For more information on respirators and their use, see:

- NIOSH/CDC — cdc.gov/niosh, cdcinfo@cdc.gov, 800.232.4636,
- OSHA — osha.gov, 800.321.6742,
- EPA — epa.gov/pesticides, pesticidequestions@epa.gov,
- PERC — pesticideresources.org,
- Agrisafe Network — agrisafe.org/lungs-for-life,
- Maine BPC — thinkfirstpraylast.org, 207.287.2731,
- UMaine Cooperative Extension professionals — Jason Lilley, jason.lilley@umaine.edu, 207.781.6099, or Kerry Bernard, kerry.bernard@umaine.edu, 207.581.3884

**Disclaimer**

Pesticide safety information may change over time. This information is provided for educational purposes only and was published in 2019. Although pesticides can be an essential tool in pest management, improper use and disposal of these chemicals present a continuing risk to humans, animals, and the environment. It’s important for applicators to understand that pesticide safety is not only about protecting themselves—it’s also about protecting our domestic and wild animals, environment, our landscapes, and our communities.

Misuse of pesticides can result in, or contribute to, serious injury, illness, or death. Cooperative Extension does not guarantee the safety or effectiveness of any product or practice. Users of any pesticides, and Extension educational materials, do so at their sole risk and assume all risk from using such pesticides and materials, whether they follow recommendations or not. The user bears all responsibility for resulting damages to property, human health, or the environment. Cooperative Extension and the University of Maine System shall not be responsible for any damages INCLUDING, BUT NOT LIMITED TO, ANY AND ALL DAMAGE OR LOSS TO REAL OR PERSONAL PROPERTY, PERSONAL INJURY OR DEATH, RESULTING FROM THE NEGLIGENCE OF COOPERATIVE EXTENSION, THE UNIVERSITY, ITS TRUSTEES, FACULTY, AGENTS, EMPLOYEES OR VOLUNTEERS.

Always follow directions on pesticide labels! Failure to do so violates federal law. Application timing and proper calibration are as important as using the right product.

Cooperative Extension makes no warranty or guarantee of any kind, expressed or implied, concerning the use of any stated products. Trade names are used for identification only; no product endorsement is implied, nor is discrimination intended.

This material is meant as a general guide only. Always follow pesticide label and respirator manufacturer instructions.

For more information on respirators and their use, see:

- NIOSH/CDC – cdc.gov/niosh, cdcinfo@cdc.gov, 800.232.4636,
- OSHA – osha.gov, 800.321.6742,
- EPA – epa.gov/pesticides, pesticidequestions@epa.gov,
- PERC – pesticideresources.org,
- Agrisafe Network – agrisafe.org/lungs-for-life,
- Maine BPC – thinkfirstpraylast.org, 207.287.2731,
- UMaine Cooperative Extension professionals – Jason Lilley, jason.lilley@umaine.edu, 207.781.6099, or Kerry Bernard, kerry.bernard@umaine.edu, 207.581.3884

**Medical Evaluations**

Breathing through non-powered, air-purifying respirators (APRs) is more strenuous than normal breathing. Those with certain respiratory, cardiovascular, and other medical conditions may not be able to do so without risk to their health. Even supplied-air respirators (SARs) and powered air-purifying respirators (PAPRs) may be unsafe for some, due to the weight of the equipment and other factors. Therefore, medical evaluations are required:

- For users of ALL respirators
- Before using a respirator
- Initially, and whenever
  - the user’s health changes,
  - recommended by a Physician or other Licensed Health-Care Professional (PLHCP),
  - the work becomes more strenuous,
  - the respirator becomes difficult for the user, or
  - mandated in Maine’s public sector

**Occupational Respirator Use**

The occupational use of respirators for pesticides is regulated by the EPA’s Worker Protection Standard (WPS) in agricultural settings and OSHA’s Respiratory Protection Standard (RPS) in other settings. Before an individual wears a respirator for work, both protection standards require them to complete:

- a medical evaluation,
- fit-testing, and
- respirator training

The standards also require fit-checks with each use; recordkeeping; proper use, storage, and maintenance of respirators; and the RPS requires a written plan for respirator protection.

**Respirators and Pesticides II**

**Fit-Testing and Other Respirator Requirements for Occupational Use**

The University of Maine is an EEO/AA employer, and does not discriminate on the grounds of race, color, religion, sex, sexual orientation, including transgender status and gender expression, national origin, citizenship status, age, disability, genetic information, or veteran status in employment, education, and all other programs and activities. The following person has been designated to handle inquiries regarding nondiscrimination policies: Sarah E. Marebo, Director of Equal Opportunity, 101 North Stevens Hall, University of Maine, Orono, ME, 04469, 207.581.1226, eoinfo@umit.maine.edu.

Source material includes publications from EPA, CDC/NIOSH, OSHA, Oregon OSHA, and PERC, and Cooperative Extension Offices from Pennsylvania State University, Rutgers University, University of Florida, and University of Nebraska. Photos courtesy of USDA-ARS.


University of Maine Cooperative Extension Diagnostic and Research Laboratory
Post Management Unit, 17 Godfrey Drive, Orono, ME 04473-3592
207.581.3880 extension.diagnosticlab@umaine.edu
There are two types of fit-testing:

**Qualitative**—A pass/fail test in which the user dons the respirator and tries to detect banana oil (for respirators with an organic vapor or combo cartridge/canister), or Bitrex™ or saccharin aerosol (respirators with a particulate filter or combo cartridge/canister). These tests can be performed with relatively cheap materials, by ANYONE who can follow the protocols. Some respirator manufacturers sell qualitative fit-test ‘kits’, which include the necessary materials and protocols. Full protocols are also described in OSHA 1910.134 Appendix A and the Pesticide Educational Research Collaborative’s (PERC’s) WPS Respiratory Protection Guide.

**Quantitative**—A test administered by a specially trained individual that determines the amount of leakage, and calculates a respirator’s ‘fit-factor’ based on measurements taken inside the facepiece. For more information on fit-testing see: osha.gov/video/respiratory_protection/fittesting.html

**Where to get fit-tested in Maine**

- **Concentra** — Augusta, Bangor, Lewiston, Norway
- **Health Screening USA** — North Windham
- **Life Safety Specialists, Inc.** — Norway
- **Northern Light’s Work Health** — Bangor, Portland, Presque Isle, Waterville
- **Southern Maine Health Care’s WorkWell program** — Biddeford, Sanford
- **St. Joseph’s WorkWell** — Bangor
- Mobile health and occupational safety clinics
- Anywhere (qualitative), with the materials, protocols, and a competent helper

**Respirator Training**

Employers must provide annual respirator training to all employees who use pesticides with a respirator require-ment on the label. After the training, employees must be able to demonstrate their understanding of:

- the importance of respirators,
- the limitations of respirators,
- respirator and cartridge/canister selection and replacement,
- ...and other topics needed to institute a respirator program and put one person in charge of it.

**Other Requirements**

Employers are responsible for ensuring their employees use the right respirator(s) for the work, use them correctly, and that the respirators are maintained and stored properly. Specifically, respirators must be:

- used according to manufacturer instructions,