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Low sugar oat products are more sustainable, why are they not on the shelves of supermarkets?

The problem with sugar

- Excess sugar may lead to weight related health problems
- Used as an additive
- Can go by many names
- Negative impact on environment

Often one of the most abundant ingredients in oat products such as granola and snack bars

Usually marketed as health foods

Hard to find product without sugar as one of the main ingredients

Background and objectives

Nutrition of added sugar-simple carbohydrate

Sustainability- locally sourced, seasonal, whole food plant based

- Social- public health
- Environmental- sugar farming industry
- Economic- market availability

Issues through the flow of food- waste, carbon footprint, fair trade

Proposed food product- low sugar granola



Literature review

sugar

oats

food system

Recent studies suggest that excessive added sugar consumption contributes to the development of diabetes, dyslipidaemia and cardiovascular mortality, independent of energy intake or effects on adiposity(11 - 16).

Among the nutrition claims, sweetener content and genetic modification claims receive more attention of consumers, followed by the sustainability claims.

Oat products have the potential to be very healthy as, because they reduce total food intake, improve satiety and reduce total energy intake in a day especially in overweight people [47]." [GA1]

Sustainability

Fig. 9. Future research avenues for sustainability and sustainable development post COVID-19.



Sustainability action plan post COVID-19

- · Refining SDGs considering COVID-19 implications
- Developing a sustainability measurement framework to assess the COVID-19 impacts





Sustainability transition opportunities post COVID-19

Investigating the potential of:

- · Circular economy business models
- · Sharing economy platforms
- · Digitalization and digital sustainability
- · Glocalization perspective

to catch sustainability transition opportunities offered by COVID-19



Innovative solutions for economic resilience post COVID-19

- Conducting evidence-based economic analysis for long-term and short-term recovery planning
- . Initiatives to strengthen the local economy post COVID-19
- · Policy intervention to support small and medium enterprises

Corresponding to: SDG 1, SDG 8, and SDG 17



COVID-19 long-term effects on social sustainability

Assessing the long-term sustainability effects of COVID-19 on:

- The education system in terms of: (i) access of vulnerable children and youth to equitable education; and (ii) quality of distance learning and its future outcomes
- Potential mental and psychological distress for children
- · Gender equality and its impact on other pillars of sustainability





Quantitative research to harmonize the COVID-19-related sustainability research

- Data-driven research
- · Simulation methods

Corresponding to: all 17 SDGs

Three pillars

Social

Environmental

Economic

"Establishing more localized food systems, with the aim of achieving social justice goals, is an important strategy for developing sustainable urban food systems."

"zero-mile food" (sustainable food), but this method did not just reduce or eliminate the environmental costs of transportation. It also eliminated the packaging, pesticides (herbicides and insecticides) and monocultures used in the majority of the food industry that cause harm to the environment and, potentially, consumers' health."

"seven environmental impact categories, including climate change, acidification, ozone depletion, eutrophication, chemical pollution, freshwater use, and change in biosphere integrity/biodiversity."

"In general, re-establishing corporate strategy by introducing and implementing more socially responsible and environmentally friendly practices may improve economic performance.

"Thus, based on this statistical evidence, firms should put high consideration in strengthening their innovation capabilities when adopting sustainable practices, specifically in offering new products in the markets and creating or improving production processes, for improving economic performance."

Connectivity

Sensory evaluation

promoting/marketing/advertising

<u>Values</u>

- Allergen friendly
- Vegan
- Organic
- Non GMO





Conclusion summary

research - creativity

Sustainability- nutrition

Significance- key outcomes





































References

Rodríguez, L., Madsen, K., Cotterman, C., & Lustig, R. (2016). Added sugar intake and metabolic syndrome in US adolescents: Cross-sectional analysis of the National Health and Nutrition Examination Survey 2005–2012. Public Health Nutrition, 19(13), 2424-2434. doi:10.1017/S1368980016000057

12 Basu, S, Yoffe, P, Hills, N et al. (2013) The relationship of sugar to population-level diabetes prevalence: an econometric analysis of repeated cross-sectional data. PLoS One 8, e57873. CrossRefGoogle Scholar PubMed

Van Loo, E. J., Grebitus, C., & Verbeke, W. (2021). Effects of nutrition and sustainability claims on attention and choice: An eye-tracking study in the context of a choice experiment using granola bar concepts. Food Quality and Preference, 90, 104100.

A. Geliebter, C.L. Grillot, R. Aviram-Friedman, S. Hag, E. Yahav, S.A. Hashim

Effects of oatmeal and corn flakes cereal breakfasts on satiety, gastric emptying, glucose, and appetite-related hormones Ann Nutr Metab, 66 (2015)

Martinez-Villaluenga, C., & Penas, E. (2017). Health benefits of oat: Current evidence and molecular mechanisms. Current Opinion in Food Science, 14, 26-31.

Pagani M, De Menna F, Johnson TG, Vittuari M. Impacts and costs of embodied and nutritional energy of food losses in the US food system: farming and processing (Part A). Journal of Cleaner Production. 2020;244. doi:10.1016/j.jclepro.2019.118730

Ranjbari, M., Esfandabadi, Z. S., Zanetti, M. C., Scagnelli, S. D., Siebers, P. O., Aghbashlo, M., ... & Tabatabaei, M. (2021). Three pillars of sustainability in the wake of COVID-19: A systematic review and future research agenda for sustainable development. Journal of Cleaner Production, 126660.

Longo P. Food Justice and Sustainability: A New Revolution. Agriculture and Agricultural Science Procedia. 2016;8:31-36. doi:10.1016/j.aaspro.2016.02.005

Dong, Y., & Hauschild, M. Z. (2017). Indicators for environmental sustainability. Procedia Cirp, 61, 697-702.

Hami, N., Muhamad, M. R., & Ebrahim, Z. (2015). The impact of sustainable manufacturing practices and innovation performance on economic sustainability. Procedia CIRP, 26, 190-195.

MIHAFU FD, ISSA JY, KAMIYANGO MW. Implication of Sensory Evaluation and Quality Assessment in Food Product Development: a Review. Current Research in Nutrition & Food Science. 2020;8(3):690-702. Accessed April 13, 2021.