2025

Year In Review

ISSUE 36

Dick Vet News

THE UNIVERSITY of EDINBURGH
The Royal (Dick) School of Veterinary Studies

a warm welcome

Welcome to this edition of Dick Vet News. Each year, it is striking how quickly we move from the first days of term to the festive break. Gathering stories for this year-in-review publication serves to remind us of the breadth and impact of the work taking place across our community.

In this issue, I am pleased to introduce our new Strategic Plan 2025–2030, launched in September. You will find the full story in the pages ahead, but I want to acknowledge from the outset the thoughtful co-creation that shaped this plan and the strong foundation it provides for our collective direction. The strategy places One Health at its core, recognising the interconnectivity of people, animals, and the environment. It marks the beginning of a shared journey, and work to bring these ambitions to life is already well under way.

This edition celebrates the accomplishments of our graduates through a series of young veterinary success stories. We also highlight initiatives designed to strengthen training and widen participation, including 'Be a Vet for a Day' with Fostering Compassion, our Diversity Summer School, and the launch of the UK's first standard residency programme in Veterinary Behavioural Medicine.

Our clinical and scientific features explore significant areas of progress, with articles on pituitary tumour surgery, a novel therapeutic tube intervention, cat dementia, ophthalmic cancer, and cat coronavirus. We also examine milestones in livestock health and global food systems, including the US Food and Drug Administration approval of PRRS-resistant pigs, advances toward pestivirus-resistant pigs, developments in lab-grown meat, the importance of international trade for healthy diets, and insights from a major report on children's eating habits. Additional articles cover our collaboration with the Food and Agriculture Organization, the launch of a new Engineering Biology Hub, funding success for SEBI-Livestock, and a renewed partnership with Moredun - each contributing in different ways to the broader One Health landscape and to the strategic ambitions we have set.

> *"Collectively, these articles illustrate the dynamism of our field and the collaborative spirit that continues to drive meaningful progress.*

In conservation and welfare, we report on the collaborative efforts of veterinary teams assisting a giraffe, the release of a golden eagle fledgling, progress in deer collaring, and concerns around how a lack of diversity threatens Scotland's red squirrel populations. We also share EPIC's new Don't Risk It animation, supporting responsible behaviours that protect both animal and ecosystem health.

Collectively, these articles illustrate the dynamism of our field and the collaborative spirit that continues to drive meaningful progress. They also reflect the central themes of our new strategy. I hope you enjoy reading this issue as much as we've enjoyed putting it together.

Thank you for your continued engagement and support.

Professor Lisa Boden
Head of School and Dean of Veterinary Medicine

THE UNIVERSITY *of* EDINBURGH
The Royal (Dick) School of Veterinary Studies

2025 Year In Review

Jan Survey reveals alarming diet trends among Scottish children. **Page 37.**

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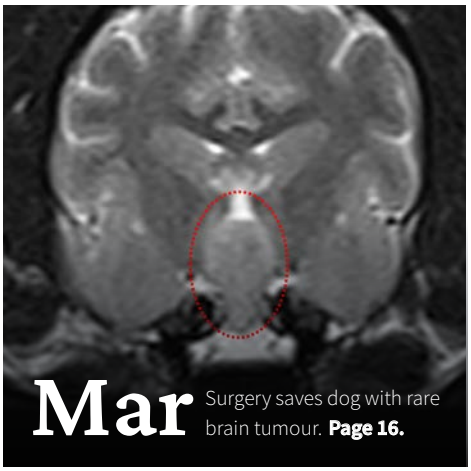

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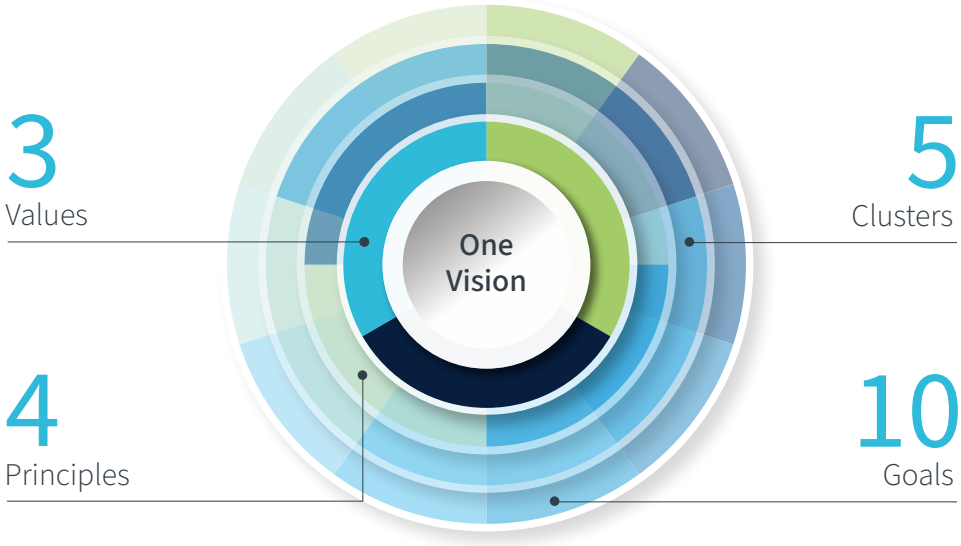
Strategic Plan 2025-2030

Solving the world's greatest One Health challenges

Our vision for 2030 is to be the world's first choice as a place of lifelong learning and innovation for the advancement of animal, human and environmental health and wellbeing on the planet (One Health). We will continue to champion science-based decision-making as well as empathy; foster courage, as well as compassion; and support leadership as well as collaboration in our staff and students. We will build on our values, knowledge and skills to transform animal, human and environmental health and wellbeing, on our campus, in our local communities and globally.

The School's Strategic Plan 2025-2030 foregrounds a One Health approach. It is built on three values, four powerful strategic principles, five thematic clusters and 10 goals, to delineate a safe operating space for all members of the community. Our performance will be measured. We recognise that how we work is as important as what we do, and we will take an agile approach to emerging priorities. We will be bold and ambitious, and if change is required, we will have the courage to chart a new course.



Strategic principles

- Leadership and advocacy for social impact: leading, supporting and driving sustainable and innovative, long-term change.
- Engaging and training the next generation: innovative approaches to sharing knowledge, skills, tools, behaviours and understandings.
- Putting people and communities first: understanding the experiences of people, our partners and those affected by our work.
- Pioneering research, translation and entrepreneurship: creating and shaping new knowledge, and reflecting on how it is perceived and used by others.

Goals

- Educating global leaders for the veterinary profession and beyond
- Providing a spectrum of clinical care for improved animal health and welfare
- Leading the field of veterinary humanities for One Health
- Enhancing One Health through comparative models of animal and human disorders
- Providing innovation in agriculture and aquaculture research, training and engagement
- Investing in a sustainable campus to improve student and staff wellbeing
- Supporting adaptation to and mitigation of climate change and biodiversity loss
- Preventing, preparing and responding to animal and zoonotic disease threats
- Improving animal and human health and wellbeing for pastoralists and displaced communities in fragile and conflict affected contexts
- Advancing local and global food systems and healthy diets.

Clusters

Our 10 strategic goals will be delivered across five thematic areas (clusters) between 2025 and 2030. These clusters reflect the main domains of One Health:

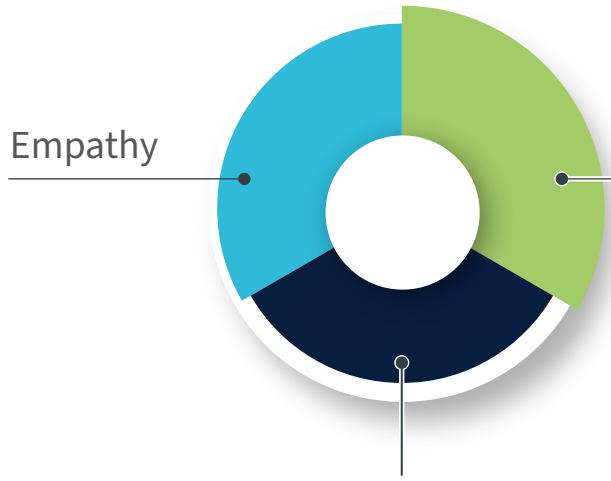
- Collaboration, culture and community health
- Animal health and welfare
- Animal biosciences, agriculture and aquaculture
- Global food systems
- Biodiversity, conservation and ecosystem health.

Values

Our values of empathy, courage and collaboration are threaded through our mission, strategic principles and goals. These are aligned with those embedded within the University of Edinburgh's Behaviours Charter.

Strategic Plan 2025-2030

To read more and watch a short explainer video visit: **vet.ed.ac.uk/strategic-plan**



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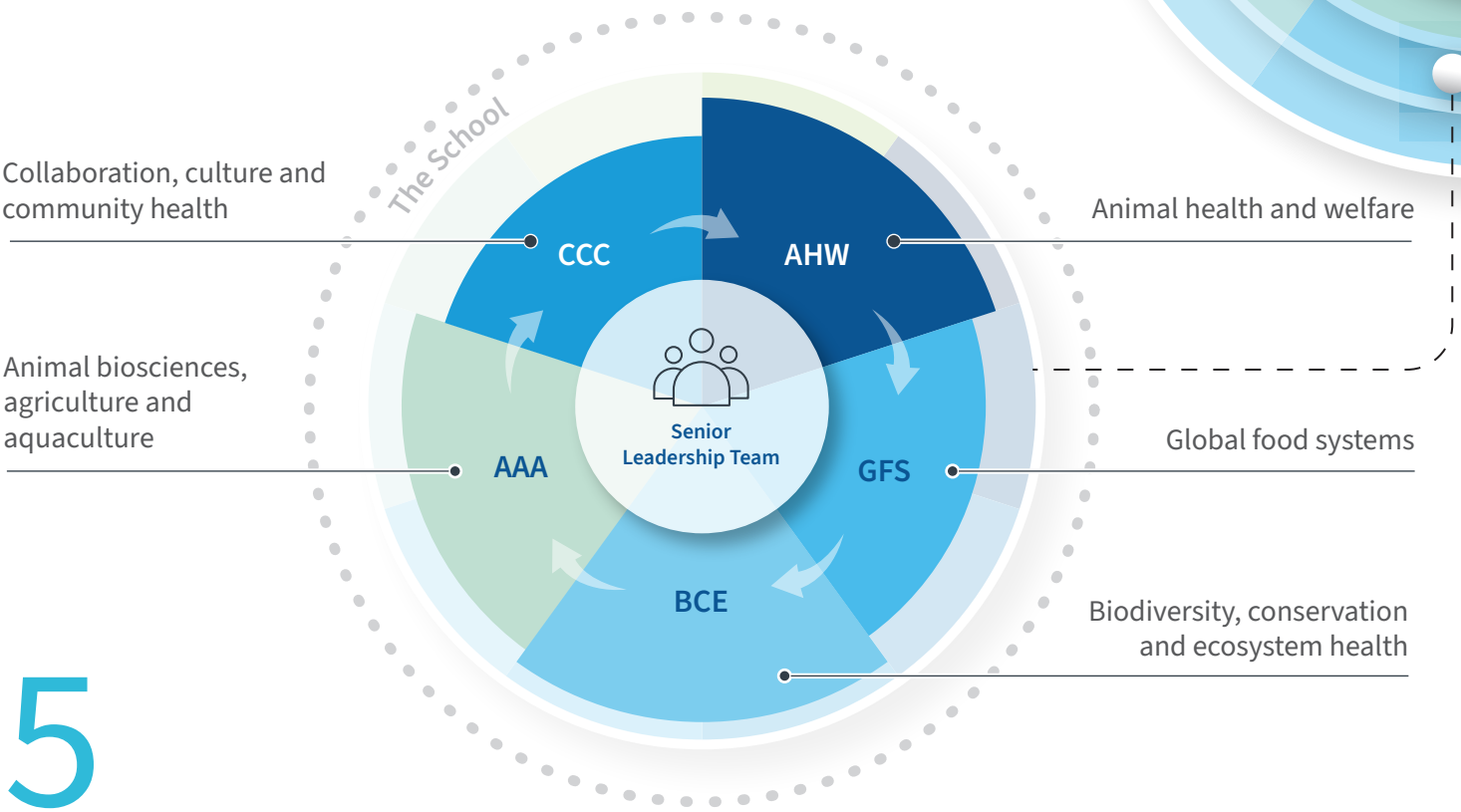

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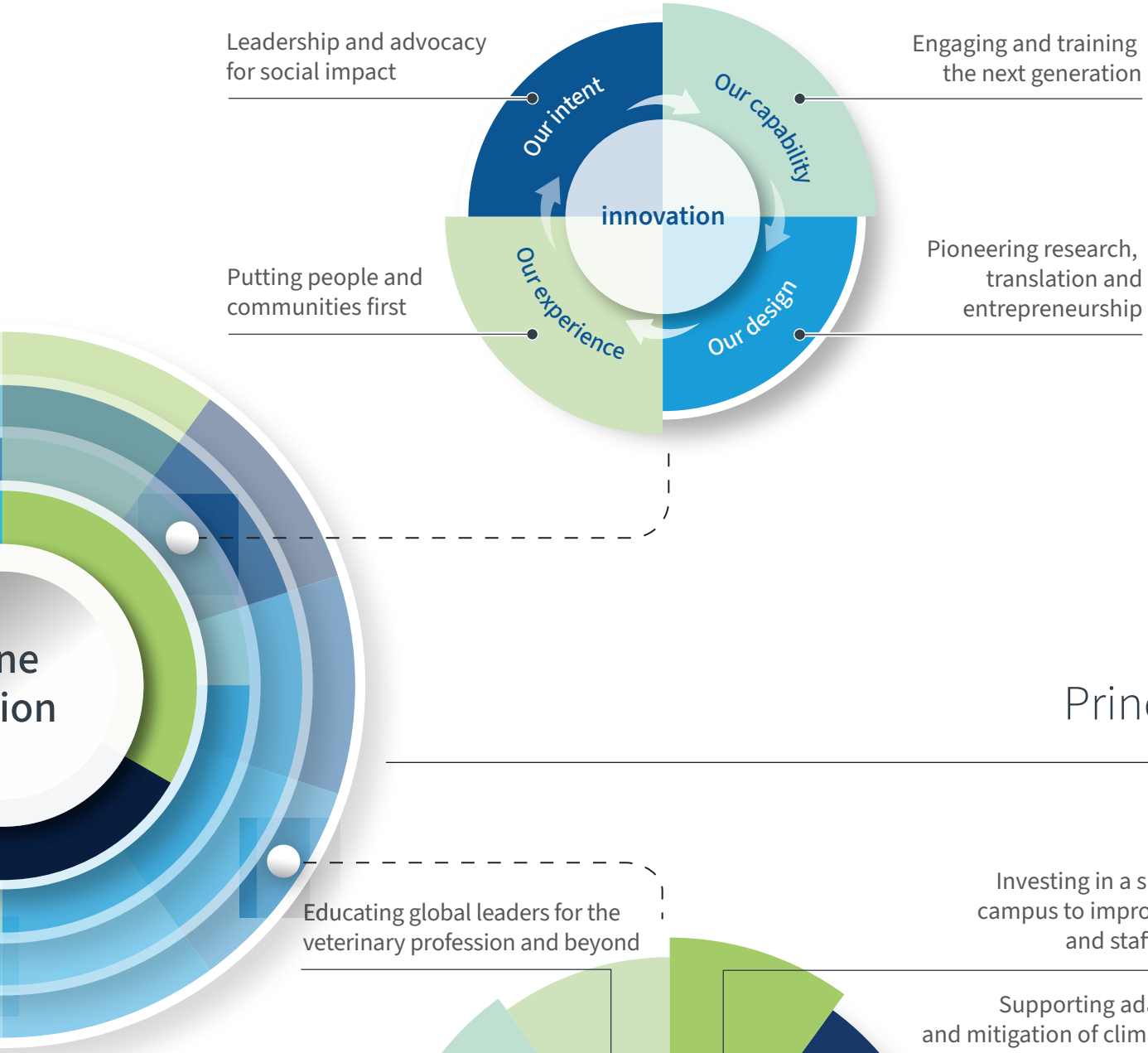

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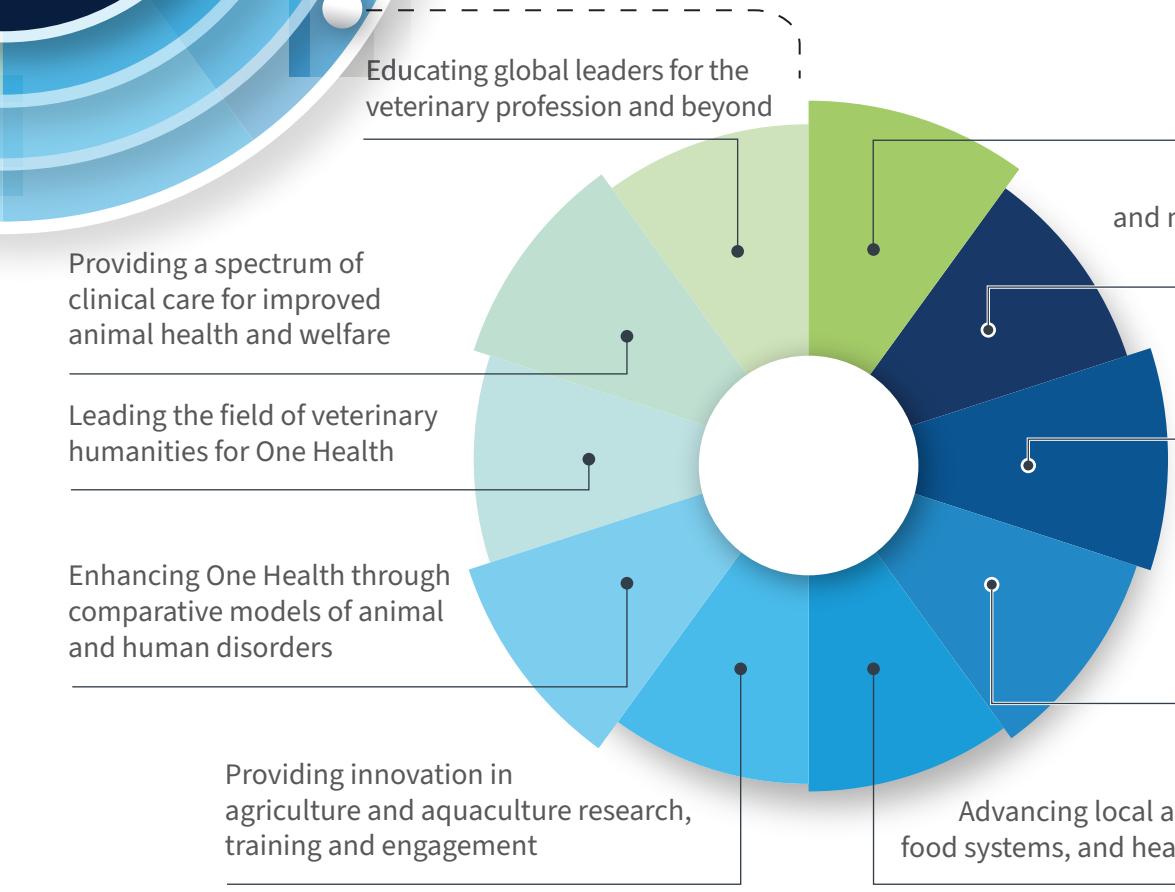


10 Goals

Education

Celebrating Success

This year, several of our students and recent graduates have been recognised by their peers and the veterinary industry.

Principal's Medal and Edinburgh University Student Association (EUSA) awards

MSc Conservation Medicine student Dr Meera Mokashi was announced as a Principal's Medal winner in November, ahead of winter graduation. In March, she also won the Edinburgh University Student Association (EUSA) award for Student Representative of the Year.

Principal's Medals are awarded for the delivery of exceptional service or support to the University community. Recipients are nominated by fellow students and staff.

Dr Mokashi was recognised for her voluntary work as a programme representative alongside her studies, bringing together the online student community through social initiatives. She advocates for student consultation in University policy development and sits on School and University committees, reflecting her commitment to student welfare and a supportive academic environment.

London Vet Show 30 Under-Thirty (VS30)

Fnal year student on the veterinary undergraduate degree, Zaza Kuo, has been named in the 2025 cohort of outstanding young veterinary professionals.

Ms Kuo, inspired by the Student Research Component of the vet degree, was recognised for her research into the effects of moxidectin on bumblebee behaviour.

VS30 is an initiative designed to bring together young leaders and innovators in the veterinary industry and acknowledge their early career work.

Fédération Equestre Internationale (FEI) recognition

Saskya Bingei, a 2023 graduate of MSc Equine Science, was nominated for the 2025 FEI Inspire Award. She is the founder of Equine Resources Indonesia and was nominated for her work to bring equine science, welfare and sustainable industry practices to Southeast Asia.

The FEI Awards are an international recognition of the people who make define equestrian sport and make it extraordinary.

She said: "MSc Equine Science helped deepen my understanding of evidence-based horse welfare, management, and global equine systems — principles that now shape everything I do in Indonesia and Southeast Asia."

British Veterinary Association (BVA) finalists

The School was strongly represented in the line-up of finalists for BVA Young Vet of the Year 2025 with two of the three candidates connected to the Dick Vet. Leah Hunter, a 2021 graduate of the undergraduate degree, pictured, won the prestigious award and Jade Urquhart-Gilmore, a current MSc Clinical Animal Behaviour student, was shortlisted.

The British Veterinary Association (BVA) award recognises the outstanding work of young vets who are making a significant contribution to the profession. Congratulations to these exceptional vets who lead, inspire and go above and beyond what is expected of them early on in their career.

A culture of inclusivity

This summer we welcomed the fourth annual cohort of learners to our Veterinary Medicine Diversity Summer School.

The Summer School is a fully funded, residential experience offered to school-aged learners who are from backgrounds typically under-represented in higher education.

Learners explore a range of topics within veterinary medicine through practical and classroom-based activities. Veterinary teaching and clinical professionals lead the sessions and offer their insight on the many career paths available to graduate vets.

The School is committed to providing equal opportunities for all its students and fostering a culture of inclusivity.

Education

Faithful hound Mac hung up his scrubs in June after a decade-long career teaching Dick Vet students.

Anyone who has graduated from the BVM&S programme in the past 10 years is likely to remember Mac, who helped teach close to 1,000 vet students clinical skills and basic handling in the School's clinical teaching classrooms.

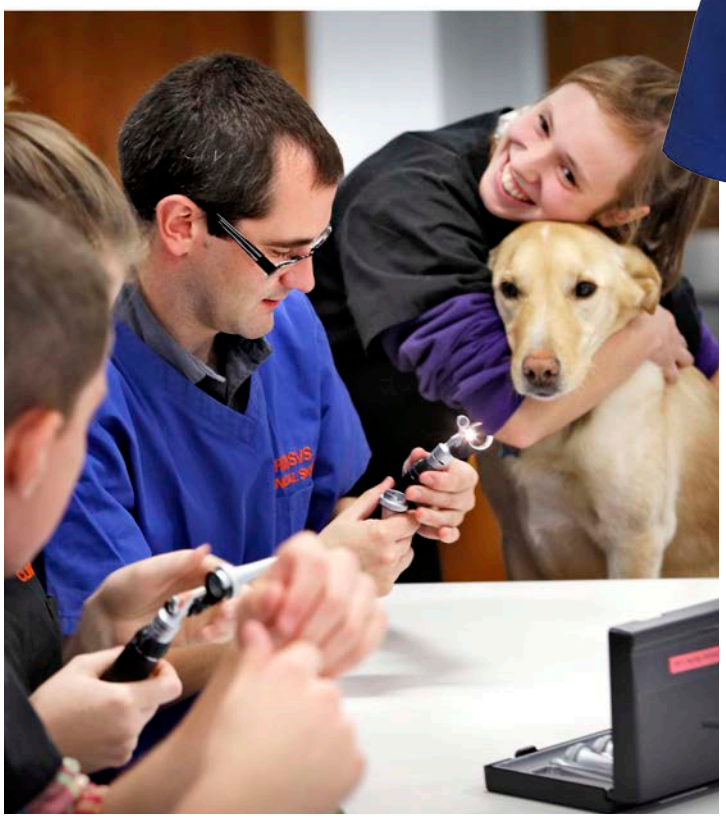
Teaching dogs play a vital role in supporting vet students as they learn how to perform non-invasive clinical skills. The dogs help students practise basic body examinations such as listening to heart and lung sounds, assessing body condition and evaluating general health.

Mac's association with the Dick Vet started when he was a stray, who, under the care of the Edinburgh Dog and Cat Home, came in for a dental examination. Clinician Rob Ward rehomed a timid but willing-to-trust Mac, who blossomed into a happy, confident boy.

He arrived for work with a spring in his step and a wag in his tail, and was always very comfortable in his work environment, even developing a habit of falling asleep on the tables with students working around him.

Mac features in numerous teaching videos and images, so students will benefit from his professionalism for many years to come.

Everyone at the School wishes Mac a long and happy retirement full of walks and, of course, plenty of naps.



Links with United Nations to support smallholders

Collaboration aids development of veterinary Paraprofessionals to support farmers in sub-Saharan Africa.

Experts from across the School have contributed to a project led by the Food and Agriculture Organization of the United Nations (FAO). The Empowering Veterinary Paraprofessional Entrepreneurs project offers blended learning and develops training to veterinary paraprofessionals (VPP) in sub-Saharan Africa.

VPPs play a crucial role in delivering animal health services to rural communities that lack access to veterinarians. Increased demand for livestock-based products has seen a growing dependence on this expertise.

Training gap

The FAO identified training gaps, a lack of ongoing support for VPPs, and a need for improved gender equality. Two-thirds of low-income livestock farmers are women, yet only five per cent of agricultural extensions, including animal health services reach them.

Empowering change

This project provides a gender-responsive structure around three key pillars: development of a supportive environment, competency recognition, and continuous professional development.

Students acquire the tools and knowledge to build livestock health strategies and challenge the misconception that the primary role of VPPs is to provide reactionary care to sick animals.

Graduates are equipped, and supported, to offer tangible benefits with service packages that are focused on disease prevention and improved productivity.

One Health framework

Rosie Herrington, a Clinical Research Fellow at the School, has worked on the project since its inception.

Dr Rob Kelly, Lecturer in Veterinary Parasitology, led the involvement in the project and was joined by Neil Sargison, Professor of Farm Animal Practice, as consultants in the development of educational material. Dr Kelly is a clinical academic with a focus on assessing the impact of parasitic diseases in animal populations and the application of pragmatic control measures. He has a PhD in infectious diseases in livestock epidemiology in sub-Saharan Africa and is a Senior Fellow of the Higher Education Academy.

Rosie Herrington, a Clinical Research Fellow at the School has worked since the inception of the project. As a consultant to the FAO, Rosie supported the initial scoping and design of the learning materials, the construction of online components and impact assessment in the field.

This collaboration will continue as the project evolves to assess the impact of VPP training and produce peer-reviewed publications.

The strength and diversity of knowledge provided to the project demonstrates the School's capacity as a world leader in One Health, and our commitment to achieving the United Nation's Sustainable Development Goals.

image credit: ILRI

Be a vet for a day

Fostering compassion

In March, vet students welcomed back East Lothian charity Fostering Compassion, offering children who are care-experienced the chance to 'Be a vet for a day'. Dick Vet students delivered workshops focusing on care, empathy and compassion between humans and animals, and among people.

Participants, many of whom were young carers, spent time in the clinical skills lab, which is packed full of teaching models. They learned some basic veterinary skills including monitoring heart rates, bandaging and how to interpret X-rays.

This annual, student-led event has been running at the School for five years and there are plans to expand in 2026 to offer a second date.

Fostering Compassion provides workshops and activities to vulnerable children to restore, encourage and nurture compassion – we are delighted to continue to support this fantastic initiative.

Find out more

To find out more about Fostering Compassion:
www.fosteringcompassion.org

Dick Vet alumni community - stay connected

Find out more about continuing your alumni connections.

Together, our alumni form a strong community of over 9,000 members, making their mark around the globe.

vet.ed.ac.uk/about/community/alumni

Please ensure we have your current details so we can stay in touch with news, events, activities and opportunities. You can check your contact and employment details are up-to-date via the Alumni Portal

alumni.ed.ac.uk/services/portal

Dick Vet launches residency programme in Behavioural Medicine

Hospital for Small Animals is the first approved training centre in the UK.

The European College of Animal Welfare and Behavioural Medicine (ECAWBM) has approved the Hospital for Small Animals as the first training centre in the UK to provide a standard residency programme in Veterinary Behavioural Medicine.

This will allow vets the opportunity to study at a dedicated centre in the UK while working towards ECAWBM Behavioural Medicine Diplomate status, the highest qualification in veterinary behavioural medicine.

Existing expertise

With a dedicated referral-only Behaviour Clinic led by Dr Kevin McPeake, European and RCVS Specialist in Behavioural Medicine, the Hospital for Small Animals constitutes an ideal training centre for ECAWBM scholars. The Behaviour Clinic specialises in the assessment and treatment of behaviour problems in dogs and cats, and benefits from the expertise offered by over 12 other on-site, Specialist-led referral services, when dealing with patients with complex medical problems.

Dr McPeake will serve as supervisor and oversee the training of ECAWBM scholars during their four-year residency, and help prepare them for their board exams.

"We are delighted to be accredited to offer this residency programme. Veterinary Behavioural Medicine is an exciting and expanding field, and this accreditation allows us to be at the forefront of developing specialists for the future so we can help more patients and their carers.

Benjamin's appointment and expansion to the Behaviour Clinic team also means we will be able to increase our capacity and help more dogs and cats with behaviour problems.

- Dr Kevin McPeake, Head of the Behaviour Clinic, Hospital for Small Animals

Drs Kevin McPeake and Benjamin Cross.

First scholar welcomed

Dr Benjamin Cross, the first vet to be enrolled on to the new standard residency programme in Behavioural Medicine in the UK, commenced his scholarship at the Hospital recently. Dr Cross, who completed his undergraduate studies at the Royal (Dick) School of Veterinary Studies and undertook a rotating internship in the Hospital for Small Animals, has a particular interest in preventative behavioural medicine.

"I am delighted to return to the Dick Vet and to join the Behaviour Clinic team. It is a real privilege to learn and work alongside so many brilliant and dedicated colleagues and I am excited to further develop my knowledge and skills as well as help deliver excellent care to our patients."

- Dr Benjamin Cross, Resident in Veterinary Behavioural Medicine.

Dr Cross joins Dr McPeake and Dr Amy Miele, and will gain extensive clinical training assessing and treating dogs and cats referred to the Hospital's Behaviour Clinic. He will also receive training in exotic animal and equine behaviour and complete a Professional Doctorate in Veterinary Medicine (DVetMed) from the University of Edinburgh as part of his training.

Clinical

Specialist surgery saves dog with rare brain tumour

Spaniel makes full recovery after tumour is removed through the top of his mouth.

Vets at the Hospital for Small Animals have performed a challenging surgery to remove a dog's brain tumour.

In the complex procedure, veterinary neurosurgeons removed a large mass from the base of a spaniel's brain, through a small hole in the top of his mouth.

The Hospital is the first in Scotland, and one of only five centres in the UK, that has successfully performed surgery of this kind in dogs. It is also one of a handful in Europe that offer both radiotherapy and surgery as treatment options for cats and dogs with tumours of this type.

Complex case

Lordy, an eight-year-old cocker spaniel, was referred to the Hospital's Neurology Service with multiple complex neurological problems.

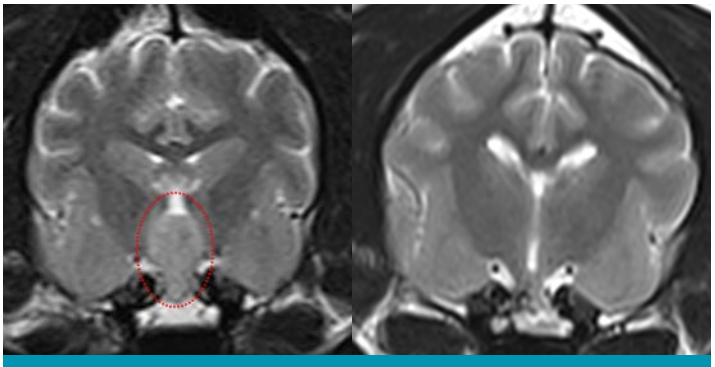
An MRI scan identified a large tumour on Lordy's pituitary gland, at the base of his brain. Further tests confirmed that Lordy also had Cushing's syndrome, a potentially fatal condition involving over-production of a key hormone, due to the mass.

Specialist surgery

A follow-up CT scan suggested that the tumour was growing and could invade other parts of Lordy's brain and spinal column, which could lead to additional problems.

In consultation with the dog's owners, it was agreed that the best option for Lordy was for vets to surgically remove the tumour in a procedure known as a transsphenoidal hypophysectomy.

In preparation for this technically challenging surgery, a 3D-printed model was produced using CT images of Lordy's brain and tumour. This was fitted onto the roof of Lordy's mouth during surgery, to help the vets locate the best access point to locate the tumour during the operation. Surgeons then drilled a 5mm hole through Lordy's soft palate and the base of his skull, allowing them to access and remove the tumour.



Magnetic Resonance Imaging (MRI) of Lordy's brain before (left) and after (right) surgery. The pituitary tumour is encircled (red).

Positive outcome

Lordy was under the watchful eye of the Hospital's Anaesthesia and Emergency and Critical Care Services both during and after surgery. The spaniel recovered quickly and was discharged three days later. Follow-up MRI scans three and six months later showed no sign of the tumour or damage to brain tissues. Lordy remains a regular visitor to the Hospital's Internal Medicine Service, for continued monitoring and care.

> *"We are pleased that Lordy's surgery was a success. His care required a multidisciplinary approach and involved colleagues from the Anaesthesia, Internal Medicine and Emergency Critical Care Services at the Hospital.*
>
> **- Dr Aran Nagendran, Co-Head of Neurology Service and Specialist in Veterinary Neurosurgery, University of Edinburgh's Hospital for Small Animals.**

Dr Alisdair Boag, Specialist in Small Animal Medicine, Hospital for Small Animals said: "We are delighted that Lordy's Cushing's syndrome has been resolved due to this surgery. He has made great progress since his operation and we are happy to supply ongoing care."

Lordy's owners said: "We are eternally grateful to everyone involved in Lordy's care. Since his surgery he has bounced back to be the same energetic little monster he was as a young dog, bringing us love and joy every day."

Covid drug turns the tables on fatal cat disease

Cats with feline coronavirus-associated disease now have a survival rate of over 85 per cent, thanks to new treatment.

A drug used to treat humans with Covid-19 has proven extremely successful in treating cats with an otherwise deadly viral disease.

Clinicians at the Hospital for Small Animals report a success rate of over 85 per cent for cats with feline infectious peritonitis (FIP) following treatment with the anti-viral drug remdesivir.

Experts at the Hospital, one of the leading centres in the UK for treating this disease, are now developing a tailored treatment programme for individual patients, which may shorten the length of the treatment needed for some cats.

Deadly condition

Five years ago, cats diagnosed with FIP had little hope of survival.

The disease, which is caused by a mutated feline coronavirus, causes a dangerous build-up of fluid, extreme muscle and weight loss, and ultimately organ failure. Most cats with the condition deteriorate rapidly without prompt treatment.

However, remdesivir, which was initially used to treat Covid-19 in humans, was made available to be prescribed by vets in 2021 and is proving highly effective at treating FIP in cats.

Successful treatment

Rebus, a nine-year-old domestic short-haired cat, was one of the first to be treated at the Hospital with the drug. He was referred to the Feline Service, part of the Internal Medicine Service, as he had suffered rapid weight and muscle loss, wasn't eating and was very lethargic. He was also drinking and urinating excessively.

When he arrived at the Hospital, Rebus was critically anaemic, had enlarged lymph nodes and a high white blood cell count, indicating that he had a serious infection. He was given fluids and pain relief, and nursing staff helped him to eat.

A needle biopsy of the cat's lymph nodes confirmed that Rebus had FIP. He was also found to have kidney damage.

Rebus initially received remdesivir by injection, then moved on to tablets of the drugs' active ingredient GS-441524.

Within three months Rebus had made a full recovery from FIP, and nearly three years on he continues to live a full and active life, while receiving ongoing care for his chronic kidney disease.

"When Rebus was diagnosed with FIP we didn't think he would make his 10th birthday later that year and we are now heading for his 13th, thanks to the advances in treatment and all the amazing staff at the Vet School." Rebus's owners

Challenging disease

FIP is caused by a coronavirus that is usually found in the guts of healthy cats. The virus is unrelated to the coronavirus that causes Covid-19 and does not infect humans.

It is estimated that 40 to 50 per cent of cats carry the virus, and up to 80 to 100 per cent of cats in a multi-cat household, with most cats contracting the virus from their mothers.

The feline coronavirus is usually harmless in the gut, however, in some cats it mutates and migrates to the immune cells. The immune response leads to severe disease including tissue and organ damage and, if left untreated, death. Although FIP is dangerous to cats, the disease is not infectious to humans.

Vets across the UK have successfully treated hundreds of cats with FIP since the new medications became available. The clinicians at the Hospital are now developing patient-centred treatment programmes that may lower the time cats need to be treated. This should reduce the risk of developing drug resistance and make treatment easier and more affordable for clients.

Dr Conor O'Halloran, Resident in Internal Medicine, Hospital for Small Animals said: "I remember when FIP was a death sentence. The advent of these medications to be able to provide safe and legal treatment has been revolutionary for us as cat-loving vets."

Expanding tube helps repair dog's damaged throat

New approach allows pets to be treated at home and avoids multiple operations.

A dog unable to eat due to a serious constriction in his throat has made a complete recovery after a therapeutic tube was placed in his oesophagus.

The device, known as an oesophageal balloon dilation feeding tube, or B-tube, allowed the narrowed section of the dog's throat to be gently restored to its normal size over time through repeated inflation of an integrated balloon.

It also removed the need for multiple, separate dilations under general anaesthesia, while enabling adequate nutrition through the tube.

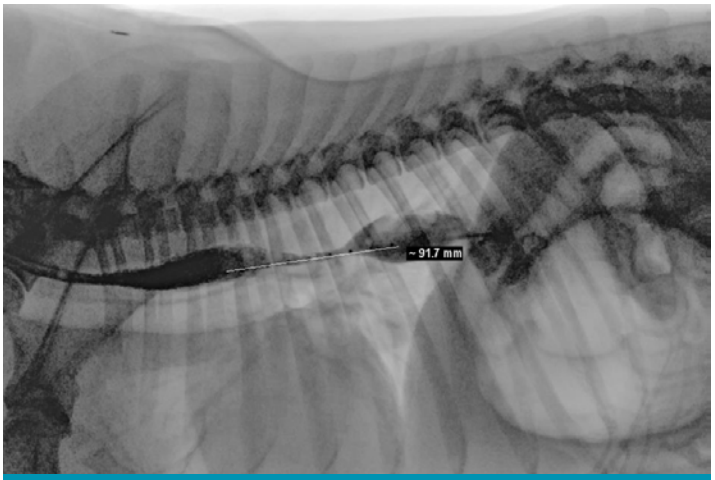
Clinicians at the Hospital for Small Animals are now looking to increase their use of B-tubes in other dogs and cats with similar conditions.

New technology

The B-tube is a new device, developed in the US, to treat animals with an abnormal narrowing, otherwise known as a stricture, of the oesophagus. The Hospital for Small Animals is one of only a handful of places in the UK with experience of placing B-tubes in its patients.

The stricture is dilated under anaesthaesia with progressively larger balloons before a B-tube is fitted. Following recovery, the patient's owner is trained how to provide the correct amount of nutrition through the feeding tube, as well as how and when to inflate the integrated balloon.

The repeated dilations help to break down any scar tissue on the oesophagus and reduce the risk of recurrence of the stricture.



Colt's oesophageal stricture measured over 9cm in length.

Successful case

Colt, a two-and-a-half-year-old Labrador, was referred to the Internal Medicine Service of the Hospital by his vet, after losing 20 per cent of his body weight due to persistent regurgitation of his food, following gastroenteritis that developed after a general anaesthetic procedure.

Clinicians performed fluoroscopy, an imaging technique that displays a continuous X-ray image, to monitor Colt's digestive tract, and identified a 9cm narrowing in his oesophagus.

After consultation with Colt's owners, fitting a B-tube was decided as the best course of action owing to the size of the stricture, Colt's need for assisted nutrition due to his marked weight loss, and the likely need for multiple balloon procedures under anaesthesia to repair the stricture. Placing the B-tube also enabled Colt to be discharged into his owner's care for ongoing treatment.

Treatment at home

Colt was discharged two days following surgery and his B-tube remained in place for six weeks. His owners were trained how to inflate the balloon twice a day, which Colt tolerated well. Colt was also able to eat by himself following surgery.

After removing his B-tube, Colt continued to eat a softened GI low-fat food by himself. Within two months, he had returned to his original food, was no longer regurgitating and was back to his normal target weight.

Oesophageal strictures

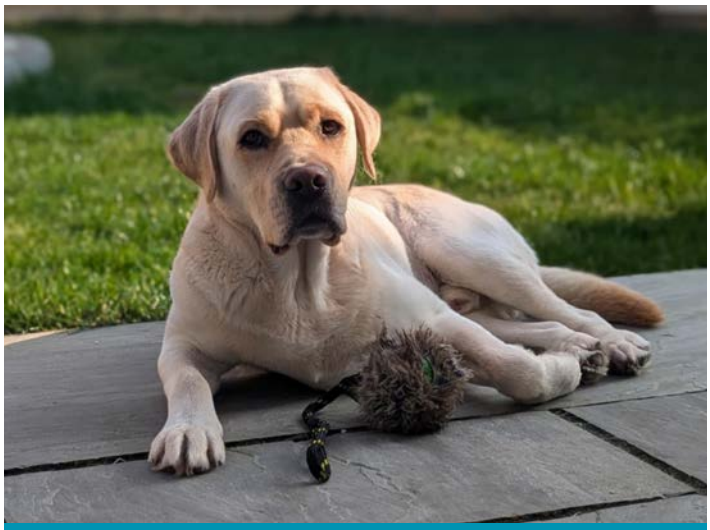
Although not common, oesophageal strictures can be very debilitating. They usually occur following gastro-oesophageal reflux during general anaesthesia, persistent vomiting, or if the oesophagus is damaged by a foreign body.

Normally, treatment involves a series of frequent balloon dilations under anaesthetic. As anaesthesia itself can promote reflux of stomach acid, there is a risk of repeated reflux events that could make the stricture worse, so the overall success of the method can be unpredictable.

With the availability of the new B-tubes, clinicians are hoping to reduce the potential negative effects of repeated traditional balloon dilations under anaesthetic, while maintaining the benefit of being able to stretch the patient's stricture repeatedly, at home.

"Colt is a lovely boy and we are pleased he has made a full recovery whilst avoiding the concerns of multiple anaesthetics. His care required close collaboration between our internal medicine team and many of our other specialist teams including anaesthesia and diagnostic imaging, as well as our specialist medicine and nutrition nurses. Importantly, Colt's care was continued by his dedicated owners at home to achieve this positive outcome. We wish him well for the future."

- Dr Tyler Morrison, ECATv-Clinical Lecturer in Small Animal Internal Medicine, Hospital for Small Animals



Colt the Ladrador is back to his target weight and eating normally after being fitted with a B-tube to repair his oesphageal stricture.

"We are forever grateful for all of the wonderful staff and students at the Hospital for Small Animals who treated Colt. He was incredibly unwell when he arrived and the treatment that he received and the aftercare that he still receives is outstanding. Colt is now bouncing back to his normal happy self. We can't thank you enough for getting our boy back!

- Colt's owners

Hospital awarded Dog Friendly Clinic status

Third accolade to recognise commitment to patient welfare.

The Hospital for Small Animals has been awarded Dog Friendly Clinic status by two animal welfare charities for its canine-friendly staff and facilities.

Only five per cent of veterinary clinics in the UK currently hold this accreditation, awarded by the Dog Friendly Clinic Scheme, a collaboration between the Dogs Trust and the British Veterinary Behaviour Association. The accolade recognises the numerous measures that the Hospital has taken to ensure that its canine patients are as comfortable as possible whilst in its care.

This official Dog Friendly Clinic status is the latest species-specific award the Hospital has achieved. It also holds the Rabbit Welfare Association & Fund (RWAF) Gold Award for its rabbit-friendly practice and hospital and has held Gold Cat Friendly Clinic status from International Cat Care since 2013.

Patient welfare

As well as a dedicated dog waiting area, the Hospital's canine wards and kennels are designed to minimise patients having direct sight of other animals, to help reduce stress. Pheromone diffusers are used throughout the Hospital, from consulting rooms to wards, and calming music is played in all inpatient areas.

The Hospital has recently reviewed its pre-admittance client questionnaire. In addition to providing space to share information about dogs' dietary preferences and toileting habits, the questionnaire allows clients to highlight any behavioural triggers their dog may have. This helps clinical, nursing and animal care teams to adapt the patient's environment and interactions accordingly, and promote wellbeing.

In addition to the Specialist-led team of veterinarians working in the Behaviour Clinic referral service, all Hospital staff have access to training and resources on low-stress handling techniques, dog behaviour and welfare.

Dr Kevin McPeake, RCVS Specialist in Veterinary Behavioural Medicine and Head of the Hospital for Small Animals, said: "We are delighted to have obtained Dog Friendly Clinic status, which recognises the Hospital's existing and ongoing commitment to patient welfare. The accreditation process allowed us to document those measures already in place to minimise stress for our canine patients, but also ensured that we reflected on, reviewed and improved some practices, improving the experience of dogs and their carers when visiting the Hospital."

From left: Senior Nurse and Ward Co-ordinator Christa Dukes, Lead Animal Care Assistant Tasha Cadman and Head of the Hospital's Behaviour Clinic, Dr Kevin McPeake, along with Senior Nurse Emily Gorman (not pictured), lead the Hospital's initiatives to improve patient-friendly practices.

Vets team up to help giraffe

Specialist veterinary surgeons from the Hospital for Small Animals and Dick Vet Equine Hospital worked as part of an expert team from the UK and Europe to anaesthetise and examine a giraffe from Edinburgh Zoo with an unusual swelling on its face.

A team over 20 vets, zookeepers and vet nurses, co-ordinated by the Royal Zoological Society of Scotland, worked together to give the giraffe the highest standard of care.

This case demonstrated that with careful planning, general anaesthesia and complex veterinary procedures can be performed safely on adult giraffes.

image credit: RZSS

Mouth swelling

Gilbert, an eight-year-old giraffe, was examined under general anaesthetic to try to determine the cause of the swelling.

Given the challenge of anaesthetising and examining a giraffe, the veterinary team at Edinburgh Zoo asked Specialists in veterinary anaesthesia and equine dentistry and surgery from the Dick Vet, as well as experts from Chester Zoo and Copenhagen Zoo, for assistance.

Complex anaesthesia

The team made extensive plans to ensure the procedure, which took less than an hour, ran smoothly and safely for the 800kg giraffe and everyone involved.

RCVS Specialist in Veterinary Anaesthesia Dr Rob Ward and Dr Dóri Szabó from the Hospital for Small Animals provided anaesthesia support and monitoring.

“I’m proud to have been part of a superb international team delivering the very best care for Gilbert. Anaesthetising a giraffe is never routine: their extraordinary anatomy and physiology demand meticulous planning and constant vigilance. From airway control and oxygenation to precise positioning, every step was tailored to the species’ unique requirements, and that preparation and teamwork delivered the safest possible outcome for Gilbert.

- Dr Rob Ward, RCVS Specialist in Veterinary Anaesthesia, Hospital for Small Animals

Once under anaesthetic, several members of the expert team provided limb massages to Gilbert to promote circulation.

Dental examination

A team from the Dick Vet Equine Hospital, consisting of European Specialist in Equine Dentistry Dr Rebekah Kennedy, RCVS and European Specialist in Equine Surgery Dr Richard Reardon, American and European Specialist in Equine Surgery Dr Mattie McMaster and Equine technician Fiona Perry, then examined Gilbert’s mouth.

“Dental examinations in horses are usually performed with them awake, but sedated. However, this would have been impossible to achieve safely with a giraffe. Once Gilbert was anaesthetised, our dentistry team were able to perform a thorough examination of his mouth, teeth and gums.

“We determined that the cause of Gilbert’s facial swelling was food packing in his right cheek, which we were able to remove. It was a massive team effort and the standard of care provided to Gilbert by everyone involved was exceptional.”

- Dr Mattie McMaster, American and European Specialist in Equine Surgery, Dick Vet Equine Hospital.

Positive outcome

Results from both the visual examinations and X-rays revealed no clear cause for the build-up of food in Gilbert’s cheek.

With no dental or jaw abnormalities identified, the team suspect that the swelling may have a behavioural cause, especially since Gilbert quickly refilled his cheek pouch with food as soon as he had recovered from the anaesthetic.

Although a definitive diagnosis wasn’t reached, the team is celebrating a successful outcome. Gilbert has made a smooth recovery since his procedure and the investigations have shown no reason to suspect that the giraffe is experiencing pain or discomfort.

With ongoing training, keepers hope to help Gilbert improve his oral hygiene by regularly flushing the cheek pouch with water.

A team of experts assisted on the procedure.

2026 Clinical Club schedule

The Dick Vet Clinical Club holds monthly online CPD webinars. These free events are hosted by experts who discuss recent advances in their clinical area to help vets develop or refresh their knowledge.

Dick Vet Clinical Club CPD

JAN 14
Dr Kevin McPeake
Head of Behaviour Service
Cat behaviour - assessing and addressing stress in Feline Idiopathic Cystitis

FEB 04
Dr Isabel del Portillo Miguel
Senior Lecturer in Oncology
Mammary tumours in dogs and cats: what is new in diagnostics and treatments

MAR 04
Professor Dylan Clements
Academic Head of Companion Animal Sciences
Orthopaedic infections, an old problem with new solutions

APR 01
Dr Jennifer Cartwright
Senior Lecturer in Small Animal Internal Medicine
The diagnosis and management of chronic liver diseases in dogs and cats

MAY 06
Dr Conor O'Halloran
Resident in Small Animal Internal Medicine
Mycobacterial disease in cats and dogs

JUN 03
Dr Lynda Rutherford
Co-Head of Small Animal Surgery
Breathe easier – tips on managing brachycephalic patients from admission, to surgery and post-operatively

JUL 01
Dr Jenna Richardson
Head of Dick Vet Rabbit and Exotic Practice
Respiratory disease approach and management in rabbits - snuffles and beyond!

AUG 05
Dr Julien Dandrieux
Senior Lecturer in Small Animal Medicine
Is faecal microbiota transplant worth the buzz?

SEP 02
Dr Magdalena Parys
Senior Lecturer in Oncology
Palliative radiotherapy in veterinary oncology: approaches for cancerous and non-cancerous conditions when curative treatment is no longer possible

OCT 07
Dr Kathryn Pratschke
Senior Lecturer in Small Animal Soft Tissue Surgery
How big should I cut? Practical decision-making in cancer surgery

NOV 04
Dr Alisdair Boag and Dr Arangan Nagendran
Senior Lecturer in Small Animal Internal Medicine and Co-Head of Neurology & Neurosurgery Service
Pituitary diseases

DEC 02
Dr Craig Breheny
Senior Lecturer in Emergency and Critical Care and Surgery
Platelets under fire: Tackling immune-mediated thrombocytopenia

Further information

For full details of these, and the regular Nurses Clinical Club events, visit:
vet.ed.ac.uk/studying/cpd/clubs

Hospital welcomes record number of new residents

The Hospital for Small Animals recently welcomed its largest cohort of residents to begin their Professional Doctorate in Veterinary Medicine (DVetMed) training.

Eleven vets, some of whom have travelled from as far away as New Zealand, arrived in Scotland's capital to begin their four-year residencies at the world-class hospital.

Global reputation

The Hospital for Small Animals has an outstanding record for resident training. It attracts qualified vets from around the globe keen to further their professional clinical training under the supervision of its more than 40 European and American Diplomates and RCVS Specialists.

Residents are drawn to the Hospital's international reputation for training excellence, clinical expertise, cutting-edge facilities and world-class research.

Dr Isabelle Ng MRCVS, Resident in Veterinary Oncology said "I was keen to apply for a residency with the Oncology Service after visiting the Hospital in 2023. I was impressed by the lovely team, busy caseload and relevant research. Studying in Edinburgh was a huge attraction too, and I am looking forward to lots of hiking and camping trips in the Highlands over the next few years."

Dr Paulina Ziobro MRCVS, Resident in Diagnostic Imaging, added "I wanted to study at the Hospital for Small Animals due to its reputation for excellence in clinical training and research, particularly in diagnostic imaging. I appreciate the wide range of imaging modalities and case variety, including exotics, that is available here. My interactions with the team prior to applying gave me a strong sense that this was a professional yet friendly and welcoming environment - an ideal place to continue my training."

Track record

The Hospital has trained around 100 vets since it began offering clinical residencies in 2010. Its residents, in addition to studying towards a DVetMed, work towards European Board Certification, giving them the opportunity to achieve the highest clinical qualification in veterinary medicine - Diplomate status - in their chosen speciality.

As one of the largest European Board of Veterinary Specialisation (EBVS)-approved training centres, the Hospital is able to offer well-supported residency programmes in 13 subjects, ranging from behavioural medicine to exotic medicine and ophthalmology.

The Hospital was the first approved training centre in Europe to offer a residency programme in radiation oncology, accepting its inaugural resident in this subject in 2023.

New residents outside the Hospital for Small Animals.

All residents spend four years gaining extensive clinical experience and undertake related training, as well as completing a research project in their chosen specialism. Following successful examination, they join an elite community of fellow DVetMeds and European Diplomates working around the world.

"We are extremely proud of all of our HfSA resident alumni, working as Specialists in different roles across the globe, contributing to patient care, education and research. The Hospital is a great environment to train in, with great learning opportunities and a strong community.

- Professor Laura Blackwood, Co-Director of Clinics.

The Hospital opens applications for residency programmes twice a year. Rotating and service-specific internships are also available, as well as online postgraduate study through the fully taught MVetSci Advanced Clinical Practice.

Professional clinical training

For more information, visit:
vet.ed.ac.uk/education/clinical

image credit: Mikhail Vasilyev on Unsplash.

Research

Cats with dementia share signs of human Alzheimer's

Cats with dementia have brain changes similar to those seen in people with Alzheimer's disease, offering a valuable model for studying the condition in humans, research shows.

Scientists at the School have discovered that brains of cats with the condition have a build-up of the toxic protein amyloid-beta – one of the defining features of Alzheimer's disease in humans.

Their findings offer a clearer picture of how amyloid-beta may lead to age-related brain dysfunction and memory loss in cats, experts say.

Clinical similarities

Many older cats develop dementia, leading to behavioural changes such as increased vocalisation, confusion and disrupted sleep – signs similar to those seen in people with Alzheimer's disease.

Scientists conducted post-mortem examinations of the brains of 25 cats of different ages, including those which had shown signs of dementia.

Powerful microscopy images revealed a build-up of the toxic protein amyloid-beta within the synapses – connections between brain cells – of older cats and cats with dementia.

The loss of synapses, which allow the flow of messages between brain cells and are vital to healthy brain function, strongly predicts reduced memory and thinking abilities in humans with Alzheimer's disease. The research team also found evidence that astrocytes and microglia – types of support cells in the brain – engulfed the affected synapses. This process, called synaptic pruning, is important during brain development but can contribute to synapse loss in dementia.

Human and animal medicine

Experts say the findings will help not only to understand and manage dementia in cats but, given their similarities, could also contribute to the development of future treatments for people with Alzheimer's disease.

Scientists studying Alzheimer's disease have until now relied heavily on genetically modified rodent models. Rodents do not naturally develop dementia, and studying cats with dementia has the potential to advance knowledge and help develop treatments for both cats and people.

The study, funded by the Wellcome Trust and UK Dementia Research Institute, is published in the journal European Journal of Neuroscience.

The research team included scientists from the Universities of Edinburgh and California, UK Dementia Research Institute and Scottish Brain Sciences.

> *"Feline dementia is so distressing for the cat and for its person. It is by undertaking studies like this that we will understand how best to treat them. This will be wonderful for the cats, their owners, people with Alzheimer's and their loved ones. Feline dementia is the perfect natural model for Alzheimer's - everyone benefits.*
>
> - Professor Danièlle Gunn-Moore, Personal Chair of Feline Medicine at the Royal (Dick) School of Veterinary Studies,

Research events mark Moredun and Roslin partnership

Themed talks, discussion and guest lecture launch next phase of collaboration between neighbouring organisations.

A programme of research-themed events has marked a new phase in a strategic collaboration between the University of Edinburgh and Moredun Research Institute.

A series of research presentations, which highlighted collaborative projects between the organisations, set the tone for an open forum on the future of the partnership.

Afterwards, a guest lecture from Professor Tom McNeilly, Director of the Moredun Research Institute, marked his appointment as an Honorary Professor of the Royal (Dick) School of Veterinary Studies.

Research potential

An audience of researchers heard talks on projects that had been supported by pump-priming funding – awards that support studies in their early development.

Subjects covered included immunity in lowland lamb production, parasites of economic importance, the One Health risks and benefits of wild swimming, and mite control in laying hens.

These presentations were followed by an open discussion on opportunities for further development between the two organisations, aimed to develop a centre of research excellence, attract investment, and strengthen industry partnerships.

Honorary Professor Tom McNeilly.

Honorary position

In the guest lecture that followed, Professor McNeilly described his career from its beginnings in mixed veterinary practice, to embracing research as a specialism, undertaking a PhD, and his 20-year career with Moredun.

He recounted working in livestock diseases and population biology, before assuming his current position in 2023.

Professor McNeilly paid tribute to a series of mentors including Professor David Gally of the Roslin Institute, Professor Julie Fitzpatrick, CEO of Moredun Research Institute and Scotland's part-time Chief Scientific Advisor, and Lord Trees, Chairman of the Moredun Research Institute.

In concluding his talk, he shared the advice to "be positive, be kind, embrace the opportunity to learn from others, and don't be afraid to ask silly questions".

> *Our collaboration with Moredun is of strategic significance, underscoring our unique positioning and common research and innovation strengths within this relatively compact geographic region.*
>
> - Professor Lisa Boden, Head of Schooland Dean of Veterinary Medicine

> *These activities represent a collaboration that aims to promote Easter Bush as a global centre of excellence in One Health research, tasked to generate tipping points for innovation.*
>
> - Professor Bruce Whitelaw, Former Director, Roslin Institute.

image credit: Norrie Russell.

Gene-edited pigs approved for US market

Pigs produced to be resistant to one of the world's most costly livestock diseases, using technology developed by the Roslin Institute, have been approved for sale to US consumers.

The US Food and Drug Administration has approved the use of a gene-editing technology that makes pigs resistant to Porcine Reproductive and Respiratory Syndrome (PRRS) for the US food supply chain.

This landmark approval for animal genetics company Genus, following years of development, helps meet the challenge of a disease that is endemic to most pig-producing regions.

The infection, which causes fever, respiratory distress, and premature births, costs industry approximately $2.5 billion (£1.75bn) each year in lost revenue in the US and Europe alone.

The approval follows years of close collaboration with the FDA and is a significant step on the pathway to commercialisation of gene-edited pigs in the US, and other international markets.

Technology development

Researchers at the Roslin Institute focused their efforts on the CD163 gene in pigs. This gene produces a receptor on the surface of cells, which the PRRS virus uses to cause infection.

Experts removed a small section of this gene, focusing on the section of the receptor that the virus attaches to, leaving the rest of the molecule intact.

The team collaborated with Genus to produce pigs with the specific DNA change.

The resulting pigs do not become infected with the virus, and the animals show no signs that the change in their DNA has had any other impact on their health or wellbeing.

> *"We are delighted to see the PRRS-resistant pig gene-edit approved for use - this is a milestone in the use of gene editing in livestock, and a landmark moment for the livestock industry towards managing a global disease that causes devastating losses.*
>
> **- Professor Bruce Whitelaw, Former Director, Roslin Institute.**

"FDA approval is a fantastic achievement for Genus PIC and represents a major step towards US commercialisation. We will now continue to pursue regulatory approvals in other international jurisdictions with a focus on key US export markets." - Jorgen Kokke, Genus's Chief Executive Officer.

Hub to aid precision breeding of farm animals

Research exploring the use of genetic selection and genome editing tools to develop healthier and more productive farmed animals has received a major funding boost.

Edinburgh experts will receive almost £5 million to establish a new hub at the Roslin Institute, based at the Easter Bush campus, to drive advances in engineering biology – a major innovation focus for the UK Government.

The hub will focus on research to identify and study small changes to DNA in animals to advance sustainable agriculture and control diseases.

Experts say the technology is crucial to transform food systems, as farmers across the globe grapple with challenges linked to the acceleration of climate change and emergence of new diseases.

The five-year funding comes from the UKRI Biotechnology and Biological Sciences Research Council (BBSRC), Gates Foundation, The Roslin Foundation and the University as part of the Edinburgh & SE Scotland City Region Deal.

Professor Mark Stevens, co-lead for the hub at the Roslin Institute, said: "The hub will harness Edinburgh's unique infrastructure, resources and expertise in engineering biology for farmed animals. We aim to share this with collaborators across academia and business to explore how animal production could be improved to develop more sustainable food systems."

Climate impact

Engineering biology – making targeted changes to DNA in a lab – allows scientists to rapidly introduce beneficial traits in plants and animals, which can take decades to achieve through traditional breeding programmes.

One focus for the research team will be investigating genetic traits linked to milk production in cattle.

Cows produce large volumes of the greenhouse gas methane during digestion. When milk production is high, fewer cattle are needed, helping to cut emissions. This is particularly important in low-income countries, which often rely on breeds with lower milk yields.

Disease protection

Scientists will also explore how small changes to DNA could help to protect animals from disease.

Previous research from the University used gene-editing techniques to successfully alter a single gene in pigs, making them resistant to porcine reproductive and respiratory syndrome – the costliest infectious disease affecting pigs worldwide.

The hub's research team will develop artificial intelligence (AI) tools to tackle more complex genetic traits in animals, involving multiple genes. AI will help select potential genetic targets and identify which sections of DNA to edit.

This will include resistance to bird flu, which has had a devastating impact in both farmed and wild bird populations worldwide. Efforts to control the spread of the disease are urgently needed, experts say.

Professor Anne Ferguson-Smith, BBSRC Executive Chair, said: "Engineering biology harnesses nature's processes to generate new products and applications addressing urgent global challenges in food security, health and climate resilience. This investment reflects BBSRC's commitment to supporting transformative research that deepens our fundamental understanding of biology and accelerates the responsible application of innovative technologies. Thanks to support from the Gates Foundation and Roslin Foundation, we are building a powerful collaboration that helps maximise the value and impact of our collective investments. The new Edinburgh hub will position the UK at the forefront of efforts to sustainably enhance livestock production and improve animal welfare, benefiting both the UK and the world."

> *"As a charity dedicated to advancing animal welfare, sustainable agriculture, and biomedical innovation, we are proud to support this transformative hub. Its pioneering work in gene editing and AI holds great promise for improving livestock health and productivity while promoting more ethical and resilient food systems.*
>
> - Suzy Purcell, Chief Operating Officer at The Roslin Foundation

Edinburgh expertise

The University of Edinburgh is a world-leader in engineering biology, hosting the largest and most comprehensive group of researchers in the UK.

With over 100 principalinvestigators, Edinburgh leads research in human gene therapy, farming, and industrial processes.

Large-scale study focuses on fish health and welfare

A three-year project in partnership with industry will consider how to limit the impact of disease in salmon production.

A £6m large-scale research project seeks to improve the welfare and productivity of farmed salmon.

In a project led by the Roslin Institute in collaboration with commercial partner Mowi, experts will seek to understand how to limit the impact of disease, enabling better health and welfare.

The team will focus on fish health and genetics to improve resilience to disease throughout the lifecycle.

They hope to establish a framework to identify regions of the genome associated with complex diseases, using this knowledge to support breeding of healthy stocks.

Reducing losses

The project, entitled SalmoStrong, aims to limit the welfare and economic cost associated with disease, which has global losses of £15.5bn.

Researchers will carry out large-scale research focusing on several key areas, including seeking to understand the diversity of genomes, and identifying genes of value, in the breeding population.

They will also investigate the early development of fish, seeking to understand their response to disease including inherent immunity and response to vaccination, investigating resistance to disease and infectivity.

The three-year project, involving research across multiple salmon populations, will be bolstered by recruitment of key posts, career development support, and a programme of community engagement.

The project is supported by the Biotechnology and Biological Sciences Research Council's Business and Academia Prosperity Partnership and MOWI.

"We seek to advance the state-of-the-art in understanding of fish health and robustness at multiple levels, benefiting from large-scale, high resolution industry data. Our partnership of academic and industry expertise will rapidly transfer academic expertise and fundamental insights into real-world applications that positively impact the Scottish, UK and global salmon farming sectors, including in animal welfare, profitability, sustainability, and societal acceptance.

- Dr Nick Wade, Roslin Institute

image credits: Landcatch Natural Selection.

Eye cancer insights could aid diagnosis and therapies

Study of genes linked to feline melanoma could support development of study models for cat and human cancers.

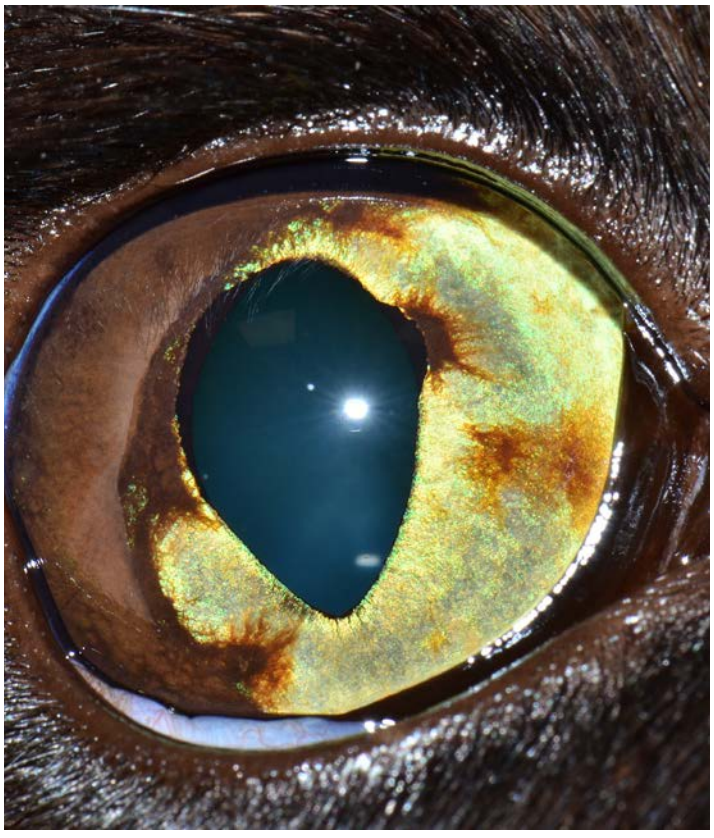
A study of feline diffuse iris melanoma (FDIM) – a potentially devastating disease which causes destruction of the eye and often spreads with fatal outcomes – has identified genes which could inform diagnosis and prognosis, and support development of new therapies.

Outcomes from the study also point to similarities between FDIM and uveal melanoma, a frequently fatal eye cancer in humans, and the development of laboratory models to aid research for feline and human ocular cancers.

Sample analysis

Experts from the Royal (Dick) School of Veterinary Studies examined tissue samples recovered from cats affected by feline diffuse iris melanoma.

Their analysis identified genes linked to early and late disease, and enabled scientists to determine biological processes underlying disease development.



These findings could support the development of diagnostic tools to help vets determine the severity and prognosis in cases of FDIM. They could also inform potential treatments at various stages of the condition.

The development of new treatments could transform outcomes for cats affected by the disease. Currently, treatment typically involves removal of an affected eye at an early stage to try to prevent fatal spread of the disease. There are currently no effective treatment options for when the cancer has spread.

Study models

The team showed for the first time that a feline eye condition known as iris melanosis, often considered to be benign, is a precursor to malignant FDIM.

The study team hopes that their work will lead to development of cell-culture based models to study the disease. This includes the development of mini-tumours grown in the laboratory, for further study of the disease process as well as new drug development. Studying the disease in cats may provide new, invaluable understanding of eye cancers in humans.

The study, published in Scientific Reports, was carried out in collaboration with colleagues in the University of Edinburgh's Institute of Genetics and Cancer, the Royal Veterinary College, Cytopath Veterinary Pathology and Dick White Referrals.

> *Feline diffuse iris melanoma is a life-threatening eye cancer in cats, with limited treatment options available, even when it is caught early. Our study shines a light on how this cancer develops and spreads, offering hope for better ways to detect, manage and eventually treat this disease – helping not only cats, but people too.*
>
> - Dr David Kayes, Lecturer in Veterinary Ophthalmology, University of Edinburgh

image credit: Kyriacos Georgiou on Unsplash.

Coronavirus causes fatal disease outbreak in cats

A harmful strain of coronavirus has caused a fast-spreading outbreak of a harmful feline disease.

A new type of coronavirus is responsible for a severe outbreak of disease that has spread among an island population of cats.

The virus has been linked to a recent occurrence of Feline Infectious Peritonitis (FIP) cases in Cyprus, which is believed to have killed thousands of cats , according to a study by the School.

A handful of cases were confirmed in the UK and are likely to have originated in Cyprus, although experts estimate the numbers may be much higher owing to undetected illness.

The virus responsible for the disease has been shown to be a hybrid of a cat coronavirus combined with a dog coronavirus, resulting in a recombinant virus named FCoV-23.

Harmful infection

The newly developed coronavirus behaves in an unusual way. Typically, feline coronaviruses can occasionally mutate within a cat's system to cause FIP, a severe disease which once established does not usually spread.

In this outbreak, however, a protein acquired from the canine virus enables FCoV-23 to avoid existing immunity and mutate frequently within individual cats of all ages, causing cases of FIP on a scale not seen before.

This ability of the virus to evolve and spread among cat populations indicates a critical need for international cooperation to monitor and control its transmission, researchers suggest.

This includes strict guidelines for moving pets across borders and heightened awareness among pet owners and vets. Cyprus has likely emerged as a hotspot owing to its large population of cats, researchers suggest.

Viral details

A separate study, led by the University of Washington, looked at the virus in detail, and how its newly acquired protein influences its behaviour.

The team found that the mutation occurring in individual cats enabled the virus to quickly enter cells and cause infections. In addition, the protein virus was shown to pose limited risks to people.

The studies, published in Nature and carried out in collaboration with colleagues in Cyprus and the US, highlight the necessity of continuing to study animal coronaviruses as potential threats to human health, considering the close contact between pets and people.

Dr Christine Tait-Burkhard of the Roslin Institute said:: "Introduction of a more successful, spreading variant to a dense population, such as the cats in Cyprus, may be sufficient to allow this virus to cause an outbreak.

"More research is needed to better understand this virus, and this type of coronaviruses more widely. The development of new vaccines and optimisation of antiviral treatment regimes could help mitigate the consequences of this devastating disease. For the future, we must consider how we could intervene earlier and prevent disease spread."

Golden eagle fledgling marks conservation milestone

A golden eagle chick has become the first to fledge from the nest of a translocated parent bird, in a Scottish charity project.

The chick's mother was introduced to the south of Scotland by the charity Restoring Upland Nature, formerly the South of Scotland Golden Eagle project, a conservation scheme supported by the Royal (Dick) School of Veterinary Studies.

The chick, named Princeling by Sir David Attenborough, brings the number of golden eagles in southern Scotland to more than 50, the most seen in the region for three centuries.

The eaglet's arrival demonstrates that translocated golden eagles can integrate successfully into local populations where ecosystems and humans allow, says the team behind the project.

Princeling, which hatched in spring from a nest near the town of Moffat, has been fitted with a satellite tag to ensure the project team can collect details on his range, survival, and health.

His parents are a golden eagle female named Emma, translocated by the South of Scotland Golden Eagle Project in 2021, and Keith, a locally fledged male golden eagle from Galloway.

Conservation specialists from the Dick Vet have worked closely with the charity throughout the project, providing veterinary support and participating in the project's scientific advisory panel.

The team from RUN previously restored a low population of golden eagles in the south of Scotland through a series of pioneering translocations from the Scottish Highlands and Islands.

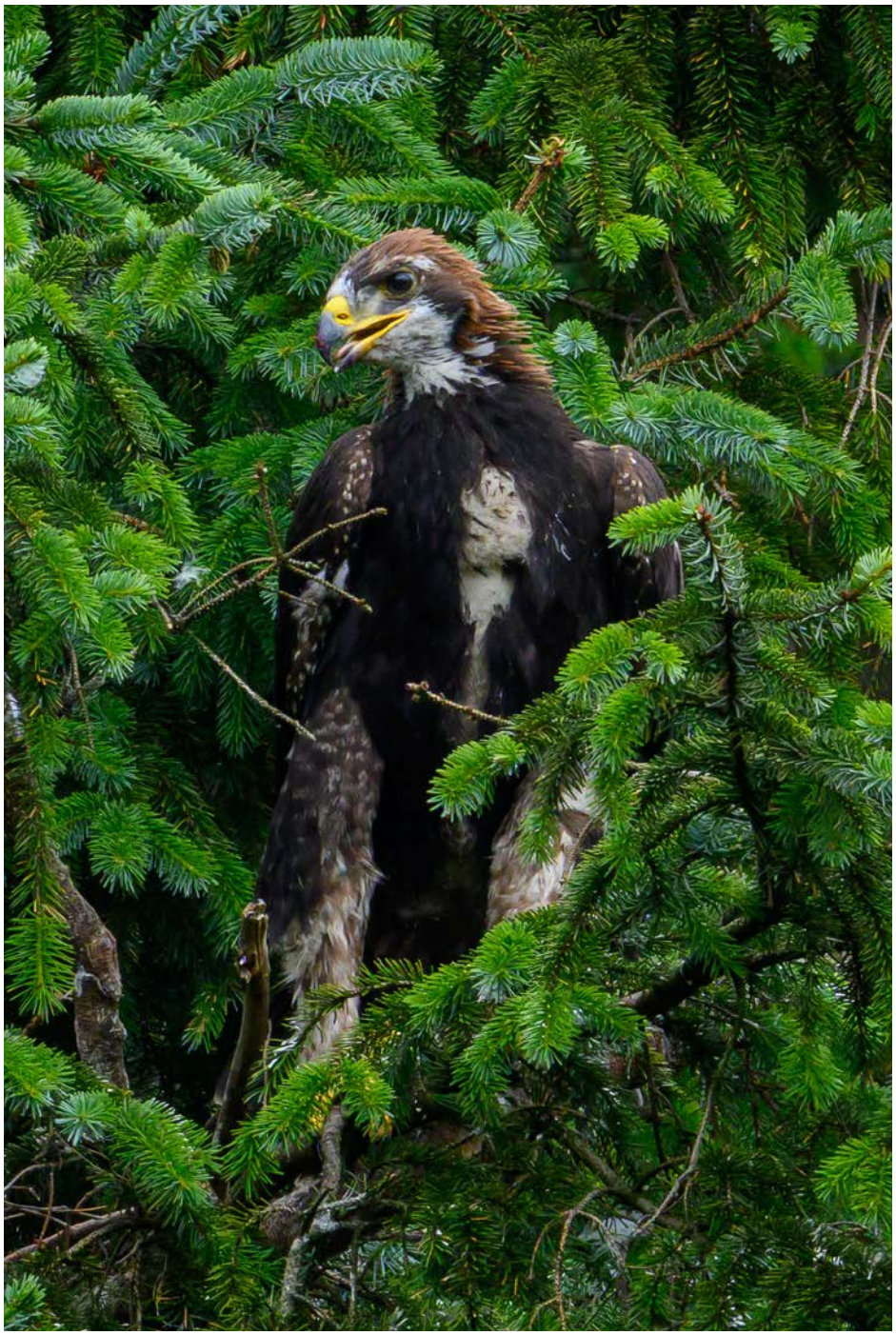
Some of eagles were recently spotted as far south as northern England, where there have been no resident golden eagles since 2016.

This project has involved partnership between conservationists, private landowners, as well as the Scottish Government, supported The National Lottery Heritage Fund.

The name Princeling is intended to symbolise hope for the restoration of a previously diminished and declining population of golden eagles - a bird often referred to as the King of the Skies for its majestic presence and vital role as an apex predator.

Dr Neil Anderson, said: "It is very welcome news that Princeling has fledged, and underscores the valuable work of all the team involved in successfully translocating golden eagles. This project will continue to be of great value for these birds and also for the lessons we can learn for future conservation work."

Dr Cat Barlow, CEO of Restoring Upland Nature (RUN), said:
"Seeing Princeling thrive in the south of Scotland highlights that, where there are healthy ecosystems and a low risk of persecution, translocated eagles can integrate well into native populations to breed successfully. This brings renewed hope to our ambition to reverse biodiversity decline and ensure current and future generations across the UK."



Many congratulations to all those in Restoring Upland Nature who have brought about the fledging of a young golden eagle.

- Sir David Attenborough.

Pigs developed to be resistant to deadly virus

Pigs gain resistance to classical swine fever through gene editing, offering hope for protecting livestock against costly viral disease.

Researchers have developed pigs that are resistant to a highly infectious disease that has a significant impact on global pig farming.

Their work demonstrates that gene editing can prevent infection of classical swine fever (CSF), a highly contagious, often fatal disease that is endemic in many countries, offering a promising new approach to disease control in livestock.

The work was led by a Roslin Institute team using gene-editing technology to alter a protein which the virus depends on to make copies of itself in the pigs' cells.

Gene-edited pigs exposed to classical swine fever remained unaffected, while unedited animals showed clear signs of disease.

This genetic change offered complete protection from infection without any observable negative effects on the animals' health or development, and researchers believe the gene-edited pigs would be very unlikely to spread the virus to other animals.

The research team notes that gene editing could contribute to an integrated strategy for disease prevention, in combination with vaccines and measures to prevent disease spread in farmed animals.

Targeted editing

Before producing gene-edited pigs, researchers worked with collaborators to study how a group of viruses including CSF, collectively known as pestiviruses, interact with pig cells.

The team focused on a key pig protein, named DNAJC14, that had previously been shown to play an important role in the virus replication process when studied in cultured cells. In lab studies using these cells, altering the gene that produces DNAJC14 prevented the virus from reproducing.

This suggested that making the same genetic change in live animals could produce livestock resistant to these viruses.

Live trial

Researchers made a precise change in a region of the DNAJC14 gene in pig embryos, preventing the virus from using the pig cells to produce all of its own viral proteins.

The embryos were then implanted into surrogate mothers, and once the pigs reached adulthood, the research team exposed these gene-edited pigs to classical swine fever virus.

Experts monitored the pigs' health over several weeks, finding no signs of viral infection in the edited animals. By contrast, pigs which had not undergone gene-editing, and were exposed the virus, showed typical signs of infection.

Cross-species potential

Classical swine fever is not currently found in the UK but continues to cause significant outbreaks in parts of Asia, Africa, Latin America and Europe, resulting in trade bans and serious financial losses for farmers.

The pestivirus family includes diseases such as bovine viral diarrhoea virus in cattle and border disease virus in sheep.

While there are vaccines for classical swine fever, control remains challenging due to virus persistence and transmission between species.

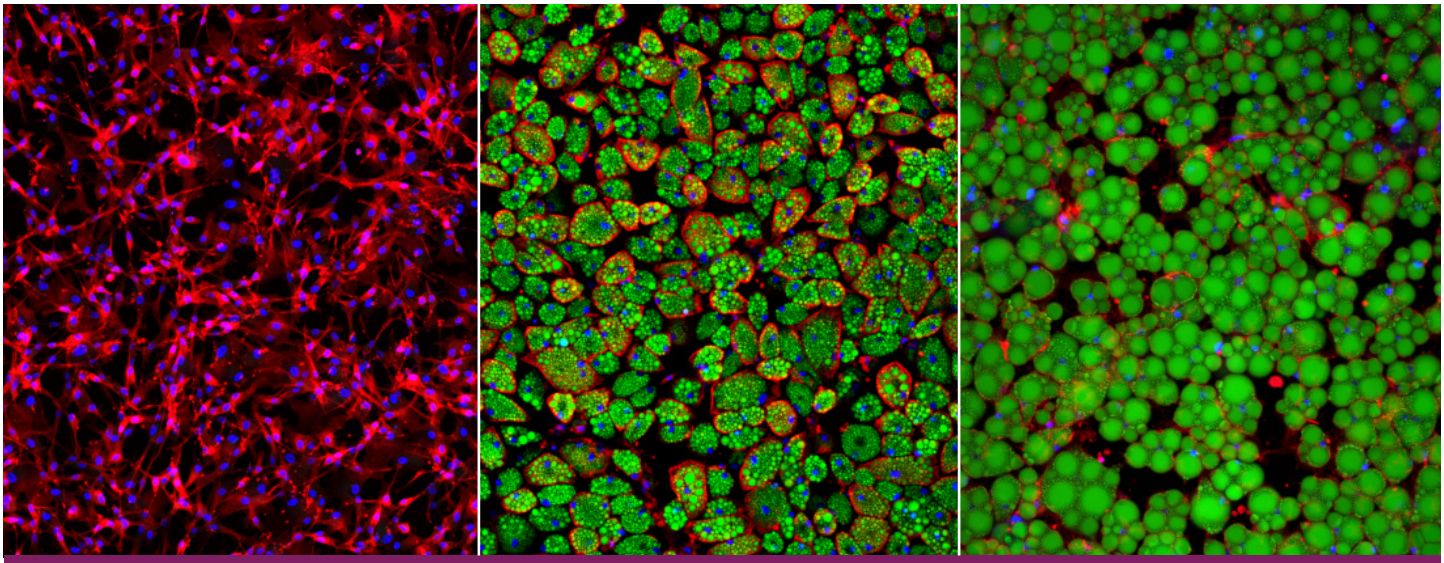
The same genetic edit could theoretically be applied to other livestock species, offering broader protection against disease, the research team explains.

This research was published in Trends in Biotechnology, in collaboration with animal genetics company Genus, and colleagues at the Animal and Plant Health Agency (APHA) and the University of Lubeck, Germany. The work was supported by a BBSRC National Bioscience Research Infrastructure grant and facilitated by the Large Animal Research and Imaging Facility at the University of Edinburgh.

Dr Simon Lilico, Core Scientist at the Roslin Institute, said: "Our research highlights the growing potential of gene editing in livestock to improve animal health and support sustainable agriculture."

"While previous research had identified this protein's role in cell cultures, translating that into living animals is a major step, and one that requires the infrastructure to breed, monitor, and safely test gene-edited livestock. Our Large Animal Research and Imaging Facility allows us to gene edit and assess a variety of livestock species, with colleagues at the Animal and Plant Health Agency providing expertise and biosecure facilities for this viral challenge."

Lab-grown fat cells offer promise for cultivated meat



Stem cells turning into fat cells over a span of 40 days. Accumulated fat is shown in green.

Pig fat cell production could transform lab-grown meat development, with rare combination of reliable and stable cell growth.

A source of fat cells from pigs has been developed in the lab, which offers scientists and food manufacturers a promising tool for the large-scale production of cultivated meat.

The new cells are capable of efficiently producing fat tissue with remarkable consistency.

The development could address the challenge of generating realistic, sustainable animal fat, a significant hurdle in the cultivated meat industry.

The cells, known as FaTTy, are formed from early stage stem cells which develop into fat, and can grow indefinitely in the lab without losing the ability to reliably produce fat cells.

In contrast, most animal stem cells quickly lose this capability, making large-scale use impractical.

This discovery represents a significant step forward in a global market estimated to grow by between $5 and $30 billion by 2030.

Ethical advantage

The outcome helps meet the need for fat as a key component in delivering the flavour and texture that consumers expect from meat.

The Roslin team took an important step towards engineering fat for artificial meat at scale, which has proven difficult, especially when trying to avoid genetic modifications or animal-derived additives. Researchers sought to grow stem cells derived from five piglets, and discovered that cells from one of the piglets was able to reproduce hundreds of times without the need for gene editing and indicating the need for relatively limited use of growth serum.

Fat quality

Findings show that the fat produced closely resembled native pig fat in its composition, with slightly higher levels of healthier monounsaturated fats.

The cell production line is being shared with academic researchers and industry to support further work in cellular agriculture and fat biology.

Tools such as this may help meat grow in labs faster, more ethically and more reliably.

This research was published in NPJ Science of Food.

“We didn’t simply develop a tool, we made a very special discovery. The fact that these cells not only grow indefinitely but also retain their ability to become fat at such high efficiency is something we have never seen before in livestock stem cells. It opens the door to new possibilities in cultivated meat and beyond.”
- Dr Tom Thrower, lead researcher, Roslin Institute.

“These fat cells have the potential - to be a game-changer in the field of cultivated meat, and help make this a reality in the very near future.”
- Professor Xavier Donadeu, Principal Investigator, Roslin Institute

Global trade vital to ensure healthy food provision

International trade links are essential to most countries to enable the availability of healthy, sustainable diets, research shows.

Trade barriers around the world could limit the availability of healthy, sustainable food, research has found.

Most countries are unable to be self-sufficient in key food groups needed to ensure a healthy diet, the study showed.

Some countries not only have low production of essential food types, but rely almost exclusively on a single trading partner for more than half of their imports, compounding their vulnerability, according to the research from the University of Edinburgh and University of Göttingen.

Research teams investigated the extent to which 186 countries can feed their own populations solely through domestic production.

The researchers evaluated seven food groups that form part of the World Wildlife Fund's (WWF's) Livewell diet, which focuses on healthy, sustainable foods such as vegetables and wholegrains, moderate meat intake and limited fat, salt and sugar.

More than one-third of countries independently produce only one or two of the seven essential food groups, such as fish, vegetables and fruit, they found.

This lack of self-sufficiency was especially true in the Caribbean, West Africa, and the Gulf states. Six countries, primarily in the Middle East, do not achieve the needs of a single food group.

Only one country, Guyana, achieved self-sufficiency in all seven food groups, while China and Vietnam achieved six.

The report higlighted significant discrepancies in meat and dairy. For example, while several European countries produce far more than needed, domestic production in African countries is very low. Fewer than half of countries achieve suffiency in foods such as beans and peas, and for nuts and seeds, while only one-quarter produce enough vegetables to meet domestic needs.

Some countries have low production coupled with almost exclusive reliance on a single trading partner for more than half of their imports. This is especially pronounced in smaller countries, including island states.

Similarly, many Central American and Caribbean countries depend on the US for the bulk of starchy staple food imports, and several European and Central Asian countries rely on a single partner for legumes, nuts and seeds.

This research, published in Nature Food, was supported by the European Centre for Advanced Studies (ECAS).

Jonas Stehl, PhD researcher at the University of Göttingen and first author of the study, said: "International food trade and cooperation is essential for healthy and sustainable diets. However, heavy reliance on imports from single countries can leave nations vulnerable. Building resilient food supply chains is imperative for ensuring public health."

Alexander Vonderschmidt, PhD researcher at the University of Edinburgh's Division of Global Agriculture and Food Systems, said: "Climate shocks are reshaping the agriculture sector and will continue to intensify. Open trade and innovation are essential to secure healthy, low-carbon diets."

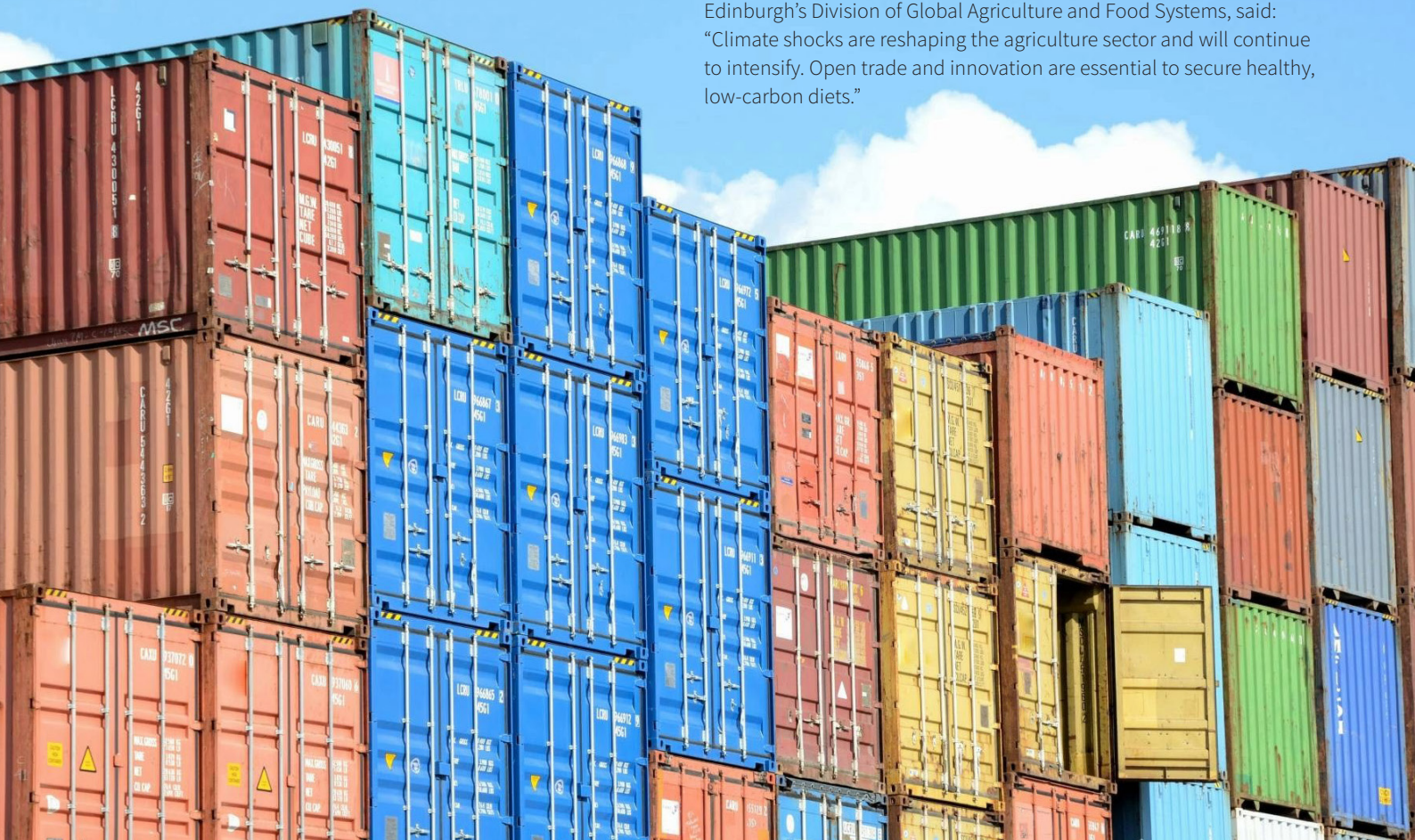


image credit: iStock/ SolStock.

Alarming diet trends among Scottish children

Survey of eating habits shows need for action by policymakers, industry, schools and communities to support healthier diets.

Poor diets remain a significant challenge for children in Scotland, who consume too much sugar and not enough fibre, according to a study.

Foods such as sweets, crisps and sugary drinks make up more than 20 per cent of children's total calorie intake, research led by the Division of Global Agriculture and Food Systems has found.

The Dietary Intake in Scotland's Children (DISH) survey is the first significant investigation into the dietary habits of children in 15 years.

The survey also reveals concerning levels of food insecurity, with one in five households worried about running out of food. This increases to nearly half of families in the most deprived areas of Scotland.

Experts say the findings highlight the importance of addressing food insecurity, particularly among the most vulnerable families.

Age matters

The study investigated the diets of 1700 children and young people aged two to 15.

Researchers found that older children, aged 11 to 15 years, have less healthy diets than younger children, consuming diets significantly higher in free sugars – sugars added to food and drinks – and lower in fibre.

There was also evidence of low vitamin and mineral intakes among older children, such as iron and magnesium. This could increase the risk of a range of deficiency related diseases, such as anaemia.

Good sources of fibre can include porridge oats, wholemeal bread, baked potatoes with the skin on, reduced-sugar and reduced-salt beans, vegetables and fruit. Magnesium can be found in spinach, kale, cabbage, fruit, wholemeal bread and brown rice, the team say.

The research was carried out in collaboration with Taylor McKenzie Research and Marketing on behalf of Food Standards Scotland.

"We are so grateful to the nearly 2,000 families across Scotland who participated in this survey. Findings suggest that younger children are generally consuming enough essential vitamins and minerals, but too much sugar and salt.

"Adolescents, on the other hand, are not generally consuming enough of some key vitamins and minerals like iron, and get about a fifth of their calories from discretionary foods like soft drinks and confectionery.

> *"There are many opportunities for the food industry to support children and young people in meeting dietary goals especially by reducing the sugar and salt content of commonly consumed foods like breakfast cereals, bread and yoghurts.*
>
> - Professor Lindsay Jaacks, Division of Global Agriculture and Food Systems

GPS collars track red deer for conservation

A research project using GPS collars has been launched to track red deer movement and behaviour in the Scottish Highlands, aiming to help land managers make informed decisions about deer health, population levels, and habitat conservation.

The project seeks to strengthen understanding of how red deer move through and use the landscape.

An expert from the Royal (Dick) School of Veterinary Studies and the Roslin Institute has worked with charity Affric Highlands and colleagues from Durham University to design protocols to safely catch, collar and release red deer stags.

The project team will work with landowners and deer managers to support collaboration across Highland estates for informed, sustainable deer management.

Habitat management

Increased red deer populations pose a barrier to the large-scale natural regeneration of native woodlands, and have led to challenges in balancing ecological health, biodiversity, and land management objectives, experts say.

Currently, limited data is available to help inform and support approaches to practical management and achieve biodiversity goals set by the Scottish Government, which aim to halt biodiversity loss by 2030.

Understanding the species' movements may support conservation experts in efforts to manage deer densities and restore habitats such as woodlands and peatlands.

Tracking technology

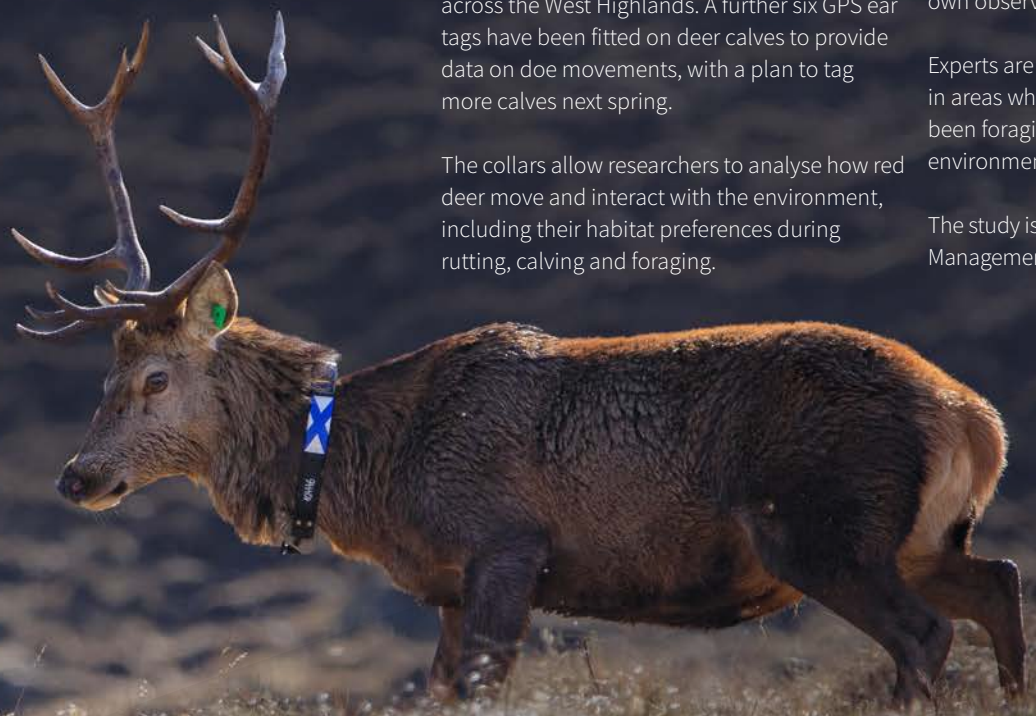
This project will deploy GPS collars on 22 stags across the West Highlands. A further six GPS ear tags have been fitted on deer calves to provide data on doe movements, with a plan to tag more calves next spring.

The collars allow researchers to analyse how red deer move and interact with the environment, including their habitat preferences during rutting, calving and foraging.

Data will be stored on the collars and sent via satellite to an app which allows deer stalkers to view deer movements and manually add their own observations.

Experts are also set to conduct habitat surveys in areas where GPS data reveals that deer have been foraging or sheltering, to analyse their environmental impacts.

The study is supported by the Association of Deer Management Groups and Rewilding Europe.



Red deer are an iconic native species and play an important role in the ecology of upland ecosystems in Scotland. Working with red deer in remote mountain environments can be challenging and it has been a rewarding experience providing veterinary support for this project, to ensure that high standards of welfare and care are achieved.

- Dr Neil Anderson, Senior Lecturer and wildlife veterinarian, Royal (Dick) School of Veterinary Studies

image credits: Siân Addison.

Lack of diversity threatens Scotland's red squirrels

image credit: Renee Comet on Wikipedia Commons.

New research reveals that Scotland's iconic red squirrels possess some of the lowest genetic diversity recorded in any wild mammal - leaving the species acutely vulnerable to disease and environmental change.

Red squirrels have long been a symbol of Scotland's woodlands, but a major new study warns that their genetic uniformity may be putting them on a fast track to decline. Conservation scientists report that the animals' limited genetic diversity could be undermining their ability to adapt, particularly when facing threats like the squirrelpox virus. Carried by invasive grey squirrels, this virus is almost always fatal to reds and continues to spread northward.

The findings underscore an urgent need for genetic monitoring and targeted conservation interventions to secure the species' future.

Why genetic diversity matters

Genetic diversity acts as a species' insurance policy. It helps populations adapt to shifting environments - from habitat changes to new pathogens - and ultimately supports long-term survival. In the UK, red squirrels are already considered endangered, and Scotland remains their most important refuge.

To understand the depth of the problem, researchers from the University of Edinburgh sequenced the entire genome of 106 red squirrels from across Scotland and from Formby in north-west England. The results were stark: Scottish red squirrels exhibit even lower genetic diversity than critically endangered animals such as the Iberian lynx and the Amur tiger.

Natural features like the Cairngorm mountains, along with human-made barriers including major cities, have fragmented their habitat into isolated pockets. Only in parts of north-east Scotland do populations still move freely across the landscape - an important factor for maintaining genetic mixing.

Moving animals to save them

One potential solution is translocation: moving squirrels from one population to another to increase genetic variety. The new study highlights how genetic data could guide such efforts, helping conservationists introduce new lineages into isolated groups and strengthen their resilience.

The research, published in Evolutionary Applications, was led by the University of Edinburgh in collaboration with National Museums Scotland and Forestry and Land Scotland. Many of the genetic samples came from the University's long-running red squirrel disease surveillance programme, now in its 20th year, with additional material from museum collections.

This represents the first time whole-genome sequencing has been used to study Scottish red squirrels- and the results reflect a species shaped by years of pressure.

Dr Melissa Marr of the Royal (Dick) School of Veterinary Studies, said: "Historical records show that red squirrels have faced numerous threats, and this is clearly reflected in their DNA. Our findings offer vital new information to help secure the future of this iconic native species."

> *"Samples from red squirrels in our Natural Sciences collection from different populations in Britain covering the last 30 years have enabled this study to look at population changes over that time, and for any regional variation.*
>
> *This underlines the importance of collections like ours at National Museums Scotland, amassed over the long term, which enables us to reflect changes in the environment over time. In addition to physical specimens, we have in recent years established a growing biobank of tissue samples, which are crucial in providing high-quality DNA for whole-genome studies such as this one.*
>
> - Dr Andrew Kitchener, Senior Curator of Vertebrate Biology at National Museums Scotland.

Centres

$14.9m award supports data-driven livestock development

SEBI-Livestock wins five-year funding grant to expand work on development decisions.

A $14.9 million grant will strengthen work on livestock data insights by SEBI-Livestock, hosted at the Royal (Dick) School of Veterinary Studies.

The five-year Evidence into Action (EnAct) grant from the Gates Foundation will enhance the work of the SEBI-Livestock team, which has collaborated with the Gates Foundation to monitor the impact of the foundation's livestock investments for almost a decade.

It will enable SEBI-Livestock to expand and enhance tools and processes for monitoring, data collation, modelling, insights and learning within livestock development projects and for the wider sector.

Livestock is a key area within the foundation's Global Agricultural Development strategy, which aims to improve farmer income, enhance nutrition, and inclusively and sustainably transform agricultural systems in sub-Saharan Africa and South Asia.

Tracking trends

SEBI-Livestock is applying data solutions to build a comprehensive picture of how the livestock sector is performing in key countries, and to track the contribution of the Gates Foundation's investments towards its livestock targets.

By monitoring national livestock trends, SEBI-Livestock helps provide vital context for the foundation's investment-making decisions.

To date, it has enabled improvements in data sharing and monitoring, working closely with 18 Gates-funded projects to measure progress against 100 standardised metrics.

Under the new grant, the programme will continue to develop proactive and novel solutions to strengthen monitoring and learning.

It will cover a wider range of agricultural development priorities in livestock than before and support the foundation with data and insights to underpin new investments including ambitious, large-scale initiatives.

SEBI-Livestock will also work with the foundation and its grantees on investments in emerging areas of animal nutrition, aquaculture, pastoral markets, and methane mitigation.

In addition to in-house expertise, SEBI-Livestock helps mobilise collaborative solutions from a global community of experts, through hosting the Livestock Data for Decisions network (LD4D).

With over 2500 members across 40 countries, LD4D has supported its members to share learnings in livestock development and jointly resolve livestock data and evidence challenges.

In EnAct, SEBI-L will join forces with the Data Science Unit at the University of Edinburgh's School of Informatics, which applies cutting-edge data science and AI tools for social good.

Professor Lisa Boden, Head of School and Dean of Veterinary Medicine, said "Hosting SEBI-Livestock strengthens our School's global impact in veterinary science.

"Its rigorous, data-driven work has shaped hundreds of millions of dollars in development funding decisions. This is the kind of research excellence that defines our institution and will inspire our students to tackle livestock development challenges."

Dr Karen Smyth, SEBI-Livestock Program Director, said "This funding allows SEBI-Livestock to advance its crucial work, building on nearly a decade of collaboration with the Gates livestock team and its grantees.

"The SEBI-L team is unique in bringing together veterinary expertise and data science insights to tackle complex livestock data challenges and close persistent evidence gaps. We are proud to be supporting the foundation and its grantees in making data-driven decisions and investments. This will ultimately translate into more impactful livestock programmes that improve livelihoods for livestock keepers, empower women, and reduce the sector's environmental and climate footprint."

Professor Mark Stevens, Interim Director, Roslin Institute, said: "SEBI-Livestock conducts vital work to evidence the need for, and impact of, strategies to improve the production and welfare of livestock.

"This funding will enable them to strengthen and scale their ongoing collaborative work with the Gates Foundation and the global livestock community. SEBI-Livestock tackles a critical bottleneck: making livestock data reliable, accessible, and usable so that evidence can drive better development decisions."

image credits: Don't Risk It animation created by Ping Creates

Scottish Government Don't Risk it animation launch

In June 2025, EPIC (Centre of Expertise on Animal Disease Outbreaks), Scotland's Plant Health Centre (PHC), and the Scottish Government launched an informative animation on the risks of personal imports of animal and plant products into Great Britain. This video formed the first step in a Scottish Government communications strategy to protect Scotland's plants and animals from disease.

Funded by the Scottish Government, EPIC brings together diverse expertise from institutions including the Roslin Institute and Royal (Dick) School of Veterinary Studies to safeguard the welfare of Scotland's livestock industry and stakeholders.

The animation shows that contaminated plant or animal products can be brought into Great Britain by human activities, such as air travel, unintentionally.

Travellers might assume their imported plant or animal products are safe, but contaminated items can still pose significant risks to farming communities and the environment - even after responsible disposal. EPIC research has shown that viruses such as African swine fever can survive on pork products for up to six months. This creates a risk for domestic livestock when, for example, feral pigs scavenge contaminated food packaging from bins and landfill sites and subsequently spread the virus to domestic pigs.

The importance of the animation's message became evident as the Scottish Government introduced a new provision in August 2025, regulating personal imports of animal products into Scotland.

After the new regulations were implemented, the animation received significant support across Scottish Government, placing it at the forefront of a public awareness campaign. A shortened version was created for digital screens and passenger communications at airports and ports across Scotland. Reaching thousands of passengers per day, the animation aims to help the general public better understand the reasons for current rules and restrictions on specific plant and animal products entering the country, and reminds them to leave behind products that could spread pests and diseases.

Don't Risk It

Watch the full animation on the EPIC Scotland website: **www.epicscotland.org**

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We depend on your support to maintain our high standards and fund new developments. You can help us to deliver the future of veterinary medicine. Here's how to contact us:

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