

# Haylage for Horses

**Haylage offers horse owners an excellent alternative to hay with higher nutritional value contributing to increased health and environmental benefits**

Haylage offers horse owners an alternative feed to hay with a number of advantages. In particular, haylage has important health benefits as it contains a significant low number of dust particles, reducing the incidence of Chronic Obstructive Pulmonary Disease (COPD) and related illnesses.

A number of studies<sup>1</sup> have indicated better nutritive value of, and preference to, haylage compared to hay for horses. However, if not produced correctly haylage does pose a number of health risks to horses than hay. In this fact sheet we highlight the potential risks and solutions to help produce safe and quality haylage.

## Benefits of Haylage over hay as a feed for horses

- **DIGESTIBLE ENERGY** — Haylage can be twice as high as hay — e.g. 5 versus 9 MJ/kg DM.
- **DIGESTIBLE CRUDE PROTEIN** — Haylage can be at least 5 times higher than hay — e.g. 6 Vs. 30 g/kg DM.
- **FEED SUPPLEMENTS** — Because of the better nutritive value, a horse doing a medium amount of work can meet all its energy and protein requirements without cereal supplements and the associated health risks such as laminitis. A similar hay-fed horse would require up to 30% of its diet to be barley to fulfill the same requirements.
- **LESS MANURE** — Because of the better digestibility of haylage this results in less manure and reduced methane output and so is kinder to the environment.
- **FEEDING** — Haylage has at least 35% moisture and so is relatively dust free unlike hay which is only 10% moisture. As a result, haylage does not need to be soaked in water prior to feeding to reduce particulates that cause respiratory diseases.



<sup>1</sup> Muller and Uden, 2007; Murray et al. 2007





## Undesirable Micro-Organisms

To produce a safe and high quality haylage it is crucial to control the microbial processes in the silo. The following table highlights the potential health risks caused by undesirable micro-organisms and some tips on how to prevent them. You can find more tips on producing quality haylage in our “Producing Haylage for Horses” fact sheet.

### Cause & Risk

### Prevention

#### Bacteria

##### CLOSTRIDIUM BOTULINUM

- **Cause:** Present in soil and can enter big bale silage directly by soil inclusion or indirectly by soil contamination of the lower parts of the forage prior to harvesting through rain splash.
- **Risk:** Causes poisoning known as botulism.

- Cut at a height of at least 2.5 inches above the ground and control moles to avoid soil contamination.
- High DM content, alongside good fermentation, will inhibit Clostridia botulinum from growing in baled haylage.
- Use additive to promote rapid fermentation under dry conditions.

##### LISTERIA MONOCYTOGENES

- **Cause:** Linked to soil contamination. They require a low concentration of oxygen to grow and are generally associated with the edges of mouldy patches in big baled silage.
- **Risk:** Causes abortions and meningitis-like brain diseases.

- Cut at a height of at least 2.5 inches above the ground and control moles to avoid soil contamination.
- Apply minimum 8 layers of film on bales.
- Discarding any materials with mouldy patches.

#### Fungi or Moulds

- **Cause:** Fungi require oxygen to grow and can be present on the forage in the field or in haylage as visible patches of mould.
- **Risk:** Fungi are particularly dangerous to haylage, because they reduce feed nutritive value and produce secondary end-products such as mycotoxins.

- Cut good quality living forage, free of dead plant material in the base of the sward.
- Wrap bales with a minimum of 6 and preferably 8 layers of film wrap to reduce the risks of damage to the film and the ingress of oxygen.
- Handle bales very carefully and minimise handling to avoid damage to film wrap.
- When storing the bale try to avoid any obstructions that can cause damage to the bale, causing air to enter the bale.
- Cover stack with close woven netting to prevent bird and rodent damage.

#### Mycotoxins

- **Cause:** There are two predominant sources of mycotoxins in forage preserved for haylage:  
Field formed — Mycotoxins entering the silo with the crop as a result of fungal colonization in the field.  
Storage formed — Mycotoxins produced by storage fungi in the silo as a result of the growth of moulds whilst oxygen is present during the ensilage process.
- **Risk:** Mycotoxins are particularly dangerous to horses as they induce a number of detrimental effects in animals such as ill thrift, colic, increased risk of secondary infection, cancer, foetal abnormalities, liver and kidney dysfunction, immuno-suppression and reproductive disorders.

#### About the Silage Advisory Centre

The Silage Advisory Centre promotes the science of silage to aid farmers’ decision-making on silage production, forage and grassland management. Our mission is to aid UK and Irish livestock farmers produce quality and nutritional silage at a reasonable profit through research, seminars, best practice knowledge transfer and advisory tools.

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Also available in this series of fact sheets: **Producing Haylage for Horses**

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