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The Council for Agricultural Science and Technology

One Health Approach: New World Screwworm

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Chief Executive Officer

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The Council for Agricultural Science and Technology

Our Science Shapes Agriculture

Since 1972, the Council for Agricultural Science and Technology (CAST) has provided credible, unbiased, science-based information about food and agriculture to policymakers, the media, the private sector, and the public.

CAST Quick Facts

1. **U.S.-based, internationally-connected organization**
2. **501(c)3 membership-supported nonprofit**
3. **Organization- and individual-level memberships**
4. **Animal-, food-, and plant-focused workgroups**
5. **Nonpartisan, science-focused, free education products and programs**

Mission

CAST convenes and coordinates networks of experts to assemble, interpret, and communicate credible, unbiased, science-based information to policymakers, organizational leaders, educators, scientists, the media, the private sector, and the public.

Vision

A world where decision making related to agriculture, food, and natural resources is based on credible information developed through reason, science, and consensus building.

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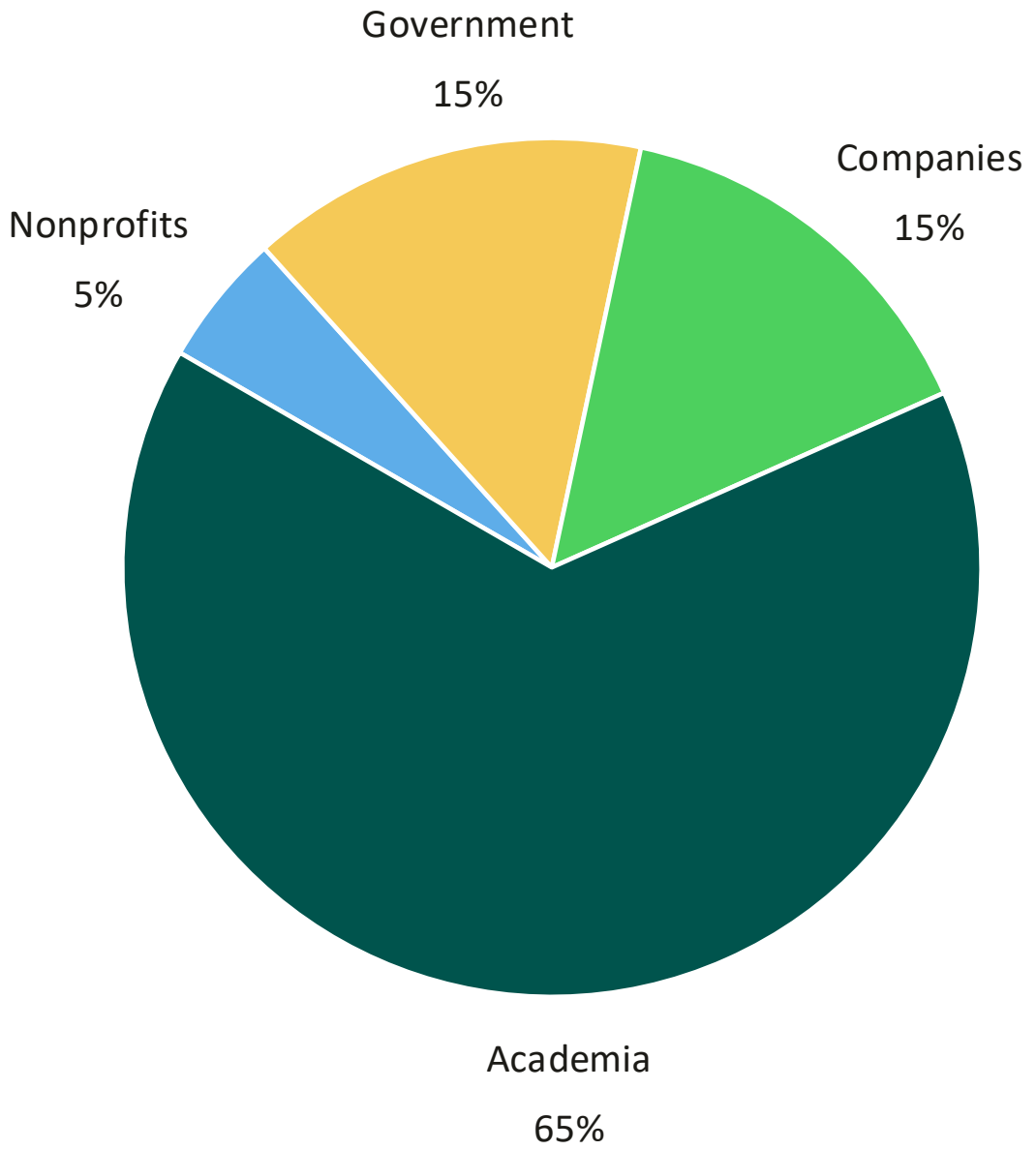
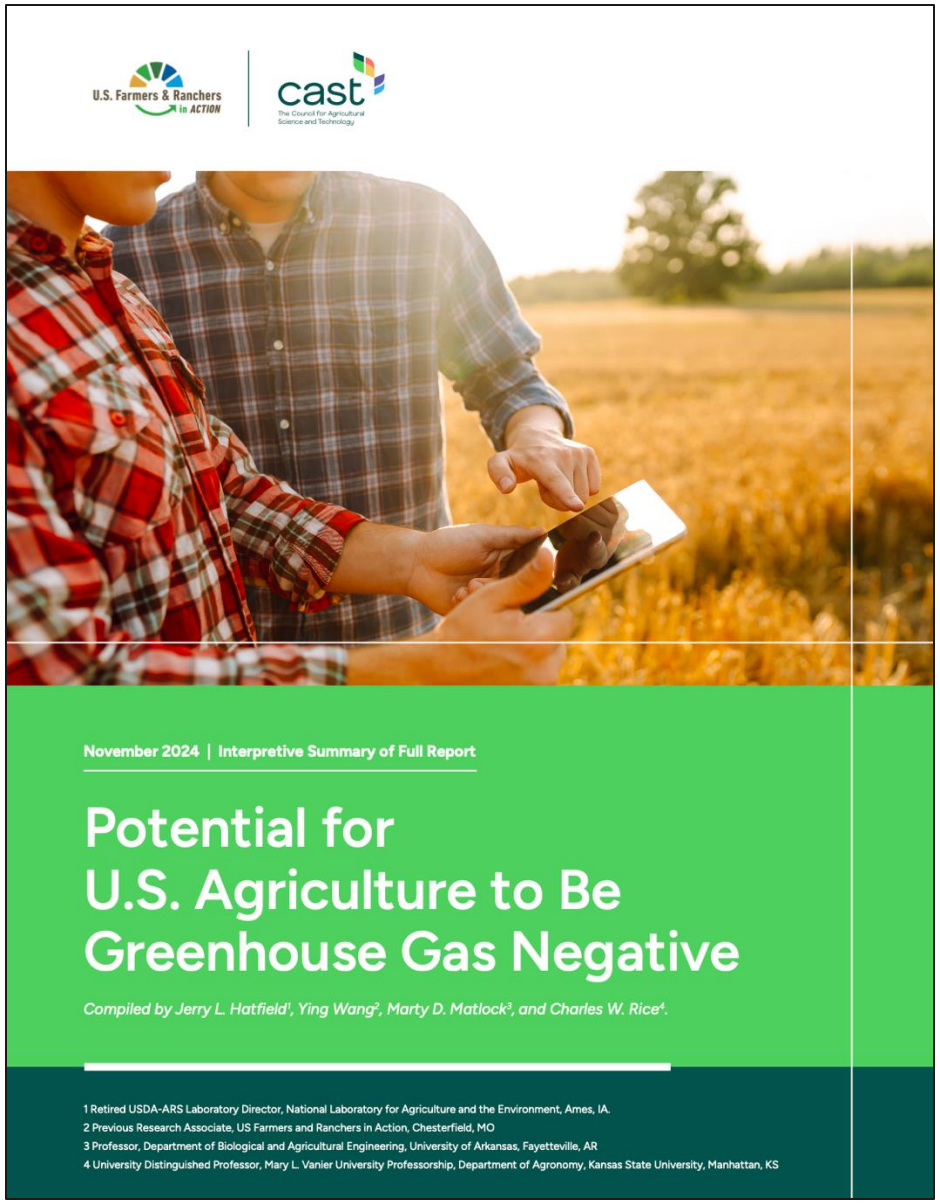
The Council for Agricultural Science and Technology

Volunteer Focus

- More than 60 Board Members representing scientific societies, companies, nonprofits, and universities.
  - Board of Directors
  - Board of Trustees
  - Board of Representatives
- Roughly 200 active task force members working on CAST publications yet to be released.
- Volunteer scientific experts serving as authors, reviewers, and contributors.
- Nearly 2,000 folks volunteering for CAST since 2008.





Major Activities

- Paper release events
- Awards
- Annual meeting
- Work group meetings

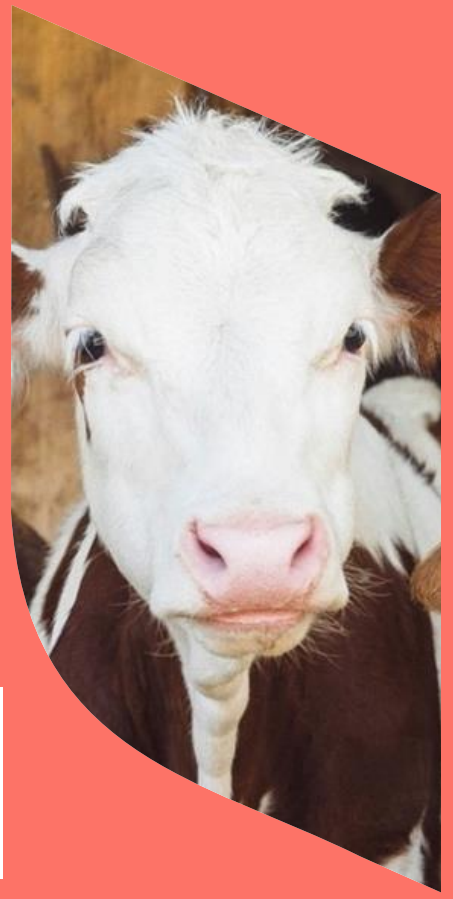
Publications and Programs

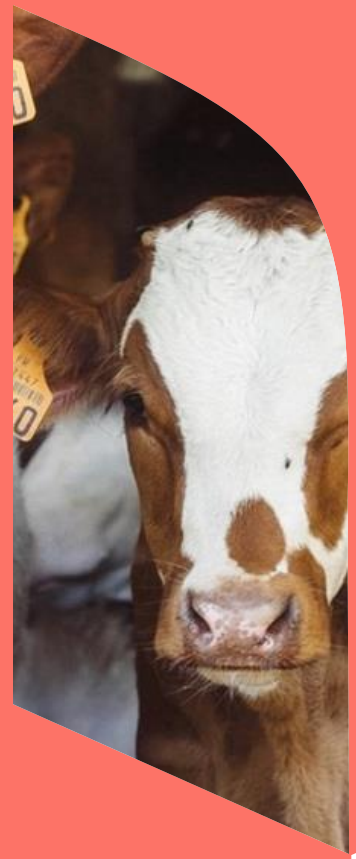
- Commentary and issue papers
- Rapid response communications
- Infographics and flyers
- Webinars
- Videos and podcast episodes
- Newsletter

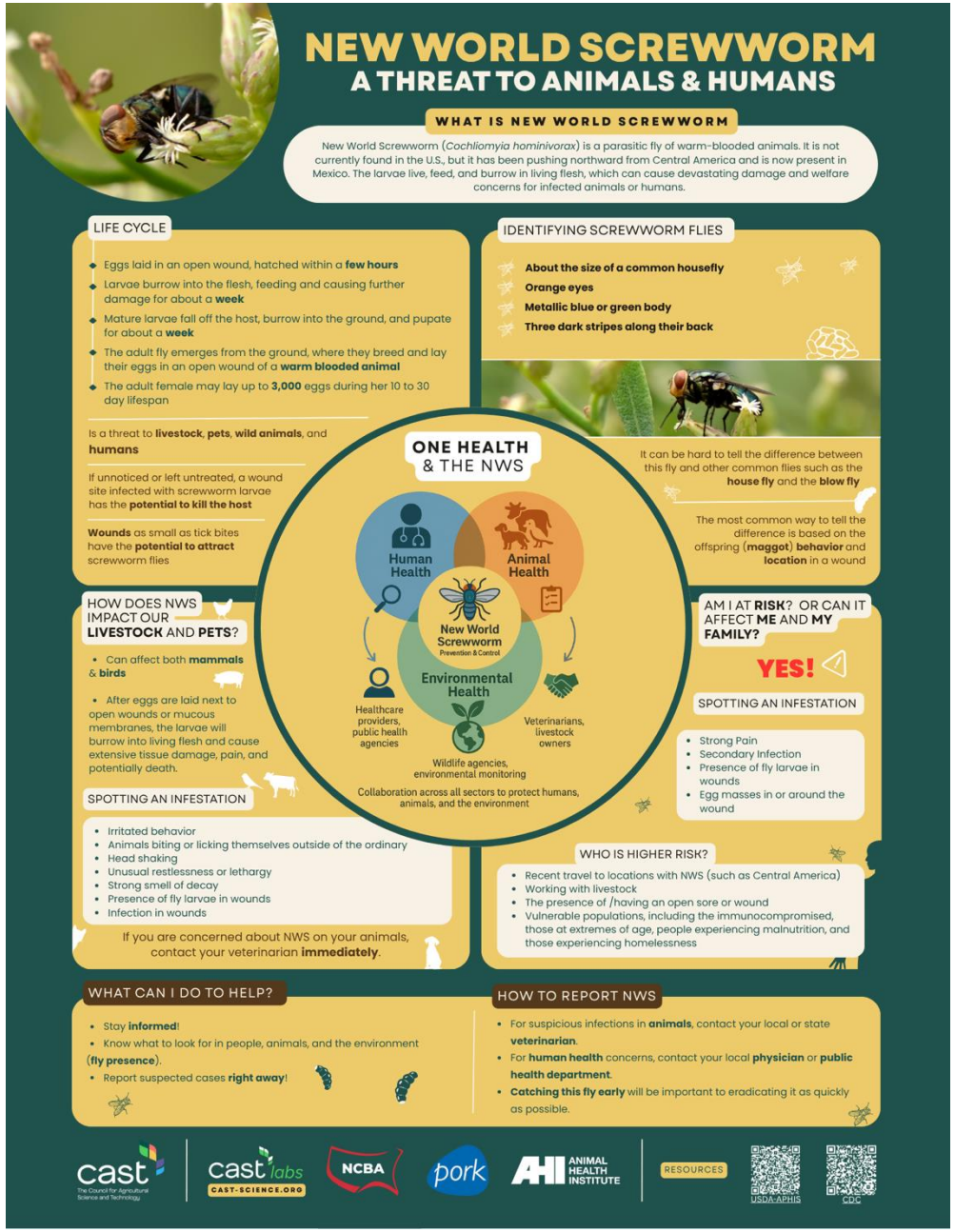
CAST-SoAR and Agricultural Research

New World Screwworm and One Health Activities

- **Education materials**
  - **Flyer**
  - **Webinar**
  - **Paper**
- **Partners**






NEW WORLD SCREWWORM
A THREAT TO ANIMALS & HUMANS
WHAT IS NEW WORLD SCREWWORM
New World Screwworm (Cochliomyia hominivorax) is a parasitic fly of warm-blooded animals. It is not currently found in the U.S., but it has been pushing northward from Central America and is now present in Mexico. The larvae live, feed, and burrow in living flesh, which can cause devastating damage and welfare concerns for infected animals or humans.
LIFE CYCLE
Eggs laid in an open wound, hatched within a few hours
Larvae burrow into the flesh, feeding and causing further damage for about a week
Mature larvae fall off the host, burrow into the ground, and pupate for about a week
The adult fly emerges from the ground, where they breed and lay their eggs in an open wound of a warm blooded animal
The adult female may lay up to 3,000 eggs during her 10 to 30 day lifespan
Is a threat to livestock, pets, wild animals, and humans
If unnoticed or left untreated, a wound site infected with screwworm larvae has the potential to kill the host
Wounds as small as tick bites have the potential to attract screwworm flies
IDENTIFYING SCREWWORM FLIES
About the size of a common housefly
Orange eyes
Metallic blue or green body
Three dark stripes along their back
It can be hard to tell the difference between this fly and other common flies such as the house fly and the blow fly
The most common way to tell the difference is based on the offspring (maggot) behavior and location in a wound
ONE HEALTH & THE NWS
Human Health
Animal Health
New World Screwworm Prevention & Control
Environmental Health
Healthcare providers, public health agencies
Veterinarians, livestock owners
Wildlife agencies, environmental monitoring
Collaboration across all sectors to protect humans, animals, and the environment
HOW DOES NWS IMPACT OUR LIVESTOCK AND PETS?
Can affect both mammals & birds
After eggs are laid next to open wounds or mucous membranes, the larvae will burrow into living flesh and cause extensive tissue damage, pain, and potentially death.
SPOTTING AN INFESTATION
Irritated behavior
Animals biting or licking themselves outside of the ordinary
Head shaking
Unusual restlessness or lethargy
Strong smell of decay
Presence of fly larvae in wounds
Infection in wounds
If you are concerned about NWS on your animals, contact your veterinarian immediately.
AM I AT RISK? OR CAN IT AFFECT ME AND MY FAMILY?
YES!
SPOTTING AN INFESTATION
Strong Pain
Secondary Infection
Presence of fly larvae in wounds
Egg masses in or around the wound
WHO IS HIGHER RISK?
Recent travel to locations with NWS (such as Central America)
Working with livestock
The presence of /having an open sore or wound
Vulnerable populations, including the immunocompromised, those at extremes of age, people experiencing malnutrition, and those experiencing homelessness
WHAT CAN I DO TO HELP?
Stay informed!
Know what to look for in people, animals, and the environment (fly presence).
Report suspected cases right away!
HOW TO REPORT NWS
For suspicious infections in animals, contact your local or state veterinarian.
For human health concerns, contact your local physician or public health department.
Catching this fly early will be important to eradicating it as quickly as possible.
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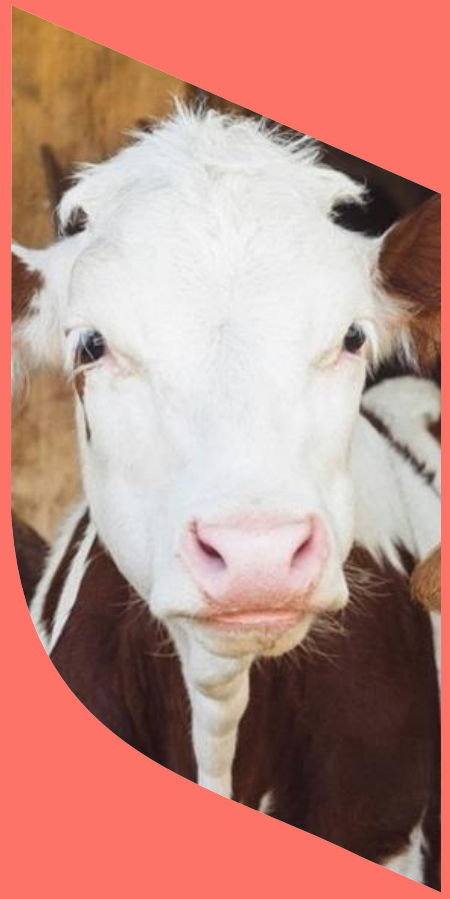
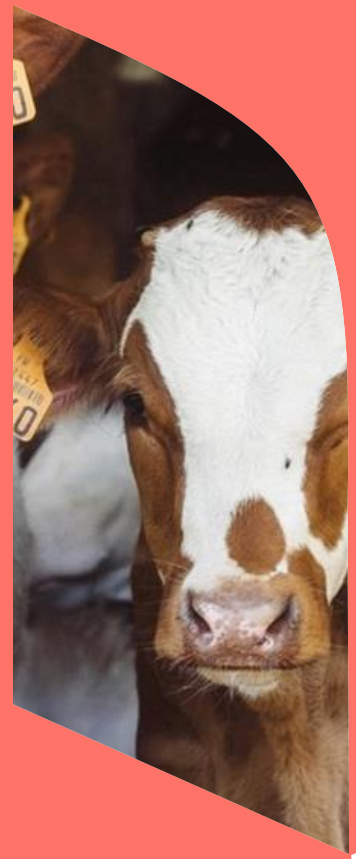
cast labs
CAST-SCIENCE.ORG
NCBA
pork
AHI ANIMAL HEALTH INSTITUTE
RESOURCES
USDA-APHIS
CDC

New World Screwworm and One Health Activities

- **Flyer dissemination**
- **Webinar promotion**
- **Webinar series ideas**
  - **Topics**
  - **Timeline**
- **Paper contributors and suggestions**
- **Paper release venue(s)**
  - **Speaker**
  - **Panelists**





Thank you!

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