

FACTSHEET NO 2: BENEFITS OF ORGANIC (GRASS-FED) BEEF



Background

Today people have higher life expectancies than in previous centuries. Leading causes of death have shifted from infectious diseases to non-communicable diseases such as vascular failings (heart attacks, strokes), cancers and diabetes. While not always fatal, these diseases are far more common now and are often linked to diet and nutrition.¹ The failings of our food system – which delivers calories but not necessarily nutrition – can be largely attributed to the industrial farming model. Mechanical and chemical interventions in this model drive soil degradation resulting in reduced nutrient density in the food we eat.² In the industrial model, animals are kept in confined spaces to reduce movement and are fed high-calorie rations to speed up weight gain. These feedlot and battery-style animal husbandry systems increase the risk of fast-spreading diseases. While these can be countered by antibiotics, this measure also poses a risk to human health.

Multi-faceted benefits of organic production

Organic agriculture contrasts to conventional farming systems by avoiding monocultures and by nurturing the soil as the basis of health for plants and animals. Cattle that are raised under organic principles in the Namibian context are in most cases exclusively grass-fed. Also in more intense contexts, all organically raised cattle have access to grazing while grain feeding is restricted. The production of organic grass-fed beef for human consumption carries significant benefits for humans, animals and the environment. This beef is higher in Omega-3 fatty acids and is less likely contaminated with chemicals, such as antibiotics and growth hormones. It is therefore healthier to eat. The animal itself benefits as organic agriculture places an emphasis on animal welfare. Animals farmed using organic or regenerative practices also produce less greenhouse gases than those farmed conventionally thus contributing less to climate change. And they feed on readily available resources, reducing the cost of animal feed. Recent research has shown that regenerative farming practices may play an important role in combatting climate change by restoring ecosystem functions.³

Benefits to the consumer

Organic beef production offers several health benefits for the consumer, in that they enjoy:

- **Chemical/pesticide-free meat.** Under organic principles, animals are not allowed to be fed grass/supplements/grains that have been sprayed with chemicals (pesticides, herbicides). These chemicals have been proven to cause cancer and ill health in humans⁴ and chemical residues have been found in meat from cattle that have been exposed to these chemicals through their feed.⁵

- **Higher nutritional value.** Organic agriculture systems enhance natural processes to a point where organic foods have higher nutrient values and provide powerful cancer-fighting organic compounds such as antioxidants and vitamins. The meat from organic grass-fed cattle generally has a higher content of various A, B and E vitamins, as well as other antioxidants. Another powerful compound found in elevated levels in grass-fed beef is conjugated linoleic acid, a compound that has been proven to help prevent obesity, diabetes and breast cancer.⁶ The fat on grass-fed beef, which are typically much leaner than feedlot beef, contains elevated levels of Omega-3 fatty acids, which keep our cardiovascular systems healthy and improves brain-function.
- **Antibiotic-free meat.** Antibiotics are not allowed to be used preventatively in organic animals, as is typically done in feedlot systems. The overuse of antibiotics has been linked to widespread resistance to antibiotics, which has been identified as one of the greatest threats to global human health by the World Health Organization.

If cattle feed on their natural diet of grass, the benefits of their meat to the consumer is significantly more than that from feedlot beef fed predominantly with grain. Namibia already has world-class regulations in place to address the concerns of first-world export markets by prohibiting the use of growth hormones and preventative use of antibiotics.

Benefits in terms of animal health and welfare

Organic animals are allowed to express their natural behaviour. Namibian farming occurs under extensive conditions, breeding occurs naturally, and animals are able to exhibit natural social behaviour such as herd instinct. Organic standards address animal welfare concerns during management interventions such as mutilations (castration, de-horning), as well as in transport and slaughtering. Any stressful periods need to be minimised and properly handled to reduce the risk of unnecessary stress and pain.

Benefits to the environment

The climatic changes that we are experiencing now can be linked to higher concentrations of greenhouse gasses (such as carbon dioxide and methane) in the Earth's atmosphere than during pre-industrial times. Large-scale industrial agriculture has been blamed for its role in increasing emissions of carbon dioxide, methane and ammonia in large quantities. Organic agriculture and other regenerative farming practices, if applied correctly, play a powerful role in mitigating climate change. As the saying goes: It's not the Cow, it's the How. Farming organically managed cattle can tackle the carbon emissions dilemma because it:

- **Reduces greenhouse gas emissions**

Organic grass-fed cattle emit less methane, a powerful greenhouse gas, than grain-fed cattle in feedlots. In addition, organic production focuses on local production and marketing, which minimises the carbon emissions typically generated in extensive distribution and marketing systems. Cattle fed exclusively on grassland/natural pastures also do not require feed to be brought in through carbon-heavy transport systems.

- **Generates a positive carbon balance**

Regeneratively managed soils are proven to sequester more carbon than they lose into the atmosphere. They do this by binding carbon into organic compounds such as glomalin and humus, which are highly stable substances that provide valuable services when rain falls by improving infiltration and retaining water for longer periods than in soils that are low in organic matter. Carefully managed cattle can increase carbon sequestration significantly compared to land left without cattle impact. Many scientists therefore now actually see cattle as tools to mitigate climate change and not as a primary driver.⁷

- **Is chemical-free farming**

Chemical interventions on these grasslands have negative effects on the various trophic levels. As an example, the use of Ivermectin against internal parasites is fatal to dung beetles. Dung beetles provide a critical service to the ecosystem by taking nutritious organic matter underground and thus improving soil life and carbon sequestration long-term.

- **Manages grazing to control bush encroachment**

Large parts of Namibia's rangelands suffer from bush encroachment. Improper grazing management and disturbed ecological cycles caused by predator eradication and prevention of veld-fires are contributing factors to this economic challenge. The use of arboricides to combat bush encroachment is not allowed in organic production. Long-term effects of this on ecosystems as well as human health are poorly studied but have already shown to be detrimental in many contexts. Bush can be reduced using mechanical means and cattle, when proper grazing rotations are used, play a key role in keeping grasslands open and healthy, with increased species composition and higher biomass per hectare. Carbon stored in healthy grasslands is generally significantly higher than that in areas encroached by bush.

Cattle raised naturally on organic grassland provide a superior, nutrient dense and healthy food through their beef. It is a win-win situation for the animal, farmer and the planet.

¹World Health Organisation. (2022). Noncommunicable diseases. <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>.

²Mackintosh, C. (November 13, 2008). Chemical based farming systems robbing us of nutrients. <https://www.permaculturenews.org/2008/11/13/chemical-based-farming-systems-robbing-us-of-nutrients/>; Montgomery, D.R., Bikle, A., Archuleta, R., Brown, P. & Jordan, J. (January 27, 2022). Soil health and nutrient density: preliminary comparison of regenerative and conventional farming. [Journal of Environmental Science. https://peerj.com/articles/12848/](https://peerj.com/articles/12848/).

³Rodale Institute. n.d. Regenerative Organic Agriculture and Climate Change: A down-to-earth solution to global warming. <https://rodaleinstitute.org/wp-content/uploads/rodale-white-paper.pdf>.

⁴Bassil, K.L., Vakili, C., Sanborn, M., Cole, D.C., Kaur, J.S. & Kerr, K.J. (October, 2007). Cancer health effects of pesticides: systematic review. *Can Fam Physician* 53(10). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2231435>.

⁵Tongo, I. & Ezemonye, L. (2015). Human health risks associated with residual pesticide levels in edible tissues of slaughtered cattle in Benin City, Southern Nigeria. *Toxicol Rep* 2:1117-1135. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5598159/>.

⁶Dilzer, A. & Park, Y. (2012). Implication of conjugated linoleic acid (CLA) in human health. *Crit Rev Food Sci Nutri* 52(6):488-513. <https://pubmed.ncbi.nlm.nih.gov/22452730/>; Wang, L., Huang, Y., Liu, S., Yan, P. & Lin, Y.C. (2008). Conjugated linoleic acid induces apoptosis through estrogen receptor alpha in human breast tissue. *BMC Cancer* 208. <https://bmccancer.biomedcentral.com/articles/10.1186/1471-2407-8-208>.

⁷Nargi, L. (2018). Can cows help mitigate climate change? Yes, they can! <https://daily.jstor.org/can-cows-help-mitigate-climate-change-yes-they-can/>

About the Namibian Organic Association (NOA)

NOA is a membership-based association established in 2009 by a group of dynamic farmers and consumers with the common interest of developing the organic sector in Namibia.

About the Knowledge Hub for Organic Agriculture in Southern Africa (KHSa)

KHSa is part of the project Knowledge Centre for Organic Agriculture in Africa (KCOA), a collaborative country-led partnership funded by the German Federal Ministry of Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and non-governmental organisations. The project aims to scale up adoption of organic farming practices through five knowledge hubs in Africa. In the Southern African Knowledge Hub (KHSa), project activities are focused in Zambia, in Namibia (led by the Namibia Nature Foundation and NOA), and in South Africa and Malawi. For more information contact the KHSa Project Manager for Namibia: noa@nnf.org.na.

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