



## Keep Your Eyes in Good Working Order

Foreign objects – foreign bodies, it almost sounds like an invasion of aliens. In reality, they represent terms used to describe the debris that result in eye injuries and illnesses in the workplace.

One study in West Virginia (one of 5 states with mandated workers' compensation insurance) using a workers' compensation database showed that the highest incidence rate occurred in the agricultural sector. It was suggested that this rate might be underreported since "trivial ocular injuries" are rarely treated or documented. This is quite likely the case in agriculture since many injuries that would be considered disabling (lost work time injuries) in other industries, would not be treated by medical practitioners.

An explanation of this phenomenon is related to the nature of farming activities. In many family farm operations, there may be only one full-time operator. This individual cannot afford to miss time off from the workplace since crops must be harvested, transported and stored, and livestock must be fed and housed. There may not be other available labor to fill-in when the primary operator is disabled, thus they must continue to work while suffering with their injuries and illnesses.

The actual incidence rate in the agricultural sector in West Virginia was calculated to be almost 2,000 per 100,000 workers. This was slightly higher than the construction and manufacturing industries that were tied in second place at 1,700 per 100,000 workers. When the researchers looked at the all-industry average, the agricultural incidence rate was 3-4 times higher.

Six of the most common types of work-related eye injuries were compared during the West Virginia study. These included:

- Foreign body
- Superficial injury
- Atopic conjunctivitis
- Chronic conjunctivitis
- Burn
- Keratitis (please see Definitions below).

Agricultural sector data showed that this industry ranked first in five of the six categories, namely superficial injury, atopic conjunctivitis, chronic conjunctivitis, burn, and keratitis.

To better understand the eye injury and illness risks in agriculture, it is appropriate to look at the work that may result in the ailments. Obviously, the farm shop with welders, grinders, chemicals, fuels, and solvents represents a high risk environment. Several farm safety audit programs have clearly demonstrated that farm shops are not well-equipped with personal protective gear that could prevent eye injuries. Welding activities, especially those involving arc welders, can be especially dangerous for workers when the proper eye protection is not being used, or is not available!

Many bench grinders do not have the proper guards and shields that would prevent flying particles from damaging eye tissue. In addition, workers using the equipment are not wearing eye protection according to most studies on the use of personal protective gear.

And chemical mixing and storing activities require specialized eye wear that is not often worn by the unwary. A little time spent in reading chemical labels and observing the recommendations on personal protection would help eliminate some of these preventable injuries.



Another high-risk environment on the farm is the barn, especially those that house livestock. Dust levels are extremely high when bedding is being installed and feeding activities are under way. Feed grinding and mixing are very prone to creating dust and particles that can irritate the eye, not to mention the additional animal activity that creates dangerous dust levels during feeding time.

In order to protect workers in these high-risk environments, there are several intervention strategies for reducing eye injury and illness incidents that one can utilize. These include the use of protective eyewear that is appropriate for the chore or activity being conducted. When in doubt about the correct type of eye protection, workers should consult product labels. Safety and health specialists working in Cooperative Extension, community hospitals, and farm safety and health organizations are also good sources of information and training on protecting the human eye from temporary, or even permanent, illness or injury.

The data available on ocular injuries occurring in the agricultural industry reinforces the need to educate this workforce about the safety risks they face and more adequately communicate the resources and options available to them to maintain their own health. Without this valuable information, the agricultural community will continue to suffer from disabling ocular injuries--needlessly and at an alarming rate.

#### Definitions:

- Foreign body is the presence of particles or objects in the area surrounding the eye.
- Superficial injury describes the temporary damage resulting from an object or irritant in the eye.
- Atopic conjunctivitis is a condition characterized by an allergic reaction to a foreign object in the eye.
- Chronic conjunctivitis is a condition characterized by persistent irritation that may result in weeping from the eyes.
- Burn describes the injury from a chemical substance contacting the eye and causing temporary or permanent injury.
- Keratitis is the condition characterized by an inflammation of the cornea following the introduction of a foreign object or chemical into the eye.

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