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Ymateb gan: Four Paws

Welsh Parliament
Economy, Trade, and Rural Affairs Committee
Agriculture (Wales) Bill

Evidence from: Four Paws

Agriculture (Wales Bill) – FOUR PAWS response

Part 1: Sustainable Land Management

To produce food and other goods in a sustainable manner.

As one of the three pillars used to quantify sustainability in this Bill, sustainable land management must address the intrinsic link between the social pillar and the issue of biological security within intensive farming. The UN Environment Programme report 'Preventing the next pandemic' (July 2020)[1] highlighted intensive farming as a potential cause of the next pandemic, setting out the conditions that make intensive animal farms petri dishes for disease:

''The intensification of agriculture, and in particular of domestic livestock farming (animal husbandry), results in large numbers of genetically similar animals. These are often bred for higher production levels; more recently, they have also been bred for disease resistance. As a result, domestic animals are being kept in close proximity to each other and often in less than ideal conditions. Such genetically homogenous host populations are more vulnerable to infection than genetically diverse populations, because the latter are more likely to include some individuals that better resist disease.''

Since 1940, agricultural drivers were responsible for over half of the zoonotic diseases in humans and over 25% of all infectious diseases in humans[3]. These proportions will increase if agriculture expands and further intensifies. In the UK, the number of intensive pig and chicken farms is reported to have increased by 7% between 2017 and 2020, reaching a total of 1,786 sites[3].

The risk of zoonotic disease spreading from one of these sites represents a real and growing biological threat. Intensive farming systems exhibit mass overcrowding of individuals, allowing pathogens to spread quickly through the entire herd or flock once they enter or emerge within the farming facility. The genetic proximity induced by a dense population of the same high-performance breeds further accelerates the spread of disease as pathogens do not encounter the genetic resistance they would on an extensive farm. These genetically similar animals are bred for rapid growth and high yield at the expense of their health; stress, lack of nutrition through poor diet and vitamin D3 deficiency through limited contact with sunlight. These are all factors that weaken the immune system and make them more vulnerable to disease[4]. This overcrowding, genetic proximity and poor health all create ideal conditions for a pathogen to mutate and evolve, increasing the risk of a mutation that is transmissible to humans.

Both birds and pigs can act as a reservoir for a vast diversity of influenza viruses – for example, the 2009 swine flu pandemic was of avian origin, but evolved in a pig farm resulting in over 250,000 deaths worldwide[i]. Despite the UK being declared free from bird flu on 3 September 2021[ii]; all free-range hens were soon constrained to barns on 3 November 2021 due to the Government imposing an Avian Influenza Prevention Zone (AIPZ) following the largest outbreak of avian flu ever witnessed in the UK[iii]. Worryingly, the AIPZ has been imposed yet again in November 2022[iv], highlighting a potential trend in bird flu outbreaks in the UK rather than an isolated incident. If we do not introduce higher welfare standards into our farming practices and introduce much lower stocking densities of animals and slower growing breeds, we will continue to see outbreaks.

Intensive farming is also an incubator for antibiotic resistance, accounting for 80% of the global use of antibiotics[5]. Antibiotics are routinely administered in order to keep animals in unhealthy conditions where diseases spread easily. As a result, some bacteria that cause serious infections in humans have already developed resistance to most, or all, available antibiotic treatments[v].

The World Health Organization urges farmers to stop using antibiotics in healthy animals to prevent the spread of antibiotic resistance, pointing out that "*a lack of effective antibiotics is as serious a security threat as a sudden and deadly disease outbreak*"[5].

Particularly in the case of epidemics and pandemics, where superinfections and co-infections increase mortality, it is critical that we preserve the effectiveness of antibiotics instead of wasting it to perpetuate the unhealthy living conditions in factory farms[6].

To produce food sustainably and achieve Part 1 (Objective A) of this Bill, the Welsh agricultural system must address the risks of zoonotic disease and antibiotic resistance that intensive farming practices possess. By improving animal husbandry, farmers can reduce stress and increase immune capacity in animals, lowering the risk of infectious diseases. There are a multitude of effective measures that can be implemented into Welsh farming practices to improve animal welfare and health, and reduce the risk of disease spread:

1. **Reduction of stocking density**. The crowded conditions in intensive farming systems are a major driver of pathogen amplification and spreading in farmed animal populations. In crowded conditions, the animals experience chronic stress and become more vulnerable to diseases. Additionally, the proximity favours the transmission of pathogens from sick or dead animals.

2. **Species appropriate nutrition**. The intestinal microbiome plays an essential role in maintaining the immunological balance. When the microbiome balance is disturbed through inappropriate feed (such as highly concentrated grain-based diets for ruminants), the risk for diseases increases; whereas adequate feed (such as grazing on pasture in the case of cattle) improves the microflora of the gut leading to improved immunity and strengthens the immune system[vi].

3. **Genetic diversity**. Genetic selection for extreme traits, such as rapid growth or high yield, leads to animals with an increased susceptibility to infectious and metabolic diseases. Criteria used for genetic selection of farmed animals need to change, giving higher value to fitness and welfare traits when they conflict with "performance" traits (growth rate, yield, meat quality). Traditional autochthonous breeds are more

robust and better adapted to local environment and resources. They are less prone to illness, and some are also resistant to parasites.

4. **Extensive outdoor conditions**. In intensive farming, a high number of animals are kept indoors at high densities. These unnatural conditions, mostly with artificial lighting and no outdoor access, increase the susceptibility of these animals to infections. Animals that are raised according to their species-specific needs with free access to good-quality pastures, where they are exposed to direct sunlight and natural environmental conditions, are generally healthier and under less stress than those raised in confinement. They can roam freely, experience the outdoor climate and express natural behaviours [vi]. When ensuring outdoor access, it is important that the pastures are in good condition, the animals have adequate shelter from sun and rain and are protected from wild animals, and that the paths to the pastures are well-maintained. For birds, the provision of a winter garden or veranda is essential for these animals to remain free-range amidst avian flu outbreaks[vii].

5. **Stable climate**. Every farmed animal species has its own thermal comfort zone. Confronted with heat or cold, the animal has to make an effort to regulate its temperature. The higher the discrepancy between thermal comfort zone and thermoregulatory capacity, the higher the level of stress. To avoid chronic stress that impairs the immunocompetency of animals, a stable climate must fulfil the species-specific thermal comfort zone and the environment must allow animals to perform their natural behaviours that contribute to regulating their body temperature.

6. **Natural behaviour**. Intensive farming creates environments which result in behavioural disorders like stereotypies and damaging behaviour against conspecifics, such as tail biting, feather picking, etc. These behaviours result in injuries that require antibiotic treatment and cause chronic stress which supresses the immune system of animals. The interactions between behaviour and the neuroendocrine and immune systems show that animal welfare measures improve the immunocompetence, resulting in an increased resistance to infections[viii]. Natural behaviour can be supported by environmental enrichment, allowing the animals to perform normal behaviour patterns in natural time budgets.

7. **No mutilations**. Mutilations are painful and very stressful for the animals and are often carried out without proper anaesthesia and analgesia. When resulting in wounds, these are likely to become infected and require antibiotic treatment. In addition to the physical impact of mutilations, there is a long-term negative effect on natural behaviour. Mutilations are performed by farmers to adapt the animals to intensive husbandry systems that ignore animals' natural needs and behaviour. Husbandry and management conditions must adapt to the natural needs and behaviour of animal species, so that no mutilations are practiced. The animals' physical form is kept intact, and no harm is done to their health and behavioural expressions, leaving the animals more resilient to harmful influences.

8. **Animal-human interaction**. The human-animal relationship impacts the welfare and health of animals. This relationship is determined by a variety of factors, but mostly it is the reflection of the quality of the stockmanship towards animals[ix]. The stress response triggered by the fear response to painful handling

may cause immunodepression; additionally fear reactions increase the probability of injury and associated infections. Animals that receive better-quality handling improve their productive performance, showing, for instance, more reproductive success[x]. Similarly, good animal handling is associated with better health, as lower stress levels facilitate immunocompetence.

9. **Weaning**. Early weaning creates an immunological gap: it leaves young animals without maternal immunity (antibodies found in the mother's milk) whilst their own immunity is not yet well developed. Following early weaning, young animals are particularly susceptible to diseases. For example, weaned piglets often suffer from diarrhoea and calves from respiratory diseases. Young mammals of herd species need to grow up in fixed family groups (cow-bonded rearing), ensuring good emotional status, social learning, and feeding on milk for as long as physiologically needed.
10. **Transport**. The stress of prolonged transport and the risk of injury increases animals' susceptibility to diseases. Transport must be avoided where possible, and long-distance transport must be prohibited. Unweaned animals should not be transported (many unweaned calves, for example, develop respiratory diseases or 'shipping fever' following transportation). To avoid unnecessary transport, animals must be born and reared on the same farm and transported to the nearest slaughterhouse or, better yet, be slaughtered on the farm.

To mitigate and adapt to climate change

Land use, land use change and clearing for agriculture, and specifically the intensive rearing of livestock, are major drivers of climate change. Globally, more than a third of all greenhouse gas emissions caused by human activity can be attributed to our food systems. According to the UN Food and Agriculture Organisation (FAO), livestock production is responsible for 14.5% of total GHG emissions. This figure is not recent, and it is very likely that emissions from livestock have increased to at least 16.5%[xi]. If policies concerning food and farming remain as they are, direct agricultural GHG emissions are projected to grow by 4% until 2030. Livestock will account for more than 80% of this global increase. The main driver of these increased livestock emissions is the growing number of animals in more intensified industrial farming systems[xii].

The FAO estimates that almost half (45%) of livestock-related emissions are caused by the production and processing of animal feed such as grass and feed crops like soya and grains. These emissions are related to the use of synthetic fertilisers and manure and consist mostly of nitrous oxide (N_2O), a highly potent greenhouse gas. Deforestation and other land use change, caused by a growing demand for arable land to grow feed, creates emissions of carbon dioxide (CO_2) and represents roughly a quarter of feed related GHG emissions (10% of total livestock emissions). Enteric fermentation, a digestive process involving bacteria in the gut of cows and other ruminants that produces methane (CH_4), accounts for the second largest source of livestock emissions (40%). Manure management causes 10% of emissions, mostly in the form of methane. The smallest share of emissions is represented by energy use[xiii].

Factory farming increases the emissions of methane: slatted stable floors and collection of liquid slurry cause higher methane emissions than systems that use storage of dry manure and where farmed animals are free to live outdoors. Indoor keeping of animals increases the use of energy due to heating, filter systems and other farm facilities.

The production of meat and dairy is responsible for 32% of emissions of the very potent but short-lived greenhouse gas methane, and food systems as a whole are responsible for 40% of methane emissions[xiv]. Although the share of total emissions is relatively low, the IPCC estimates methane to account for almost a third of the warming observed to date[xv].

Within the UK, DEFRA have acknowledged the overwhelming contribution of animal agriculture to climate change, stating that "*the agriculture sector accounts for around 37%, 66% and 88% of total UK emissions of methane, nitrous oxide and ammonia respectively, nearly all of which is derived from livestock production*". Currently, the number of farmed animals in the UK is estimated at being at an all-time high of 1.1 billion, with a heavy reliance on intensive factory farming systems to meet demand. This high demand for animal products has led to a rise in 'megafarm's in the UK.

2017 figures from The Bureau of Investigative Journalism shows that there are 789 'megafarms' in the UK, most of which house poultry – with the largest housing a staggering 1.7 million chickens[xvi]. The classification for a 'megafarm' derives from the US Concentrated Animal Feeding Operation (CAFO), where a facility must have at least:

- 125,000 broiler chickens (chickens raised for meat),
- 82,000 laying hens (hens which produce eggs) or pullets (chickens used for breeding),
- 2,500 pigs,
- 700 dairy cattle, or
- 1,000 beef cattle

Farmed animals have been bred for high yield that, on the one hand, has led to severe animal welfare issues and, on the other hand, has dramatically increased the amount of protein feedstuffs[v], because high-performance animals have an extremely high demand for energy and protein[xvii]. This has resulted in an unsustainable food chain reliant on feed imports originating from deforested lands[xviii].

For the SLM to truly be successfully at mitigating and adapting to climate change, it is clear that the Wales Agriculture Bill must incorporate clear commitments to encourage public dietary change and reduce intensive farming practices.

A recent study based on a business-as-usual scenario foresees that even if fossil fuel emissions were immediately halted, current trends in global food systems, notably increased meat and dairy consumption, would make it impossible to limit global warming to the 1.5 °C target. The researchers concluded that both demand-side and supply-side strategies are needed, including a shift to more plant-based diets[xix].

Reduction of livestock-related emissions is a very effective climate mitigation, because of its relatively large share of total methane emissions. Cutting methane emissions is crucial in slowing down climate change: Methane is much more potent in terms of global warming

than CO_2 and its 'atmospheric lifetime' is estimated to be 12 years. This means that methane reductions could be particularly important in relation to near- and medium-term temperatures[xx]. UNEP concludes that cutting human-caused methane by 45% this decade would keep warming beneath a threshold agreed by world leaders, and that healthy diets that are high in plants and lower in meat and dairy could achieve yearly methane reductions in the region of 15–30Mt/year[xxi].

Whilst reducing intensive livestock practices can help mitigate methane emissions, it is clear that the biggest environmental benefits could be achieved through dietary change. In the current food system, the production of animal-based foods causes twice the amount of GHG emissions of plant-based foods[xxii]. At the same time, the share of protein supplied by meat is only 37% and the calorie supply merely 18%[xxiii]. This data indicates that a shift from high-intensity GHG emitting animal-based products like beef, lamb and dairy to options like chicken which has a lower environmental impact still would not suffice in achieving the change needed[xxiv].

To maintain and enhance the resilience of ecosystems and the benefits they provide

Scientific consensus shows that animal agriculture causes significant environmental degradation, from biodiversity loss to deforestation[xxv]. Transforming our food system and reassessing intensive livestock farming is therefore the best way to maintain and enhance the resilience of Welsh ecosystems.

Our global food system is the primary driver of biodiversity loss, with agriculture alone being the identified threat to 24,000 of the 28,000 (86%) species at risk of extinction[xxvi]. The 2021 Chatham House report, *Food System Impacts on Biodiversity Loss*, indicates that in the last decade our food system has been following the 'cheaper food paradigm', with a goal of producing more food at lower costs through increasing inputs such as fertilizers, pesticides, energy, land and water. This paradigm is creating a food system that demands higher outputs of food at the expense of further intensification of agricultural practices and further land clearance.

Over the past 50 years, the biggest driver of habitat loss has been the conversion of natural ecosystems into pastureland for the rapid expansion of animal farming[xxvii]. Farmed animals now account for 60% of all mammal species by mass, compared to 4% for wild mammals and 36% for humans[xxviii]. In total, animal agriculture now occupies 78% of agricultural land globally[xxix]. The *Future Farming and Environment Evidence Compendium* (2019) published by DEFRA also recognises the environmental challenge of agriculture in relation to biodiversity, stating that "*Farming practices can have many impacts that can lead to a reduction in wildlife biodiversity (including loss of habitats and food sources)*"[xxx].

As far back as 2007, DEFRA has reported that "*The production of food from animal agriculture is a significant source of emissions in the UK, especially the production of greenhouse gases and pollution of water sources.*"[xxxi] Two of the main pollutants from the intensive farming of poultry and pigs are nitrous oxide (N_2O) and ammonia. N_2O has 296 times the global warming potential of carbon dioxide, with ammonia contributing significantly to the acidification of soils and rain, particulate pollution and harmful damage to habitats such as woodlands, heaths and lakes.

Factory farms are also known polluters of watercourses, with high levels of phosphorous entering river systems and eventually causing eutrophication of entire water systems, which is detrimental to local wildlife. A 2019 Environment Agency report revealed that "*farming is still one of the biggest sources of pollution incidents and farm slurry causes more than one serious incident of pollution a week. In 2018, farming activities caused 77 serious incidences of pollution in our waterways*"[xxxii].

To reduce the impact of animal agriculture on Welsh ecosystems, we must reform our food system with a focus on shifting dietary patterns towards less and better - more plant-based diets, and higher welfare where animal products are still used. With proper investment into sustainable farming practices that incorporate high welfare livestock farming and a transition to a higher percentage of arable farming across Wales, we will see a multitude of benefits for human health, animal welfare and environment wellbeing.

Part 2: Support for agriculture etc

In 3.98 of the Explanatory Memorandum, a number of purposes and intended effects of this legislation are listed regarding climate change and biodiversity, both areas of the food system that have been addressed in Part 1 of this response. 3.98 also states "*Achieving and promoting high standards of animal health and welfare*" as one of its purposes and intended effects for this new legislation. Whilst this response has elaborated on the effective measures that can be implemented in farming systems to reduce zoonotic risk and improve animal health, we would like to take this opportunity to elaborate on the need to end the use of cruel cages in UK farming systems.

In 2021, the European Commission announced its plans to ban cages for all farmed animals by approximately 2027, including regulations on the import of animal-based products from caged systems[xxxiii]. Every year, over 16 million UK farmed animals are kept in cages that are cramped and cause immense suffering and the inability for the animal to express its natural behaviours. Since higher-welfare alternatives readily available and the export of Welsh-produced animal-based products threatened, it is evident that caged systems such as combi-cages for hens, farrowing crates for sows and individual calf pens should be legally prohibited.

With more than 109,000 signatures on a government e-petition in 2022, this topic was debated, and the extent of the cruelty endured by farmed animals in cages was discussed in detail. It was noted that 35.5% of all eggs in the UK are from caged hens, equating to approximately 14 million birds, whilst more than 50% of sows are placed in farrowing crates before giving birth[xxxiv]. Sows are kept in these confined systems until their piglets are weaned a few weeks later- this means that approximately 200,000 sows are confined in farrowing crates for 9-10 weeks every year, and in some cases even longer.

The lack of presence from Welsh MPs was palpable and does not reflect on the ambitions of this proposed legislation. The Government response suggested that a consultation on the caging of laying hens was imminent yet has still not been launched in the five months since this commitment was made. This proposed Bill gives the Welsh Government a key opportunity to incorporate the abolition of cruel cages into its legislation, and thus becomes leaders in farmed animal welfare, both within the UK and globally.

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[iv] https://www.gov.uk/guidance/avian-influenza-bird-flu#latest-situation
[v] https://media.4-paws.org/1/f/2/3/1f239223b5b08433a6064e07622050c2c92d0ec2/2021_FOUR_PAWS_Future_Study.pdf

[vi] https://www.nature.com/articles/507032a
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