Respiratory Fit Testing

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Ag Health and Safety Alliance

Respiratory Exposures in Agriculture

- Respiratory exposures in many occupations including agriculture can include gases, chemicals, pesticides, organic dust, mold, exhaust from machinery, welding fumes. Selection and appropriate use of respiratory protection is key to the prevention of acute respiratory illness and long-term disease.
- Understanding respiratory hazards in agriculture and appropriate respiratory protection is key to assisting the agriculture population in the use of respirators and the prevention of short and long-term lung disease.
- Respirator Fit Testing may be required prior to using a respirator for certain occupations. Respirator fit testing determines whether a particular respirator properly fits the face of the wearer. Proper fit is required for optimal protection. This training will provide information on qualitative fit testing.

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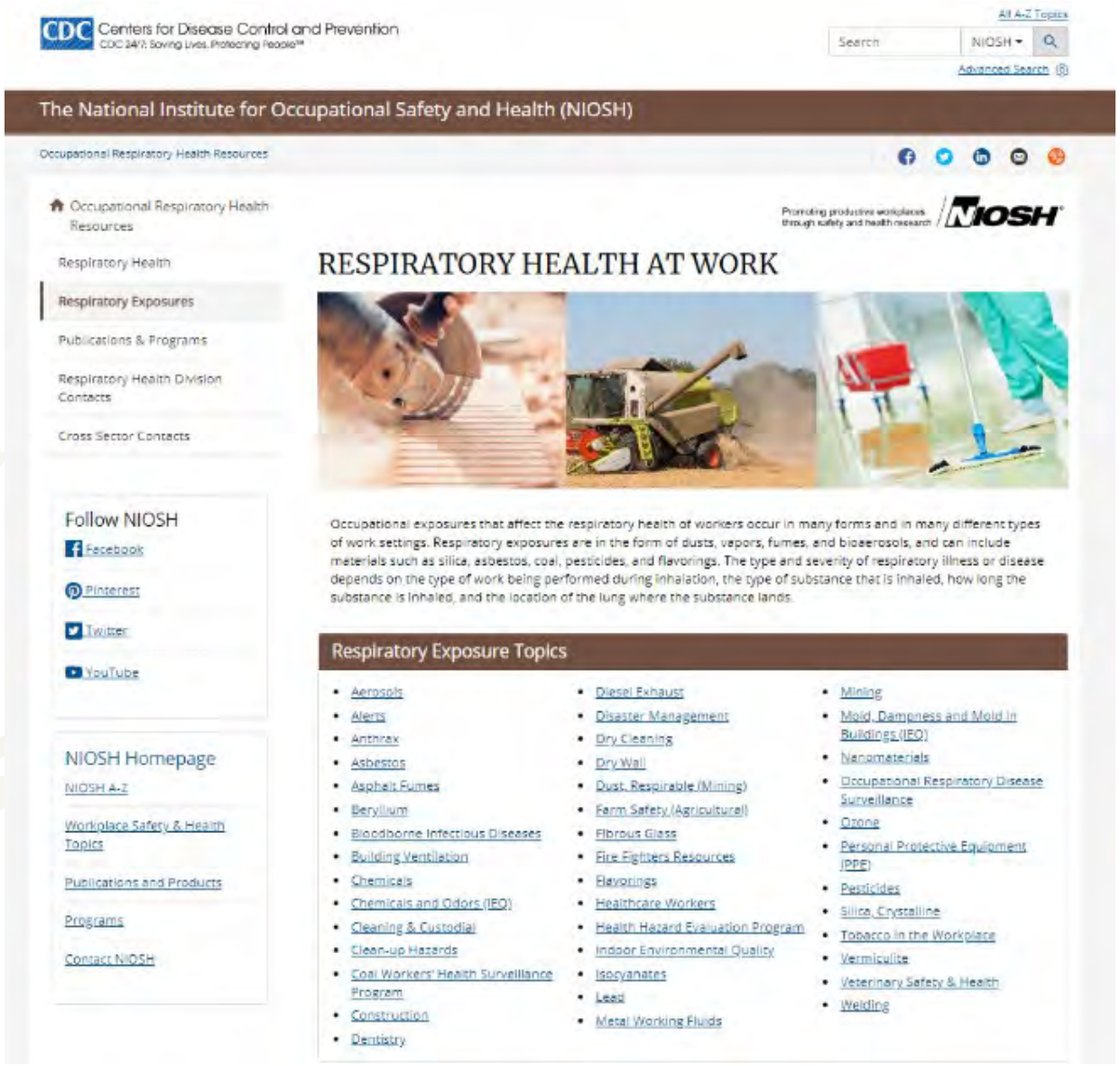
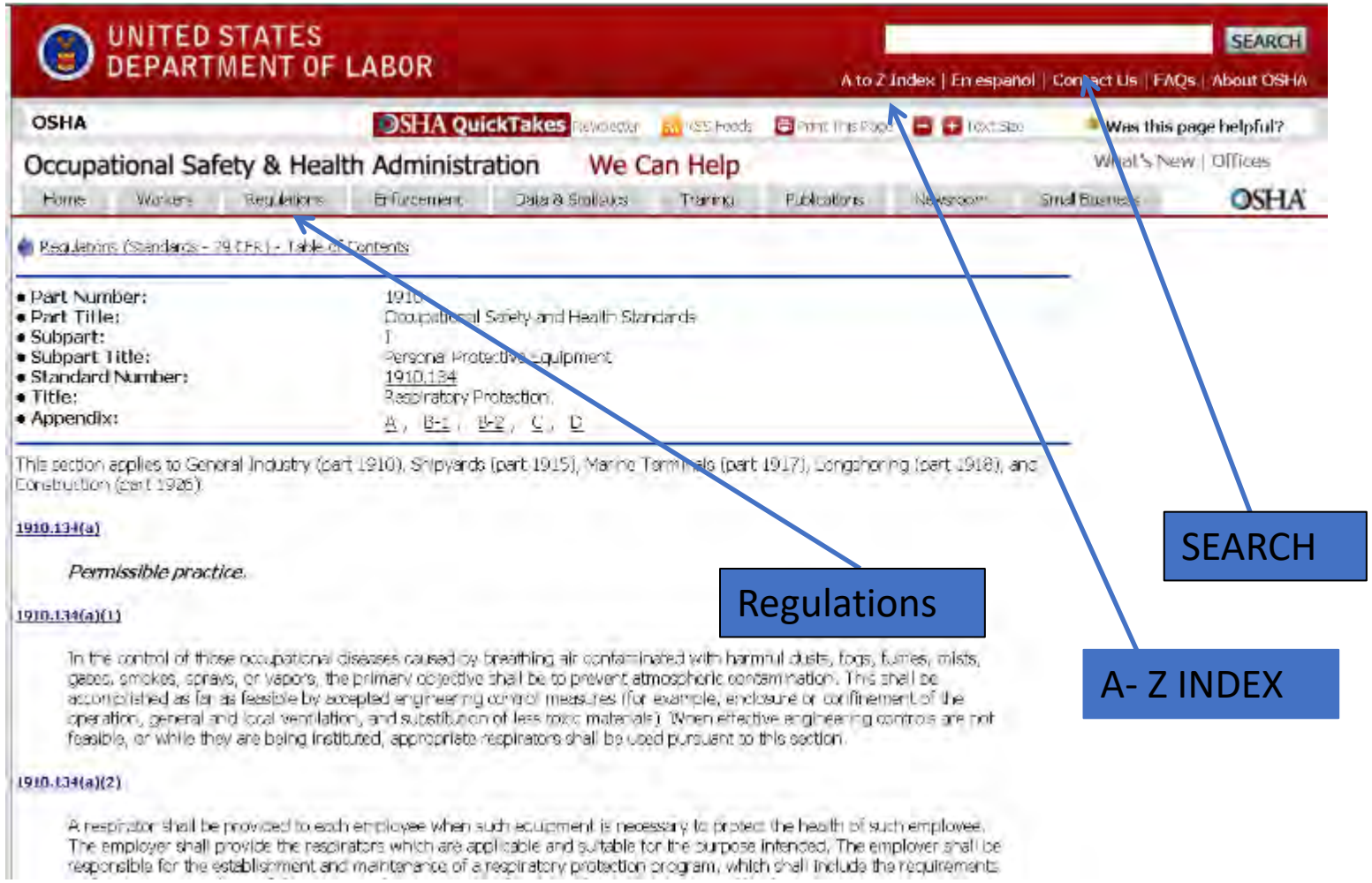
Occupational Exposures

- Occupational exposures that affect the respiratory health of workers occur in many forms and in many different types of work settings.
- Respiratory exposures are in the form of dusts, vapors, fumes, and bioaerosols, and can include materials such as silica, asbestos, coal, pesticides, and flavorings.
- The type and severity of respiratory illness or disease depends on the type of work being performed during inhalation, the type of substance that is inhaled, how long the substance is inhaled, and the location of the lung where the substance lands.



OSHA's Respiratory Protection Standard 29 CFR 1910.134



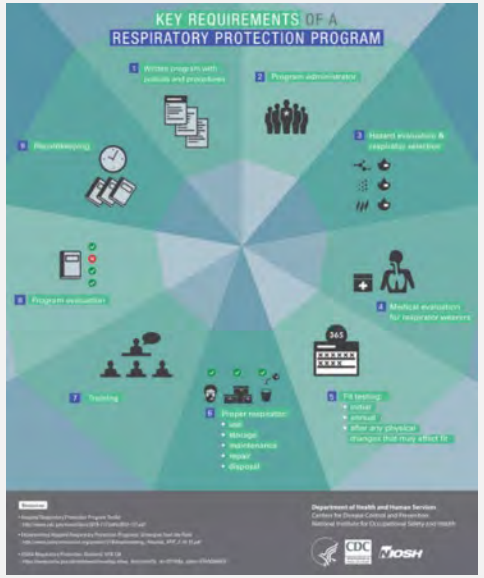
Respiratory Protection Standard

Requires employers to establish and maintain a respiratory protection program to protect their respirator-wearing employees.

- The US Occupational Safety and Hazard Administration (OSHA) is responsible for ensuring a safe workplace for employees. Millions of workers are required to wear respirators in various workplaces throughout the United States.
- Respirators protect workers against insufficient oxygen environments, harmful dusts, fogs, smokes, mists, gases, vapors, and sprays.
- Respirators provide protection from respiratory hazards only when they are properly selected and used in compliance with the Respiratory Protection standard (29 CFR 1910.134 and 29 CFR 1926.103).
- The Respiratory Protection standard applies to general industry, construction, long shoring, shipyard, and marine terminal workplaces.

Key Requirements

Respiratory Protection Standard
29 CFR 1910.134



Key requirements of a respiratory protection program include the following:

1. Written Program
2. Program Administrator
3. Hazard Identification /Risk Assessment
4. Selection of Respirators
5. Medical Screening
6. Fit testing
7. Training
8. Maintenance Program
9. Evaluation
10. Record keeping

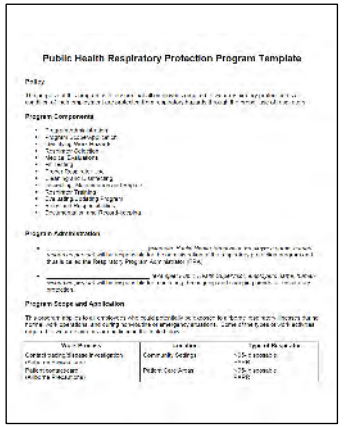
Requirement 1:

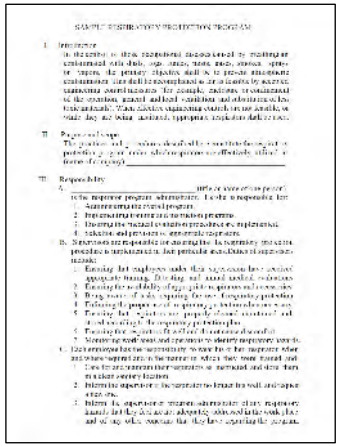
Written Program with policies and procedures

Requirement 2:

Program Administrator

Respiratory Protection Program Templates





Requirement 3:
Hazard Identification & Risk Assessment

Respiratory Exposure Assessment

- Ensure the right respiratory protection measures and equipment are used.
- Identify potential health risks to workers.
- **Measure exposure levels to see if they're acceptable or not.**
- Develop a plan to control unacceptable exposure levels.

Respiratory Hazard Assessment and Certification Form

Department:
Date:
List Engineering or Administrative Controls:

Job Description	MSDS Product/Trade Name	Contaminant	Concentration	ppm or mg/m³ PEL/ TLV	Recommended Respiratory Protection	Service Life

I have performed an evaluation of the work areas indicated above, assessed the hazards and selected the appropriate respiratory protection.

Evaluator:
Date:

Requirement 4: Selection of respirators

Selection of Respirators

- Selected based on respiratory hazards workers is exposed
- Only NIOSH certified respirators should be used
- Selected from different models and sizes so it properly fits employee
- If exposure cannot be identified, the atmosphere should be considered IDLH

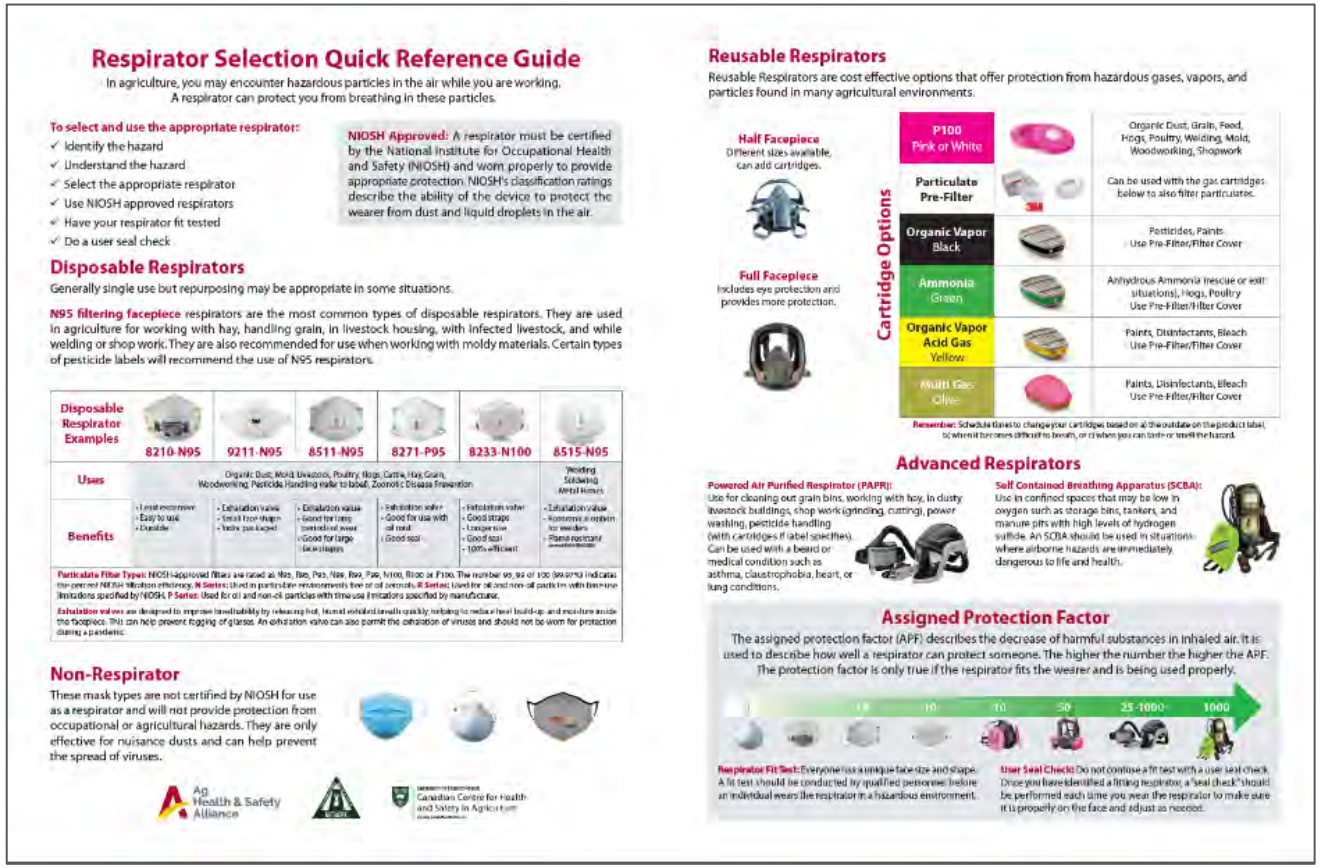
Types of Respirators

Air Purifying
- Filtering Face Piece
- Half-mask cartridge respirator
- Full-face piece
- Powered Air Purifying Respirators (PAPR)

Supplied Air

Self Contained Breathing Apparatus (SCBA)

Agriculture Respiratory Exposures



Respirator Selection Quick Reference Guide

In agriculture, you may encounter hazardous particles in the air while you are working. A respirator can protect you from breathing in these particles.

To select and use the appropriate respirator:

- ✓ Identify the hazard
- ✓ Understand the hazard
- ✓ Select the appropriate respirator
- ✓ Use NIOSH approved respirators
- ✓ Have your respirator fit tested
- ✓ Do a user seal check

NIOSH Approved: A respirator must be certified by the National Institute for Occupational Health and Safety (NIOSH) and worn properly to provide appropriate protection. NIOSH's classification ratings describe the ability of the device to protect the wearer from dust and liquid droplets in the air.

Disposable Respirators

Generally single use but repurposing may be appropriate in some situations.

N95 filtering facepiece respirators are the most common types of disposable respirators. They are used in agriculture for working with hay, handling grain, in livestock housing, with infected livestock, and while welding or shop work. They are also recommended for use when working with moldy materials. Certain types of pesticide labels will recommend the use of N95 respirators.

Disposable Respirator Examples	8210 N95	9211 N95	8511 N95	8271 P95	8233 N100	8515 N95
Uses	Organic Dust, Mold, Livestock, Poultry, Hogs, Cattle, Hay, Grain, Woodworking, Pesticide Handling (refer to label), Zoonotic Disease Prevention					Welding, Sanding, Metal Fumes
Benefits	• Least expensive • Easy to use • Durable	• Exhalation valve • Small face shapes • Extra pre-shaped	• Exhalation valve • Good for long periods of wear • Good for large face shapes	• Exhalation valve • Good for use with oil mist • Good seal	• Exhalation valve • Good straps • Longer use • Good seal • 100% efficient	• Exhalation valve • Economical option for welders • Flame resistant

Particulate Filter Type: NIOSH-approved filters are rated as N95, R95, P95, N99, R99, P99, N100, R100 or P100. The number 95, 99 or 100 (95.97%) indicates the percent NIOSH filtration efficiency. **N Series:** Used in particulate environments free of oil aerosols. **R Series:** Used for oil and non-oil particles with time use limitations specified by NIOSH. **P Series:** Used for oil and non-oil particles with time use limitations specified by manufacturer.

Exhalation valves are designed to improve breathability by releasing hot, humid exhaled breath quickly, helping to reduce heat build-up and moisture inside the facepiece. This can help prevent fogging of glasses. An exhalation valve can also permit the exhalation of viruses and should not be worn for protection during a pandemic.

Non-Respirator

These mask types are not certified by NIOSH for use as a respirator and will not provide protection from occupational or agricultural hazards. They are only effective for nuisance dusts and can help prevent the spread of viruses.

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Reusable Respirators

Reusable Respirators are cost effective options that offer protection from hazardous gases, vapors, and particles found in many agricultural environments.

Half Facepiece
Different sizes available, can add cartridges.

Full Facepiece
Includes eye protection and provides more protection.

Cartridge Options

P100 Pink or White	Organic Dust, Grain, Feed, Hogs, Poultry, Welding, Mold, Woodworking, Shopwork
Particulate Pre-Filter	Can be used with the gas cartridges below to also filter particulates.
Organic Vapor Black	Pesticides, Paints Use Pre-Filter/Filter Cover
Ammonia Green	Anhydrous Ammonia (rescue or exit situations), Hogs, Poultry Use Pre-Filter/Filter Cover
Organic Vapor Acid Gas Yellow	Paints, Disinfectants, Bleach Use Pre-Filter/Filter Cover
Multi Gas Olive	Paints, Disinfectants, Bleach Use Pre-Filter/Filter Cover

Remember: Schedule times to change your cartridges based on a) the outdate on the product label, b) when it becomes difficult to breath, or c) when you can taste or smell the hazard.

Advanced Respirators

Powered Air Purified Respirator (PAPR): Use for cleaning out grain bins, working with hay, in dusty livestock buildings, shop work (grinding, cutting), power washing, pesticide handling (with cartridges if label specifies). Can be used with a beard or medical condition such as asthma, claustrophobia, heart, or lung conditions.

Self Contained Breathing Apparatus (SCBA): Use in confined spaces that may be low in oxygen such as storage bins, tankers, and manure pits with high levels of hydrogen sulfide. An SCBA should be used in situations where airborne hazards are immediately dangerous to life and health.

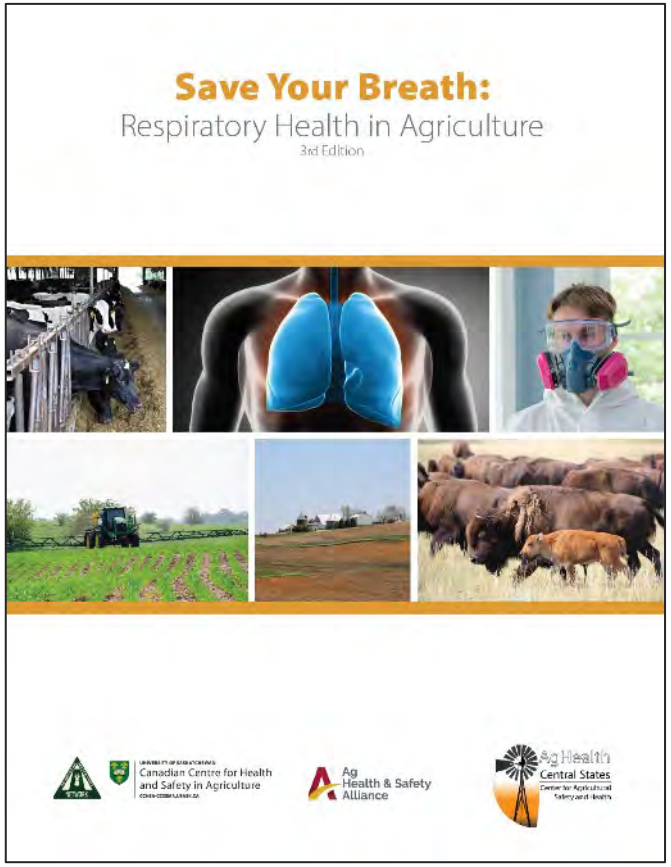
Assigned Protection Factor

The assigned protection factor (APF) describes the decrease of harmful substances in inhaled air. It is used to describe how well a respirator can protect someone. The higher the number the higher the APF. The protection factor is only true if the respirator fits the wearer and is being used properly.

10 10 10 50 25-1000 1000

Respirator Fit Test: Everyone has a unique face size and shape. A fit test should be conducted by qualified personnel before an individual wears the respirator in a hazardous environment.

User Seal Check: Do not confuse a fit test with a user seal check. Once you have identified a fitting respirator, a "seal check" should be performed each time you wear the respirator to make sure it is properly on the face and adjust as needed.



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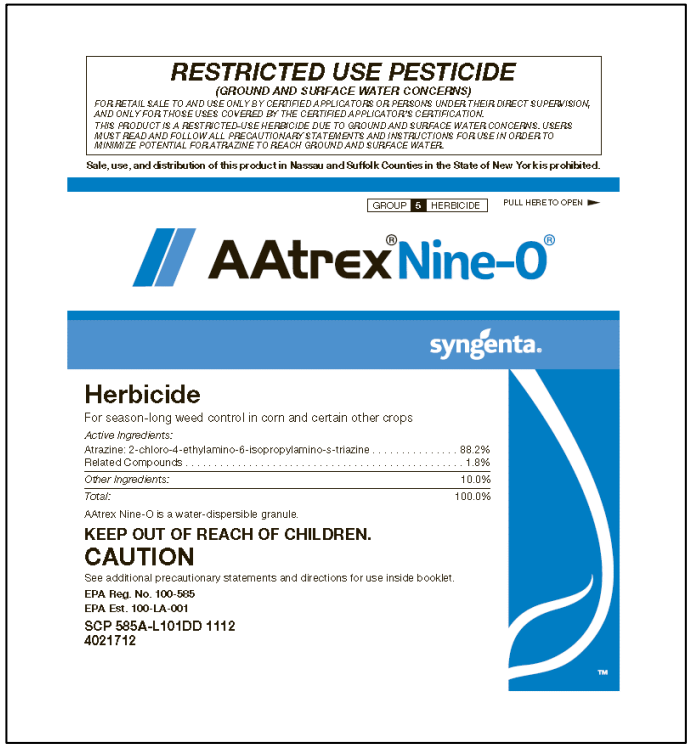
Chemical / Pesticide Exposures

Read the Label for Respiratory Protection



RESTRICTED USE PESTICIDE
(GROUND AND SURFACE WATER CONCERNS)

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.
THIS PRODUCT IS A RESTRICTED-USE HERBICIDE DUE TO GROUND AND SURFACE WATER CONCERNS. USERS MUST READ AND FOLLOW ALL PRECAUTIONARY STATEMENTS AND INSTRUCTIONS FOR USE IN ORDER TO MINIMIZE POTENTIAL FOR ATRAZINE TO REACH GROUND AND SURFACE WATER.

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

GROUP 5 HERBICIDE PULL HERE TO OPEN

AAtrex® Nine-O®

syngenta.

Herbicide

For season-long weed control in corn and certain other crops

Active Ingredients:	
Atrazine: 2-chloro-4-ethylamino-6-isopropylamino-s-triazine	88.2%
Related Compounds	1.8%
Other Ingredients:	10.0%
Total:	100.0%

AAtrex Nine-O is a water-dispersible granule.

KEEP OUT OF REACH OF CHILDREN.
CAUTION

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-585
EPA Est. 100-LA-001
SCP 585A-L101DD 1112
4021712

FIRST AID	
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything to an unconscious person.
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOT LINE NUMBER For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call **1-800-888-8372**	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed. Do not breathe dust or spray mist. Avoid contact with eyes, skin, or clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA Chemical-resistant Category Selection Chart.

Mixers, loaders, cleaners of equipment spills and other handlers exposed to the concentrate must wear:

- Coverall over long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride (PVC) ≥14 mils, or Viton® ≥14 mils
- Chemical-resistant footwear plus socks
- Chemical-resistant apron
- A NIOSH-approved dust/mist filtering respirator with any N, R, P, or HE filter or a NIOSH-approved dust/mist filtering respirator with approval number prefix TC-21C

CAUTION

Water dispersible granule, NIOSH-approved dust/mist filtering respirator with any N, R, P, or HE filter,

Or

NIOSH-approved dust/mist filtering respirator with approval number prefix TC-21C.

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Requirement 5: Medical Evaluation


OSHA INFOSHEET

OSHA INFOSHEET

- Evaluation of employees' health to make sure they can wear a respirator.
- Before wearing a respirator, workers must first be medically evaluated using the mandatory medical questionnaire or an equivalent method.
- To facilitate these medical evaluations, this INFOSHEET includes the mandatory medical questionnaire to be used for these evaluations.

Medical certification for respirators is a very important part of the activities of the occupational physician. It not only entails the ability to decide which worker is able to tolerate the added strain of a respiratory protective device (as a matter of fact, for most people able to do the job, there is usually a respirator model which will ®t their needs).

Rather, it should be viewed as a whole decision process where fitness for work, integration of intrinsic factors related to the health of the individual and of extrinsic factors related to the characteristics of the work itself, together with the properties, type and requirements of the respiratory protective device, should be combined.

More importantly, however, medical cortication for respirator use should be viewed as an element of a comprehensive respiratory protection program. This is the real key factor in affording workers' effective respiratory protection once the initial steps of the hierarchy of methods of hazard control have proven insufficient or infeasible.
https://www.health.state.mn.us/facilities/patientsafety/infectioncontrol/rpp/comp/evaluation.html

Medical Evaluation for Respirator Use

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Journal of Biological Engineering

REVIEW Open Access

Respirator masks protect health but impact performance: a review

Arthur T. Johnson

SECTION 2: MEDICAL EVALUATIONS

Handler employers must provide a medical evaluation to each handler who will be required by a pesticide product label to use a respirator.

How do I find a PLHCP to do the respirator medical evaluations?

Look up "Occupational Physicians/Clinics" OR search online for "occupational physicians" or "occupational health clinics" plus your city or area. Medical evaluations can be conducted by any health care professional whose licensing permits this activity. However, not all health care professionals receive training in occupational medicine and may not be familiar with workplace rule requirements.

Each handler must be medically evaluated — by a Physician or other Licensed Health-Care Professional (PLHCP) — to make sure they can use a respirator without putting their health at risk. The medical evaluation must be done before the handler uses the respirator and before the fit test is conducted. Any employee refusing a medical evaluation must not be permitted to work with pesticide products that require respirators. The medical examination must be done at no cost to the employee.

The health care provider may perform the medical evaluation in person or by questionnaire. Sample questionnaires are available online. Occupational health clinics may also have medical evaluation forms on file. They typically include one section for the employer to complete, listing the type of respirator to be used, duration, and types of anticipated activities. Another section asks the employee questions about his or her health status. To protect medical privacy, this section should not be reviewed by the employer. A third section allows the PLHCP to make recommendations and approve or disapprove the use of respirators by the individual.

It is very important that each handler understands the questions and answers them honestly. When using a questionnaire, make sure that employees can read and understand the terms. If there is uncertainty about that, the employee should get help from someone other than the employer, such as a trusted friend, family member, or medical staff.

When should handlers be re-evaluated?

A medical evaluation is required one time unless another medical evaluation is required for any of the following reasons:

- If the PLHCP requires another evaluation within a specified period of time.
- If the employee reports signs such as shortness of breath, dizziness, chest pains, or wheezing related to respirator use.
- If the employer, a supervisor, or the PLHCP notices a problem; or if observations made by anyone during use or fit-testing indicates a need for re-evaluation.
- If a change occurs in working conditions that may result in an increased physiological burden on the employee.

Sample medical evaluation forms are available:
English: https://www.osha.gov/Publications/OSHA3789info.pdf
Spanish: https://www.osha.gov/SLTC/respiratoryprotection/medicalevaluation_sp.html

WPS Respiratory Protection Guide 17

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Requirement 6:
Respirator Fit Testing

- Must be Fit Tested with same brand, model and size that will be used.
- Must be Fit Tested before first use.

Filtering out Confusion:
Frequently Asked Questions about Respiratory Protection

Fit Testing

What is a Respirator Fit Test?

How Often Must Fit Testing Be Conducted?

Types of fit testing

Two types of fit testing

- Qualitative
- Quantitative

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Quantitative

- Quantitative fit testing uses a machine to measure the actual amount of leakage into the facepiece and does not rely upon your sense of taste, smell, or irritation in order to detect leakage.
- The respirators used during this type of fit testing will have a probe attached to the facepiece that will be connected to the machine by a hose. There are three quantitative fit test methods accepted by OSHA:
    - Generated aerosol;
    - Ambient aerosol; and
    - Controlled Negative Pressure.

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Qualitative

- Qualitative fit testing is a pass/fail test method that uses your sense of taste or smell, or your reaction to an irritant in order to detect leakage into the respirator facepiece.
- Qualitative fit testing does not measure the actual amount of leakage. Whether the respirator passes or fails the test is based simply on you detecting leakage of the test substance into your facepiece.
- Four qualitative fit test methods accepted by OSHA:
    - Isoamyl acetate, which smells like bananas;
    - Saccharin, which leaves a sweet taste in your mouth;
    - Bitrex, which leaves a bitter taste in your mouth; and
    - Irritant smoke, which can cause coughing.

These methods use the reaction of workers to the taste or smell of a special material (if it leaks into mask) Such reactions are subjective, making this test dependent on the subject reporting results honestly.

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Fit Test Kits

Available online

Include Instructions

- Types
  - Recommend having bitrex and saccharin, in case someone is not sensitive to one type
- Equipment
  - Hood
  - Nebulizer
  - Sensitivity solution
  - Test solution
- Maintenance
  - Test and Sensitivity solutions expire. Make sure they have current stock.
- Cost
  - Range $250 - $500
- Replacement parts and solutions

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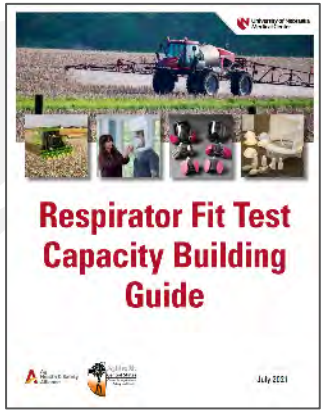
How does this work in practice?

Roles and Responsibilities

Scope of Practice



Roles and Responsibilities

What is your role in respirator fit testing based on professional capacity?
Roles and responsibilities related to respirator fit testing and medical evaluation is directly related to your scope of practice when you are a professional such as a nurse or physician. There are aspects of respirator fit testing that can be done by someone who is not a health care provider or a safety professional.

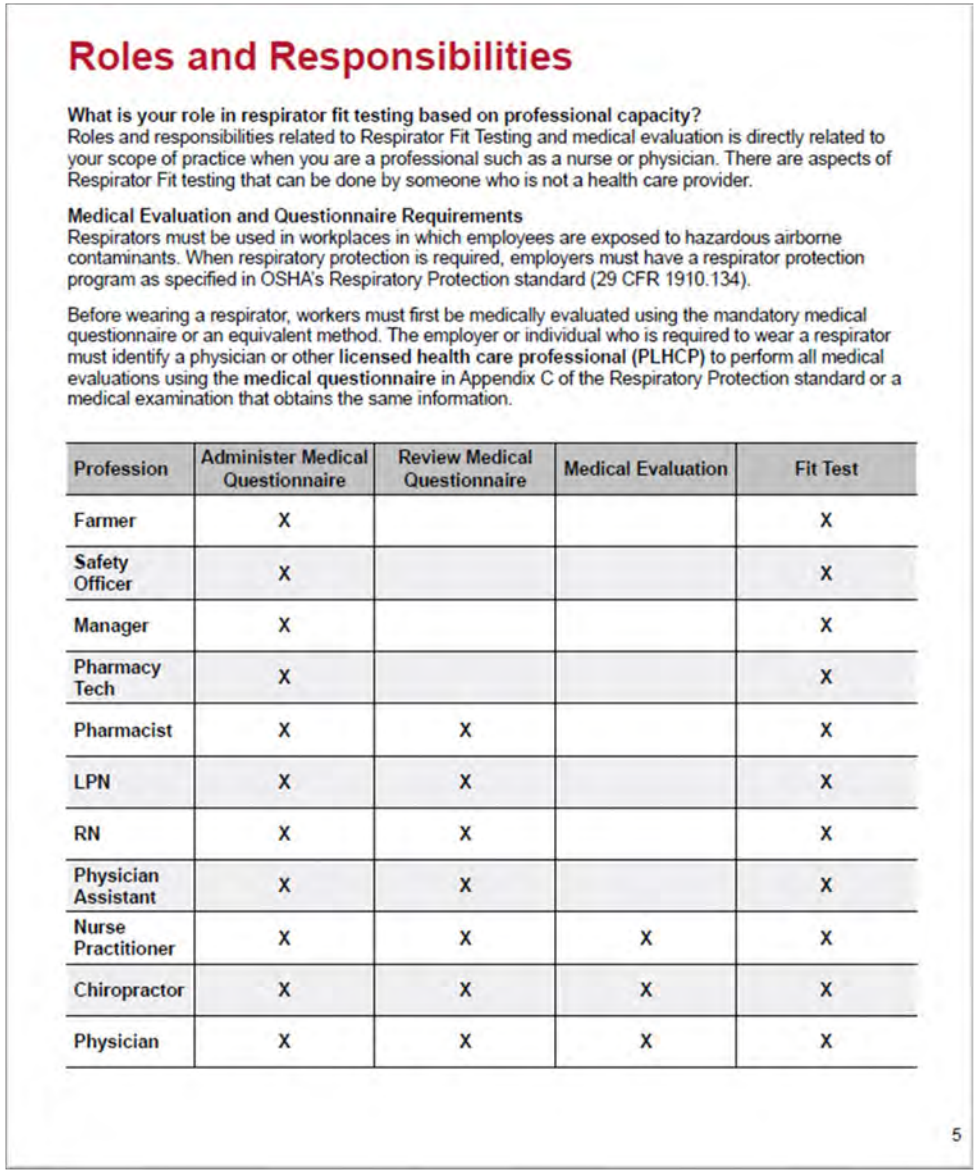
Medical Evaluation and Questionnaire Requirements
Respirators must be used in workplaces in which employees are exposed to hazardous airborne contaminants. When respiratory protection is required, employers must have a respirator protection program as specified in OSHA's Respiratory Protection standard (29 CFR 1910.134). OSHA guidance can be found on the OSHA.gov website: https://www.osha.gov/respiratory-protection/general

Before wearing a respirator, workers must first be medically evaluated using the mandatory medical questionnaire or an equivalent method. The employer or individual who is required to wear a respirator must identify a physician or other **licensed health care professional (PLHCP)** to perform all medical evaluations using the **medical questionnaire** in Appendix C of the Respiratory Protection standard or a medical examination that obtains the same information. A variety of health care professionals may do this depending on the scope of practice permitted by the state's licensing, registration, or certification agencies. Each employer must check with the state licensing agency to see if other health care professionals under their state law can independently perform this evaluation or must do so under the direction of a licensed physician.

Profession	Administer Medical Questionnaire	Review Medical Questionnaire	Medical Evaluation	Fit Test
Farmer	X			X
Safety Officer or Manager	X			X
Extension Personnel	X			X
Pharmacy Tech	X			X
Pharmacist	X	X		X
Respiratory Therapist	X			X
Licensed Practical Nurse (LPN)	X	X		X
Registered Nurse	X	X		X
Physician Assistant	X	X		X
Nurse Practitioner	X	X	X	X
Chiropractor	X	X	X	X
Physician	X	X	X	X

Important Steps

- Individual completes medical questionnaire
- Review questionnaire *(PLHCP) physician or other licensed health car professional.* https://www.osha.gov/qna.pdf
- Medical exam if needed
- Determine which respirator is needed
- Respirator types, brands, sizes
- Set up equipment
- Follow procedure based on OSHA requirements and fit test kit instructions.
- Documentation



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Profession	Administer Medical Questionnaire	Review Medical Questionnaire	Medical Evaluation	Fit Test
Farmer	X			X
Safety Officer	X			X
Manager	X			X
Pharmacy Tech	X			X
Pharmacist	X	X		X
LPN	X	X		X
RN	X	X		X
Physician Assistant	X	X		X
Nurse Practitioner	X	X	X	X
Chiropractor	X	X	X	X
Physician	X	X	X	X

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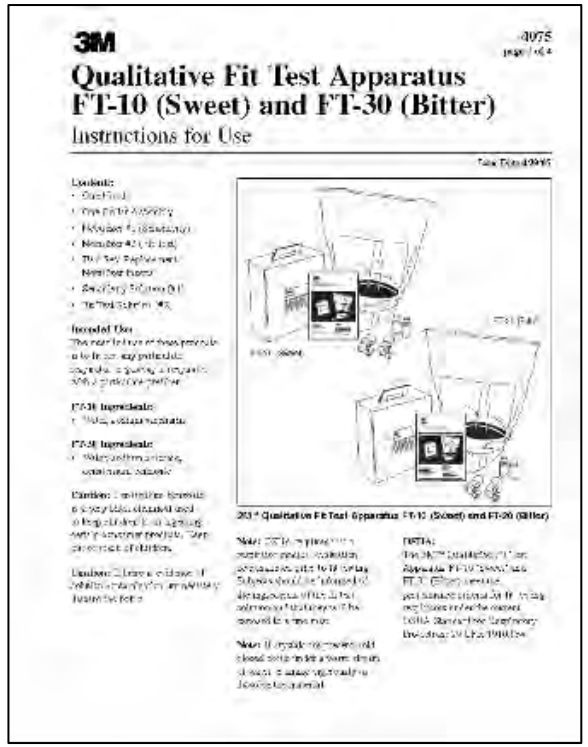
Fit Test Procedure



- Select mask for testing
  - This may not be your expertise
  - Person may bring mask along
  - Need different models and sizes
- Inspect Respirator
- Taste threshold (sensitivity test)
- User seal check
- Actual fit test
  - Exercises/movement
  - Reading rainbow paragraph
- What to do if respirator/user doesn't pass
  - Adjust and repeat from User seal check.
  - Go back to Select mask for testing.

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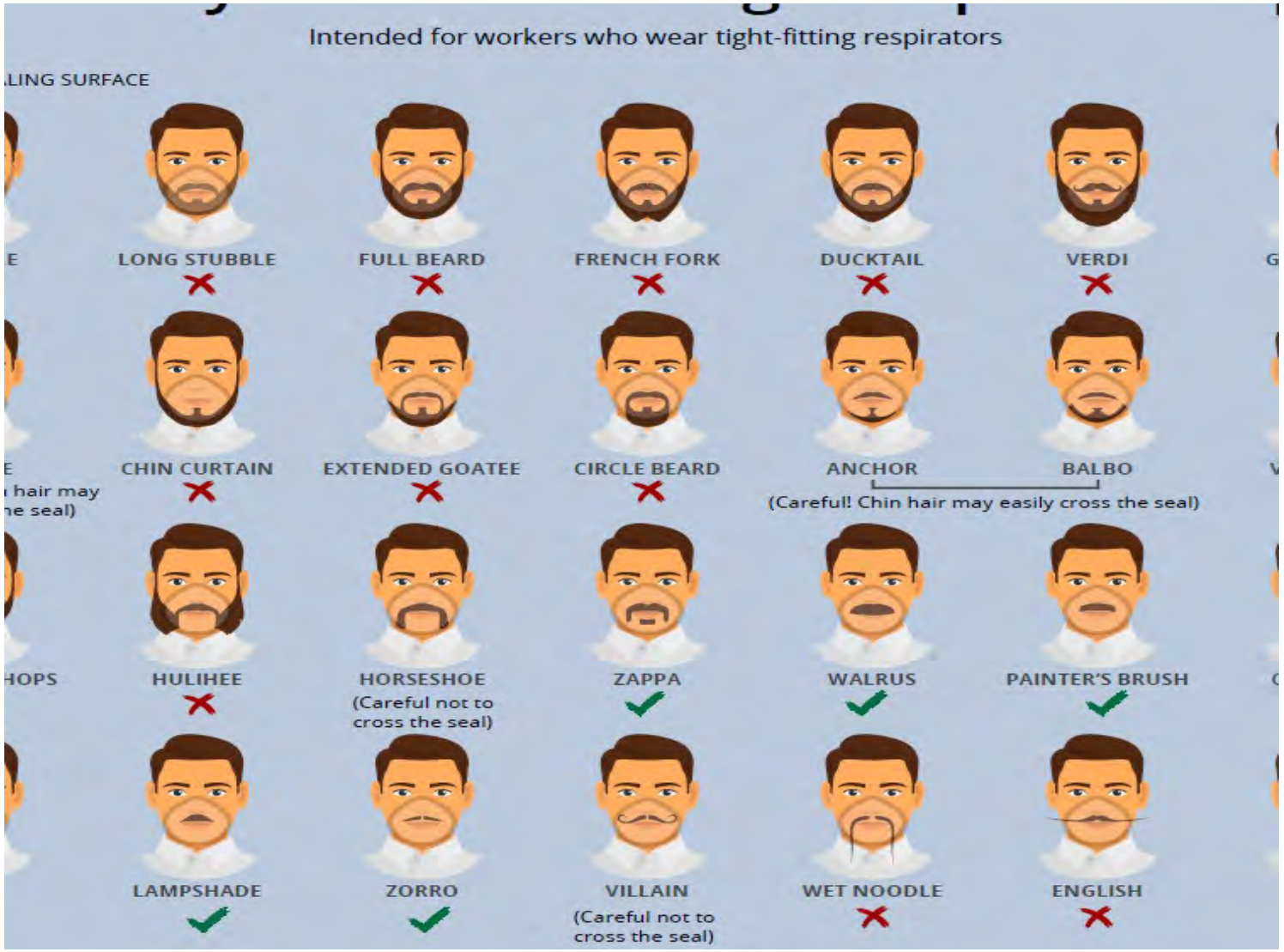

Facial Hair

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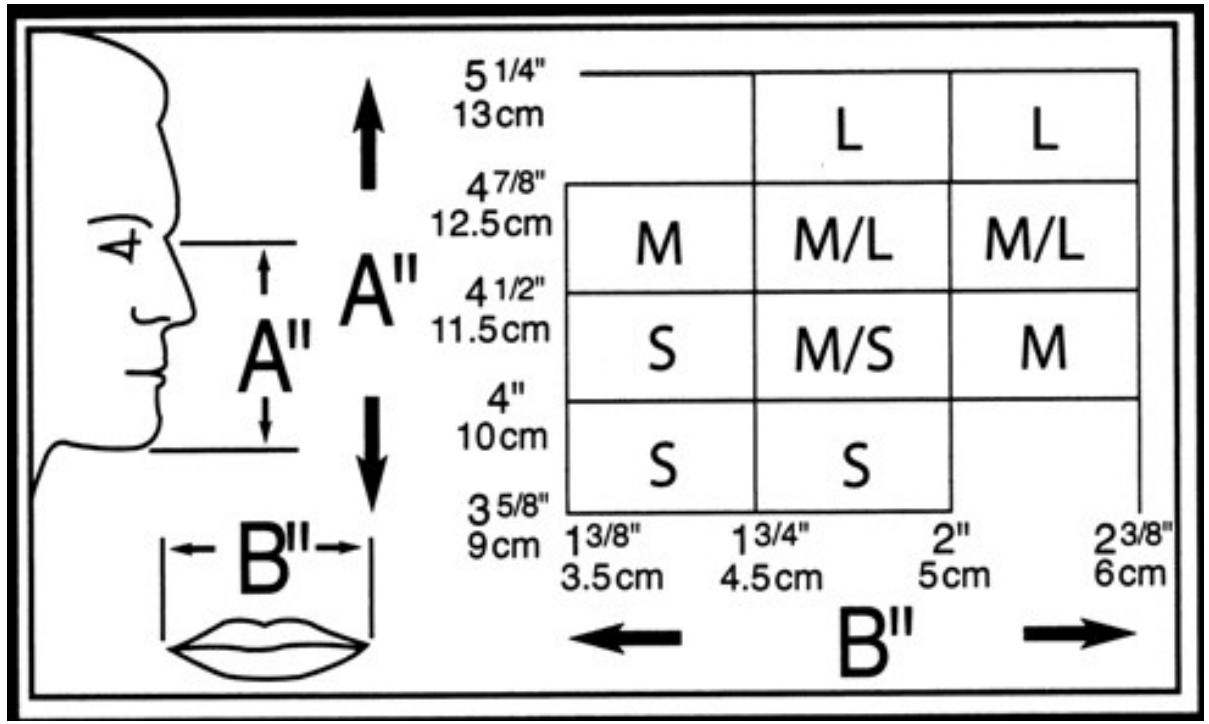
Respirator size



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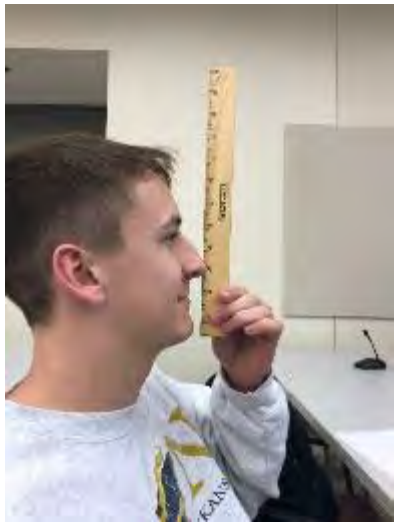
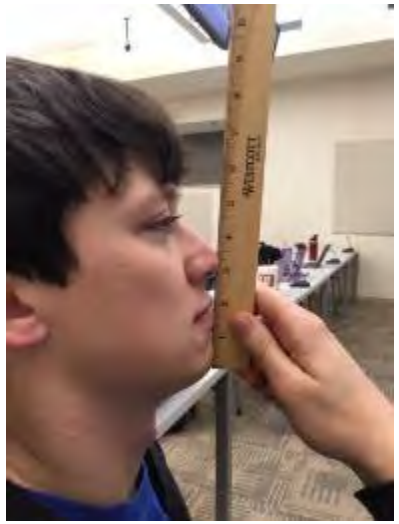
Large



Medium



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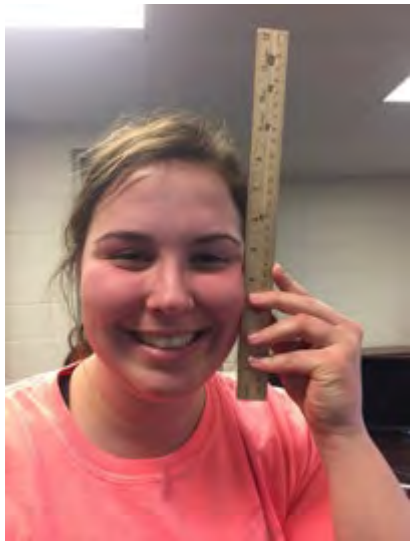
Medium



Idk-???

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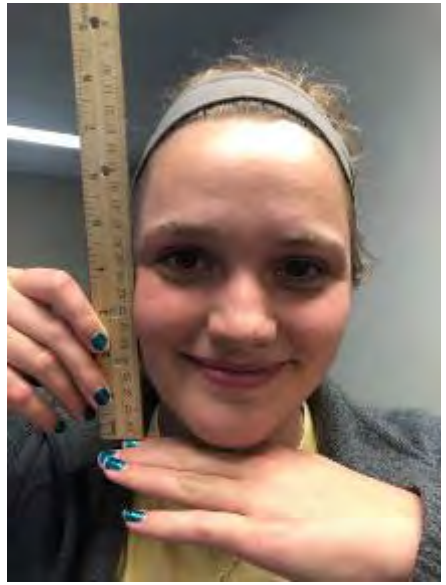
Small

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User Seal Check versus Fit Test

User Seal Check

- A user seal check is a quick check performed by the wearer each time the respirator is put on.
- It determines if the respirator is properly seated to the face or needs adjustment.

Fit Test

- A “fit test” tests the seal between the respirator's facepiece and your face. It takes about 15 to 20 minutes to complete and is performed at least annually.
- After passing a fit test with a respirator, you must use the exact same make, model, style, and size respirator on the job.
- Fit Test is done by introducing an agent around the respirator to determine if an individual can smell or taste while wearing the respirator.

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Inspection Checklist

Respirator Inspection Checklist	
Facepiece	☐ No cracks, tears, or holes ☐ No facemask distortion ☐ No cracked or loose lenses or face shields
Head straps	☐ No breaks or tears ☐ No broken buckles
Valves	☐ No residue or dirt, cracks, or tears in valve material
Filters and cartridges	☐ NIOSH approved ☐ Gaskets seat properly ☐ No cracks or dents in housing ☐ Proper cartridge for hazards
Air supply systems	☐ Breathing-quality air is used ☐ Supply hoses are in good condition ☐ Hoses are properly connected ☐ Settings on regulators and valves are correct

*This checklist represents a general overview of respirator inspection requirements. Always refer to the manufacturer's user manual for more detailed information.

Source: Oregon OSHA, found at Pesticide Educational Resources Collaborative.

Documentation
Fit Test Record

The following record sheet was adapted from Oregon OSHA's materials found at the Pesticide Education Resources Collaborative (PERC).

It is meant to serve as a model for a form that can be used during the fit test to record data (sensitivity and fit test results), and then kept on file to satisfy WPS recordkeeping requirements.

Fit Test Record

Date: _____

Employee name: _____

Job/Classification: _____

Farm/Company: _____

Fit test method *(circle one)*: Qualitative saccharin Qualitative bitrex *(for either of these, the respirator must have particulate filters)*
Qualitative TSA *(respirator must have organic vapor cartridges)*

Taste Threshold Results *(Circle one)*

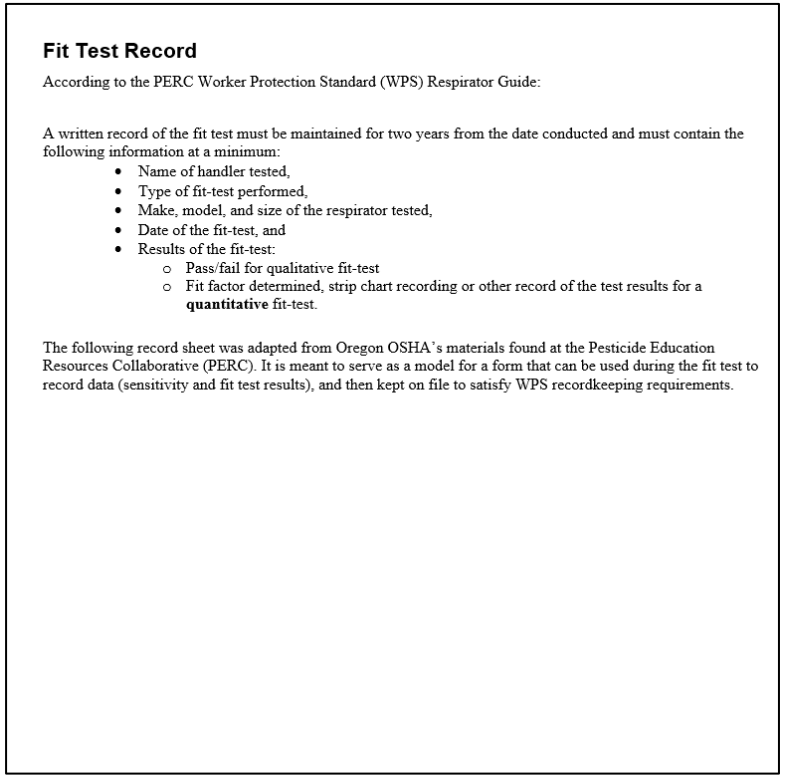
10 squeezes ..... 20 squeezes 30 squeezes

½ to be administered every 30 seconds during Fit Test Exercises *(Circle one)*.

5 squeezes ..... 10 squeezes 15 squeezes

Type of respirator	Make/model/size (Must include all three)	Fit factor/results (Circle one)	
		Pass	Fail
		Pass	Fail
		Pass	Fail
		Pass	Fail

Person conducting the fit test: _____



Fit Test Record

According to the PERC Worker Protection Standard (WPS) Respirator Guide:

A written record of the fit test must be maintained for two years from the date conducted and must contain the following information at a minimum:

- Name of handler tested,
- Type of fit-test performed,
- Make, model, and size of the respirator tested,
- Date of the fit-test, and
- Results of the fit-test:
  - Pass/fail for qualitative fit-test
  - Fit factor determined, strip chart recording or other record of the test results for a **quantitative** fit-test.

The following record sheet was adapted from Oregon OSHA's materials found at the Pesticide Education Resources Collaborative (PERC). It is meant to serve as a model for a form that can be used during the fit test to record data (sensitivity and fit test results), and then kept on file to satisfy WPS recordkeeping requirements.

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Requirement: 7. Training

- Requires employer to provide effective training to employees who are required to use respirators.
- The training must be comprehensive, understandable, and recur annually, and more often if necessary.
- Retraining shall be administered annually, and when the following situations occur:
  - Changes in the workplace or the type of respirator render previous training obsolete;
  - Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
  - Any other situation arises in which retraining appears necessary to ensure safe respirator use.

Department of Labor OSHA Respiratory Protection Training Requirements Video

AgHealth Central States Center for Agricultural Safety and Health

Requirement 8. Maintenance

- The employer must provide for the cleaning and disinfecting, storage, inspection, and repair of respirators used by employees.
- Conscientious respirator maintenance should be an integral part of an overall respirator program.
- This maintenance applies both to respirators with replaceable filters and respirators that are classified as disposable but that are reused.
- Manufacturers' instructions for inspecting, cleaning, and maintaining respirators should be followed to ensure that the respirator continues to function properly.

Respirator Inspection Checklist	
Facepiece	☐ No cracks, tears, or holes ☐ No facemask distortion ☐ No cracked or loose lenses or face shields
Head straps	☐ No breaks or tears ☐ No broken buckles
Valves	☐ No residue or dirt, cracks, or tears in valve material
Filters and cartridges	☐ NIOSH approved ☐ Gaskets seat properly ☐ No cracks or dents in housing ☐ Proper cartridge for hazards
Air supply systems	☐ Breathing-quality air is used ☐ Supply hoses are in good condition ☐ Hoses are properly connected ☐ Settings on regulators and valves are correct

Requirement 9: Evaluation

- Evaluations of the workplace must be conducted annually or as necessary to ensure effective implementation of the program - - review of the program periodically to make sure it's being run properly

- Employees required to use respirators must be consulted regularly to assess their views on program effectiveness and to identify and correct any problems
  - factors to be assessed include, but are not limited to:
  - respirator fit (including effect on workplace performance)
  - appropriate selection
  - proper use
  - proper maintenance

Requirement 10:
Record keeping

- Records of medical evaluations must be retained.
- A record of fit tests must be established and retained until the next fit test is administered.
- A written copy of the current program must be retained.
- Written materials required to be retained must be made available upon request to affected employees and OSHA.

Documentation and Record-keeping

- A written copy of this program can be found in _____ *(example: policy and procedure manual)*.
- _____ *(example: RPA, clinic supervisor, employer's name, human resources person)* maintains the medical information for all employees covered under the respiratory program.
- The completed medical forms and documented medical recommendations are confidential and will remain with/in _____ *(example: RPA, the healthcare provider conducting the evaluation, clinic supervisor, employer's name, human resources person)*.
- All relevant medical information must be maintained for the duration of the employment of the individual plus thirty years.

Public Health Respiratory Protection Program Template

Policy

Program Components

Program Administration

Program Scope and Application

Demonstration

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cience.
pplied to Life.™

Quick Reference Guide: Qualitative Fit Testin

and 3M™ FT-30 (bitter) fit test kits are suitable for disposable respirators, d with particulate filters, and full facepieces fitted with particulate filters.[1]

be clean-
a proper fit
tor.

Please note, in order to carry out a full fit test, all the steps detailed below must be followed (Parts 1 & 2).

vity Testing (The "Taste Test")

on of sensitivity
abeled bottle) into
bulizer (marked in
nfirm that the
es a cloud of
e bulb is squeezed.

on participant. A
l not be worn during
st.

ant to breathe
uth with their
xtended and ask
immediately when
lution.

ulb completely and
izer to the side
tly at the subject,
into the hood and
er of squeezes it
ution to be tasted.

ipant may drink

f solution is not tasted after 30 an alternative solution from below.

3M-FT11 (sensitivity solution)
3M-FT12 (test solution)

3M-FT31 (sensitivity solution)
3M-FT32 (test solution)

e used when an assigned protection factor higher than 10 used in negative pressure mode, per 29 CFR 1910.134

Part 2 - Fit Testing

1. Add 1/2 teaspoon of test solution (in black labeled bottle) into the test nebulizer (marked in black). Visually confirm that the nebulizer produces a cloud of aerosol when the bulb is squeezed.
2. Don the respirator and make sure respirator is fitted correctly. Refer to the 3M fitting instructions or poster for correct procedure. After the respirator is correctly donned, wait five minutes before beginning the next step.
3. Place test hood on participant.

Number of Squeezes Needed in Part 1	Number of Squeezes for Initial Dose	Number of Squeezes for a Replenishing Dose Every 30 Seconds
1-10	10	5
11-20	20	10
21-30	30	15

4. Introduce solution in an initia
exercises. Add a replenishin
second per the table below.
5. After the initial dose, ask the
the 7 exercises shown in tur
indicate immediately if soluti
to add a replenishing dose e
Throughout the test, remin
breathe through their mout
that the nebulizer is not clo
6. Record all results.
If solution is not tasted after
have passed the test with th
solution is tasted, stop the t
and hands, refit respirator a
Sensitivity Testing.
If solution is still tasted on th
the test, rinse hands, mouth,
trying an alternative 3M resp
7. Discard all unused solution.

7 Exercises

1. Breathe normally 2. Breathe deeply 3. Head side-to-side 4. Head up and down 5. Talking 6. Bend ov

This product is part of a system that helps reduce exposures to certain airborne contaminants. Before use, and understand these User Instructions. Follow all local regulations. In the U.S., a written respiratory protec implemented meeting all the requirements of 29 CFR 1910.134, including training, fit testing and medical e standard Z94.4 requirements must be met and/or requirements of the applicable jurisdiction, as appropria injury, sickness or death. For correct use, consult supervisor and User Instructions, or call 3M Technical Se 1-800-243-4630 and in Canada at 1-800-267-4414.

-70 **In United States of America**
Technical Service: 1-800-243-4630
Customer Service: 1-800-328-1667
only. 3M.com/workersafety

In Canada
Technical Service: 1-800-267-4414
Customer Service: 1-800-364-3577
3M.ca/Safety

For a demo
video, visit
go.3M.com

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Rainbow Passage*

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

Pasaje Arcoiris (Española)*

Cuando la luz del sol ilumina a las gotas de lluvia en el aire, estas actuan como un prisma y forman un arco iris. El arco iris es una división de luz blanca dentro de muchos colores bellos. Estos toman la forma de un arco largo redondeado con su paso alto arriba, y sus dos extremos aparentemente están más allá del horizonte. Hay, de acuerdo con la leyenda, un recipiente con oro hirviendo en un extremo. La gente mira, pero nadie nunca lo encuentra. Cuando un hombre busca algo más allá del alcance, sus amigos dicen que el está buscando el recipiente de oro en el extremo del arco iris.

*Occupational Safety and Health Administration (1974). Occupational Safety and Health Standards,1910.134, Appendix A. Fit Testing Procedures (Mandatory) https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9780

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Resources

OSHA Resources:
https://www.osha.gov/respiratory-protection

CDC /NIOSH Resources:
https://www.cdc.gov/niosh/topics/respirators/
https://www.cdc.gov/niosh/npptl/FactSheets.html

Minnesota Department of Public Health
https://www.health.state.mn.us/facilities/patientsafety/infectioncontrol/rpp/index.html

Ag Health and Safety Alliance Respiratory Resources:
https://aghealthandsafety.com/respiratory/

AgHealth
Central States
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Coming Soon

AgHealth Central States Center for Agricultural Safety and Health

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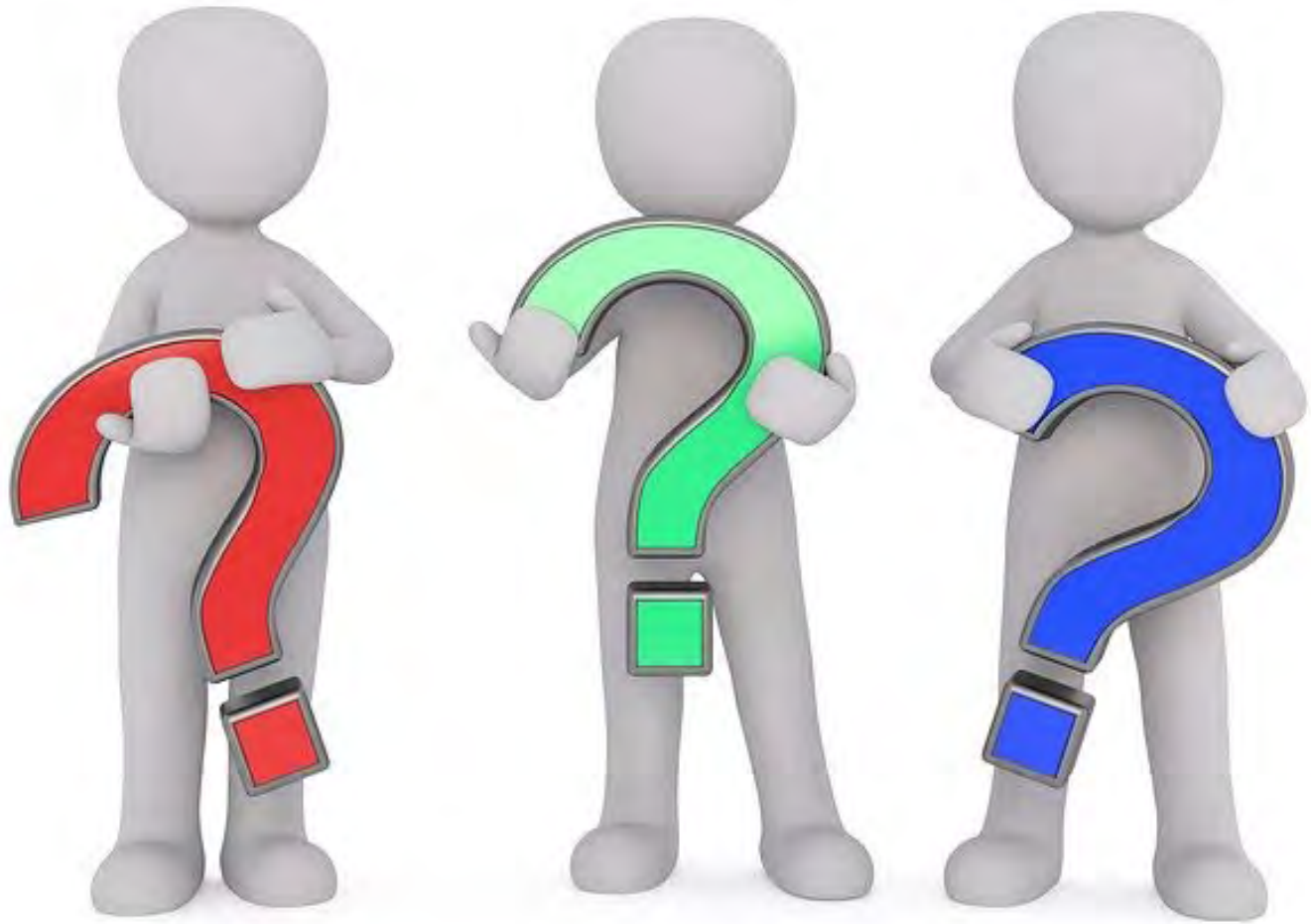

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