



Prevent your horse's health from going up in smoke.

by Nan Meek

The damage done by last fall's Camp and Woolsey fires is well known in terms of lives and property lost. Less known is the effect of smoke that lingered in the air for weeks afterward. During and after the Camp fire in Paradise, hazardous air quality hovered hundreds of miles away in San Francisco where the air quality index was worse than the notoriously smoggy cities of India and China. Smoke spread far over the ocean, and across vast swaths of California farmland and urban areas alike.

California isn't the only area to deal with wildfires, of course, but it made headlines around the world and raised awareness of wildfires' devastating effects. Horses suffer from wildfire smoke, just as people do, but their suffering can be silent and all the more serious for often being poorly understood.

What's In Wildfire Smoke

Smoke comes in endless variations, depending on what is burned. In the case of wildfires that spread beyond forests and rangeland to consume homes and other structures, smoke is produced from burning wood, vegetation, plastic, building materials, furniture, vehicles and combustibles such as gas and oil.

Wildfire smoke can contain carbon dioxide, carbon monoxide, hydrocarbons and nitrogen oxides, among other chemicals, for example. Even the smoldering stages of a fire can be deadly – that's when colorless, odorless carbon monoxide is produced in the greatest quantities. In high doses, carbon monoxide can be fatal.

Of greatest concern, however, is the particulate matter from wildfire smoke. Particulates are an airborne mixture of solid particles and liquid droplets that are very small – less than one micron in diameter, smaller than the width of a human hair. Sub-micron particles are small enough to penetrate deep into the lungs where they can cause damage even before any signs of respiratory distress become evident.

How Horses Are Affected

Horses show signs similar to humans, with irritated eyes and respiratory systems, compromised lung function and worsened conditions such as Equine Asthma, including Inflammatory Airway Disease (IAD), Recurrent Airway Obstruction (RAO), Chronic Obstructive Pulmonary Disease (COPD), broken wind and heaves. Watch for signs such as coughs, nasal discharge, wheezing and other breathing distress – if such signs increase or persist, your veterinarian should be called to provide professional diagnosis and treatment.

Not as widely discussed is the effect of particulates on the immune system, but it's high time to highlight this important fact. Particulates have been shown to alter the immune system, which reduces the lungs' ability to remove inhaled materials such as pollen and bacteria. Because horses are continually exposed to allergens outdoors as well as in the stable, an immune system compromised by wildfire particulates is a serious matter.

How to Help Your Horse

First of all, watch for clinical or behavioral signs that your horse needs treatment and don't hesitate to call your vet if you are concerned. You know your horse better than anyone, and your equestrian instinct can be your horse's best defense.

Keep exercise to a minimum. Avoid activities that increase smoky airflow into your horse's lungs. You may note your horse being less active in his field or paddock, a sign that his horse sense tells him not to exert himself when it's more difficult to breathe. Even if his horse sense hasn't kicked in, be his advocate and refrain from normal activity until the air clears.

After a particularly intense period of smoke inhalation, it may take four to six weeks for your horse's airway to heal. Give your horse the gift of time to heal. Exercising too soon could aggravate the condition of your horse's lungs, delay healing and compromise future performance. Experts familiar with the training and competition schedules of sport horses advise a return to exercise no sooner than two weeks after the atmosphere is clear of smoke. Two weeks – or four, or six – of time off is a small tradeoff to maintain your horse's respiratory health.

In the meantime, water is your horse's friend. It keeps the horse's airways moist and helps clear inhaled particulates from the airways; dry airways encourage particulates to stay in the lungs and air passages. Because horses drink most of their water within two hours of eating hay, encourage water consumption by keeping fresh water close to where he eats.

Scientifically Proven Solutions

Water can also help your horse through steamed hay. Because even the best, most expensive hay contains dust from the natural environment as well as naturally-occurring mold, fungi, yeast and bacteria, horsemen have long sought ways to reduce those contaminants. While soaking or wetting hay can appear to solve the problem, scientific studies have shown that soaking for as little as 10 minutes can increase the bacteria load by 150%.

There's a safer solution to this issue with Haygain® hay steamers, which are the only scientifically proven method to eliminate up to 98% of respirable dust particles, including sub-micron particles such as those found in smoke, in addition to 99% of mold, fungi, yeast and bacteria in hay. Steaming hay with Haygain retains nutritional value, improves palatability and helps manage respiratory issues, laminitis, insulin resistance, colic and post-surgery recovery.

If your horse is diagnosed with smoke-induced respiratory conditions, your veterinarian may prescribe treatments such as IV fluids, bronchodilator drugs, nebulization or other means to hydrate his airways. Nebulization, commonly known as aerosol therapy, enables medications or natural therapy liquids to be aerosolized into tiny particles small enough for your horse to inhale deep into his lungs.

Flexineb® portable equine nebulizer is comfortable and lightweight for the horse, as well as portable and easy to use with no cables, hoses or long wires. So the horse is relaxed throughout its treatment, Flexineb's fully re-chargeable lithium ion batteries ensure silent operation. Flexineb is scientifically proven to deliver 71% of the nebulized drug deep into the horse's lower respiratory tract, with the other 29% reaching the upper respiratory tract and trachea.

It's a smart strategy to reduce airborne contaminants in your stable, not only while your horse has to breathe smoky air or is recovering from the debilitating effects of smoke-induced respiratory issues, but every day as well. Two airborne contaminants that are within your control: Respirable dust from stall bedding such as straw or shavings, and ammonia fumes from bacteria that proliferates in the urine that pools under conventional stall mats.

With the ComfortStall® Orthopedic Sealed Flooring System, bedding is needed only to absorb urine, typically reducing bedding – and its dust – by around 75%. Air quality is further improved by ComfortStall's wall-to-wall sealed and impermeable one-piece IronClad™ TopCover, which prevents urine from sneaking underneath to produce urea, bacteria and the ammonia fumes harmful to equine (and human) respiratory systems. Comfort is assured, thanks to orthopedic padding that completely mitigates the fatigue horses experience when standing on traditional hard rubber mats, even those deeply (and dustily) bedded with straw or shavings.

Tips to Remember

Bottom line: Keep exercise to a minimum and hydration to a maximum. Watch for signs your horse is not feeling normal, and keep an extra watch on horses with compromised respiratory and immune systems. If in doubt, call your vet. Your horse is too important to risk unseen or undiagnosed respiratory complications from breathing wildfire smoke.

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