

Asthma and Farming

WHAT YOU NEED TO KNOW

43%

Percent of Minnesota adults with asthma reporting that their asthma was caused or made worse by a current or previous job.

What is asthma?

Asthma is one of the most common chronic (lifelong) health conditions with an estimated 24.8 million Americans who have the diagnosis. Here in Minnesota, we know that approximately 393,000 Minnesotans – 1 in 14 children and 1 in 13 adults live with asthma each and every day.

Symptoms of asthma

Asthma symptoms may vary from person-to-person. Symptoms can include:

- Wheezing – Wheezing is a whistling or squeaky sound when you breathe out.
- Coughing – Coughing from asthma is often worse at night or early in the morning, making it hard to sleep. Sometimes coughing can be the only symptom.
- Shortness of breath – Some people feel like they can't catch their breath or feel breathless, as if they can't get air out of their lungs.
- Chest tightness or pain – This can feel like something is squeezing or sitting on your chest.

Exposures to allergens and irritants can make asthma worse

It is important to protect yourself and your family from exposures to allergens and irritants because continued exposures can worsen asthma.

Some of the triggers associated with asthma in agriculture include the following:

Grain dust: Grain dust is commonly found in barns, flour mills, and grain-storage facilities. Asthma from grain dust occurs when a person is exposed to the grain dust or a dust component.

Bacteria and fungi: Airborne bacteria and fungi such as mushroom spores or mold found in agricultural structures can get into the lungs. . Some of these bacterial and fungal microorganisms can cause an immune response that can result in an asthma attack.

Insects: Mites (tiny insects) can be found in most homes and agricultural settings. These tiny insects feed off organic material and may increase asthma symptoms or trigger an asthma attack. Storage mites can be found in storage areas of organic products; dust mites are located wherever there is dust; and red spider mites are located in certain greenhouse crops. Cockroaches and their droppings can also trigger asthma attacks in some people, so it is important to clean areas attractive to cockroaches at least every two to three days.

Pesticides: Some of the chemicals used to get rid of pests have been associated with asthma.

Triggers continued...

Animal products: Potential allergens from animals include substances that contain proteins, such as dander, saliva, urine, and feces. The breakdown of urea and ammonium excretions can cause a release of ammonia in the environment that can be a respiratory irritant. Feathers and wool can also trigger asthmatic reactions.

Pollen: Check tree, grass, weed pollen levels at the [American Academy of Allergy and Immunology \(https://www.aaaai.org/global/nab-pollen-counts/midwest-region\)](https://www.aaaai.org/global/nab-pollen-counts/midwest-region)

Chemicals: Chemical irritants include polyvinyl chloride vapor and amprolium hydrochloride.

Wood smoke: Burning wood and other debris releases a mixture of harmful gases and particulate that can cause asthma attacks.

If you think you have asthma

See your health care provider if you think you might have asthma. Early diagnosis and medical treatment can help you feel and live better.

It is often difficult to completely avoid all substances that have been linked to asthma. The best plan of action is to create a safe and healthy work environment to minimize exposure to allergens and/or irritants in the workplace. It is important that everyone in the workplace, including workers and employers, takes steps to maintain an asthma-friendly workplace.

Create a safe work environment

It is important that everyone in the workplace, including workers and employers, take action steps to reduce exposures on the farm. The following actions can reduce exposure to allergens and irritants.

- Store grain at recommended moisture-content levels to reduce mold growth.
- Provide proper ventilation in animal-housing areas to reduce the accumulation of ammonia and other gases.

- Frequently remove animal waste to reduce the buildup of ammonia and decrease your exposure to urine and fecal allergens.
- Identify dust hazards at your farm or ranch and reduce exposure by cleaning these areas. Limit your time in dusty areas.
- When cleaning a barn or stable, wet down areas to avoid dust from becoming airborne.
- If you are a farm manager, provide appropriate personal protective equipment (PPE) for your employees.
- Wash your work clothes in hot water at least once per week.
- To protect against dust, bacteria, fungi, insects, and animal products when cleaning, spraying, harvesting, handling grain, or working in an animal-confinement building, wear an N-95 or N-100 disposable particulate respirator that is properly fitted and approved by the National Institute of Occupational Safety and Health (NIOSH).

From: Asthma and agriculture. (2012). [Farm and Ranch eXtension in Safety and Health \(FReSH\) Community of Practice \(retrieved from http://www.extension.org/pages/66326/asthma-and-agriculture\)](http://www.extension.org/pages/66326/asthma-and-agriculture).

Resources

- **[MDH Work-Related Asthma \(https://www.health.state.mn.us/diseases/asthma/workplaces/index.html\)](https://www.health.state.mn.us/diseases/asthma/workplaces/index.html)**

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