



Equine Grass Sickness Surveillance Scheme

www.equinegrasssickness.co.uk

Spring 2010 Update

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Welcome... to the EGS newsletter 2010, the 'Spring Update'.

In this issue we provide an insight into the background behind EGS, where it was first recognised, why it was such a problem, and why it still remains a threat to horses today.

We will also update you on the results of the surveillance scheme's analyses.

We've included some interesting facts you may have not known about the disease.

Equine Grass Sickness: The History...

EGS was first recognised around **100 years ago** when it occurred in local epidemics, which initially affected army horses at an army remount depot at Barry, near Dundee, Scotland in the first decade of the 20th Century.

In 1918 an Aberdeen-based research team was established by the Highland and Agricultural Society to investigate the cause of EGS as it was now regarded as a **dire threat** to the future of Scotland's working horse population.

The mortality rate at the time was shown to be 14.4% in a total population of 888 horses. The incidence and spread of this disease grew notably, with **all north-easterly Scottish regions affected by 1928**. EGS claimed the lives of substantial numbers of draught horses during the first half of the past century and in 2002 EGS was believed to have been **diagnosed in every county** in England, Scotland and Wales since 1909.

If experts have known about EGS for around a century... why is it still a problem today?

Unfortunately EGS remains a threat to British horses today as so **little is known about the cause** of this debilitating disease. Many theories have been introduced, rejected, resurrected and debated among scientists, including beliefs that insects, plants, fungi, bacteria, viruses and even chemicals may be possible agents of the disease. It is currently believed that the **soil-borne bacterium *Clostridium botulinum*** plays a role in EGS, a theory that was first brought about by Drs. J. S. and J. W. Tocher in the 1920s and reported to the Trans Highland Agricultural Society of Scotland. **More work is needed** however, to determine how to prevent EGS and determine why horses become affected.

In the next issue we'll be giving you an insight into the theories behind the cause of EGS as well as more information on *Clostridium botulinum* itself.

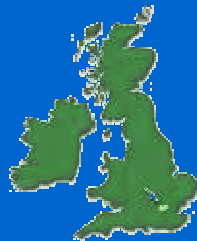


Image courtesy of visitScotland.com

The EGS Surveillance Scheme:

Distribution of EGS:

- **Great Britain** has the highest incidence of grass sickness worldwide



- EGS is also recognised in other **Northern European** countries, notably:

- Germany
- Denmark
- Sweden

with very few cases reported outside these regions

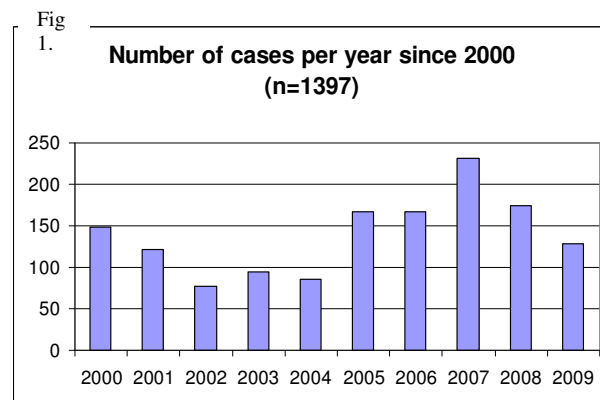
- Despite extensive horse movements between mainland GB and Ireland, EGS remains **virtually unknown in the Emerald Isle**

Analyses: The database containing details of all reported EGS cases has been updated with cases from 2009.

Cases since 2000:

The surveillance scheme contains data from 1942-present, however our final analysis will focus on the years 2000 onwards to ensure we are using the most accurate data we have. The following figures represent the data we hold from 2000-present.

Figure 1 shows the number of cases reported to the surveillance scheme per year since 2000. A total of 1397 cases have been reported, with an average of 134 cases/year. A peak in 2007 may relate to the start of the surveillance scheme, or may be a genuine increase in the number of cases due to environmental factors.

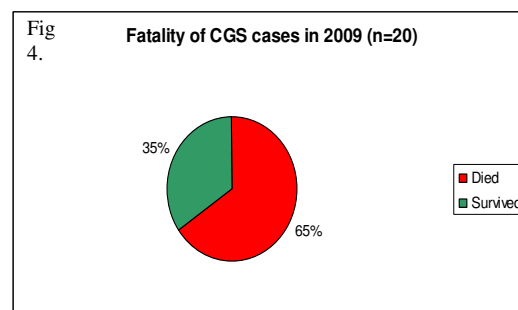
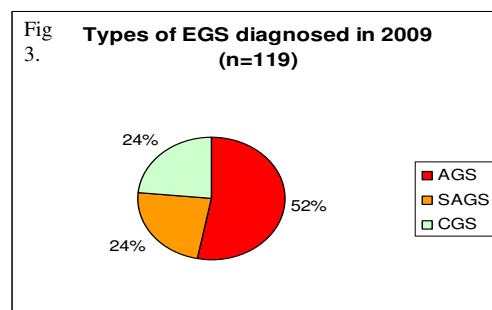
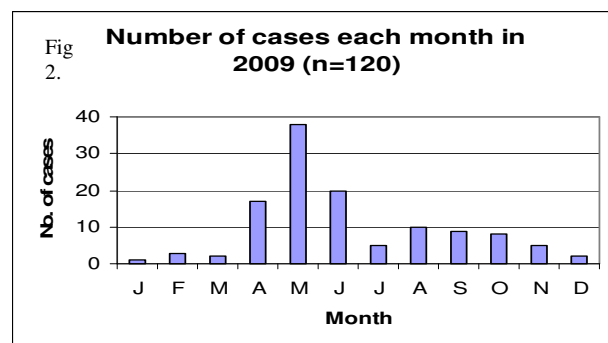


It is generally well regarded that EGS has a seasonal distribution, occurring more commonly in the spring time than any other time of year. Analysis of the distribution of cases as expected suggests that May is the high-risk month for the disease, with the spring time accounting for the majority of cases – probably related to grass growth and horse turnout.

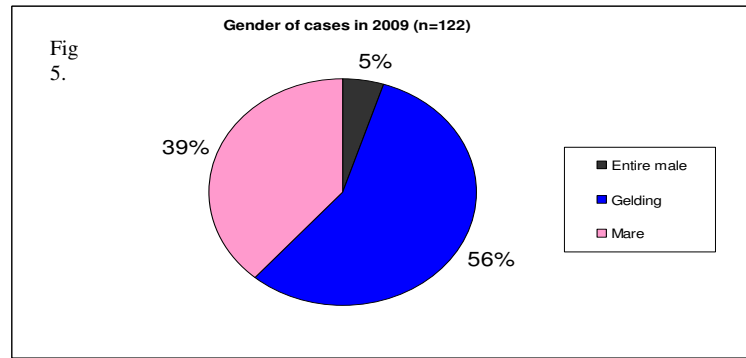
Cases in 2009:

The data from 2009 emphasises this trend, although a relatively few number of cases were seen in June (Figure 2).

The majority of cases reported to the surveillance scheme have been the fatal acute and subacute types, accounting for over 75% of the cases (Figure 3). Just over a third of the reported chronic cases were still alive at the time of reporting (Figure 3).



In 2009 EGS was reported more frequently in male horses than females (Figure 5).



Did you know?

- EGS affects all equines and has even been seen a **captive zebra**

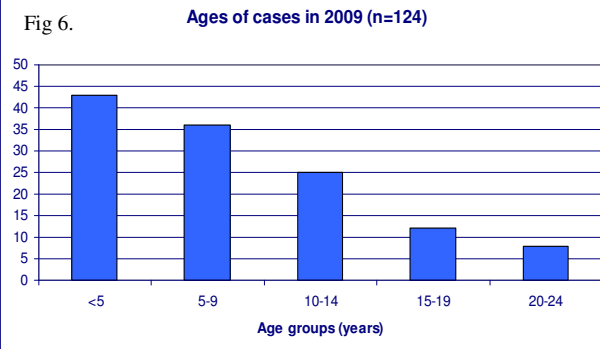


- Mal Seco** (dry sickness) is a disease that is clinically indistinguishable from EGS. It has been recognised in South America, namely:

- the Patagonia region of: Argentina
- Chile

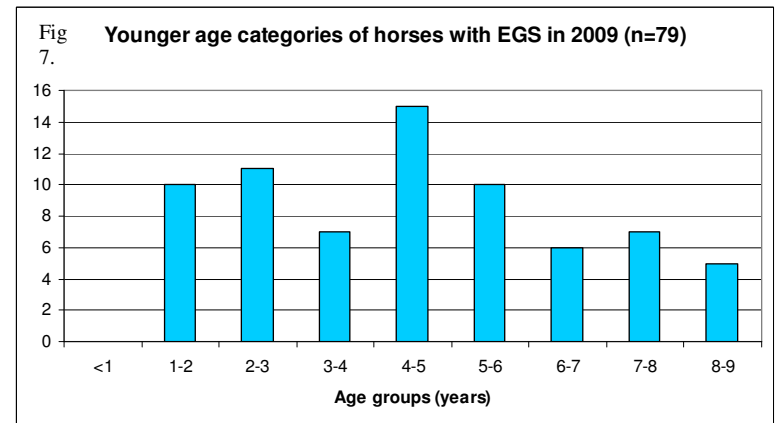
- A disorder very similar to EGS affects **rabbits, hares, cats and dogs**

- The famous racehorse **Dubai Millennium**, owned by Sheikh Mohammed, died of EGS in 2001

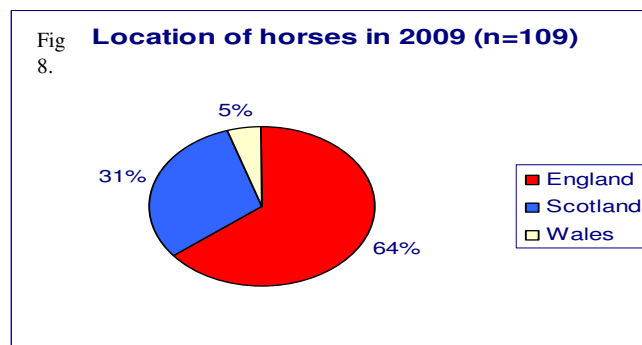


Interestingly, in 2009 EGS was reported in horses slightly younger than expected. Figure 6 shows the total numbers reported in each age category, with the most common age group often being less than 5 years old. In other years most cases have occurred in horses in the 5-8 year old category.

Looking more closely at the younger age categories in 2009 a surprisingly large number of horses were in the 1-2 year old age group, with relatively fewer horses in the 6-7 year old age bracket than reported in previous years (Figure 7).



Most of the EGS cases reported in 2009 occurred in England, with just under a third of cases occurring in Scotland, and a small number occurring within Wales (Figure 8).



Care is required in interpreting these preliminary data as they only represent the cases submitted to the project collaborators, with no current reference to the underlying horse population. It is hoped that following the development of the National Equine Database comparisons should be able to be made in the future.

- **Stabling horses**, for even part of the day, greatly reduces the risk of them getting the disease

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Risk Factors:

Please find some advice on possible management strategies which may reduce the risk of disease occurrence:

- 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.
- 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 (rotate wormer types)
- 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

Horses which are considered to be at 'high-risk' include:

- Young adults
- 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)

Veterinary Practices:

Every equine practice in the UK (n=846) has been asked to assist by reporting cases occurring since the year 2000. In the last newsletter we mentioned that two hundred practices had responded so far, of which 96% were willing to assist the scheme. We are now happy to announce that 12 more practices have joined the scheme, meaning that now only Merseyside and London remain uncovered by participating practices.

An increasing number of submissions are being received electronically and owners appear to find the **convenience of submitting cases online** appealing. We have also had a number of veterinary surgeons who have submitted details of EGS cases online via the case forms in the 'Horse Owner Section' of the website.

Other News...

The Website:

Anyone who has been online recently, either submitting case details or finding out information about EGS via our website (www.equinegrasssickness.co.uk) will have seen a few changes have been made...

We've introduced a '**Horse Owner Section**' and a '**Vet Section**'.

- In terms of **owners** who have had cases of EGS this means it is now even easier for you to submit your case details to us and determine which questionnaire you should be filling in.
- In terms of **vets** you now have the option to enrol a practice in our scheme online – so if you know of any equine practices in your area who are not enrolled please direct them to our website!

We've also introduced a '**Newsletter**' section where not only are online versions of the newsletter available, but anyone who isn't signed up to receive one of our newsletters can do so – this way you don't have to be someone who has provided us with case details to receive it. Similarly, if you are already receiving our newsletter but would like to change your e-mail address, etc. just fill in the form mentioning what you would like changed and we'll make a note of it.

Please Note:

The EGS surveillance scheme is an ongoing project and in order for our data to be representative of the disease within the UK it is vital that both owners and veterinary practices continue to report cases of the disease.

For your convenience both our new case report, and premises questionnaires can be completed on-line. Please visit www.equinegrasssickness.co.uk for further information and direct links to the questionnaire. Alternatively we would be pleased to post the questionnaires to you and these can be requested by contacting Maire O'Brien directly at the Animal Health Trust.

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