ANIMAL JUSTICE
CANADA

May 31, 2023

Standing Committee on Agriculture and Agri-Food
Sixth Floor, 131 Queen Street
House of Commons
Ottawa, ON K1A 0A6
E-mail: AGRI@parl.gc.ca

Via Email

Dear Clerk of the Committee and Honourable Committee Members,

Re: House of Commons Standing Committee on Agriculture and Agri-Food Meetings: Environmental Contribution of Agriculture, 44th Parliament 1st Session

We write to you on behalf of Animal Justice – Canada's leading national animal law organization. Animal Justice works with all levels of government to strengthen legal protections for animals.

As the Standing Committee on Agriculture and Agri-Food (the "**Committee**") wraps up its study on the environmental contribution of agriculture, we are concerned that some of the evidence put before the Committee regarding the environmental impacts of animal agriculture – including beef production in particular – appears to downplay the environmental harm caused by this industry. We are writing to address this issue and ensure the Committee has before it relevant scientific information about (i) the effects of animal agriculture on the environment and (ii) the environmental effects of beef production in particular.

The Committee has heard from several industry organizations, government entities, technology companies, soil experts, and a few select environmental NGOs over its 11 meetings dating back to March 28, 2022. Having reviewed the briefs and witness testimony provided to the Committee, it appears that little focus has been given to the environmental impacts of industrial animal agriculture and the need to promote a transition toward sustainable agricultural products such as pulses, grains, fruits, and vegetables. The submissions below outline the important context of the global environmental toll that animal agriculture has, as well as some Canadian specific data points, so as to better inform the Committee on the nature and scope of the current climate situation, as well as important considerations related to water use and biodiversity.

<u>Animal Agriculture Effects on the Environment</u>

Globally, food production is responsible for at least two thirds of human-caused GHG emissions. The use of animals for food is responsible for a staggering 57% of these emissions,

representing at least 16.5% of total GHG emissions and as much as 28%.[1] This is on par with or even greater than the GHG emissions caused by the entire transportation sector.[2] Despite the scale of its environmental impact, animal agriculture only provides 18% of the calories from global food production, while commanding 80% of its farmland.[3]

Moreover, livestock farming currently occupies more than a third[4] of the world's habitable land area and consumes 20% of the world's freshwater.[5] Depending on the type, it can take between 5,000 and 20,000 liters of water to produce 1 kilogram of meat. For example, producing 1 kilogram of beef requires 25 kilograms of grain and 15,000 liters of water.[6] It takes six times more water to produce 1 gram of protein from beef than to get the same amount of protein from pulses.[7] Plant-based meat alternatives use 72-99 percent less water than conventional meat.[8] Groundwater and surface water pollution caused by animal agriculture, including from animal waste and wastewater in particular, is also a significant problem globally and here in Canada.[9]

The IPCC has consistently warned of the deleterious effects of animal agriculture on the climate. The third part of the Sixth Assessment Report, Climate Change 2022, warns that methane emissions continue to increase, the main source of which being enteric fermentation from ruminant animals. In addition to its contribution to climate change, diets heavy in animal protein also contribute to land being used inefficiently. Arable land is used to grow crops for animal feed, with negative impacts on ecosystems and biodiversity. Conversely, a shift to plant-based diets has significant mitigation potential according to the IPCC. More plant-based diets, with only a moderate intake of animal-source food, can lead to substantial decreases in GHG emissions.[10]

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[1] Twine, Richard, "Emissions from Animal Agriculture—16.5% Is the New Minimum Figure" (2021) 13:11, Sustainability 6276.
[2] Bristow, Elizabeth & Amy J Fitzgerald, "Global climate change and the industrial animal agriculture link: the construction of risk." Society and Animals (2011) 19, 205-224.
[3] Hannah Ritchie, *How much of the world's land would we need in order to feed the global population with the average diet of a given country?* (October 2017), online: Our World in Data <https://ourworldindata.org/agricultural-land-by-global-diets#:~:text=Livestock%20takes%20up%20nearly%2080,required%20to%20produce%20our%20food>
[4] Hannah Ritchie and Max Roser, *Land Use* (September 2019), online: Our World in Data <https://ourworldindata.org/land-use>
[5] FAO, "Water use in livestock production systems and supply chains," (2019) online: <https://www.fao.org/3/ca5685en/ca5685en.pdf>
[6] P Alexander et al, "Human appropriation of land for food: The role of diet." Global Environmental Change 41, 88-98 (2016).
[7] Water Footprint Network, *Do you know how much water was used to grow your food and to produce your clothes and the things you buy?*, online: <https://www.waterfootprint.org/time-for-action/what-can-consumers-do/#productwater-footprint-crop-and-animal-products/>
[8] See, e.g. https://gfi.org/resource/environmental-impact-of-meat-vs-plant-based-meat/.
[9] Yannan Li et al "Multi-pollutant assessment of river pollution from livestock production worldwide" Water Research Vol 209 (1 Feb 2022 117906). Online: https://www.sciencedirect.com/science/article/pii/S0043135421011003; UN Food and Agriculture Organization, "More people, more food…worse water? Water Pollution from Agriculture: a global review" (2018). Online: https://www.fao.org/news/story/en/item/1141534/icode/.
[10] IPCC, *Sixth Assessment Report, Climate Change 2022: Mitigation of Climate Change* (2022), online: <https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/>

In Canada specifically, the current GHG emissions from Canadian livestock production are estimated at 32 Mt CO2 eq or 53% of total agricultural emissions.[11] Methane and nitrous oxide are the main GHGs that animal agriculture emits at 38 and 36% respectively, with carbon dioxide responsible for the remaining 26%.[12] Both methane and nitrous oxide are highly potent GHGs, with methane being 27 to 30 times and nitrous oxide 273 times more effective at trapping heat than carbon dioxide over a 100-year period.[13]

A report prepared in advance of COP21 in Paris stated plainly: "Keeping global warming below 2° C will more than likely require reductions in both meat and dairy intake and wasted food, combined with rapid and dramatic reductions across non-agricultural sectors."[14] Canada must heed this warning. This Committee's study is an important opportunity to do so.

Given the dearth of submissions to date regarding the significant effects animal agriculture has on the climate, Animal Justice urges the Committee to acknowledge and take into account the incontrovertible findings of the FAO, the EPA, the IPCC, and other trusted institutions in crafting their report and recommendations for Canadians.

The Sustainable Beef Myth

In its submissions to this Committee, the Beef Cattle Research Council stated that "the Canadian beef industry is a significant contributor to Canada's environmental goals." It expanded on the benefits of Canadian grasslands - erroneously suggesting that cows are necessary to maintain such ecosystems - explaining that they "sequester the carbon emissions from more than three million cars annually, benefit biodiversity and produce high-quality protein from low-quality land and feed that often can't be used by humans."[15] These highly misleading statements were echoed by the Canadian Cattlemen's Association, the Canadian Roundtable on Sustainable Beef, and other beef industry organizations.

On the contrary, even in light of some mitigation efforts being undertaken by some in the industry, the carbon footprint of beef farming – in Canada and globally – remains substantial. Beef is widely recognized as the most climate- and environmentally-damaging of all foods that humans consume.[16] On a commodity-basis, beef and cow milk are responsible for the most

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[11] Fouli, Yméne, Margot Hurlbert & Roland Kröbel, "Greenhouse Gas Emissions from Canadian Agriculture: Estimates and Measurements." (2021) 14:35 SPP Briefing Paper.
[12] *Ibid*.
[13] United States Environmental Protection Agency, *Understanding Global Warming Potentials*, online: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials
[14] Brent Kim et al., "The Importance of Reducing Animal Product Consumption and Wasted Food in Mitigating Catastrophic Climate Change" (2020), online: John Hopkins Centre for a Liveble Future <https://clf.jhsph.edu/sites/default/files/2019-01/importance-of-reducing-animal-product-consumption-and-wasted-food-in-mitigating-catastrophic-climate-change.pdf>
[15] House of Commons, Standing Committee on Agriculture and Agri-Food, Evidence, 44-1, No 21 (30 May 2022) (No 21).
[16] See, e.g. Natural Resources Defense Coalition Report: https://www.nrdc.org/sites/default/files/less-beef-less-carbon-ip.pdf.

emissions, respectively contributing 41% and 20% of the animal agriculture sector's overall global GHG outputs. (This figure even excludes emissions from cow manure.)[17]

In Canada, beef production contributes 32% of the *entire* agricultural sector's GHG emissions, with an incomprehensible 22,419,600,000 kg of CO2 emitted in 2016.[18] There can be no band-aid solution here–even when cows are farmed using low-impact methods, the production of beef still results in significantly more GHG emissions than even the highest-impact plant protein.[19] In fact, grass-fed beef actually produces higher emissions than conventional beef production, due in large part to the amount of land required.[20] Climate expert George Montbiot has concluded as follows:

> In reality, grass-fed meat is by far the most damaging component of our diets, as a result of its massive land requirement, greenhouse gas emissions, and carbon and ecological opportunity costs. Despite a plethora of claims, there is no empirical evidence that carbon storage in grazing land can compensate for the greenhouse gases livestock produce, let alone for the carbon stocks destroyed when wild ecosystems are converted to pasture.[21]

To better conceptualize these emission numbers, for every kilogram of beef consumed, 60 kilograms of GHGs are emitted into the atmosphere.[22] Plant-based meat on the other hand, emits 30%–90% *less* greenhouse gas than conventional meat.[23] Increasing cattle grazing on Canadian grasslands as a potential solution to this crisis is greenwashing at its finest–*the problem cannot also be the solution*.

Globally, the beef industry is the largest contributor to deforestation in the Amazon rainforest, and a leading driver of land use change worldwide. If some or all of this land were to be rewilded–rather than turned into cattle grazing pastures–the world could potentially offset 100 gigatons of carbon dioxide.[24] There are simply no environmental benefits to expanding livestock land use that could not be realized exponentially through rewilding.

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[17] The Food and Agriculture Organization of the United Nations, *Key Facts and Findings*, online: https://www.fao.org/news/story/en/item/197623/icode/

[18] SPP Briefing Paper (Fouli) at 13.

[19] Poore, Joseph & T Nemecek, "Reducing food′s environmental impacts through producers and consumers." (2018) Science, 360(6392), 987-992.

[20] See, e.g. Jessica Scott-Reid, "How Grass-Fed Beef Is Duping Consumers, Again" (October 27, 2020) Sentient Media online: https://sentientmedia.org/how-grass-fed-beef-is-duping-consumers-again/.

[21] Monbiot, George, *There's one big subject our leaders at Cop27 won't touch: livestock farming* (November 9, 2022), online: The Guardian <https://www.theguardian.com/commentisfree/2022/nov/09/leaders-cop27-livestock-farming-carbon-budget-governments>

[22] David Vetter, *Got Beef? Here's What Your Hamburger Is Doing To The Climate* (2020), online: Forbes <https://www.forbes.com/sites/davidrvetter/2020/10/05/got-beef-heres-what-your-hamburger-is-doing-to-the-climate/?sh=ca0a2925206f>

[23] Good Food Institute, *Plant-based meat for a growing world* (2019), online: <https://gfi.org/resource/environmental-impact-of-meat-vs-plant-based-meat/>

[24] Björn Ólafsson, *Is Beef Consumption Headed in the Right Direction?* (April 26, 2023), online: Sentient Media <https://sentientmedia.org/beef-consumption-in-the-us/>

None of these sobering facts appear to have been submitted to or addressed by the Committee hearings to date. Animal Justice urges the Committee to take it upon themselves to research the hard data on the destructive nature of beef production, rather than accepting the beef industry's representations at face value. Even a cursory review of the reports referenced in this brief will help familiarize the Committee with the true climate costs of beef production, and the extreme dangers presented by maintaining the status quo.

Conclusion

As world-renowned climate export George Montbiot notes, the problem of ignoring or underplaying the environmental impacts of animal agriculture is a global one:

> This issue has become even more urgent now we know the heating impact of methane is rising. Livestock farming is the world's greatest source of methane released by human activities. Yet there is no mention of it in the global methane pledge launched at last year's climate summit.
>
> Governments have not ignored these issues by accident; they have resolutely looked away. A new analysis for Chatham House finds that only 12 nations name emissions from farm animals in their official climate commitments, and none seeks to reduce livestock production. Only two nations (Costa Rica and Ethiopia) mention dietary change: arguably the most important of all environmental actions, as animal farming is also the world's greatest cause of habitat destruction and wildlife loss.[25]

With this Committee's study, Canada has an opportunity to be a global leader and take a science-based approach to creating a sustainable future. To truly reduce the environmental impact of agriculture in Canada - as well as promote social equity, public health, and animal welfare - we must develop policies and shift public investments to build a climate-compatible food system that promotes a healthy environment for all and supports farming practices that are consistent with Canadians' increasing concern for the welfare of animals. We urge the Committee to work to direct public funds and policies toward promoting a climate-compatible agricultural sector focused on crops such as fruits, vegetables, mushrooms, grains, beans, nuts, and seeds.

The science is clear that, as a society, we must drastically reduce our consumption of meat, and beef in particular, which is in line with the EAT-Lancet Commission's planetary health diet. This climate focused diet was developed by scientists to provide recommendations that are good for both our health and the health of the planet. It says that we should be eating no more than 98 grams of red meat each week.[26] This recommendation is in line with Canada's Food Guide, which specifically recommends that Canadians consume plant-based proteins "more often" and cut down on their intake of processed meats and saturated fats, which can contribute to cancer,

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[25] Monbiot, *supra* note 21.

[26] EAT, "Food Planet Health Healthy Diets FromSustainable Food SystemsSummary Report of the EAT-Lancet Commission," online: <https://eatforum.org/eat-lancet-commission/eat-lancet-commission-summary-report/>

diabetes and other diseases.[27] It is patently unfair, however, to place the burden on consumers rather than the producers responsible for these levels of GHG emissions and to instead continue to invest significant public funds in subsidies for these industries. Rather, we need to significantly change our farming methods while supporting plant-based initiatives and cellular protein technology.

This Committee has an opportunity to help shape how Canada addresses its climate future. Animal Justice recommends investment into plant-based protein and cellular meat technology; increased regulation of the animal agriculture industry *vis-a-vis* setting emissions targets, requiring transparent monitoring, strengthening water use and pollution standards, and enforcing meeting these targets; and a continued focus on policies and strategies that recognize and reflect the benefits to the environment of shifting agricultural production to focus on sustainable, climate-compatible plant-based foods. Given the realities of the climate crisis Canadians find themselves in, Animal Justice does not support the carbon exemptions outlined in *Bill C*-234 and supports the enactment of the *Greenhouse Gas Pollution Pricing Act* under *Bill* C-74.

We would be pleased to provide further information or to assist the Committee in any way as you continue this important work. Please do not hesitate to contact us.

Yours truly,

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[27] Ryan Flanigan, *Canada's Food Guide recommends we eat more plants, less meat* (January 22, 2019), online: CTV <https://www.ctvnews.ca/canada/canada-s-food-guide-recommends-we-eat-more-plants-less-meat-1.4263478?cache=ypdchpshbgmanqg>