



United States Department of Agriculture  
Animal and Plant Health Inspection Service

**Plant Protection and Quarantine**



# **PANICLE RICE MITE PLANT WASH COLLECTION PROCEDURE**

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**United States Department of Agriculture  
Animal and Plant Health Inspection Service  
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# Inspection Aid For Washing Rice Plant Material To Detect Mites

## SIEVE METHOD

A - LAB SIEVE SINK  
TECHNIQUE

B - FIELD SIEVE TECHNIQUE



# SAMPLE COLLECTION

1. SAMPLE RICE FROM FIELDS AND GREENHOUSES
2. COLLECT SAMPLES AROUND THE FIELD PERIMETER AND WATER DOORS
3. CUT RICE PLANT AN INCH FROM THE WATER LINE



## **SIEVE METHOD**

### **A. SIEVE SINK**

### **Materials Needed**

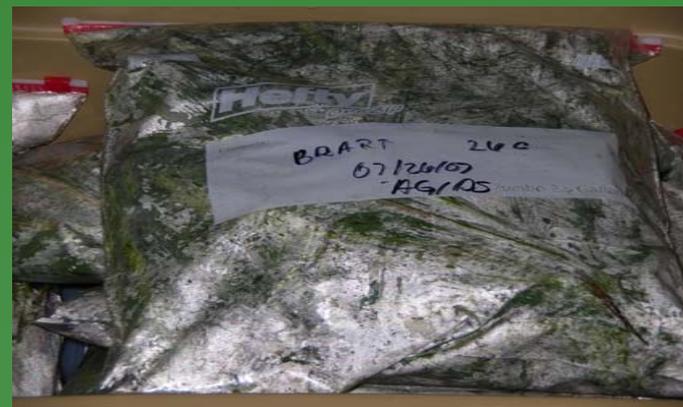
- Screen Sieve Set
  - 400 60 Screen top
- Sink with Spray Attachment
- Alcohol squirt bottle
- Watch Glass or Petri Dishes
- Bucket
- Tray for cutting plant material
- Tub
- Latex Gloves
- Exacta Knife stainless steel
- Quarantine Garbage Receptacle
- Clorox disinfectant
- Spray Bottles
- Identification microscopes (Dissecting & Compound)
- Slide making material (Slides, cover slips, Hoyer's, nail polish)
- Hot Plate for slides
- Plastic bags
- Cooler
- Vials

## Screen sieve sets are available from a variety of vendors.

- Select a set that offers a fine mesh size of at least 400 for the bottom.
- Top - Loose open mesh
- Middle – 60 (250 micrometers)
- Bottom – 400 (38 micrometers)



Samples arrive in cooler and bags are logged into the walk in refrigerator awaiting processing. Bags must be labeled, marked by field location, and logged in.



# SAMPLES PROCESSING

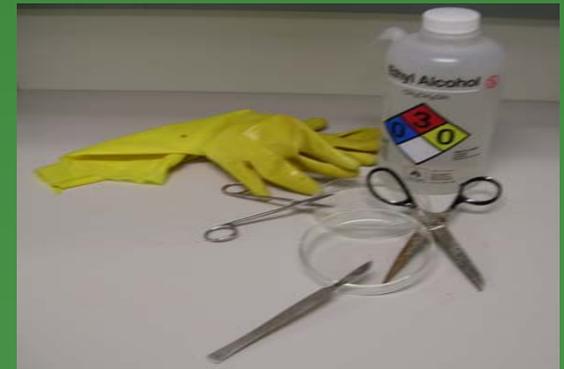
- SAMPLES LOGGED OUT & TAKEN TO LAB
- SAMPLE PROCESSING SETUP



CONTAINER TUB



CUTTING BOARD



CUTTING TOOLS

# CUTTING SAMPLES



# SAMPLE WASH PREPERATION

- CUT PLANT SAMPLES ARE PLACED IN BUCKET.
- FILL BUCKET HALF WAY WITH WATER.
- MANIPULATE MATERIAL WITH HANDS.
- PLACE INTO SIEVES OVER SINK.



# WASHING SAMPLE



- SPRAY HOT WATER AT MEDIUM PRESSURE FOR 2 MINUTES
- THE DEBRIS COLLECTED ON THE BOTTOM SIEVE IS GENTLY WASHED DOWN TO THE BOTTOM



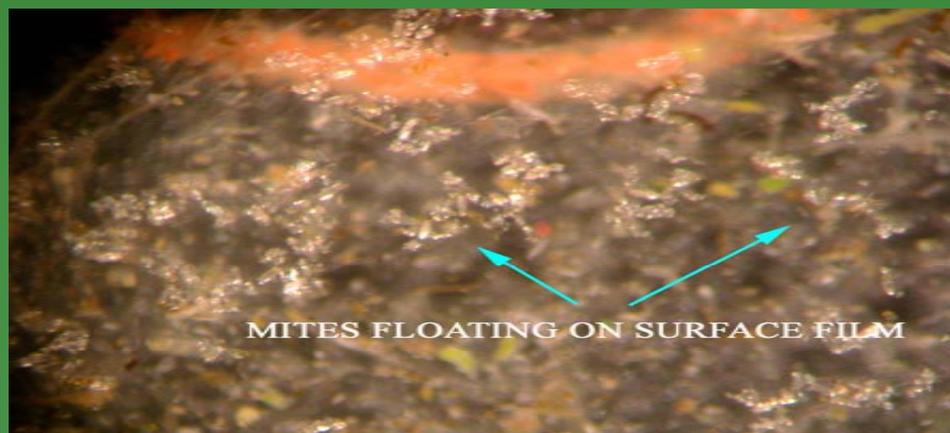
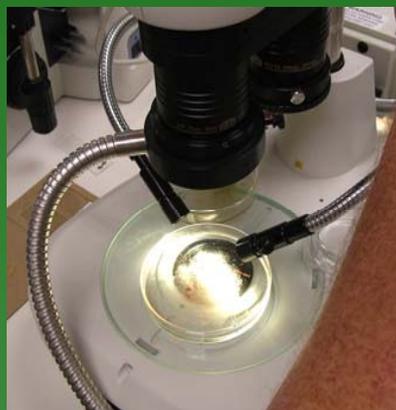
# SAMPLE COLLECTION



- CAREFULLY RINSE & BACKWASH WITH 70% ALCOHOL THE DEBRIS INTO A PYREX PETRI DISH OR PLASTIC DISPOSABLE DISH.
- LABEL DISH WITH SAMPLE DATA

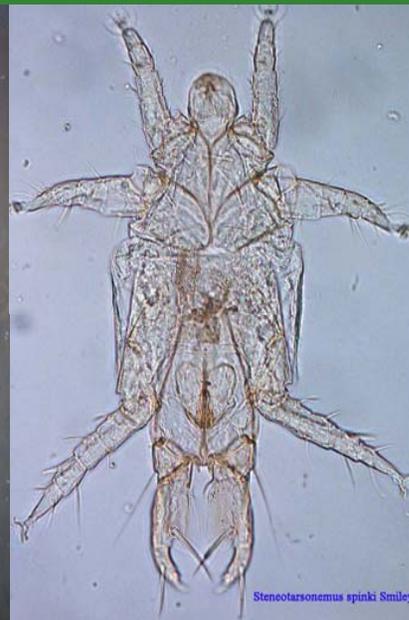


# READING THE SAMPLE



# MITE IDENTIFICATION

- COLLECT SUSPECT MITES WITH A PROBE OR PIPETE
- PLACE IN 2 DRAM VIALS WITH 70% ALCOHOL .
- LABEL VIAL WITH SAMPLE DATA.
- SPECIMENS WILL REQUIRE SLIDE MOUNTING FOR IDENTIFICATION.



# PROCEDURES TO PREVENT CROSS-CONTAMINATION

1. Make sure all plant debris is cleaned off of sieves
2. Rinse all sieve surfaces thoroughly with water
3. Disinfect all sieve surfaces with Clorox solution after running each sample
4. Rinse with water again
5. Petri plates need to be cleaned and disinfected with water and a Clorox solution before using again
6. Use gloves when preparing samples for processing
7. Processed samples need to be double bagged and incinerated
8. Wash hands frequently
9. Clean & disinfect work areas

## Inspection Aid For Washing Rice Plant Material To Detect Mites

### SIEVE METHOD

### B - FIELD SIEVE TECHNIQUE

This technique can be done at the field or in a lab setting for small number of plants.



## **B. FIELD SIEVE METHOD**

### **Materials Needed**

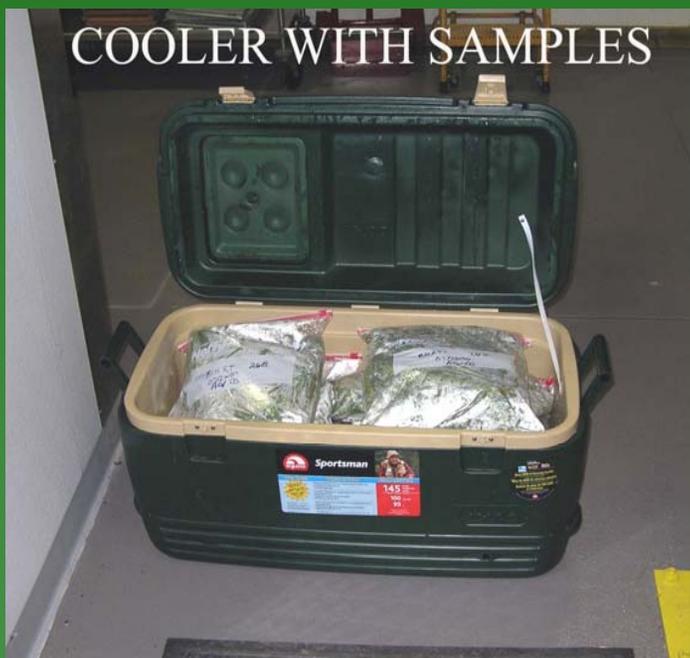
- Small Screen Sieve Set
  - 400 60 Screen top
- Sink with Spray Attachment
- Alcohol squirt bottle
- Watch Glass or Petri Dishes
- Cutting Board
- Latex Gloves
- Exacta Knife stainless steel
- Quarantine Garbage Receptacle
- Clorox disinfectant
- Spray Bottles
- Plastic bags
- Cooler
- Collection vials

# SAMPLE COLLECTION

1. SAMPLE RICE FROM FIELDS AND GREENHOUSES
2. COLLECT SAMPLES AROUND THE FIELD PERIMETER AND WATER DOORS
3. CUT RICE PLANT AN INCH FROM THE WATER LINE



Samples are collected in plastic bags. Bags must be labeled, marked by field location, and placed in cooler for processing.



# SAMPLE PROCESSING

- SAMPLE BAGS WITH PLANT MATERIAL IS EMPTIED ONTO CUTTING BOARD.
- MAKE LONGITUDINAL CUTS ON THE STEMS, PULL APART LEAF SHEATHS, CUT WITH SCISSORS OR KNIFE INTO SMALLER PIECES.
- CUT MATERIAL IS PLACED BACK INTO THE SAMPLE BAG.



CUTTING BOARD

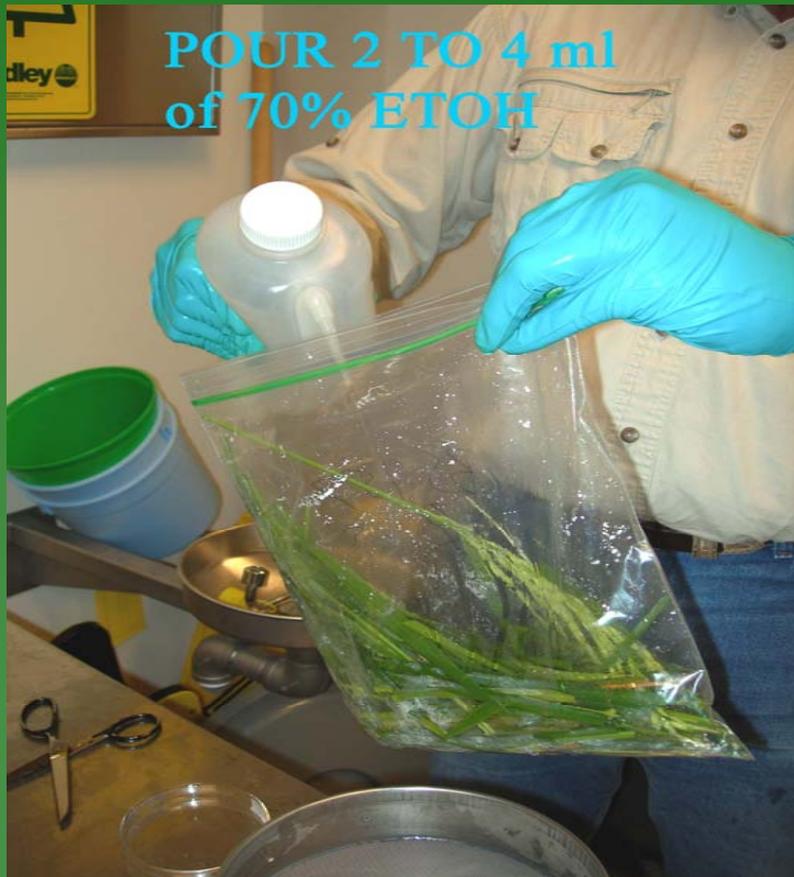


CUTTING TOOLS



# SAMPLE – ADDING ALCOHOL & SHAKING

**ZIP LOCK THE BAG & SHAKE  
VIGOUROUSLY FOR 1 -2 MINUTES**



# SAMPLE COLLECTION

- Locate sample over sieves 60 400 sieve.
- Push material in alcohol down toward bottom of bag
- Cut the tip of bag with scissors

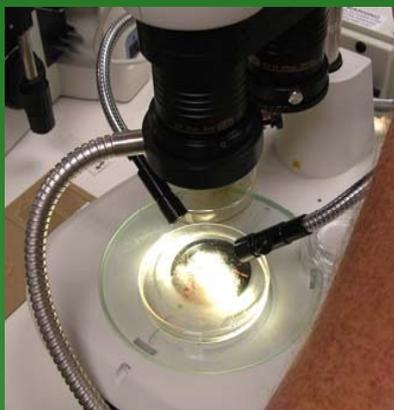


# SAMPLE COLLECTION

- CAREFULLY RINSE & BACKWASH WITH 70% ALCOHOL THE DEBRIS INTO A COLLECTION VIAL.
- LABEL VIAL WITH SAMPLE DATA

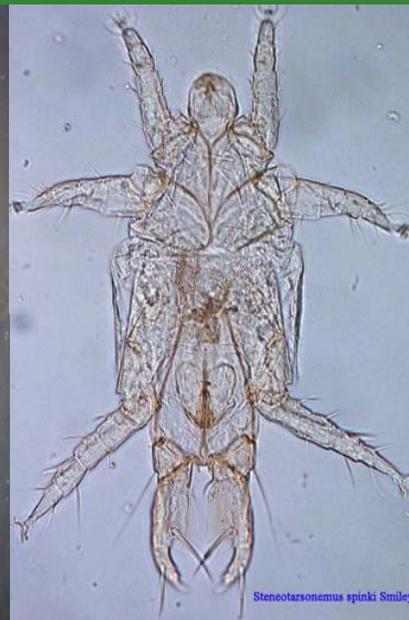


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