



Fact Sheet  
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Farm Safety Association

## FARMER'S LUNG: It takes your breath away!

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Farmer's lung is an allergy caused by dust from moldy hay, straw and grain. In early stages of the disease, it can seem like nothing worse than a nagging winter cold. If ignored, the allergic reaction can cause permanent lung damage. The victim may be forced to give up farming and -- in some cases -- may suffer from permanent disability or even death.

Early diagnosis is crucial if lasting damage is to be prevented. Because farmer's lung is characterized by cold or flu-like symptoms, early detection is difficult. Many victims won't even bother to visit a doctor despite persistent symptoms. When they do, the exposure to moldy crop material is rarely mentioned to the physician. This can be disastrous, because *each exposure increases the damage*. Farmers who don't seek medical help could saddle their families with an invalid.

### Molds the cause

When crops are stored without sufficient drying, they begin to heat. Many kinds of mold grow in such environments. When a farmer works with such material -- for example, when a bale of hay is broken open -- the mold is released as part of a very fine dust. A farmer who is working indoors can inhale a large amount of this dust in a very short time.

Because the dust is so fine, it gets past defense systems in the nose and throat. When the dust reaches the inner parts of the lungs (called the alveoli), the lungs' internal defense system takes over. In most cases, the dust is removed without damage. However, an allergy to the material develops in a few individuals. In other words, the

body 'assumes' that the mold is more dangerous than is really the case, and prepares to combat the intruders.

The first exposure in sensitive individuals only creates the allergy. Every subsequent exposure triggers an allergic reaction. The body's immune system goes to work against the mold, producing symptoms which may resemble anything from a cold to pneumonia. Scar tissue (fibrosis) forms within the lungs. While cold-like symptoms may clear up, the fibrosis is permanent.

Lung damage may be too slight to notice in the early stages of farmer's lung. However, each subsequent exposure increases tissue damage. A victim will soon begin to notice that they are short of breath. At first, this makes strenuous work more difficult. Even routine tasks become too much after frequent, repeated exposure. Eventually, the victim may find it a struggle to even get out of a chair.

### Acute attacks most obvious

The allergic reactions of farmer's lung are usually divided into either acute or chronic attacks. Acute reactions are most noticeable but, by being ignored, the chronic form can do more long-term damage.

Acute reactions occur when a farmer is especially sensitive and/or when there is very heavy exposure to moldy dust. Symptoms of an acute attack develop four to eight hours after exposure. They resemble flu or even pneumonia -- in extreme cases, the victim may go into shock and die!

Symptoms of acute farmer's lung include:

- Fever
- Chills
- A dripping nose
- An irritating and harassing cough
- Blood-streaked sputum
- Laboured or difficult breathing, with a feeling of tightness in the chest.
- Crackling breathing
- Muscular pain
- Depression

It is easy to see why these symptoms could be mistaken for a case of the flu. That's why milder attacks are often left to "run their course", without a visit to a doctor. In the more extreme cases, the need for hospital care becomes obvious.

Symptoms of an acute farmer's lung attack usually decrease after 12 hours, but may linger for up to two weeks. Severe attacks can last as long as 12 weeks.

## 'TODS' resembles acute farmer's lung

Working with dusty feed can produce another respiratory affliction, called Toxic Organic Dust Syndrome (TODS). It, too, is caused by exposure to very large amounts of dust. TODS symptoms are identical to those resulting from an acute farmer's lung attack. However, TODS is *not* an allergic reaction. While anyone can get TODS (and can become very sick from this condition), most people recover completely. Having TODS does not damage your lungs, and does not increase the risk of getting TODS again.

## Chronic farmer's lung more dangerous

While acute attacks are most noticeable, the chronic form of farmer's lung is more common. Gradual development often leads victims to dismiss the chronic form as something minor, like a nagging chest cold. *This makes chronic farmer's lung*

*especially dangerous.* By the time an affected farmer goes to the doctor and the disease is diagnosed, there can already be serious damage.

Chronic farmer's lung results from repeated exposure to moldy dust. The quantities of dust may be so small that the farmer is hardly aware of them.

Chronic farmer's lung has several symptoms:

- Occasional fever and sweating at night
- Progressively increasing shortness of breath
- Chronic cough
- Generalized aches and pains
- Appetite depression and weight loss
- Weakness, loss of energy
- Depression

Because the shortness of breath develops gradually, a victim may not even be aware of the change. Also, the last three symptoms -- weight loss, lack of energy and depression -- tend to push the other symptoms into the background.

## What are the chances of getting farmer's lung?

The risks of becoming a victim of farmer's lung are fairly small. Studies suggest that fewer than 10 percent of farmers -- perhaps less than five percent -- are at risk of developing this condition. However, there is no way of finding out in advance whether or not you are immune.

Risks increase when crops have been stored in damp or 'tough' conditions. Working with such material outdoors poses minimal danger, because the moldy dust is quickly dispersed. The greatest danger occurs during the months when moldy crops are being handled indoors. Dairy farmers are the most common victims.

While farmer's lung is usually associated with the handling of hay, *any* moldy plant material can be responsible. The list includes grain, straw, silage, and even tobacco. Uncapping a silo or cleaning out a grain bin usually releases large quantities of moldy dust.

## How to tell if you have farmer's lung

Victims often try to ignore the symptoms of farmer's lung. They find it easier to dismiss their condition as just a cold or flu that "won't go away". This is dangerous -- any delay in prevention and treatment will increase lung damage!

If you experience any of the following, **contact your doctor immediately:**

- A sudden illness that develops a few hours after you have handled moldy crop materials
- A chronic cough
- A general feeling of tiredness or depression

To help your doctor make an accurate diagnosis, emphasize that you have been exposed to dust from moldy crops. A series of procedures -- which might include a blood test, a chest x-ray, and a breathing capacity test may be used to confirm or disprove a tentative diagnosis.

## Treatment of farmer's lung

Farmer's lung can be controlled, but it can *not* be cured. In acute cases, the symptoms can be treated with bed rest and oxygen therapy. Medication can be used to control symptoms in chronic cases. However, this can be dangerous, because damage to the lungs may continue without the victim's awareness.

The only proven treatment for chronic farmer's lung victims is the avoidance of contact with moldy crop materials. Just as there is no way of curing the allergy once it has developed, lung damage can not be repaired.

In milder cases that are detected early, avoiding contact with the molds will prevent further lung damage. In severe cases, the victim will have to quit farming.

## Don't take chances with farmer's lung

There is no way of knowing in advance whether or not you are immune to the molds that cause farmer's

lung. The only way to prevent this condition is to avoid contact with dust from moldy plant material. While it is difficult to completely eliminate contact, there are several measures that will minimize exposure to the moldy dust.

1. Make sure that crops are adequately dried prior to store. This is the key to stopping mold growth. Artificial drying systems and preservatives can play a role in preventing mold development.
2. If possible, wet hay should be ensiled.
3. Always use a plastic sheet to cap open silos -- don't use plant material. Hold the edges of the sheet down with heavy weights, such as tires.
4. Wet down the top of a silo before uncapping the ensiled material. This prevents moldy dust from becoming airborne. This should be done even if the silage was covered with a plastic sheet, because the top layers still tend to mold.
5. Use the same wetting techniques when cleaning out grain bins or other areas that are likely to be dusty.
6. Provide as much ventilation as possible when working in dusty areas. For example, make sure doors and windows are open. If practical, construct new openings to provide more ventilation.
7. Move the work outdoors whenever possible. While this is usually not practical in the case of feeding operations, be sure to open bales that you know are moldy outdoors.
8. Avoid dusty work in confined areas. When constructing new farm buildings or modifying older structures, keep facilities as open as possible.
9. When you have to work with moldy material, try to keep your distance. If you have to break open a moldy bale, do so with a fork, instead of bending over and using your hands.
10. Mechanize feeding operations if economically feasible. For example, handling large round bales with a tractor keeps an operator away from the moldy dust.
11. In some cases, it is best to wear a respirator. *Make sure that it is an approved toxic dust respirator.* You must familiarize yourself with correct procedures for using and maintaining the

respirator. A respirator should *never* be used as an excuse for skipping other precautions!

## **Keeping the disease from getting worse**

Once a person has farmer's lung, the only way to control it is to avoid all contact with moldy dust. This means doubling the precautions listed above. If possible, any dusty work should be handled by someone other than the victim. Ignoring these precautions will lead to progressively more serious lung damage.

If necessary, a farmer's lung victim should quit farming, rather than becoming permanently

disabled.

## **A risk is not worth taking**

Most farmers enjoy their occupation. When they take a chance with farmer's lung, they are gambling on being forced out of a way of life they love. Even worse, they risk being too weak to do work of any kind!

The simple precautions that minimize your chances of developing farmer's lung are mostly common sense. Clearly, the risks of ignoring these preventive measures are not worth taking.

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