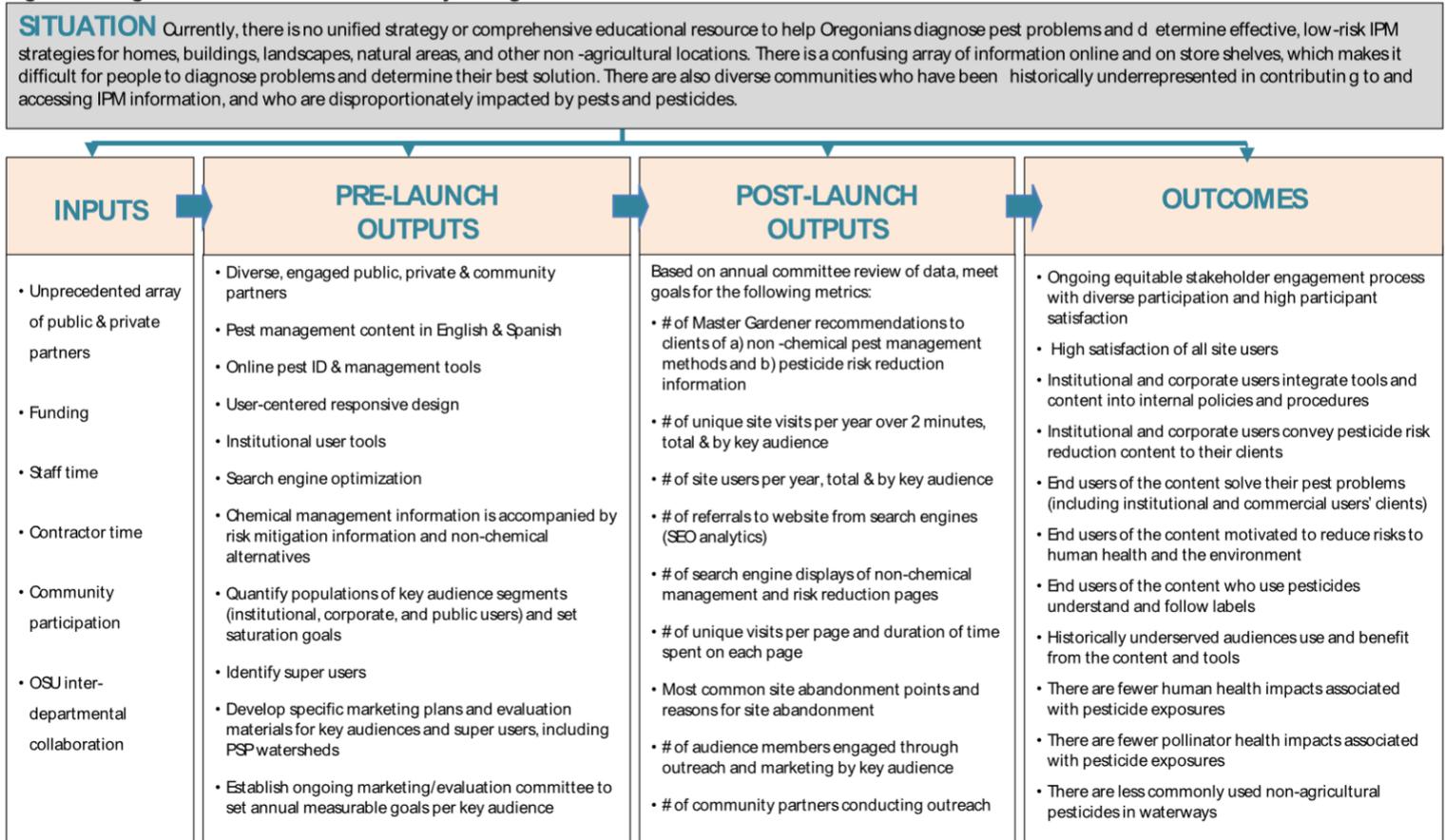
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Invasive plants will be highlighted, directing users to partner agencies.

# Evaluation Plan

Figure 1. Oregon IPM Information Service Project Logic Model



## Key elements

- Evaluation methodology and rationale includes an outcomes-based program logic model, measurable program objectives, data collection procedures and timelines, analysis recommendations, and guidelines for sharing evaluation results with the community
- Incorporation of elements drawn from Participatory Evaluation theory and practice, involving stakeholders and communities historically underserved by OSU IPM resources and most at risk for pesticide exposure in the development of evaluation methods and protocols, evaluation tool validation, data collection, data interpretation and analysis and data reporting. Funded opportunities will support this level of inclusive engagement
- Water quality baseline for urban streams developed using Pesticide Stewardship Partnership data, providing a basis for comparison to determine changes in the types and amounts of pesticide materials detected in PSP watersheds. Though this data stream will not necessarily indicate causation, the other research methods for this project could corroborate trends in water quality data
- Community members and other project stakeholders will be involved in the development and implementation of the evaluation plan in accordance with Participatory Evaluation principles and the OSU commitment to develop and maintain SolvePestProblems.edu through an inclusive stakeholder engagement process. Communities that will be evaluated for change will be actively involved in the testing and development of evaluation methods and interpretation of results.

# Unprecedented Collaboration and Support

## Funding Partners

The following agencies and organizations have already invested over \$200,000 and OSU has provided 2.0 full-time equivalents toward planning, community engagement, and the development of a proof of concept. At this juncture, we have also garnered \$500,000 to initiate base technology development, create high-priority content and engage diverse stakeholders in developing the service.

City of Gresham	Oregon Association of Clean Water Agencies (ACWA)
Benton Soil & Water Conservation District	Oregon Master Gardener Association and metro area chapters
Clackamas County Water Environment Services	OSU College of Agricultural Sciences
Clackamas Soil and Water Conservation District	Oregon Department of Agriculture (PSP Grant)
East Multnomah Soil & Water Conservation District	OSU Extension Service Clackamas County
Individual donors	West Multnomah Soil & Water Conservation District
Metro	OSU Pollinator Health Program

## Advisors and Engaged Stakeholders

In addition to the funding partners above, the following agencies, organizations and businesses are generously contributing their time, expertise and community perspectives to help guide the development of Solve Pest Problems through a formal Advisory Group, a Steering Committee or through stakeholder engagement.

City of Portland	Oregon Department of Forestry
Clear Language Group	Oregonians for Food and Shelter
Coast Fork Willamette Watershed Council	Oregon Landscape Contractors Association
Columbia River Keepers	OSU Department of Horticulture, Pesticide Safety Program, Extension Plant Pathology and Bilingual Education, and Pollinator Health Program
Community Engagement Liaisons representing Latinx, Somali, Vietnamese, Chinese, Russian, Nepalese, and Tongan communities	OSU Master Gardeners
Huerto de la Familia	Pacific Landscape Management
Northwest Center for Alternatives to Pesticides	Pest Solutions, LLC
OHSU Center for Diversity and Inclusion	Rogue Valley Sewer Service
Oregon Department of Environmental Quality	Rural Development Initiatives, Inc.

## Common Ground Collaboration

An unprecedented range of agencies, organizations and businesses including those with typically divergent agendas have helped to develop and support Solve Pest Problems. Representative Pam Marsh heard of the project from the Oregon Farm Bureau and is engaging fellow legislators to marshal support for funding.

## Navigation Feature

Mobile friendly and easy to use

### House mouse



The **house mouse (*Mus musculus*)** is the most successful rodent pest in home environments. This mouse causes damage to structures and supplies with its chewing, and contaminates food stores and household supplies.

## Robust Advisory Network

Four years of planning and community engagement

We have a strong network of advisors. Stakeholders from across the state are contributing to the development of the content and the engagement plan including:

- Steering committee of with key funders
- Advisory group with broad representation including agencies, organizations, and individuals representing diverse ethnic groups. There are wide ranging views about pests and pesticides to ensure that OSU provides unbiased information.
- Bi-lingual advisory group to help OSU get it right in terms of plain language content and culturally relevant translation.

## Built-in Marketing Plan

Leverage partners and existing relationships with media

*Solving pest problems, one problem at a time*

Bi-Monthly video (co-produced by OSU and The Oregonian) to coincide with release of pest content pages (ex. Yellowjackets in July).

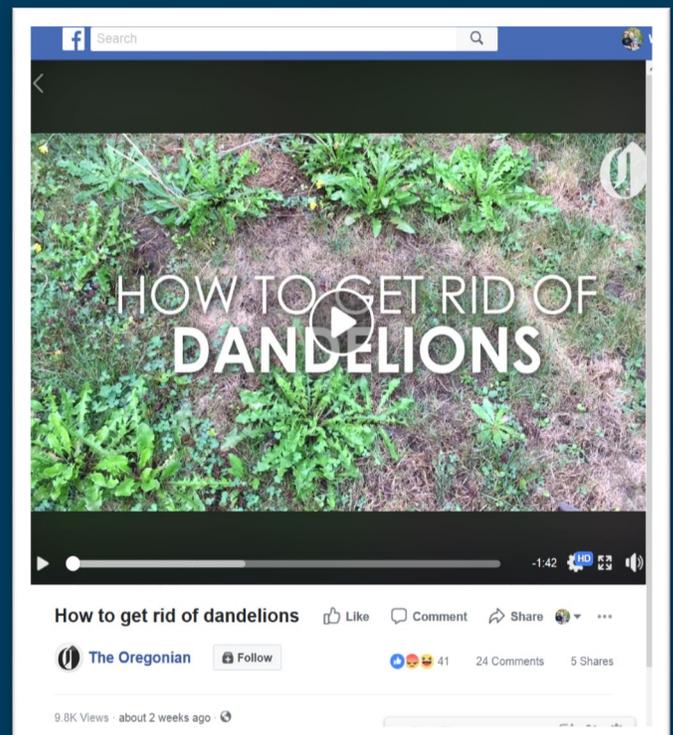
Modest paid advertising with the Oregonian could yield 100,000 guaranteed video views per episode. Easy to share via website and media.

Provide social media posts for partners from across the state to share with their social media networks and clients.

Postcard, bookmarks, and other prompts for OSU Master Gardener and partners to distribute at community events.

Prompts at garden centers and hardware stores with easy instructions to access the website.

Provide trainings for partners including Oregon Department of Agriculture, Oregon Association of Conservation Districts, Oregon Landscape Contractors Association, Oregon Association of Clean Water Agencies, and other groups.



Recent Facebook post of co-produced video with 10,000 views over two weeks.

# The Opportunity for Oregon and OSU

## Address Threats from Pressing Pest Problems

With changing climate, an expanding urban-rural interface, and increasing population, Oregon's urban pest problems will continue to pose ever increasing threats. Many communities face disproportionate risks, and pesticides remain controversial. Now more than ever, forestry, agriculture and urban areas must coordinate efforts to stem economic, environmental and health threats from pests and pest management practices.

## Embody the Mission, Values and Goals of OSU and Extension

Solve Pest Problems advances the science of sustainable earth ecosystems and sustains natural resources through broad partnerships aimed at protecting pollinators and water quality. This resource will improve the health of families by reducing pests and pesticide exposures and the chronic health risks they pose. It will also promote economic growth and social progress by preventing economic impacts from invasive species on agriculture and forestry, and by addressing inequities in information access and health outcomes.

Solve Pest Problems engages diverse community based organizations through partnerships, responding to a clearly identified community need with measurable outcomes and accountability.

## Increase OSU Extension's Profile in Urban Areas

Solve Pest Problems is a shovel-ready opportunity for OSU Extension Service to showcase its commitment to healthy communities, families, economies and natural resources, and to further increase its profile and relevancy in urban areas across the state. It will serve as an introduction to OSU for many people unfamiliar with the Land Grant mission.

## Expand on 100 Years of Success

OSU's signature areas of distinction and OSU Extension Service's mission, values and 100-plus years of experience are uniquely suited to meet this pressing challenge. Solve Pest Problem's track record for expanding the common ground on this typically controversial topic shows how broad its appeal is and how powerful could be its impact. All that is needed now is financial support.

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### Solve Pest Problems

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