# **How to Source Ingredients More Sustainably**

Goal: Understand the environmental impacts of agricultural products to make sustainable ingredient choices in your bakery.



#### **Environmental Impacts of Agriculture**

#### Land Use

- Unsustainable farming practices damage soil health, reducing the ability to grow crops over time (FAO, 2021)
- Expanding farmland leads to deforestation and biodiversity loss (Crippa et al., 2021)

### Freshwater Use

- Agriculture accounts for 70% of global freshwater withdrawals
- Unsustainable water use increases the risk of water shortages worldwide (FAO, 2021)

## **Eutrophication**

- Fertilizers from agriculture contribute to 78% of water pollution
- · Runoff from fields triggers harmful algal blooms, damaging ecosystems (Poore & Nemecek, 2018)

#### **Greenhouse Gas (GHG) Emissions**

The food system generates 1/3 of global GHG emissions, with agricultural land use and land-use changes contributing 71% (Crippa et al., 2021)

## **Climate Change**

Rising temperatures, shifting precipitation patterns, and extreme weather reduce crop yields, leading to increased irrigation, fertilizer use, and land clearing (Yang et al., 2024)



# Strategies for Sustainable Sourcing

- Build relationships with local farmers and suppliers who prioritize transparency
- Ask questions about the environmental impacts of their agricultural practices, such as land use, water use, pesticides, fertilizers, and ecosystem effects
- Be cautious of greenwashing choose ingredients with verified sustainable practices
- Do research to find ingredients that align with your sustainability goals and are practical for your bakery, using resources like Our World in Data

#### References

Crippa, M., Solazzo, E., Guizzardi, D., Monforti-Ferrario, F., Tubiello, F. N., & Leip, A. J. N. F. (2021). Food systems are responsible for a third of global anthropogenic GHG emissions. Nature Food, 2(3), 198-209. https://doi.org/10.1038/s43016-021-00225-9

Food and Agriculture Organization of the United Nations. (2021). The state of the world's land and water resources for food and agriculture—Systems at breaking point. Synthesis report 2021. https://openknowledge.fao.org/handle/20.500.14283/cb7654en

Poore, J., & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. Science, 360(6392), 987-992. https://doi.org/10.1126/science.aaq0216

Ritchie, H., Rosado, P., & Roser, M. (2022). Environmental Impacts of Food Production. Our World in Data. https://ourworldindata.org/environmentalimpacts-of-food#explore-data-on-the-environmental-impacts-of-food

Yang, Y., Tilman, D., Jin, Z., Smith, P., Barrett, C. B., Zhu, Y. G., Burney, J., D'Odorico, P., Fantke, P., Fargione, J., Finlay, J.C., Rulli, M.C., Sloat, L., Van Groenigen, K.J., West, P.C., Ziska, L., Michalak, A.M., Clark, M., Colquhoun, J., ... Zhuang, M. (2024). Climate change exacerbates the environmental impacts of agriculture. Science, 385(6713), eadn3747. https://doi.org/10.1126/science.adn3747