



The Moredun Foundation

EQUINE NEWS

Equine Grass Sickness Fund

Patron - HRH The Princess Royal Ambassador - Mark Johnston Chairman - Anne Logan

An Italy field trip

BY DR HAYLEY COULSON

Equine Grass Sickness (EGS) of pasture kept equines was reported by Laus et al., (2021) in central Italy. Italy has a range of climate/biome zones and the Italian EGS cases were located within the temperate zone of the Apennine mountains. Cases of EGS typically occur in pasture kept equines in temperate locations around the world, so comparison between the conditions at the Italian site and U.K sites may hold information about the development of the disease.



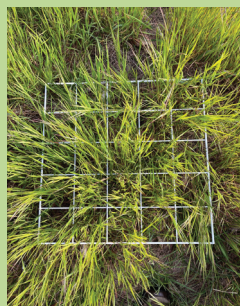
This project set out to determine the meteorological conditions before disease occurrence. Our current study of EGS cases in the U.K, and the weather conditions 40 days before a case, shows potential links between EGS cases and three distinct weather events.



Weather station

The U.K pilot model was tested on a set of 16 historic EGS cases in 9 temporal clusters from Italy. It was able to predict high risk EGS weather conditions consistent with weather event 1 in 4/9 clusters, with weather event 2 also being identified in 3/9 clusters. The remaining 5/9 clusters occurred after weather event 3. Weather event 3 is consistent with several U.K EGS cases, but so far results indicate that it is not as common in the U.K. Weather events 2 and 3 have been newly identified and need further analysis.

Visiting the Italian sites allowed field weather measurements to be recorded, identification of plant species, samples of grass sugar concentration and the deployment of soil moisture/temperature loggers. The outcome of the project aims to predict high risk EGS weather conditions and share these with the public and vets. Knowing the environmental conditions may also help in finding the unknown aetiology of the disease.



Identifying plant species was a painstaking task



Data logger with protection from wild boars



Temperature/moisture logger

Dr Coulson won a scholarship from The Moredun Foundation to undertake this study

Research Roundup

Congratulations to Professor Bruce McGorum for securing funding from the Horserace Betting Levy Board for a 4 year clinical scholarship that will include a project investigating serum from horses with acute equine grass sickness (EGS). Previous HBLB-funded research showed that serum (or its protein fraction) collected from acute EGS horses induced EGS nerve pathology when injected into experimental horses, indicating that EGS is caused by an unidentified protein or protein-bound nerve toxin. This new project will use state-of-the-art laboratory techniques (proteomics, lipidomics and metabolomics) to investigate, and hopefully identify, the causal toxin in EGS serum samples. Elucidating the cause of EGS would be a significant breakthrough, being a prerequisite to developing effective methods for controlling this devastating disease. The project will also identify key molecules that can; i) inform the mechanisms underpinning EGS nerve death, and ii) serve as biomarkers to aid pre-mortem EGS diagnosis.

Volatile Organic Compounds

Bruce and Dr Ben Langford (UK Centre for Ecology & Hydrology, Bush Estate) have been awarded funding by EGSF to investigate whether the profile of volatile organic compounds (VOCs) in gastrointestinal contents can aid diagnosis of EGS, and/or inform its cause. This study will test the hypothesis, based on many horse owners' anecdotal observations, that EGS horses have a characteristic odour. If this hypothesis is indeed correct, identification of the chemicals which cause this characteristic odour could potentially aid EGS diagnosis and could inform its cause and the underlying disease mechanisms. The odour of EGS horses most likely reflects the presence of particular dietary and/or microbial-derived VOCs which are liberated from the horses' gastrointestinal tract and/or excreted in their exhaled breath. VOCs comprise a large number of organic compounds which have a low boiling temperature and which consequently vaporise into air at body temperature. Many VOCs have detectable and characteristic odours. Exposure to some VOC vapours can cause a variety of detrimental health effects. There is considerable recent interest in the assessment of human patients' VOC profiles to facilitate diagnosis of Parkinson's disease, Alzheimer's disease and other human neurodegenerative diseases (see for example Mazzatenta et al 2015; Sinclair et al 2021).

EGS Nurse at the Dick Vet Equine Hospital

We are delighted to have agreed to continue funding the EGS Nurse at the Royal (Dick) Vet School for a further year. The EGS nurse plays a vital role in the day-to-day management of horses at the Dick Vet Equine Hospital, as well as providing telephone consultations with horse owners seeking advice on nursing horses at their own premises, and helping with collection of biological samples for the ongoing research. The nurse can give general advice on managing grass sickness cases; any veterinary advice will be given by Dick Vet Equine Hospital clinicians where appropriate. **To contact the Dick Vet Equine Hospital for advice regarding grass sickness please call 0131 650 6253**

A WARM WELCOME TO DR TANITH HARTE



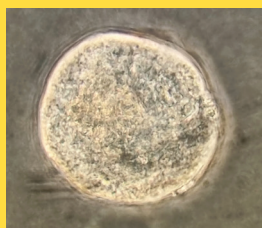
We are delighted to welcome Dr Tanith Harte to the EGS team. Tanith joined us in August 2023, having just completed her PhD in neuro immunology. She follows in the footsteps of Dr Kathy Geyer, who sadly left us to return to Germany with her family. We thank Kathy for all her hard work in setting up the Biobank, which has enabled Tanith to get off to a flying start.

Tanith says "I'm the new EGS post-doctoral researcher, tasked with taking steps to identify how the disease initiates and progresses by using modern science techniques and technologies.

EGS, as we know, is incredibly complex with many underlying

factors identified, but much remains to be discovered about how the disease progresses and why some horses seem to be more affected than others.

Currently I'm growing organoids (miniature organs!) from equine tissues such as gut and nervous system, which can be used to identify genetic and protein differences between EGS and healthy cases. These can also be used to test suspected causal agents further down the line!



Early organoid grown from intestinal epithelial tissue

Alongside this I'm also investigating the neuron-signaling pathways involved in EGS to identify changes in the neurons that may hint at what the mysterious causal agent is. It is my hope that these experiments will bring us a few steps closer to understanding this mysterious disease and finding a preventative and a cure.



EQUINE DISEASE SURVEILLANCE

An equine grass sickness (EGS) surveillance scheme was established in spring 2008 to facilitate the investigation of changes in geographical distribution and incidence of the disease in Great Britain. Data gathered by this scheme is collated in a strictly confidential database. Having up to date reports from across the country will help provide an accurate representation of numbers of EGS cases nationwide and is vital to help continue epidemiological research into the disease.

Reporting cases of EGS to the Equine Grass Sickness Fund (EGSF) can be done by either the attending veterinary surgeon or the owner, at <https://moredungroup.onlinesurveys.ac.uk/equine-grass-sickness-biobank-owner-questionnaire>.

Their latest quarterly report can be seen at: <https://www.jdata.co.za/iccvviewer/media/dsr20233.pdf>

You can sign up to receive a copy of their quarterly report by contacting: equinesurveillance@gmail.com

EGS BIOBANK PROJECT

By Dr Beth Wells

Thankfully this season has been a quiet one for EGS cases, but we have continued to raise awareness and add to our list of vet practices and horse owners who contribute valuable samples and case data to the growing biobank. This includes post-mortem ileum and ganglia, blood, urine, saliva and faecal samples from cases and data surrounding the case and management of the equine in the run-up to disease.

It is important for horse owners to know that all the data is completely confidential and this, along with the samples, are available anonymously to all researchers with a valid research project on application to the EGSF. This is already having the effect of opening up the scope of research projects to different scientists and research institutions, that otherwise would not have access to EGS case samples. This is really exciting and will increase the progress in our understanding of this devastating disease and ultimately provide the answers we so badly need.



Of course, all of this requires funding and we are forever grateful to our fundraisers and funders, such as the BHS, who have generously funded the biobank for three years. You all help to make these projects possible. We have recently put in several funding applications with our research collaborators to try and attract different funding sources for projects aimed at filling some knowledge gaps that were identified at our Research Crucible 2022 and EGS Conference 2023.

Since the start of the EGS Biobank in April 2021, we have had huge support from Rosssdales Veterinary Surgeons at Newmarket. The equine vets here have sent us samples and promoted the project, for which we are very grateful. Furthering this collaboration, several of the Moredun researchers and representatives from EGSF are heading to Rosssdales in November 2023 to do a series of separate meetings with the Rosssdales vets for horse owners, vets and stud managers/breeders.



Christmas Merchandise 2023

Here is a selection of our merchandise. For a greater choice please go to www.grasssickness.org.uk/shop
Shopping online helps us cut down admin costs – you can pay by card through Paypal



CHRISTMAS CARDS AND CALENDAR

1. British Native Pony Breeds Christmas Cards

Our 2023 Christmas card features seven native British pony breeds from an original painting by Jacqueline Stanhope. The greeting reads 'Best wishes for Christmas and the New Year' with EGSF details on the back. Card size 160 x 160mm. Pack of 10 high quality cards and envelopes £7.50

2. Heald Town Highland Pony Calendar 2024

The Heald Town grass sickness calendar is back for 2024 and this year we have once again have the pleasure of including the Balmoral Highland Ponies as well as the Heald Town herd. The calendars are A3 when open and have an A4 photo section and A4 planner, making them ideal for at home or at the yard. They are professionally produced, have a laminated cover, are wirebound and have a hole for hanging. £10.00

GIFTS

3. EGSF Faux Fur Bobble Hat

Cosy bobble hat with faux fur pom pom and embroidered with EGSF logo. One size £15.00

4. Doggie Bandana

Very smart doggie wear! An EGSF branded green doggie bandana. Slips onto the collar. Size: 22 x 15 x 15cm £5

5. EGSF Lapel Badge

Rainbow lapel badge. Size approx 20mm x 20mm (about the size of a 5p piece), presented on a backing card. £2.50

6. EGSF Pen

A smart laser engraved pen in racing green. Black ink £2.00

Christmas Merchandise Order Form

Office Use Only

Rec'd:

Desp:

CHRISTMAS CARDS AND CALENDAR

No	Description	Qty	Price	Total
1	British Native Pony Breeds Christmas Cards		£7.50	
2	Heald Town Highland Pony Calendar 2024		£10.00	

GIFTS

No	Description	Qty	Price	
3	EGSF Faux Fur Bobble Hat		£15.00	
4	Doggie Bandana		£5.00	
5	EGSF Lapel Badge		£2.50	
6	EGSF Pen		£2.00	

**P&P prices are for 2nd class UK orders only.
Please email us for overseas or express
postage costs.**

Post & Packaging
Up to £5.00 - £3.00
£5.01 to £10 - £3.50
£10.01 to £20 - £4.00
£20.01 - £50 - £5.00
£50.01 and over - FREE

Sub Total _____

Delivery _____

Order Total _____

Please consider adding a Donation _____

Total _____

Prices include VAT where applicable.

VAT NO: GB 663 8239 11

More items available at www.grasssickness.org.uk

Ordering online is safe and secure. By ordering online you help cut down administration time, allowing more funds to go direct to grass sickness research. Alternatively send your order by post, remembering to include your address and cheque. You can also order by phone by calling the EGSF Office on Tues - Thurs between 10-12am.

Charity Gift Aid Declaration – single donation

Boost your donation by 25p of Gift Aid for every £1 you donate

Gift Aid is reclaimed by the charity from the tax you pay for the current tax year.

Your address is needed to identify you as a current UK taxpayer.

In order to Gift Aid your donation you must tick the box below:

☐ I want to Gift Aid my donation of £_____ to:

Name of Charity _____

My Details

Title _____ First name or initial(s) _____

Surname _____

Full Home address _____

Postcode _____ Date _____

I am a UK taxpayer and understand that if I pay less Income Tax and/or Capital Gains Tax in the current tax year than the amount of Gift Aid claimed on all my donations it is my responsibility to pay any difference.

Please notify the charity if you:

- want to cancel this declaration
- change your name or home address
- no longer pay sufficient tax on your income and/or capital gains

If you pay Income Tax at the higher or additional rate and want to receive the additional tax relief due to you, you must include all your Gift Aid donations on your Self-Assessment tax return or ask HM Revenue and Customs to adjust your tax code.

Post to: The Equine Grass Sickness Fund, The Moredun Foundation, Pentlands Science Park, Bush Loan, Penicuik EH26 0PZ. All UK orders sent 2nd class, please call 0131 445 6257 (Normal office hours Tues - Thurs 10am-2pm) for express or overseas delivery. We aim to dispatch all merchandise within 5 working days (usually the same working day), please allow extra time at peak periods. The Equine Grass Sickness Fund is a division of The Moredun Foundation. The Moredun Foundation is a company limited by guarantee registered in Scotland, No SC151865. The Moredun Foundation is a charity registered in Scotland No SC022515.

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WORKING TOGETHER TO TACKLE GRASS SICKNESS

EGS Conference 2023

In March 2023 we held a conference and awards presentation at Moredun, to which we invited the top research scientists investigating grass sickness, equine industry stakeholders and many of our valuable fundraisers. The idea was to gather people interested in the disease from different viewpoints, in order to discuss latest research initiatives and explore future ways of working together to tackle the disease.

The conference was recorded, and is available at: <https://www.grasssickness.org.uk/media/> with time stamps so that you can skip to the parts that interest you most.

Programme

Keynotes: Roly Owers, World Horse Welfare: Working Together

Prof Chris Proudman, Surrey Vet School: Combining forces to beat equine grass sickness: The power of partnerships



Session 1 Gathering the evidence

Dr Beth Wells, Moredun Research Institute: A multi-disciplinary approach to EGS research

Prof Elspeth Milne, R(D)SVS: A study of lipofuscin in the neurons with age and in equine grass sickness

Prof Bruce McGorum, R(D)SVS: Is EGS caused by fungal mycotoxins?

Prof Ian Poxton, University of Edinburgh and

Dr Leonie Hunter, EGSF: Is a clostridial vaccine for grass sickness still a possibility?

Dr Richard Newton, Cambridge University: Surveillance of Equine Grass Sickness: past, present and future

Session 2 Application of new technologies

Dr David Smith, Moredun Research Institute: Using new technologies to solve difficult research questions – can these be used for EGS

Dr Joy Leng, Surrey Vet School: Omics sciences: what are they and how do we use them to learn more about grass sickness?

Student project: Dr Hayley Coulson, University of Edinburgh: What about the environmental risk factors for EGS?

Session 3 Afternoon workshops with panels

Vet panel:

Where Science Meets Practice: Chair Anne Logan, Loch Leven Equine, EGSF Chair

Prof Scott Pirie, R(D)SVS: Dubai Millennium Research Foundation – catalyst, structure, focus and outcome



Fundraisers panel: How do we meet the fundraising challenge? Chair David McClelland, Technical Director, Norvite

EGSF Fundraising Awards

We were delighted to take the opportunity to present our awards for key fundraising activities in 2022. British Horse Society Chair Sally McCarthy joined us to present the awards, and say a few words about the vital role the BHS has played in supporting the EGS Biobank.



The Trowan Trophy



Carrie Bain and Team Chiblet

Most Fun Loving Supporter Winner: Carrie Bain, Harelaw Equestrian Onesie Rides

The Trowan Trophy is dedicated to the memory of Rab Davidson, whose fun loving antics were loved by all who knew him.

EGSF Silver Salver awards:



Central Scotland Shetland Pony Group: Kelpies Ride



Crathes Charity Show – annual fundraising show

Lifescan Scotland with the **Ross-shire EGS Fundraisers Group:** matched funding
Martin Johnston Ireland of the **Ross-shire EGS Fundraisers:** Bonus Ball



Strathearn Eventing: annual Charity Hunter Trials

World Horse Welfare
Belwade Farm: A Tail of Cocktails and Contributions



The Heidi Award

Supporter of the Year Winner: Melody Ashcroft of Heald Town Highland Ponies, for her annual fundraising calendar

The Heidi Award was donated by the Seath family, in memory of their horse Heidi

ROSS-SHIRE CELEBRATES A £90,000 MILESTONE!

2023 show saw us with another bumper entry of 133 competitors. We started the morning with turnout before everyone went off to get ready for fancy dress when the judges had breakfast. Fancy dress then filled every ring with some outstanding costumes being chosen. We had 14 in the under 5 category so we had to rope in young Ella Munro, aged 9, to judge an overall winner in this group as there were 3 judges in this group so it was a shame to make them choose 1 winner between them. We don't want fighting just after breakfast!

We saw lots of new show goers this year including 4 year old Skyra Rogers who was awarded a wildcard in her in hand championship class throwing her straight into the supreme of show where she went on to take reserve supreme!



The pony club games is my favourite area and you will most likely find me watching or snapping the fun in that area. This year was no different as we saw husband and wife Iain & Sasha Pocock fighting for the title against new games competitor Natalie on her young Cally. Well Sasha won the games but Iain near won the show having split his jeans on the space hopper and declaring that he had no pants on! Anne Logan, the EGSF chair who was up for the day and who had stayed, very kindly offered him a pair of her pants.....clean.....black and she didn't want them back! Iain proceeded to pop the pants on over his jeans we didn't want anything on show that shouldn't be! whilst still mounted on his favourite steed, Orbit.



We had little Hakki and keen runner Abi set off and complete their 5K on the show field. Hakki having completed his stable to 5k in memory of his best friend, Buddy.



The day was again, a great day of fun whilst remembering lots of horses and ponies. We are very lucky in the Ross-shire area to be supported so well in all our fundraising activities and this years efforts from our supporters have seen us pass the 90K mark in the 9 years we have been fundraising. Lee MacDonald has been instrumental in selling second hand tack kindly donated to her. She also completed the Great Glen Way with Sasha Pocock – over 80 miles in 4 days raising over £2300.

Young Sophie Whitby, rather than ask for birthday presents decided to ask for sponsorship for her and her pony Pip to ride the Dava Way, approx. 24 miles on Sophies 11th birthday. She raised £3199!



Abi & Hakki raised a fabulous £625 in sponsorship for their 5K and Martin Ireland has been raising funds all year again in doing his bonus ball. He raises over £1300 a year doing this for the EGSF, not to mention dressing up as Ken and Barbie for the Fancy Dress!

We are very fortunate to have such amazing support and not all have been impacted by this vile disease but they still want to make a difference and have done in a huge way with the efforts in Ross-shire this year collectively already being £12600. An amazing effort, thank you to everyone who has supported.

Donation from Crathes Show 2023 show brings fundraising to over £14,000 in three years

The Crathes Charity Horse & Dog Show was set up as a 'one off' show in 2021 to give communities in the north-east of Scotland a show to look forward to, following the easing of COVID restrictions and local lockdowns. Such was the response from competitors in the first year that the third show was held in conjunction with the NESHPEs Aberdeen Highland Pony Show on 11th June 2023 at Milton of Crathes Events Field near Banchory.

The two aims for the show are to create a welcoming and inclusive environment for all – whether competitors are showing for the first time or have been to HOYS – and to raise awareness and funds for the Equine Grass Sickness Fund.

Thanks to the continued generosity of show sponsor, trac energy, venue sponsors Leys Estate and the Burnett family, along with many of our judges who kindly give their time and expertise as a donation to the Fund and numerous section and class sponsors, we were able to present a cheque for £5,000 to the fund this year, bringing the money raised from the three shows to over £14,000.

From a very strong field of entries across all sections, supreme judge Mrs Maggie Inglis chose Amy Ruggs, Freckleton Mozart. The pairing had a fantastic show taking the championship titles in both the In-hand Horses and Horses Under Saddle sections as well as reserve champion in the Veteran section.



Standing reserve supreme was Sophie Whiteford's Drumgair Debut. A real favourite in the ring having taking the Shetland Pony championship earlier in the day, ridden beautifully by Lucy Whiteford.



In the highland pony rings, which are run in conjunction with North East Highland Pony Enthusiast Society, JA Baird took home the In Hand

championship with the yeld mare Bonnie Lass of Whitefield. Standing reserve was the Late HM The Queen's stallion Balmoral Squire. JA Baird then went on to be crowned Overall Champion with Rebecca Chalmers' gelding Sovereign of Forglan standing Reserve Overall having early taken the Ridden Championship ahead of Reserve Champion Burnside Westray from Morven Wilkie.



The dog show also continues to go from strength to strength with record entries in this year's classes, including previous Crufts winners.

The show was set up by Highland Pony breeders, Robin and Karen Stewart, who have been raising funds for Equine Grass Sickness Fund for over 20 years after experiencing the heart break of EGS first hand. Over the years their fundraising has included annual party nights, BBQs, ride outs and fundraising activities at North East of Scotland Highland Pony Enthusiast events.

Show Secretary, Karen Stewart said: "We never envisaged we would be handing over £14,000 over the course of the past three years. Our heartfelt thanks go to every competitor, supporter, sponsor, judge, steward and friends and family who have made this all possible.

"We were particularly proud to have Moredun's BioBus at the show this year which gave our competitors and visitors the chance to find out what their donations go towards. Sadly we had competitors who had lost horses to the disease in the weeks leading up to the show, making our fundraising all the more poignant.



"We know that every penny makes a difference as we continue to seek answers to this devastating disease and we are very proud that our fundraising can play a part in supporting this vital research in the hope that one day we have more understanding of how to prevent the condition."

The next show will be held on Sunday, 9th June 2024

HARELAW EQUESTRIAN CENTRE

Congratulations to Team Chiblet of Harelaw Equestrian Centre in Longniddry, East Lothian, who are off to another bumper year, with £8920 raised, and still their Christmas ride to go!

Their main event is, of course, the Onesie Ride in May. As usual upwards of 100 young riders took part, with dozens of ponies making their way around the beautiful East Lothian countryside, before returning to the indoor school for games and craft stalls. One of the new features this year was a banner showing the seven ponies lost to grass sickness, with sole survivor, the gorgeous Nugget in the centre.



Other events included the Easter Ride, soon followed up with a party night a Disney Treasure Hunt and the Halloween Ride. Thank you to everyone who took part, and the hard working team behind the scenes. Particular thanks to Carrie, Brenda and Murray for allowing these events to take place. In total these big hearted people have raised over £45,000 for vital grass sickness research.



Thank you!

Fundraising is vital to allow us to progress our research programme, and work towards a day when horse owners do not need to fear this disease. We would like to thank the many people who have sent donations, volunteered and organised fundraisers.

Another crucial element of our work is building the EGS Biobank, which we hope will yield the answers we so badly need. This involves the combined efforts of vets, equine industry stakeholders, and most importantly, those who have either donated samples from an EGS case, or contributed a case report. Thank you to you all

ATPAC Scaffolding
Balmoral Highland Pony Stud
Burnside Charity Show
Cliffe Equine Vets
Cousland Charity Show
Dick Vet Equine Hospital
Dundee Kilt Walk
Everest Basecamp trek
Gow Charitable Trust
Great Glen Way
Hakki Stable to 5k
Harelaw Equestrian Centre
Heald Town Highland Pony Stud
Highland Equestrian

Highland Pony Society
Horseworld Wheathampstead
In Memory of Apollo
In Memory of Scottie
In Memory of Squire
In Memory of Summer and Millie
Jim Crichton Photography
Leith Collective
Luna's Legacy
Malvern Highland Pony Show
Musselburgh Crusaders Riding Club
National Pony Society
NESHPEs
Norbrook

North East RC
Norvite
Rossdales Equine Hospital
Ross-shire FUNdraising Group
Sophie and Pip's Dava Way
Strathearn Eventing
Tay Valley Vets
The British Horse Society
The Moredun Foundation
Tower Farm Riding Stables
UHI Equine College
Walk In Memory In May
Western Equestrian Society
World Horse Welfare

Obituaries

This year we lost two well known grass sickness survivors. These were two horses who fought the disease, and went on to become ambassadors for grass sickness, winning the hearts of all who met them. Our thanks go to their owners, Scottie's Lorraine Saunders, and Alfie's Vicky Sinski for turning their worst of times to the benefit of raising awareness. And most of all thank you to Scottie and Alfie, you will be missed ❤️



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For further information please contact

Kate Thomson, Administrator, Equine Grass Sickness Fund

The Moredun Foundation, Pentlands Science Park, Bush Loan, Penicuik EH26 0PZ

Tel: 0131 445 6257 email: info@grasssickness.org.uk

www.grasssickness.org.uk



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