



Representing Animals Annual Report 2024



Representing Animals Foundation is a UK-based non-profit organisation established to support the work of <u>Prof. Andrew Knight</u> and others. It works toward a reduction in the production, consumption, and other uses of non-human animals globally. Those animals still used for human purposes should experience better welfare. We do this through:

- Education about non-human animals and their interests
- Research and advocacy to increase the development and consumption of plantbased and alternative protein products, and to encourage flexitarian diets and vegan lifestyles
- Research and advocacy into sustainable companion animal diets
- Research and advocacy into other animal welfare issues
- Research and advocacy into conservation issues including the reduction and mitigation of climate change effects, the promotion of biodiversity, appropriate transformation of our agricultural sector, and nature restoration.

Contents

Executive summary	page 2
Animal & diet advocacy	page 4
Publications	page 7
Presentations	page 10
Media coverage	page 13
Awards	page 14
About	page 15
Key collaborators	page 16



Executive Summary

The year 2024 was exceedingly productive for Prof. Andrew Knight and his Representing Animals collaborators, with several significant publications and other successes achieved in the plant-based (vegan) pet food and animal advocacy sectors. These included endorsements of nutritionally sound vegan diets for dogs by the British Veterinary Association (BVA), and the Blue Cross. The BVA endorsement was the first known endorsement of vegan pet diets by a national veterinary association, and represented a huge step forwards. The Blue Cross is a major UK pet charity whose veterinary advice pages are visited by well over three million people annually.

Combined with the efforts of colleagues elsewhere, and associated outreach (hundreds of news stories, major industry conference presentations, etc., as described in the following), these collective efforts have accelerated interest in plant-based pet food internationally.

Global valuations of the vegan pet food market have since increased spectacularly, from <u>USD 10 billion in 2020</u>, to an estimated <u>USD 27 billion in 2024</u>. The sector was expected to more than double in value to USD 57 billion by 2034 – a compound annual growth rate of 7.8% – <u>nearly six times faster</u> than the traditional pet food market. Seeking to improve the positions of their national industries within fast-growing sector, Canadian and UK innovation agencies began investing <u>CAD\$5.7M</u> to boost plant-based pet food.

Underpinning these successes have been rapid recent increases in published scientific evidence affirming the benefits of nutritionally sound plant-based pet food. Nine further scientific articles and summaries were published by Andrew and his collaborators in 2024. Five focused on plant-based pet food.

The most important was a very large-scale study of health outcomes in 2,536 dogs fed vegan or meat-based (raw or conventional) diets for at least one year. A <u>2022 study</u> of the same dogs indicated that dogs fed vegan diets were the healthiest. This subsequent <u>2024 study</u> controlled for differences between dietary groups in age, sex, and other medicallyrelevant factors. The risks of illness indicators for dogs fed vegan or meat-based diets were also precisely calculated. Dogs fed vegan diets had reductions of 14% - 51% in all seven illness indicators analysed, with all being statistically significant.

Additionally, the odds of suffering from six specific health disorders fell by 50% - 61% when vegan diets were used. This is consistent with the <u>10 other studies</u> by 2024 of health outcomes in dogs fed vegan diets. Nutritionally sound vegan diets consistently appear to lower rates of certain health disorders that can significantly worsen dogs' quality of life.

Another key publication was an open access book <u>chapter</u> precisely quantifying the enormous savings of 'food' animal lives, and the sustainability benefits available, if the world's dogs, cats and people were all transitioned onto nutritionally sound vegan diets. Additional publications outreached these results to wide audiences, using leading platforms such as *The Conversation, Plant-Based News* and an open access veterinary journal.

Andrew also provided 26 presentations in 2024. Eighteen covered plant-based pet food, with the remainder covering scientific and educational animal use, the impacts of animal agriculture on climate change, and using animal welfare science to help win animal advocacy legal cases. These were mostly provided to scientific conferences and universities, including veterinary schools. Major veterinary, pet food industry and food industry conferences were included for the first time, as was Asia – a key emerging pet food market.

As one of the most highly qualified animal advocates internationally, Andrew is regularly asked to support other animal advocacy campaigns. Additional scientific publications in 2024 supported the banning of: tigers and other large carnivores within <u>circuses</u>, inhumane <u>fox-killing</u> methods, and <u>octopus farming</u> within the US, and studied the welfare problems associated with <u>backyard chicken</u> keeping. All were published open access¹ to maximise their accessibility to animal advocates globally.

Animal advocacy successes in 2024 supported by Andrew included the banning of: two of the most egregious animal experiments occurring within New South Wales, the Australian live sheep export trade (the world's largest) from 2028, and octopus farming in Washington, US. Andrew also continued to support numerous additional campaigns.

All of this work, and especially the key new studies described above, collectively attracted very substantial media attention. This was assisted by the press offices of universities Andrew is affiliated with. These now number three, after Andrew was appointed an Adjunct Professor at a leading Australian veterinary school in 2024. Hundreds of news stories resulted (see following). Some of this work contributed to Andrew being awarded a PhD on vegan pet food (health, behavioural and sustainability implications) from the University of Winchester.

In achieving these outputs, Andrew worked with numerous organisations and individuals. Key collaborators are listed in the following. Andrew is grateful to all of them, and especially to the donors whose financial support enabled Andrew to focus on this work full-time from mid 2023. Without that support, much of this work would not have been possible.

¹Open access publications are freely available online.



Animal and Diet Advocacy

Plant-based pet food

The rapid development of the <u>scientific evidence base</u> supportive of nutritionally sound plant-based pet food, by Andrew and his fellow researchers, have supported the lobbying of veterinary and animal welfare organisations to end their opposition to vegan pet diets.

In July the British Veterinary Association (BVA) ended its opposition to (nutritionally sound) vegan diets for dogs. Previously such opposition had been regularly reported. This opposition was contrary to the combined weight of <u>veterinary medical evidence</u> in this field. Interestingly, the BVA also has a <u>corporate partnership with Mars Petcare</u>, which makes large sums from selling meatbased pet foods. They could lose significant market share, when vegan pet foods succeed. Andrew stated in <u>various news stories</u> that, "The Mars-BVA partnership represents a significant conflict of interest. Veterinary associations have a responsibility to ensure their positions are evidence-based, up-to-date, and not influenced by conflicts of interest."

Following significant public critique of this kind, in 2023 the BVA ceased its statements opposing vegan pet food and established a working group to review its position on companion animal diets, including vegan diets. Andrew provided a presentation and detailed information to the group. On 24th July 2024, the BVA publicly ended its opposition to (nutritionally sound) vegan dog diets, publishing an <u>article</u>, <u>policy position</u> and <u>report</u> on diet choices for cats and dogs. The new policy confirmed that: "It is possible to feed dogs a plant-based diet...".

It is difficult to overstate the significance of this. It appears to be the first time any national veterinary medical association has adopted a policy supporting (nutritionally sound) vegan dog food. This was as significant in the field of vegan pet diets, as the first human medical association support of vegan diets for people.

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SUSTAINABLE DOG AND CAT FOOD

British Veterinary Association ends opposition to vegan diets for dogs

BVA noted it's possible to feed dogs a plant-based diet, focusing on supporting pet owners in meeting their pets' nutritional needs while respecting lifestyle choices.

August 4, 2024



The BVA also affirmed in some detail the environmental benefits plant-based ingredients may provide. Vegan diets for dogs and cats offer <u>major benefits</u> for environmental sustainability and 'food' animal welfare.

A similar success concerned the <u>Blue Cross</u> – a major UK pet charity including four animal hospitals, 12 rehoming centres and 55 charity shops in 2024. The previous year 3.3 million people visited its veterinary advice pages, 53,000+ people used its other educational services, and 25,000+ pets used its veterinary services. Until recently, the Blue Cross had consistently advised against vegan pet diets, even warning in news stories of <u>potential jail</u> for pet owners.

However, following the numerous recent studies showing good health outcomes for <u>dogs</u> and <u>cats</u> fed nutritionally sound vegan diets, and Andrew's lobbying, in July the Blue Cross <u>endorsed vegan dog diets</u>, noting that "Dogs can get the nutrition they need on a vegan or vegetarian diet with the right nutritional and veterinary advice ... They can provide positive environmental benefits."

The RSPCA (UK) was similarly lobbied over its website statements attacking vegan diets for cats. Following an in-depth meeting with Andrew they agreed to review their position.

Research summaries of the health, behavioural and sustainability implications of plant-based pet foods, or other collaboration or support, were also provided to numerous companies seeking to develop or market such products, and occasionally also to animal welfare or other organisations. One was a <u>UK corporation</u> operating 457 pet care centres, 444 veterinary practices and 339 grooming salons. They expressed a strong interest in the sustainability benefits of vegan pet diets, and are increasing their range of such diets.

Others included <u>US</u> and the <u>US/UK</u> companies working on precision-fermented proteins for pet food, and a <u>large global animal feed</u> <u>ingredients supplier</u> (2023 group turnover: Euro 2.4+ billion). Some of these important connections followed presentations by Andrew at major pet food industry conferences (see following). Another example was a major animal shelter in Udaipur, Rajasthan. This shelter has been active for more than 20 years. By 2024 it had 150 staff and nearly 1,000 animals under care, including 30 cats. After viewing Andrew's videos and receiving his advice they agreed to trial commercial (nutritionally sound) vegan cat diets.

Andrew and his colleague Billy Nicholles also supported the <u>Freedom Food Alliance</u> to begin a <u>website</u> aiming to combat animal agribusiness misinformation and equip dog guardians with credible science-backed information on plantbased dog food.

Representing Animals also became a Community Member Partner of EIT Food in 2024. This is "the world's largest and most dynamic food innovation community." Partfunded and supported by the EU, they invest in projects, organisations and individuals that share their goals for a healthy and sustainable food system. Following a webinar and conference presentation by Andrew (see following), they brought pet food into their agenda.



Andrew displaying vegan pet food samples at a large pet food industry conference in Dublin.

Animal advocacy

As one of the most highly qualified animal advocates globally, Andrew is frequently asked to support a wide range of other animal advocacy campaigns. These also resulted in some important successes in 2024.

In March the New South Wales Parliament banned two of the most egregious animal experiments occurring within Australia: the forced swim and smoke inhalation tests. This followed Andrew's detailed written and <u>oral submissions</u> to the New South Wales parliamentary inquiry on these experiments, in 2022. Andrew and his colleagues also critiqued the forced swim test within a recent scientific study.

In May Australia's government finally committed to banning its live sheep export trade (from 2028). This has been the largest international live animal export trade in the world, involving some of the longest journeys, with sea voyages typically around 2.5 weeks. Andrew's home city of Perth, Western Australia, was the world capital of this trade when he helped launch Australia's campaign against it, in the 1990s. Around 100,000 -150,000 sheep would die on ships each year, due to poor conditions and failure to adapt to the pelletised diets used. After decades of campaigning, the trade is finally set to be banned. Said Andrew, "I was delighted by this outcome, nearly 30 years after I helped launch Australia's national campaign against this egregious trade!"

In June octopus farming was banned in Washington, US – the first such US ban of this kind. Octopi are not remotely domesticated and are highly unsuited to farm confinement, which subjects them to boredom and chronic stress. Hence over 2023 - 2024 Andrew co-signed letters to the Washington state government and the US congress calling for a ban, and made similar calls within <u>news stories</u>.

In 2024 Andrew also provided expert statements or support for campaigns on numerous other animal and vegan advocacy issues, including the caging of laying hens and pigs, confinement of calves, slaughter of pigs, and the banning of greyhound racing within Wales and New Zealand, imports to England of hunting trophies, primate research in Australia and South Africa, and penguin use at the Sea Life London Aquarium.

One key campaign related to 'RSPCA assured' farms in the UK. These have been promoted by the RSPCA as having high animal welfare standards, with resultant farm produce being marketed to consumers - and the RSPCA benefitting financially. Andrew provided reports to UK group Animal Rising, and to news outlets, detailing the animal welfare problems within such farms evident within video footage, especially of laying hens. This was a key component within Animal Rising's 2024 report RSPCA 'Assured': Covering Up Cruelty on an Industrial Scale – which documented substantial and widespread animal welfare problems on 45 RSPCA Assured farms in England and Scotland. Resultant stories appeared in numerous UK media outlets. The RSPCA stripped three farms of their 'RSPCA assured' status, several supermarkets ceased buying from these farms, and leading public figures resigned from top RSPCA positions as a result. By early 2025 this campaign remained active, regularly attracting UK press attention.



6

Publications

Plant-based pet food

Several key articles were published on vegan pet food by Andrew and his collaborators in 2024. The most important was a very largescale study of health outcomes in 2,536 dogs fed vegan or meat-based (raw or conventional) diets for at least one year. A <u>2022 study</u> of the same dogs indicated that dogs fed vegan diets were the healthiest. They were less likely to need medication, medical diets or unusually high numbers of veterinary visits, were more likely to be assessed as healthy by dog owners and their veterinarians, had lower rates of illness, and fewer cases of health disorders when they were unwell.

This subsequent <u>2024 study</u> controlled for differences between dietary groups in age, sex, neutering status, breed size and exercise level – all factors that can affect dog health. Next, the risks of illness indicators for average dogs fed vegan or meat-based diets were precisely calculated. Dogs fed vegan diets had lower rates of all seven indicators of illness. These reductions ranged from 14% - 51%. All were statistically significant, meaning they almost certainly reflected true differences rather than random variation.

Vegan versus meat-based dog food

Dog health outcomes reported by surveyed guardians after 1+ years



Additionally, the odds of suffering from six specific health disorders fell by 50% - 61% compared to dogs fed conventional meat. These included some of the most common health disorders in dogs: problems with body weight, ears, and the musculoskeletal and gastrointestinal system – which can cause conditions such as lameness and diarrhoea. This is consistent with the 10 other <u>studies</u> by 2024 of health outcomes in dogs fed vegan diets. Dogs fed nutritionally sound vegan diets have consistently lower rates of certain health disorders that can significantly worsen their quality of life. This is extremely exciting for the welfare of dogs.

Several important summary publications were also achieved. A <u>chapter</u> in the new book *Regenerative Farming and Sustainable Diets* summarised the enormous environmental impacts, savings of 'food' animal lives, and the millions to billions of additional people and pets who could be fed with food energy savings, if the world's dogs, cats and people were transitioned onto nutritionally sound vegan diets. This followed Andrew's <u>2023 study</u> calculating these <u>benefits</u> in detail. These benefits were similarly the focus of a summary article in <u>The Conversation</u>, which was one of the most important of 2024, because *The Conversation* is such a widely read platform.

Another article in a leading <u>veterinary journal</u> rebutted negative claims about vegan pet diets, and by reviewing current evidence, clearly established that both dogs and cats may safely be fed nutritionally sound vegan pet diets. Another article in <u>*Plant Based News*</u> similarly rebutted a series of misinformation points published elsewhere.

Animal advocacy

Four additional publications by Andrew and his collaborators supported other animal advocacy causes. Following a highly successful UK High Court case in 2023 concerning the welfare of tigers within circuses, in which Andrew served as an expert witness, the report prepared with Emily Davies was published. This key systematic review of 42 studies provided the most powerful evidence collated to date, supporting the banning of tigers and other large carnivores within circuses. As with virtually all publications, it was published 'open access,' and so is freely available online. Hence, it is now available to support campaigns around the world to ban exotic animal use within circuses.

Additional scientific articles and letters supported the banning of inhumane <u>fox-killing</u> methods, the banning of <u>octopus farming</u> within the US, and studied the welfare problems associated with keeping of backyard chickens. In some cases these arose from MSc dissertations by Andrew's former MSc students.



A widely-ready letter in *Science* called for octopus farming to be banned in the US.

Plant-based pet food (5)

- Knight A (2024). What if every pet was vegan? Here's how much it would help the planet. The Conversation, 30 Dec. 2024.
- 2. Nicholles B & Knight A (2024). <u>Plant-based</u> <u>diets for dogs and cats – what does the</u> <u>research say?</u> *Plant-Based News*. 13 Oct. 2024.
- Knight A, Bauer A & Brown HJ (2024). <u>Vegan versus meat-based dog food:</u> <u>Guardian-reported health outcomes in</u> <u>2,536 dogs, after controlling for canine</u> <u>demographic factors</u>. *Heliyon* 10(17), e35578.
- Knight A (2024). <u>The environmental</u> <u>benefits of vegan pet food</u>. In D'Silva J and McKenna C (Eds). *Regenerative Farming and Sustainable Diets*. London: Routledge. 92-103.
- 5. Harsini F, Knight A and Smith B (2024). Should dogs and cats be fed vegan diets? Front. Vet. Sci. 11:1430743.

Animal advocacy (4)

- 1. Jacquet J, Franks B, Godfrey-Smith B, ... Knight A, et al. (2024). <u>Support</u> <u>US OCTOPUS Act to keep octopuses</u> <u>wild</u>. *Science* 385(6710), 721.
- 2. De Ridder N and Knight A (2024). <u>The</u> <u>animal welfare consequences and moral</u> <u>implications of lethal and non-lethal fox</u> <u>control methods</u>. *Animals*, 14(11), 1672.
- Davies E and Knight A. <u>Welfare implications</u> for tigers in travelling circuses. *Animals*, 2024, 14(7), 1053.
- 4. Mace JL and Knight A (2024). From the backyard to our beds: the spectrum of care, attitudes, relationship types, and welfare in non-commercial chicken care. Animals 14(2), 288.

"Your knowledge and expertise continue to make a profound impact on the lives of the non-human members of our families, and your insights are helping to reshape the way we think about their nutrition and care. We eagerly await ... your continued work in debunking the myths surrounding plant-based diets for animals. Your work is truly transformative, and it was an honor to have you as part of our panel."



Presentations

Twenty-six presentations were delivered by Andrew in 2024. The main subject was plantbased pet food. Also covered were the impacts of animal agriculture on climate change and environmental degradation, scientific and educational animal use and alternatives, and tips and strategies for winning animal advocacy legal cases using animal welfare science.

Primary audiences included scientific conferences, universities and veterinary schools. For the first time, major veterinary, food and pet food industry conferences were included. These included a major European veterinary conference (250 veterinarians) and the largest pet food industry technical conference in Northern Europe (280 attendees). Also included was FI Europe - the largest food ingredients conference in the world, with an incredible 25,000+ attendees and 1,500+ exhibitors from 135+ countries. Pet food was included for the first time. These presentations went extremely well and reinforced others emphasising the importance of sustainability. After learning about recent vegan pet food research, the vast majority of these (previously sceptical) scientific/industry audiences seemed to support plant-based pet diets, provided these are nutritionally sound. This was paradigm-shifting, and definitely among the highlights of 2024.

Andrew also spoke at the first EIT Food Region West conference, Edinburgh (150 attendees). EIT Food lead's the world's largest and most dynamic food innovation community and is sponsored by the EU Commission. They stated: "The environmental impacts of pet food production were discussed as well as the health and wellbeing implications for pets that have different types of diets. It was a new topic area for EIT Food to facilitate, however we have learned it's an extremely important subject area to consider and build our knowledge on."

Andrew speaking on vegan pet food at the 10th Nordic Pet Food Conference, Dublin, in October, to 280 pet food industry professionals. This is the largest European pet food industry technical conference. Audiences were based in the UK, US, Canada, Europe (Spain, France, Ireland, Germany, Italy), China and Thailand. These were the first time presentations had been provided on plantbased pet food within these important Asian nations. China, for example, has 1.4 billion people and a fast-growing pet population, so is a very important region for this issue, and will become even more important in the future. And Pet Fair SE Asia was the was the largest regional petfood industry conference, with 400+ exhibitors and 10,000+ visitors from 80+ countries.

To minimise CO₂ emissions, time and costs, many presentations were provided virtually. Virtual audiences often included attendees from additional nations. Details follow (with the presenting author underlined):

Vegan pet food (18)

Knight A. Should cats and dogs go vegan? University of Winchester. 8 Feb. [invited oral, virtual].

Knight A. Vegan pet food: recent research developments. In Webinar: **The Rise of Plant-Based Diets in Pet Nutrition. Bryant Research, UK**. 13 Feb. [invited oral, virtual].

<u>Knight A</u>. Should cats and dogs go vegan? **University of Winchester**. 21 Mar. [invited oral, virtual].

Knight A. Vegan pet food: a diet change revolution begins. In Webinar: EIT Food West partnership meeting. 04 Apr. [invited oral, virtual].

Knight A & Nicholles B. Vegan pet food: a diet change revolution begins. AVA Summit, Washington DC. 18 May. [oral].

<u>Knight A</u>. Vegan pet food: a diet change revolution begins. **Progressive Veterinary Association First Annual Conference, London**. 15 Jun. [invited oral].

<u>Knight A</u>. Vegan pet food: a diet change revolution begins. **Vegan Fest, Terrassa, Spain**. 15 Sep. [invited oral].

Knight A. Should dogs and cats go vegan? 4th World Congress on Sustainable Agriculture & Food Systems, Barcelona. 20 Sep. [invited oral, virtual]. <u>Knight A</u>. Climate change: the livestock connection. **4th World Congress on Sustainable Agriculture & Food Systems, Barcelona**. 20 Sep. [invited oral, virtual].

Knight A. Bauer A & Brown H. Vegan versus meat-based cat food: health and welfare outcomes in 1,369 cats, after controlling for feline demographic factors. **6th European Veterinary Congress of Behavioural Medicine and Animal Welfare, Paris**. 03-04 Oct. [poster].

<u>Knight A</u>. The sustainability and animal welfare benefits of vegan pet food. **6th European Veterinary Congress of Behavioural Medicine and Animal Welfare, Paris**. 03-04 Oct. [oral].

<u>Knight A</u>. Vegan pet food: recent research developments. **10th Nordic Pet Food Conference, Dublin**. 8 Oct. [invited oral].

Knight A. Vegan pet food: a diet change revolution begins. **China Vegan Summit**, **Suzhou, China**. 14 Oct. [oral].

<u>Knight A</u>. Vegan pet food: a diet change revolution begins. **Pet Fair South East Asia 2024, Bangkok**. 31 Oct. [oral].



Knight A. Vegan pet food: a diet change revolution begins. **Frankfurt**. 20 Nov. [oral].

<u>Knight A</u>. Vegan pet food: a diet change revolution begins. **FI Europe, Frankfurt**. 21 Nov. [oral].

<u>Knight A</u>. Should dogs and cats go vegan? **Cambridge Veterinary School**. 27 Nov. [invited oral].

<u>Knight A</u>. Sustainable plant-based diets for cats and dogs. **Bristol Veterinary School**. 02 Dec. [invited oral].

Scientific and educational animal use (4)

<u>Knight A</u>. Critically evaluating the use of animal models within research. **University of Winchester**, BA animal welfare degree. 20 Feb. [invited oral].

<u>Knight A</u>. Educational animal use and alternatives, and SimDonkey. **University of Winchester**, BA animal welfare degree. 18 Mar. [invited oral]. <u>Knight A</u>. Critically evaluating the use of animal models within research. **Bristol Veterinary School**. 02 Dec. [invited oral].

<u>Knight A</u>. Alternatives to scientific animal use. **University of Padua, Italy**. 06 Dec. [invited oral, virtual].

Other animal advocacy (4)

<u>Knight A</u>. Climate change: the livestock connection. **University of Winchester**. 26 Mar. [invited oral, virtual].

<u>Knight A</u>. Winning animal welfare legal cases with science. **A-Law conference, Birmingham, UK**. 20 May. [oral].

<u>Knight A</u>. Climate change: the livestock connection. **Progressive Veterinary Association First Annual Conference, London**. 15 Jun. [invited oral].

<u>Knight A</u>. Winning animal welfare legal cases with science. **University of Idaho**. 19 Nov. [invited oral, virtual].



Andrew and colleagues speaking on vegan pet food at the 1st EIT Food Region West conference, Edinburgh, to 150 food industry professionals.



12

Media Coverage

As in previous years, Andrew continued to be interviewed on a weekly basis on a wide range of vegan and animal advocacy issues. Andrew's work or quotes again appeared in hundreds of media stories, with plant-based pet diets remaining the most common topic. Other topics included cell-based seafood, intensive farming of laying hens, meat ('broiler') chickens, pigs, dairy cows, avian influenza and animal experimentation.

The two leading stories in 2024 were as follows. In each case widespread coverage was assisted by press releases and the press offices of Andrew's three affiliated universities. Press release and Altmetrics statistics are provided. Altmetric scores provide weighted counts of the attention from news outlets, social media and other sources.

1 Study '<u>Vegan versus meat-based dog</u> food: Guardian-reported health outcomes in 2,536 dogs, after controlling for canine demographic factors.'

Andrew's press release was published on 962 downstream news websites with a combined potential reach² of 4.34 billion. Altmetric statistics: 118 news stories by Jan. 2025.

 Press release <u>'British Veterinary Association</u> <u>Ends Opposition to Vegan Diets for Dogs.'</u> Published on 540 downstream news websites with a combined potential reach² of 4.21 billion.

²Potential reach is an estimation of the number of worldwide unique visitors on desktop and mobile devices provided by Similarweb.

VEGAN DIETS CAN IMPROVE HEALTH FOR DOGS

According to scientists.

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Within 24 hours, a story on our new vegan dog health study attracted more than 1,000 comments on Australia's Channel 9 TV website. Commented animal activist Tristan Kent, "This has gone insanely Viral!"

Leading news outlets reporting Andrew's work included *The Guardian, Daily Mail, Sunday Mirror, Sunday People, Mail Online, The Metro* and other leading UK papers, *New York Times, GEO magazine* (Germany), *Sydney Morning Herald, Sun-Herald* (Australia), *The National* (Abu Dhabi), *Yahoo News, Petfood Industry, Veterinary Times* (UK) *Sierra magazine* (US) and *PetZCare India.* There was also occasional radio coverage in the UK.

Andrew was also interviewed within numerous podcasts, with the <u>most popular</u> achieving 2,300+ social media views by the end of 2024. These can be viewed along with short summary videos of key research and animal welfare issues, at Andrew's <u>YouTube channel</u> and social media channels. Collectively these amassed many thousands of views in 2024. Andrew's Facebook posts on animal issues alone amassed almost 29,000 views and reached approximately 45,000 viewers.



By 2024 studies on vegan pet food comprised 5 of the 10 studies ranked most highly by Altmetric, among almost 2,500 research outputs from the University of Winchester.

Awards

In 2024 Andrew was awarded a PhD from the University of Winchester, UK, for his thesis Vegan Versus Meat-Based Pet Food: Health, Behavioural and Environmental Implications. This 368-page thesis included 10 of Andrew's studies and publications on vegan companion animal diets.

This was Andrew's second PhD. His first was awarded in 2010 by Griffith University, Australia, for a thesis which critiqued invasive scientific and educational animal use, and explored alternative methodologies. Such awards are very helpful when speaking on these topics, particularly to scientific, industry or other professional audiences. "This thesis ... is of an extremely high quality. It is carefully planned, meticulously researched, methodologically sophisticated, and well-presented. ... It has the potential to have genuine real-world impact ... and has already provoked a very large amount of press coverage and critical engagement ... I hope I'll examine many more theses in my time, but I doubt I'll examine one that's had the reach that yours has." PhD examiners.

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About

Representing Animals is a non-profit established to support the work of <u>Prof. Andrew</u> <u>Knight</u> and his collaborators. Jasmijn de Boo is a Director and supports Andrew with the management of Representing Animals.

Andrew is a veterinary Professor of Animal Welfare, affiliated with <u>Murdoch University</u> <u>School of Veterinary Medicine</u>, Western Australia, and the <u>School of Environment and</u> <u>Science at Griffith University</u>, Queensland. He is an Adjunct Professor at both. He's also affiliated with the <u>University of Winchester</u>, UK, where he established and directed its Centre for Animal Welfare from 2015 – 2023. This became one of Winchester's largest and most active research and knowledge exchange centres.

Andrew is also a veterinary specialist in animal welfare accredited in the US, UK, EU, and New Zealand, a Fellow of the Royal College of Veterinary Surgeons, and Principal Fellow of Advance HE. He produces a large volume of research and outreach which helps to advance understanding of animals and their welfare. These have included two books, numerous academic and popular articles and external presentations, social media videos and websites. Andrew regularly collaborates with animal welfare charities to advocate for animals and is frequently interviewed by the media. He has received over 20 awards and research grants for this work.



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Changing how we feed our pets will improve their health and the environment

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Key Collaborators

Andrew regularly collaborates with animal and vegan advocacy organisations and colleagues, supporting a wide range of projects. Key collaborating colleagues in 2024 included those below.



Alexander Bauer PhD

Alexander Bauer is a freelance researcher. He received his doctorate in Statistics from the LMU Munich, Germany, with a focus on the analysis

of spatio-temporal data. With broad research interests and as a former Fellow of the LMU Munich Statistical Consulting Unit StaBLab, he is actively involved in applied research projects in various fields. His progressive research includes topics such as the treatment of rehomed laboratory dogs and the health of pets fed vegan diets. He led the statistical analysis for the vegan dog health study previously described, and has assisted with a similar study in cats.



Emily Davies MSc AWSEL

Emily sometimes serves as a Visiting Lecturer in Animal Welfare at the University of Winchester. She completed its

MSc Animal Welfare Science, Ethics and Law Masters degree in the first year, 2016-2017, receiving a distinction. Her Masters dissertation research was used as a case study to update Best Practice Guidelines for the European Endangered Species Programme, with regards to captive Jaguars. She since went on to pursue a career in academic publishing, where she oversees a portfolio of journals for John Wiley & Sons LTD. In 2023 she worked with Prof. Knight to provide the evidence base used in the High Court case demonstrating cruel treatment of tigers in a circus, resulting in the previouslylisted scientific study.



Faraz Harsini MSc, MD, PhD, DipACLM

Faraz Harsini is founder and CEO of Allied Scholars for Animal Protection, a US 501(c) (3) nonprofit building a unified

infrastructure for campus animal advocacy. He is a biomedical and food systems scientist at the Good Food Institute where he works on alternative protein technology. Dr. Harsini earned his masters degree in cancer research and his PhD in Biomedical Sciences, and is a Diplomate of American College of Lifestyle Medicine. He worked with Andrew on a 2024 vegan pet food article.





Nathalie de Ridder BAgr., PGDip., MSc AWBEL

Nathalie de Ridder is a lecturer and researcher at the Research and Innovation Centre at Inholland University of Applied

Sciences in the Netherlands. Her research topics and lectures are mainly focused on farm animal behaviour and welfare. Nathalie studied Animal Welfare, Behaviour, Ethics and Law (MSc) at the University of Winchester in the UK; Applied Animal Behaviour (PGDip) at KaHo Sint-Lieven in Belgium; and Animal Husbandry (BSc) at Inholland University of Applied Sciences in the Netherlands. She worked with Andrew on the fox killing methods study described previously.



Benny Smith AB

Benny Smith works as Project Manager at Allied Scholars for Animal Protection in the US, where he coordinates student groups, operations,

research, publishing and grant writing. He is also an affiliated researcher at the Humane and Sustainable Food Lab at Stanford University. He graduated from Brown University with a degree in Applied Mathematics and Geological Sciences in 2023. He worked with Andrew on a 2024 vegan pet food article.



Jenny L. Mace MSc AWSEL, BSc, FHEA

Jenny is a remote Associate Lecturer on the MSc in Animal Welfare, Behaviour, Ethics, and Law at the University of

Winchester. Alongside this, she works as an independent researcher (via Mace Animal Welfare). Jenny led the backyard chicken welfare study listed previously and is also a lead researcher on vegan pet food projects. She is the Editing Co-ordinator/Co-owner of the international academic editing company Cammad Ltd. She cares for two rescue cats, one Romanian-rescue dog, and five excommercial hens. She is based in Fife, Scotland.



Billy Nicholles BA

Billy Nicholles is a researcher and business professional specialising in vegan pet food. He is a Research Associate at Bryant Research, a UK-based

research consultancy specialising in the protein transition, where he conducts research and coordinates projects related to the pet food protein transition. He is also a Founders' Associate at Omni, a leading UK vegan pet food company, where he manages business development and growth. In 2024 he published a key article with Andrew on the health and environmental benefits of vegan pet food, and spoke on this topic at various conferences.



Mad Ideas

Mad Ideas is a multi awardwinning, creative graphic design agency supportive of

pro-vegan/animal causes, who are "delighted to be among Professor Andrew Knight's key collaborators." Their goal has been and always will be to make a positive difference. Their specialisms of fresh graphics, marketing communications and technical expertise engage, educate and inspire. They are able to support internal and external communications, including: branding with personality, infographics, packaging and marketing materials. Mad Ideas prepared the infographic provided in this report and frequently provides graphics to help outreach Prof. Knight's work via social media. Find out more: MADideas.com. 17

2024 was the hottest year on record.

Climate change and environmental degradation are the leading threats to life on Earth.

Greenhouse gas emissions from animal agriculture are so large that we cannot effectively slow climate change while ignoring them.

Representing Animals works to support the growth of vegan lifestyles, including nutritionally sound vegan diets for pets.

