Respiratory disease – one of the biggest problems in horses

By Judith Schmidt, Product Manager On-Farm Solutions

The respiratory tract in horses is prone to various problems, ranging from allergic reactions and inflammation to severe infections. Respiratory diseases are a constant topic of suffering and irritation in horse breeding and keeping. According to a study published in 2005, respiratory diseases account for about 40 % of all equine internal diseases recorded worldwide (Thein 2005). Through early diagnosis, appropriate treatment, and preventive measures, horse owners can help maintain the respiratory health of their horses and promote their well-being and performance.

The horse’s lung – a high-performance organ

The respiratory tract of our horses is a high-performance system with a large surface, allowing the exchange between the inside of the body and the environment. The lungs enable the gas exchange, i.e., the transfer of oxygen from the air into the horse’s bloodstream and the discharge of CO_2. A functioning gas exchange is crucial for the horse to supply its muscles with sufficient oxygen and perform.

Even when resting, a 600-kg horse breathes about 50 to 80 liters of air per minute into its lungs. With increasing load, this value can rise to 2.000 liters per minute at maximum load. If a horse is healthy, it breathes calmly and slowly and takes eight to sixteen deep breaths per minute.

A special mucous membrane covering the entire respiratory tract protects the lungs from harmful

influences. When irritated by pathogens or foreign bodies, this mucous membrane generates higher amounts of mucous and transports it toward the mouth cavity with the help of the finest cilia. In this way, most harmful particles are usually trapped quickly, reliably, and, above all, effectively and, if necessary, coughed up before they can even reach the alveoli and cause damage there.

The most common respiratory diseases in horses

Chronic obstructive bronchitis

Chronic obstructive bronchitis is better known as COB or equine asthma. COB is more common in horses regularly kept in dusty or poorly ventilated environments, such as cramped stables or pastures with high mold levels. Inhalation of dust particles and allergens can cause respiratory tract inflammation, leading to coughing, increased mucus expectoration, and breathing difficulties. The clinical picture of COB can vary greatly. From occasional poor performance in show horses to chronic coughing with purulent nasal discharge or significant weight loss.

Tracheitis

Another common respiratory disease in horses is tracheitis, often caused by bacterial or viral infections. Young and older horses and those with a weakened immune system are particularly susceptible to tracheitis. Besides infections, factors such as dust, smoke, or chemicals can also irritate the mucous membrane of the trachea and trigger inflammation.

Hay fever

Hay fever, also known as allergic respiratory disease or rhinitis, is a common condition affecting horses. Known to humans, it is an allergic reaction to certain pollen, molds, or other environmental allergens that are present in the air. Common signs include sneezing, a runny nose, and itchy eyes. However, some horses may also suffer from coughing or respiratory symptoms. Hay fever in horses can occur seasonally, depending on the pollen emerging, and the symptoms may be more severe during spring, summer, or autumn.

Asthma

Asthma in horses, also known as equine asthma or heaves, is a chronic respiratory disease similar to asthma in humans in many ways. The main cause of this disease is hypersensitivity of the respiratory tract to dust, allergens, or mold spores in the horses’ environment.

How to differentiate between respiratory distress and harmless rattling?

Horse owners know it – the four-legged friends have an impressive range of breathing sounds. But which are harmless, such as the exited trumpeting through the nostrils during a fright, and which could be respiratory disease symptoms?

Diagnosing respiratory problems in horses can be challenging because symptoms are often non-specific signs and similar to several diseases.

Snorting: When horses snort, it is a sign of relaxation. There is usually no cause for concern—quite the opposite.
Snorting at a gallop: Many horses snort rhythmically at a gallop, which is also considered harmless. Snorting is particularly common in thoroughbreds.
Coughing during, e.g., trotting: Occurs so frequently that it is often perceived as usual. But it is not. Coughing is always an alarm signal and can indicate an allergy, asthma, or a viral or bacterial infection.
Whistling when inhaling: In this case, to be on the safe side, a veterinarian should be consulted.

What are the consequences of respiratory disease?

Respiratory disease in horses can have significant economic consequences. If a horse suffers from chronic obstructive bronchitis or another respiratory illness, this can lead to various problems:

- Veterinary costs increase: Diagnosing and treating respiratory diseases often require veterinary visits, medication, and possibly further examinations such as x-rays or endoscopy.
- Performance decreases: A horse with respiratory problems may have severely limited performance. It may have difficulty breathing, negatively affecting its athletic performance, equestrian work, or other activities.
- Downtime: During the treatment or recovery, horses may have to take a break or be taken out of training, resulting in loss of income, especially if the horse was intended for competition or show.
- Decrease in value: A horse with chronic respiratory problems may lose its value as a sport or breeding horse. The demand for that horse and, therefore, the selling price might decrease.

Early diagnosis and treatment are crucial for containing the economic impact. However, the best strategy is to minimize the risk of respiratory disease by appropriate preventive measures.

Prevention

Preventing cough in horses is considerably important to reduce the incidence and severity of respiratory disease. Several measures can be taken to achieve this goal:

1. A clean horse stable is crucial: Dust is a common trigger of respiratory symptoms in horses. Removing dust, dirt, and mold spores regularly from the stable and horse boxes can help improve air quality and reduce respiratory stress.
2. Allow horses to breathe fresh air with efficient pasture management: When possible, horses should have access to fresh pastures. The natural outdoor environment helps horses breathe cleaner air and inhale fewer harmful particles.
3. Hay feeding should not increase exposure to allergens: The exposure to allergens can be reduced by choosing high-quality, low-dust hay. Moist soaking of the hay before feeding can also help reduce dust levels.
4. Ventilation ensures air exchange: Appropriate ventilation in the stable is essential to avoid stagnant air and dust accumulation. The use of fans or natural ventilation systems can improve air circulation.
5. Feed management: High-quality feed free of molds and allergens can reduce the risk of respiratory problems. It is vital to adjust feed rations to the individual needs of each horse.
6. Supplements support hygiene measures: Supplements can play a positive role in preventing respiratory problems in horses if used selectively and with expert advice.
    - Immune system support: Supplements such as vitamins, minerals, and antioxidants can strengthen the immune system. A healthy immune system helps the horse to better defend itself against infections and inflammation of the respiratory tract.
    - Certain supplements contain ingredients with anti-inflammatory properties, such as omega-3 fatty acids or herbal extracts. They can help alleviate inflammation in the respiratory tract and thus reduce the risk of respiratory problems.
    - Supporting respiratory health: Some supplements on the market have been specially designed to support respiratory function. They help regulate mucus production, improve respiratory protection, and facilitate the expectoration of mucus.
    - Strengthening lung capacity: Certain ingredients in supplements can support the horse’s lung capacity and promote better oxygen uptake, which is essential for performance and respiratory health.

Conclusion

Respiratory health is essential for horses. So, you should consult the vet in case of noticeable breathing sounds, coughing, fever, or a drop in performance. Respiratory diseases tend to become chronic and long-term problems if they are not treated appropriately. Fresh air and species-appropriate husbandry, feeding dust- and mold-free feed are the first steps to support the normal function of your horse’s respiratory tract. A holistic approach to equine health, including proper stable and feed hygiene, sufficient exercise, and good air quality in the stable is crucial. Appropriate feed supplements can be an excellent tool to round this approach off.

References:

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Respiratory disease – the biggest problem in horses

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The respiratory tract in horses is prone to various problems, ranging from allergic reactions and inflammation to infections. Through early diagnosis, appropriate treatment, and preventive measures, horse owners can help maintain the respiratory health of their horses and promote their well-being and performance.

Respiratory diseases are a constant topic of suffering and irritation among horse owners. According to a study published in 2005, respiratory diseases account for about 40 % of all equine internal diseases recorded worldwide (Thein 2005).

The high-performance organ: the horse's lung

The respiratory tract of our horses is a high-performance system with a large exchange surface between the inside of the body and the environment. The lungs enable the so-called gas exchange, i.e., the transfer of oxygen from the air into the horse´s bloodstream. Only when this gas exchange functions properly can the horse supply its muscles with sufficient oxygen.

Even at rest, about 50 to 80 liters of air per minute enter the lungs of a 600 kg horse. With increasing load, this value can rise up to 2.000 liters per minute at maximum load. If a horse is healthy, it breathes calmly and slowly and takes eight to sixteen deep breaths per minute.

In order to protect the lungs as best as possible from harmful influences, the entire respiratory tract is equipped with a special mucous membrane. When irritated by pathogens or foreign bodies, for example, this mucous membrane forms more mucous and transports it towards the mouth cavity with the help of the finest cilia. In this way, most harmful particles are usually intercepted quickly, reliably and, above all, effectively and, if necessary, coughed up before they can even reach the alveoli and cause damage there.

The most common causes of respiratory diseases in horses

Chronic obstructive bronchitis

Chronic obstructive bronchitis is better known as COB or equine asthma. COB is more common in horses that are regularly kept in dusty or poorly ventilated environments, such as cramped stables or pastures with high levels of mold. Inhalation of dust particles and allergens can cause inflammation of the respiratory tract, resulting in coughing, increased mucus expectoration and breathing difficulties. The clinical picture of COB can vary greatly. From occasional poor performance in show horses to chronic coughing with purulent nasal discharge or significant weight loss.

Tracheitis

Another common respiratory disease in horses is tracheitis. This disease is often caused by bacterial or viral infections. Young horses, older horses or those with a weakened immune system are particularly susceptible to tracheitis. Besides infections, irritating factors such as dust, smoke or chemicals can also irritate the mucous membrane of the trachea and trigger inflammation.

Hay fever

Hay fever, also know as allergic respiratory disease or allergic rhinitis, is a common condition that can also affect horses. Like humans, it is an allergic reaction to certain pollens, molds or other environmental allergens that are suspended in the air. Common signs include sneezing, a runny nose and itchy eyes.

However, some horses may also suffer from coughing or respiratory symptoms. Hay fever in horses can occur seasonally, depending on the pollen seasons. Depending on the region and season, the symptoms may be more serve during spring, summer or autumn.

Asthma

Asthma in horses, also known as equine asthma or heaves, is a chronic respiratory disease that occurs mainly in horses. It is similar to in many ways to asthma in humans. The main cause of this disease is hypersensitivity of the respiratory tract to dust, allergens or mold spores in the horse´s environment.

Respiratory distress or harmless rattling?

Horse owners know it – the four-legged friends have an impressive range of breathing sounds. But which are harmless, such as the exited trumpeting through the nostrils during a fright? And which ones could be symptoms of a respiratory disease?

Diagnosing respiratory problems in horses can be challenging because symptoms can often be non-specific and/or show signs similar to several diseases.

Snorting: When horses snort, it is a sign of relaxation. There is usually no cause for concern. Quite the opposite.

Snorting at gallop: Many horses snort rhythmically at a gallop. This is also considered harmless. Snorting is particularly common in thoroughbreds.

Coughing, for example when trotting: Occurs so often that it is often perceived as normal. But it is not. Coughing is always an alarm sign and can indicate an allergy, asthma or a viral or bacterial infection.

Whistling when inhaling: To be on the safe side, a veterinarian should be consulted.

Consequences of respiratory disease

Respiratory disease in horses can have significant economic consequences. If a horse suffers from chronic obstructive bronchitis or another respiratory disease, this can lead to various problems:

- Veterinary costs: The diagnosis and treatment of respiratory diseases often require veterinary visits, medication, and possibly further examinations such as x-rays or endoscopy.
- Reduced performance: A horse with respiratory problems may be severely limited in its performance. It may have difficulty breathing, which can have a negative effect on its athletic performance, equestrian work, or other activities.
- Downtime: During the treatment or recovery period, horses may have to take a break or be taken out of training. This may result in loss of income, especially if the horse was intended for competition or showing.
- Decrease in value: A horse with chronic respiratory problems may lose its value as a sport or breeding horse. Selling price might decrease and the demand for such a horse might decrease too.

To minimize economic impact, early diagnosis and treatment is important, as the implementation of appropriate preventive measures to reduce the risk of respiratory disease.

Prevention

Prevention of equine cough is of big importance to reduce the incidence and severity of the disease.

Clean stable environment

Dust is a common trigger of respiratory symptoms in horses. Regular removal of dust, dirt and mold spores from the stable and horse boxes can help to improve air quality and reduce respiratory stress.

Pasture management

When possible, horses should be allowed access to fresh pastures. The natural outdoor environment helps horses breathe cleaner air and inhale fewer harmful particles.

Hay feeding

Choosing high quality, low dust hay can reduce exposure to allergens. Moist soaking of hay before feeding can also help reduce dust levels.

Ventilation in the stable

Good ventilation in stables is essential to avoid stagnant air and dust accumulation. The use of fans or natural ventilation systems can improve air circulation.

Feed management

Feeding high quality feed that is free of mold and allergens can reduce the risk of respiratory problems. It is important to adjust feed rations to the individual needs of each horse.

Supplements

Supplements can play a positive role in the prevention of respiratory problems in horses if they are used selectively and with expert advice.

- Immune system support: Supplements such as vitamins, minerals and antioxidants can strengthen the immune system. A healthy immune system helps the horse to better defend itself against infections and inflammation of the respiratory tract.
- Certain supplements contain ingredients with anti-inflammatory properties, such as omega-3-fatty acids or herbal extracts. These can help reduce inflammation in the respiratory tract and thus reduce the risk of respiratory problems.
- Supporting respiratory health: Some supplements on the market have been specially designed to support respiratory function. They can help to regulate mucus production, improve respiratory protection, and facilitate the expectoration of mucus.
- Strengthening lung capacity: Certain ingredients in supplements can support the horse´s lung capacity and promote better oxygen uptake, which is important for performance and respiratory health.

Conclusion

If there are noticeable breathing sounds, coughing, fever or a drop in performance, the vet should come quickly. A respiratory disease tends to develop into a long-term problem if it is not treated appropriately. Without treatment, it can become chronic in some cases. Fresh air and species-appropriate husbandry, as well as feed that is free of mold und dust, are the first steps to supporting the normal function of your horse´s respiratory tract. Supplements can be an excellent tool for prevention. A holistic approach to equine health is crucial. This includes proper stable and feed hygiene, sufficient exercise, and good air quality in stables.

References:

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Coughing calves? How to save costs and prevent respiratory disease

*By **Judith Schmidt**, Product Manager On Farm Solutions*

There will always be germs in barns. Yet, calves are particularly susceptible to lung viruses and bacteria that attack the respiratory systems. What can we do to prevent calf flu?

Coughing in calves is one of the most obvious signs of illness. It should be taken seriously – calves are important for the profitability of farms. Calf flu not only leads to treatment costs but also has long-term consequences, such as weak daily gains, delayed lactation, lower milk yield, reduced fertility, and increased susceptibility to other diseases.

Respiratory disease in calves: recognize the symptoms and protect their lung health

Calves are much more sensitive to respiratory diseases than many other animals. Why? One major cause is that calves are born with immature lungs. The lungs are only fully developed at about one year of age. In addition, calves generally have small lungs relative to their body size. Furthermore, the immunological gaps around the second month of life are decisive. During this phase, the number of maternal antibodies in the calf´s blood decreases, while the calf´s own immune system is still slowly building up.

Symptoms of calf flu

1) Cough

A very easy-to-recognize sign of a developing calf flu is coughing. Coughing can also be caused by changes in weather, stress, or an unsuitable barn climate, but coughing should always be monitored, and animals should be checked for other symptoms.

2) Respiratory distress

Sick calves breathe heavily and show an increased respiratory rate. Even at rest, this can be more than forty breaths per minute, ranging from a slight acceleration of breathing to severe respiratory distress and breathing through the open mouth. Mouth breathing can be the first indication of lung damage.

3) Eye and nose discharge

Calf flu not only shows its symptoms in the internal respiratory tract but also in the eyes and nose through clear, watery discharge. In later stages, bacterial infections can also cause purulent discharge. The animal’s gaze is not clear and rather “sleepy.”

4) Body posture

Calf flu often manifests itself by drooping ears or an overall low head posture, as the calves are dull and weak. They are inactive and separate themselves from the group. They also lie down and standing up is delayed.

5) Reduced water and feed intake

Due to their physical condition, animals suffering from flu tend to take in only little feed and water or do not eat and/or drink at all. The logical consequence is a weakening of the animals. In case of doubt, one should actively water and feed the animals.

Economic significance of respiratory disease in calves

Influenza in cattle and calves is a herd disease and often causes serious financial losses. Losses are caused by pronounced performance decreases, developmental disorders of the animals, and treatment costs. Significantly reduced daily gains have been demonstrated for fattening animals.

Next to diarrheal diseases, calf flu causes the highest treatment and follow-up costs for calves. A study by the Chamber of Agriculture of Lower Saxony (Germany) found that farmers had to spend between 83 and 204 euros per sick calf, depending on the severity of the disease.

4 tips to save costs and tackle calf flu with less antibiotics use

1) Offer a stable climate

Warm, damp barns, as well as overcrowded and poorly ventilated ones, weaken the calf´s defense mechanisms. Temperature fluctuations of more than 10°C between day and night also favor the development of calf flu. It is important to keep the calves' environment free of dust and draughts. This can be achieved by adjusting the air exchange rate.

In addition, the humidity in barns without a heating system should be between 60 and 80 percent. Data loggers help to keep an eye on the climate in the barn. They make it possible to check how the outdoor climate and ventilation affect the climate conditions in the barn.

2) Hygiene-sensitive calving management

Attention should be paid to calving management. The long-term health of the animal is already predetermined in the calving pen. If several cows calve at the same time or if calving pens are not mucked out regularly, harmful germs will accumulate. In other words: if a calf is born into a dirty box, it will absorb many germs through its mucous membranes.

3) Avoid stress

It is crucial to minimize stress from causes such as transport, re-housing, feed changes, group formation, dehorning, and weaning. These events should be spaced out as far as possible and should never occur simultaneously.

4) Prevention through supplementary feed

In the winter months, when the weather is cold and damp and constantly changing, calf flu incidence skyrockets. Now, it is imperative to strengthen the calf´s respiratory tract from the beginning. EW Nutrition's Bronchogol Liquid is a herbal concentrate that supports respiration and stabilizes the physiological defense system in the respiratory organs.

Bronchogol liquid supports young calves in stressful situations, such as critical weather transition periods (autumn-winter; winter-spring) and housing changes, and when they suffer from calf flu. The product is based on a proprietary mixture of phytomolecules. By stimulating the cilia in the respiratory tract, the phytomolecules promote the transport of mucus and facilitate expectoration.