Respirator Fit Testing
Demonstration & Resources

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Prior to fit testing, instruct growers to:

- Complete chemical label inventory
- Determine what type(s) of respirators are needed and under what conditions they will be used
- Determine who handlers are and have them complete the OSHA Respirator Medical Evaluation Questionnaire
- Complete medical evaluation for each handler with physician or other licensed healthcare professional and obtain written opinion for respirator use
Pre-test instructions for individuals being fit tested:

- Do not eat, drink anything other than water, smoke or chew gum for at least 15 minutes prior to fit testing.

- Bring respirator if they have one but otherwise not to purchase before completing medical clearance and fit testing.

- Provide evidence of completed medical evaluation at time of fit testing.

- Shave if they have facial hair that will interfere with respirator function.

- Bring other PPE that will be worn with respirator (e.g. safety glasses, goggles, hearing protection).
When a respirator is required, an employer is prohibited from allowing respirators with tight-fitting facepieces to be worn by employees who have “facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function. Facial hair is allowed as long as it does not protrude through the respirator seal, or extend far enough to interfere with the device’s valve function.
Respirator Fit Test

- Must be done in accordance with OSHA respirator fit test protocol
- Can be quantitative or qualitative
Quantitative Fit Testing

- Conducted by occupational health companies or clinics
- Machines are in the $15-18,000 price range
- Training required prior to use
Qualitative Fit Testing

- Fit test kits range in price from $100-$500
- Used for filtering facepiece and half-face respirators
- Pass/Fail based on subjective response of individual
- Uses
  - isoamyl acetate, which smells like bananas;
  - Saccharin, which leaves a sweet taste in your mouth;
  - Bitrex, which leaves a bitter taste in your mouth; or
  - Irritant smoke, which can cause coughing (not recommended)
Qualitative Fit Testing

- Fit testing is as much an art as an activity due to individual facial differences and differences in respirators.
- Recommend training prior to farms conducting fit tests on their own.
Respirator Selection & Sizing

Different sizes and types of respirators from at least two different manufacturers

- Manufacturers will depend on what is most commonly available in the area (ease of obtaining respirators and replacement filters/cartridges)
- Types (e.g., N95, half-face, full-face) will depend on chemicals most commonly used in the area

Example

- 3M half-face (small, medium, large)
- North half-face (small, medium, large)
- Sperian/Honeywell N95 (small, medium/large, extra large)
- P100/OV cartridges for 3M and North
Respirator Selection & Fit

Trial fit

- Position of mask on nose
- Room for eye protection
- Room to talk
- Position of mask on face and cheeks
- Chin properly placed
- Correct strap tension; not too tight
- Fit across nose bridge
- Respirator proper size to span distance a from nose to chin
- No tendency for respirator to slip
- Individual observation in mirror to evaluate fit and respirator position
Seal Checks

**Negative Seal Check**
Respirator should collapse to face

**Positive Seal Check**
Respirator should lift slightly away from face
Helping You Wear it Right

Wearing Your Filtering Facepiece Respirator

1. Place the respirator over your nose and mouth. Be sure the metal nose clip is on top. With models 8210 or 07048, pre-stretch the straps before wearing.

2. Pull the top strap over your head until it rests on the crown of your head above your ears.

3. Pull the bottom strap over your head until it rests just below your ears.

4. Using both hands starting at the top, mold the metal nose clip around your nose to achieve a secure seal.

Check the Seal of Your Filtering Facepiece Respirator Each Time You Don the Respirator.

Positive Pressure User Seal Check
For Non-Valved Respirators
Place both hands completely over the respirator and exhale. The respirator should bulge slightly. If air leaks between the face and faceseal of the respirator, reposition it and readjust the nose clip for a more secure seal. If you cannot achieve a proper seal, do not enter the contaminated area. See your supervisor.

Negative Pressure User Seal Check
For Valved Respirators
Place both hands over the respirator and inhale sharply. The respirator should collapse slightly. If air leaks between the face and faceseal of the respirator, reposition it and readjust the nose clip for a more secure seal. If you cannot achieve a proper seal, do not enter the contaminated area.
Wearing your 3M™ Half Facepiece Reusable Respirator

1. Place the respirator over your nose and mouth with bottom straps unfastened.

2. Pull the top strap over your head, placing the head cradle on the crown of your head.

3. Hook the bottom straps together behind your neck.

4. Adjust strap tension to achieve a secure fit.

Check the seal of your 3M™ Half Facepiece Reusable Respirator each time you don the respirator.

Note: Before assigning any respirator to be worn in a contaminated area, a qualitative or quantitative fit test must be performed per U.S. OSHA standard 29CFR 1910.134 or local requirements.

Note: Perform a positive and/or negative pressure user seal check each time the respirator is donned. If you cannot achieve a proper seal, do not enter contaminated area. See your supervisor.

Positive Pressure User Seal Check
Place the palm of your hand over the exhalation valve cover and exhale gently. The facepiece should bulge slightly. If air leaks between the face and the face seal of the respirator, reposition it and adjust the straps for a more secure seal.*

Negative Pressure User Seal Check
Using Particulate Filters
Place your thumbs over the center of the filters and inhale gently. The facepiece should collapse slightly. If air leaks between the face and the face seal of the respirator, reposition it and adjust the straps for a more secure seal.*

Using Cartridges
Place the palms of your hands over the cartridges and inhale gently. The facepiece should collapse slightly. If air leaks between the face and the face seal of the respirator, reposition it and adjust the straps for a more secure seal.*

* If you cannot achieve a proper seal, do not enter contaminated area. See your supervisor.

**WARNING**
This respirator may not provide the required level of protection. Reviewing the respirator's label and the respiratory protection matrix in the product catalog or further respiratory protection regulations may assist in determining the requirement of PAPR (like a 3M™ PAPR) and respirator. For proper use, see package instructions, supervision, or call 3M Health Care at 1-800-243-4637 and in Canada 1-800-268-5683.
Sensitivity Test

- Have the individual put on the test hood

- Ask them to:
  - Breathe through a slightly open mouth with tongue extended; and,
  - Tell you when they detect sensitivity solution

- Using the nebulizer marked ‘sensitivity’, spray the sensitivity solution into the enclosure in the front of the hood. To produce the aerosol, squeeze the nebulizer bulb firmly so that the bulb collapses completely and then release so it fully expands

- Give an initial 10 squeezes, repeating rapidly. If the individual senses the sensitivity solution, the screening test is completed and the taste threshold is noted as 10 regardless of the number of squeezes actually completed (e.g., anything between 1 and 10 is recorded as 10).
Sensitivity Test

- If the first response is negative, give more 10 squeezes, repeating rapidly
- Again, ask the individual to tell you when they detect the sensitivity solution
- If the individual reports sensing the sensitivity solution during the second 10 squeezes, the screening test is completed and the taste threshold is noted as 20 regardless of the number of squeezes actually completed (e.g., anything between 11 and 20 is recorded as 20)
Sensitivity Test

- If the second response is negative, give more 10 squeezes, repeating rapidly.
- Again, ask the individual to tell you when they detect the sensitivity solution.
- If the individual reports the sensitivity solution during the third 10 squeezes, the screening test is completed and the taste threshold is noted as 30 regardless of the number of squeezes actually completed (e.g., anything between 21 and 30 is recorded as 30).
- If no sensitivity after 30 squeezes, the test cannot be completed. Use an alternate qualitative method or refer for quantitative testing.
- If the individual has sensitivity, ask them to take note of it for reference during the fit test.
Fit Test Steps

- Using nebulizer marked ‘fit test’, spray the same number of squeezes of fit test solution into the opening on the front of the hood as recorded for the sensitivity test (e.g., 10, 20 or 30)

- To maintain an adequate concentration of aerosol during the test, inject ½ the number of squeezes (5, 10 or 15) every 30 seconds for the duration of the test procedure

- Squeeze the bulb to fully collapse it and then release to fully expand between each squeeze. Hold bulb upright to ensure aerosol generation.
Fit Test Steps

Have the individual stand in a normal position and do each of the following for 1 minute:

- Normal breathing: without talking
- Deep breathing: breathe slowly and deeply, taking caution not to hyperventilate
- Turn head side to side: pause at shoulder on each side to breathe in
- Move head up and down: pause when looking at ceiling
- Talk out loud slowly and loud enough to be heard: preferably read Rainbow Passage; can count to 100 or recite memorized poem or song
- Bend over: bend at waist as if touching toes; jogging in place can be substituted
- Normal breathing: same as first exercise
Fit Test Steps

If the test fails:

- Wait 15 minutes and perform sensitivity test
- Repeat respirator fit test after re-donning respirator and doing seal checks
- A second failure may indicate that a different size respirator or model/manufacturer is needed.
- Check the nebulizer to be sure that it is not clogged; clean and retest
Qualitative Fit Test Record & Sample Pocket Card

CERTIFICATE OF FIT TESTING

THIS IS TO CERTIFY THAT: JOHN DOE

In accordance with 29CFR1910.134, Respiratory Protection has successfully completed qualitative fit testing and instructed in the use, limitations and maintenance with the following respirator:

Make: 3M Model: 6300 Size: LARGE

Date: 04-20-2016 Expires: 04-20-2017

Employee: __________________ Test Date: __________

Respiratory Fit Test Card

Name: ___________________ Date: __________

ID # ___________________ Next Test Due: __________

Respirator: 3M Model: 6300 Size: LARGE

Prescribed: ___________________ Expiration Date: __________

Pass or Fail: ___________________
# RESPIRATOR FIT TEST RECORD

**Company:**
**Address:**
**City:**
**Zip:**  
**State:**
**Tel:**

**Name of Fit Tester:**

**Signature:**

Fit testing conducted in compliance with OSHA Standard 1910.134(F).  
If other local, state or federal regulations apply (such as MSHA), you may list them here:

**Signature:**

Type of OSHA accepted fit test protocol used: 
- (Qualitative): Saccharin
- Bitrex™
- Isoamyl Acetate
- Immitant Smoke

(Quantitative): Portacount Model  
**Occupational Health Dynamic Model #:**

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<tr>
<th>Name (please print)</th>
<th>Signature</th>
<th>Date of Medical Clearance Cleared with limitations (indicate Y=yes or N=no)</th>
<th>Respirator Fit Tested (Make, Model, Style, Size) (Ex. 3M 6800, full-face, medium)</th>
<th>Fit Test Pass</th>
<th>Fit Test Fail</th>
<th>Could not be fit tested due to:</th>
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**Comments:**

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Resources

- OSHA Respiratory Protection eTool

- OSHA Respirator Fit Testing Video

- Guide to Using 3M Qualitative Fit Test Kit
  http://multimedia.3m.com/mws/media/473960O/guide-to-using-the-3m-qualitative-fit-test-kits.pdf

- 3M Respirator Fit Test Video
  https://www.youtube.com/watch?v=Syj_zeNtLGI