

WORRIED ABOUT GREENHOUSE GAS EMISSIONS?

– Putting –
BEEF
in perspective

CANADIAN BEEF PRODUCTION ACCOUNTS FOR only 0.04% OF GLOBAL GHG EMISSIONS^{1,6}



IS IT TRUE THAT LIVESTOCK CREATE *more* GHG emissions THAN TRANSPORT?

A flawed 2006 Food and Agriculture Organization (FAO) report, "Livestock's Long Shadow," claimed that meat production was responsible for more emissions than global transportation.

NO

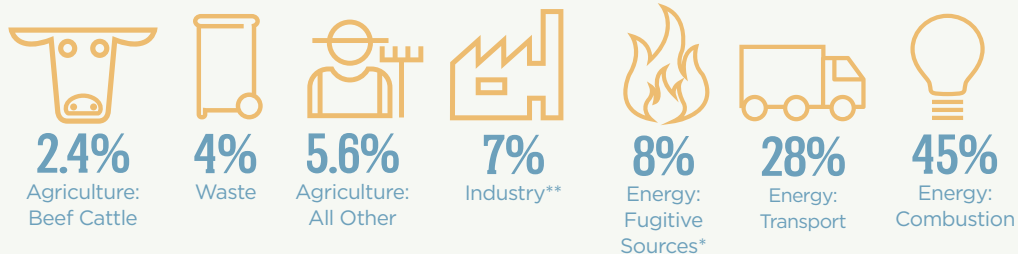
GHG emissions from agriculture are a smaller proportion of total emissions in developed countries such as Canada, due to improved production efficiency and a significant reduction in land clearance for agriculture.⁴

The authors of "Livestock's Long Shadow" admitted that they made an *unfair comparison* of GHG emissions between livestock production and transportation *by using different methods to calculate the emissions for each industry.*^{2,3}

A NEW FAO REPORT IN 2013 ATTRIBUTED 14.5% OF GLOBAL EMISSIONS TO LIVESTOCK.⁴



THE CONTRIBUTORS TO CANADA'S GREENHOUSE GAS EMISSIONS ARE:^{1,6}



*Extracting, processing and delivery of fossil fuels

**Mining, smelting, refining and production industrial goods

CATTLE ALSO PROVIDE BENEFITS TO THE ENVIRONMENT

GRASS AND PASTURELANDS ARE THE foundation OF THE CANADIAN CATTLE INDUSTRY.

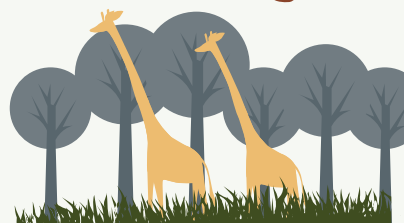
THEY PROVIDE **80%** OF THE FEED USED IN CANADIAN BEEF PRODUCTION.⁵

PASTURELANDS REMOVE GREENHOUSE GASES FROM THE AIR AND STORES THEM IN THE SOIL. Removing cattle from these lands would put the land at risk for conversion to other land uses that could release more GHGs. Cultivating land can release up to 59% of carbon previously stored in the soil.⁷

Land used for beef cattle production in Canada is currently storing about



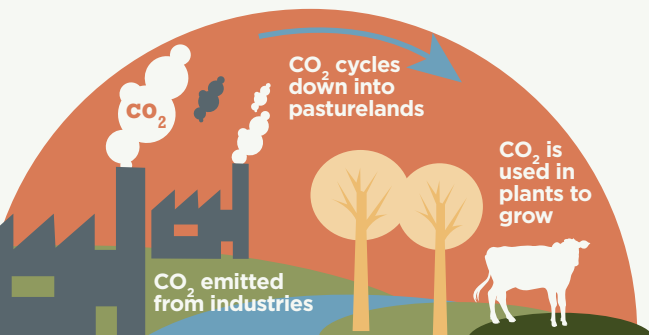
On these lands cattle convert *plants* that humans can't digest into **HIGH QUALITY PROTEIN.**



GRASSLANDS AROUND THE WORLD STORE NEARLY

30%

OF GLOBAL SOIL CARBON.⁸



For references and more information about the beef industry, please visit the consumer section of www.albertabeef.org

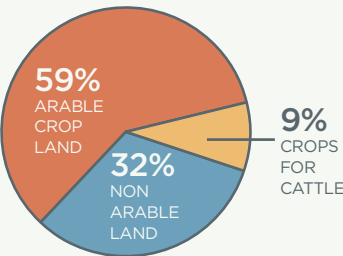


32% OF CANADA'S AGRICULTURAL LAND

CAN'T BE USED TO GROW CROPS FOR HUMAN CONSUMPTION BUT CATTLE CAN GRAZE THESE LANDS AND USE THEM TO PRODUCE HIGH QUALITY PROTEIN.⁹

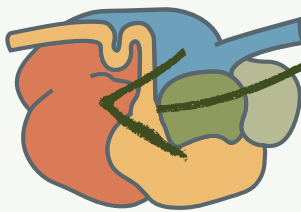
GRASSLANDS AND PASTURES ALSO STORE CARBON, PROTECT MARGINAL LANDS FROM TILLAGE AND EROSION, PROVIDE HABITAT FOR WILDLIFE, AND PROMOTE BIODIVERSITY.¹⁰

LESS THAN 9% OF CROPLAND IN CANADA IS USED TO GROW FEED FOR CATTLE.⁶



WHY DO CATTLE PRODUCE METHANE?

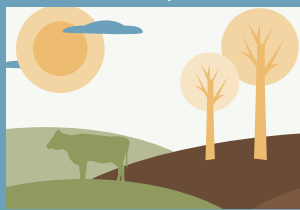
CATTLE ARE ABLE TO DIGEST GRASS AND GRAINS THAT OTHER ANIMALS (INCLUDING PEOPLE) CANNOT.



Microorganisms in the RUMEN (part of cattle stomachs) digest starch and cellulose, producing methane as a by-product.¹¹

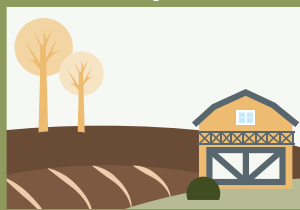
WHICH GHGS ARE ASSOCIATED WITH CATTLE?

METHANE (CH₄)



- primarily produced through enteric fermentation*
- small amount produced by breakdown of manure

NITROUS OXIDE (N₂O)



- associated with the breakdown of manure and fertilization of crop and pasture land.

CARBON DIOXIDE (CO₂)



- Some carbon dioxide is also produced through fuel use for farm machinery.

* ENTERIC FERMENTATION is a process that occurs when an animal digests feed – especially high fibre grass.

BREAKDOWN OF GHG EMISSIONS IN beef production

(PER KG LIVE WEIGHT PRODUCED)¹²



73%

Digestion CH₄



15%

Manure N₂O



5%

Energy CO₂



4.7%

Soil N₂O



2.25%

Manure CH₄

A SHRINKING environmental HOOFPRINT

IN CANADA, PRODUCING A KG OF BEEF ON-FARM IN 2011 RESULTED IN:

14% less CH₄

15% less N₂O

12% less CO₂

WILL EATING less BEEF REDUCE CANADA'S GHG emissions?

Given that Canadian beef production accounts for 2.4% of Canada's GHG emissions, and 0.04% of global emissions¹⁶, even if everyone in Canada STOPPED eating beef tomorrow, the effect on overall emissions would be MINIMAL compared to reducing reliance on FOSSIL FUELS.

AND REQUIRED

29% fewer cattle

24% less land

THAN IT DID IN 1981¹²

Due to improved production and feed efficiencies, crop yields and management practices

Even though the proportion of GHG emissions from beef cattle is small, we continue to explore mitigation options through research and innovative management practices.

It is true that cattle produce GHGs; however, all food has an environmental impact. For example, fruit and vegetables require a lot of irrigation water, and seafood has a high transportation energy cost.¹³

Food waste in North America is 95-115 kg/person/year.¹⁴ Cutting meat waste by half would reduce GHG emissions from beef production in Canada by 5%.⁶

REGARDLESS OF PRODUCTION SYSTEM, CATTLE ARE AN IMPORTANT PART OF A HEALTHY ECOSYSTEM



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