

**Canadian  
Agricultural  
Safety Week  
Mar. 11-17, 2009**

# **FACT SHEET #8**

**THE CANADIAN FEDERATION OF AGRICULTURE**

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## **Safety is in the air**

Dusty fields, mouldy hay, silos, grain bins, bird droppings, dust from animal hair, feathers, or fur, chemicals, manure, feedstuffs – the list of potential air-borne hazards on a farm is endless. Farmer's Lung and Organic Dust Toxicity Syndrome (ODTS) are just two of many reactions to farm-related respiratory hazards and can result in costly medical treatment, permanent lung damage or death.

*"PPE only works if you use it!"* is the theme of this year's Canadian Agricultural Safety campaign with a focus on the use, fit and access of personal protective equipment (PPE) in agriculture. The yearlong campaign will be launched with Canadian Agricultural Safety Week (CASW), from March 11 to 17, 2009. The Canadian Federation of Agriculture (CFA) and Canadian Agricultural Safety Association (CASA) deliver CASW in partnership with Farm Credit Canada (FCC) and Agriculture and Agri-Food Canada (AAFC).

"Farming and ranching is often thought of as a lifestyle filled with fresh air and sunshine," says Ron Bonnet, CFA Second VP. "While this is often true, the stark reality is that there are also many hazardous respiratory situations in agriculture and they need to be handled with proper awareness, training and PPE."

Assessing the respiratory hazard is the first step to determining the type of respirator needed. There are three basic categories of hazards: particulates; gases and vapours; and oxygen-deficient atmospheres.

Particulate contaminants include dusts, mists, and fumes. Dust can be released when, for example, mouldy hay, silage, or grain is disturbed. Mists are suspended liquid droplets usually found near mixing, spraying, and cleaning operations. Fumes are microscopic solid particles of evaporated metal formed during activities such as welding. Particulate contaminants need air-purifying devices such as particulate or chemical cartridge respirators.

Respiratory hazards include gases and vapours. Gases are chemicals that are gaseous at ambient (room) temperature such as hydrogen sulphide, the deadly manure pit gas; nitrogen dioxide, also known as silo gas; and carbon monoxide from operating internal combustion engines. Vapours are released from liquids, such as pesticides, paints, adhesives, and lacquer thinner. A chemical cartridge respirator is the appropriate PPE when working with gases and vapours.

The final category of respiratory hazards is an oxygen-deficient atmosphere. Examples of oxygen-deficient atmospheres include confined spaces, manure storage, oxygen-limiting (sealed)

silos and controlled atmosphere (CA) storage for fruits and vegetables. In such structures, the oxygen content of breathable air, normally about 21 per cent, is reduced to levels as low as 5 per cent. The reduction in oxygen may occur deliberately, such as with CA storage, or oxygen may be displaced by other gases as in manure storage and conventional silos. For oxygen-deficient atmospheres an oxygen-providing device such as a supplied-air respirator or self-contained breathing apparatus is required.

Once you've pinpointed the hazard or hazards and before resorting to a respirator, try to reduce or eliminate the source of the problem. For example, use a different management practice when harvesting and storing crops to reduce dust and mould. Provide improved ventilation in your barn or work outdoors instead of in an enclosed building. Another possibility may be to use a non-toxic, less toxic, or less volatile pesticide. After you have tried to reduce or eliminate the hazard, if you are still at risk, use appropriate respirator protection for the type of hazard.

The CFA along with FCC, CASA and AAFC want to remind Canadian farmers that "*PPE only works if you use it!*"

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\*\*\* Free photos and cartoons are available to accompany this article at [www.casa-acsa.ca](http://www.casa-acsa.ca) .

**For more information call:**

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