



Risk Factors Associated with Equine Grass Sickness

Although it is not possible to prevent Equine Grass Sickness (EGS), identification of risk factors for the disease can help us provide advice on some practical measures which may help to minimise the risk.

The general advice is that, *if this does not involve too much stress*, horses should be moved out of the affected field following a case. This is because grass sickness is seen on pastures where cases have previously occurred more often than those where it has not, and to produce a case the risk factor must have been present (at that time at least) within that paddock. It is, unfortunately, impossible to say when the field may be considered safe to use again. We think paddocks which have produced a case of EGS are more likely to produce another case within the next two years. However, while that paddock may be at increased risk in comparison to the other fields, you may continue to use it for many years without ever seeing another case. Conversely, you may be unlucky enough to move horses into a different field also harbouring the potential to produce a case.

It is not possible for a large number of horse owners to move their animals, therefore it is generally more practical for owners to be aware of the risk factors and work around them in order to minimise the risk of another case. There are numerous previously proposed risk factors, now split into 3 main categories, which are listed below.

1. Horse-related risk factors

■ Increased risk

1. Age: 2 – 7 years old (peak at 3 – 5 years of age)
2. Body condition: good to fat (“show condition”)
3. Low systemic antibody status to *Clostridium botulinum* type C

■ Reduced risk

1. Old age
2. Co-grazing with a previous case

2. Premises-related risk factors

■ Increased risk

1. Previous cases of EGS
2. Type of establishment (livery/stud farms)
3. Large number of horses on premises
4. Soil type (sand/loam)
5. High soil nitrogen
6. Pasture disturbance (construction work/pipe-laying)
7. Keeping domesticated birds/fowl on the premises

■ **Reduced risk**

1. Chalk soils
2. Low soil nitrogen

3. Management-related risk factors

■ **Increased risk**

1. Grazing
2. Movement to a new premises or pasture
3. Feed changes
4. Frequent Ivermectin worming
5. Mechanical faeces removal

■ **Reduced risk**

1. Co-grazing with ruminants (cattle, sheep)
2. Supplementary forage (hay/haylage in addition to grazing)
3. Regular grass cutting on pastures
4. Manual faeces removal

Obviously not all of these risk factors can be manipulated. The general advice is to, where possible:

- Minimise exposure to pastures where previous cases have occurred – if it is not practically possible to stop grazing this pasture, then bring the horse in for part of the day.
- There is a higher risk of disease in spring and early summer, particularly where there have been recent cool, dry spells. Stable, or part-stable, animals during spring and early summer. Especially when there has been a period of dry weather and a temperature of 7-11 degrees has persisted for 10 consecutive days. Animals kept solely outdoors experience the disease with greater frequency than those which are stabled for even part of the day or night (Solely stabled hand fed grass 2% cases, solely outdoors 89%, part stabled/part grazed 9%).
- Minimise any pasture/soil disturbance (harrowing/pipe-laying/construction work)
- Minimise soil exposure (close grazing/poaching of fields)
- Avoid sudden feed change (quantity/feed type)
- Avoid any stressful incidents such as mixing unfamiliar ponies/castration/breaking etc.
- Avoid over-use of Ivermectin-based wormers (such as Eqvalan, Furexel, Bimectin) by rotating wormer types – please discuss the ideal worming programme for your horses with your vet

- Co-graze with ruminants such as cattle and sheep if possible
- Perform hand-removal of droppings NOT mechanical faeces removal (soil disturbing)
- Supply supplementary feeding (hay or hard feed) to reduce the intake of grass

It is often impractical to carry out all these changes therefore it would be suggested to prioritise them to high risk animals such as:

- Young adults (the peak of cases is seen in horses of 3 years of age)
- New arrivals (especially if moved onto the premises within the last 2 weeks)
- Horses in 'show' condition
- At peak season (spring and early summer) and climate (cool, dry weather)

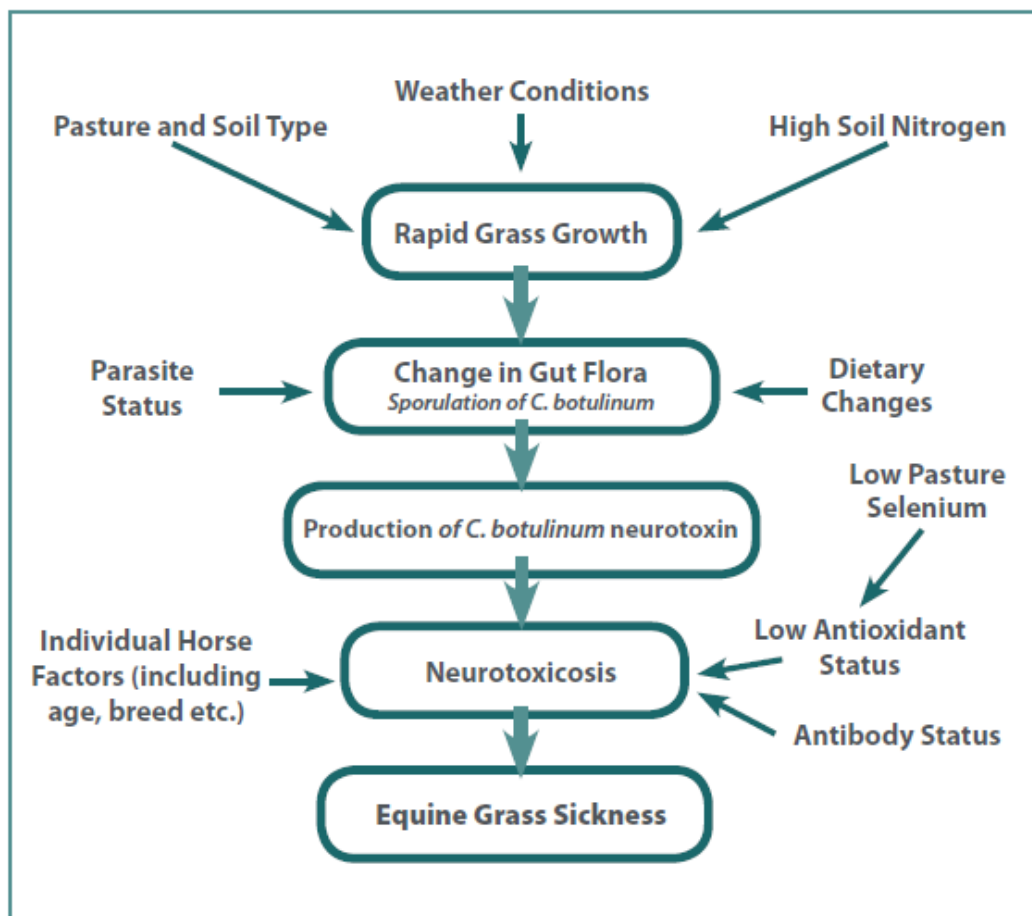


Illustration of hypothesised triggers for Equine Grass Sickness, highlighting the possible complex interactions between risk factors. Reproduced with permission from Professor Chris Proudman, University of Liverpool.