

## RAT LUNGWORM DISEASE (RLWD)

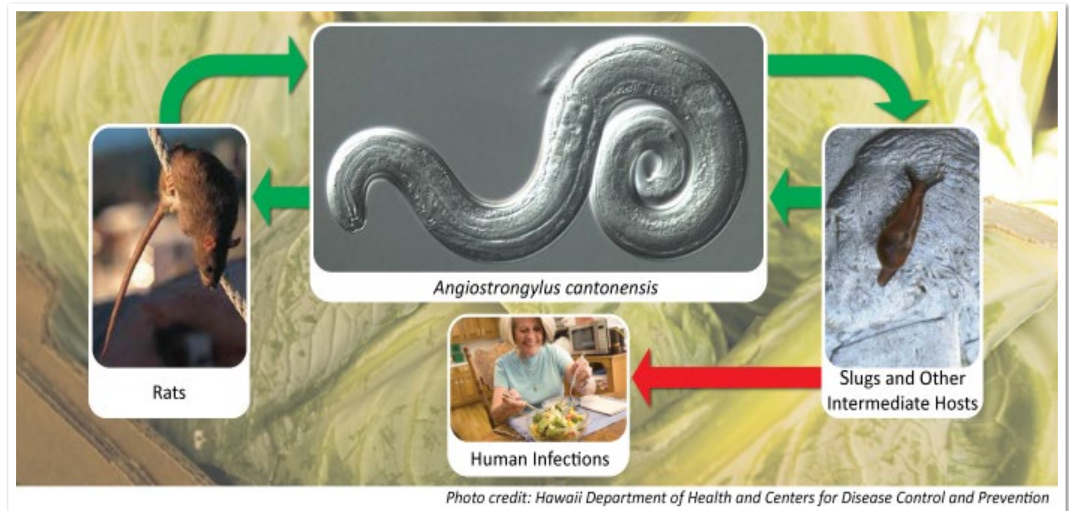
Rat Lungworm Disease (*Angiostrongylus*) has been associated with eating raw slugs/snails or raw produce contaminated by slugs/snails. Rats carry a parasitic nematode (*Angiostrongylus cantonesis*) which is found in their feces. Slugs/snails eat the feces and become carriers of the parasite. The slime trails left behind by slugs/snails may also be infected, however, this has not been confirmed. Humans can become infected when they ingest raw or under-cooked slugs/snails or unwashed produce containing infected slugs/snails. The parasitic nematode can then travel to the afflicted person's brain and can cause severe symptoms.

## SLUG & SNAIL MANAGEMENT

A good slug/snail school garden management program consists of a combination of methods. A school may have an Integrated Pest Management (IPM) strategy aimed to keep garden pests under control and our students safe. While IPM strategies may include the use of traps, baits, or barriers to manage pests (including rats), these require school administration, facilities, and licensed personnel to regularly administer. The following are slug/snail management procedures for ĀINA Docents and Teachers to take preventative action to control snail/slug populations in school gardens. This Resource Sheet focuses on how to safely remove slugs/snails from the school garden using the **Handpicking Procedure**. Additional IPM and RLWD procedures, curriculum, and resources can be found on the following page.

## TIPS FOR COMMUNICATING WITH PARENTS & CAREGIVERS

1. RLWD is highly preventable, provide accurate and proactive information that does not instill fear.
2. Our collective priority is to increase the awareness and education of controlling slug/snail populations in the school garden along with strengthening School Garden and Food Safety within the school community.
3. ĀINA Docents are trained quarterly in School Garden and Food Safety and are required to practice RLWD prevention procedures.
4. ĀINA Garden and Compost lessons include detailed food safety directions for ĀINA Docents, Teachers and Students.
5. For additional questions and information, refer to the resources on the following page or contact [aina@kokuahawaii.org](mailto:aina@kokuahawaii.org).



## SLUG & SNAIL DISPOSAL KIT:

- Tongs (labelled "Slug/Snail Disposal Only")
- Biodegradable bags
- Reusable and washable gloves
- Hand Soap
- Resource Sheet: How To...Practice Slug & Snail Removal in the School Garden
- Resource Sheet: How To...Practice School Garden & Food Safety

# How to...

## Practice Slug & Snail Removal

### HANDPICKING PROCEDURE FOR REMOVAL OF SLUGS AND SNAILS:

Slug/snail removal is the responsibility of ĀINA Docents and Teachers, **do not allow students to handle slugs/snails**. ĀINA Teams are trained and required to follow the school garden slug/snail disposal procedures. Upon beginning a slug/snail management strategy, best practice is to remove slugs/snails on a daily basis and check regularly. Please also dedicate 10-15 minutes in the early morning prior to each lesson to observe your garden space and remove any slugs, snails, and plant parts with visible trails. **Do not handle slugs/snails with bare hands**. Pay close attention to in and around the garden beds along with any shaded areas where moisture collects such as beneath rocks, boards, and low hanging leaves.

1. Use clean reusable and washable gloves and tongs (labeled "Slug/Snail Disposal Only") when handpicking slugs/snails.
2. Fold over the upper edge of the biodegradable bag twice.
3. Use the tongs to collect any slugs/snails in the garden space.
4. Remove any plant parts exposed to slug/snail trails, place into the bag. Do not add any plants exposed to slug/snail trails to the compost pile.
5. When a thorough inspection of the school garden is complete, wash tongs and gloves vigorously with soap under running water and let dry in the sun away from students.
6. Unfold the upper edge of the bag and tie the bag with a double knot.
7. Dispose of the bag in a school trash can or dumpster.
8. Wash hands: Wet hands with running water, apply soap and rub vigorously for at least 15 seconds. Remember to scrub all surfaces.



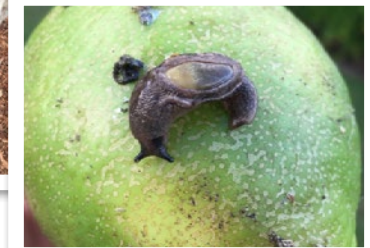
1) Wear reusable/washable gloves



2) Fold top of bag over twice



3) Collect slugs/snails with labeled tongs



4) Collect plants exposed to slugs/snails and trails



5) Wash tongs and gloves with soap and dry in the sun



6) Double knot the bag



7) Dispose of the bag in the trash or dumpster



8) Wash hands thoroughly

#### FOR MORE INFORMATION AND LINKS

- State of Hawai'i Department of Health. [health.hawaii.gov/docd/disease\\_listing/rat-lungworm-angiostrongyliasis/](http://health.hawaii.gov/docd/disease_listing/rat-lungworm-angiostrongyliasis/)
- UH Hilo Daniel K. Inouye College of Pharmacy Website. [pharmacy.uh.hawaii.edu/rat-lungworm/lesson-plans-teachers](http://pharmacy.uh.hawaii.edu/rat-lungworm/lesson-plans-teachers)
- Center for Disease Control and Prevention Website. [www.cdc.gov/parasites/angiostrongylus/index.html](http://www.cdc.gov/parasites/angiostrongylus/index.html)

- Reducing the Risks: Rat Lungworm Infection. [manoa.hawaii.edu/ctahr/farmfoodsafety/](http://manoa.hawaii.edu/ctahr/farmfoodsafety/)
- How Does Your School Garden Grow? Best Practices for Growing Harvesting, and Serving School Garden Produce. Resource binder and poster published by the Hawai'i Farm to School and School Garden Hui. [kohalacenter.org/hisgn/hisgn-resources/best-practices](http://kohalacenter.org/hisgn/hisgn-resources/best-practices)