



Where science & creativity meet

BREWING WITH LOCAL GRAINS

Today with over 2 billion hL produced and sold each year¹, beer is the most-consumed alcoholic drink on the planet and the third after water and tea.

Malted barley is by far the biggest raw material being used for brewing, although, throughout history, people have always experimented on locally-grown grains to make fermented drinks.

Around 85-90% of beer worldwide is now produced with a portion of adjuncts. These vary from region to region:²



10-30%
Europe



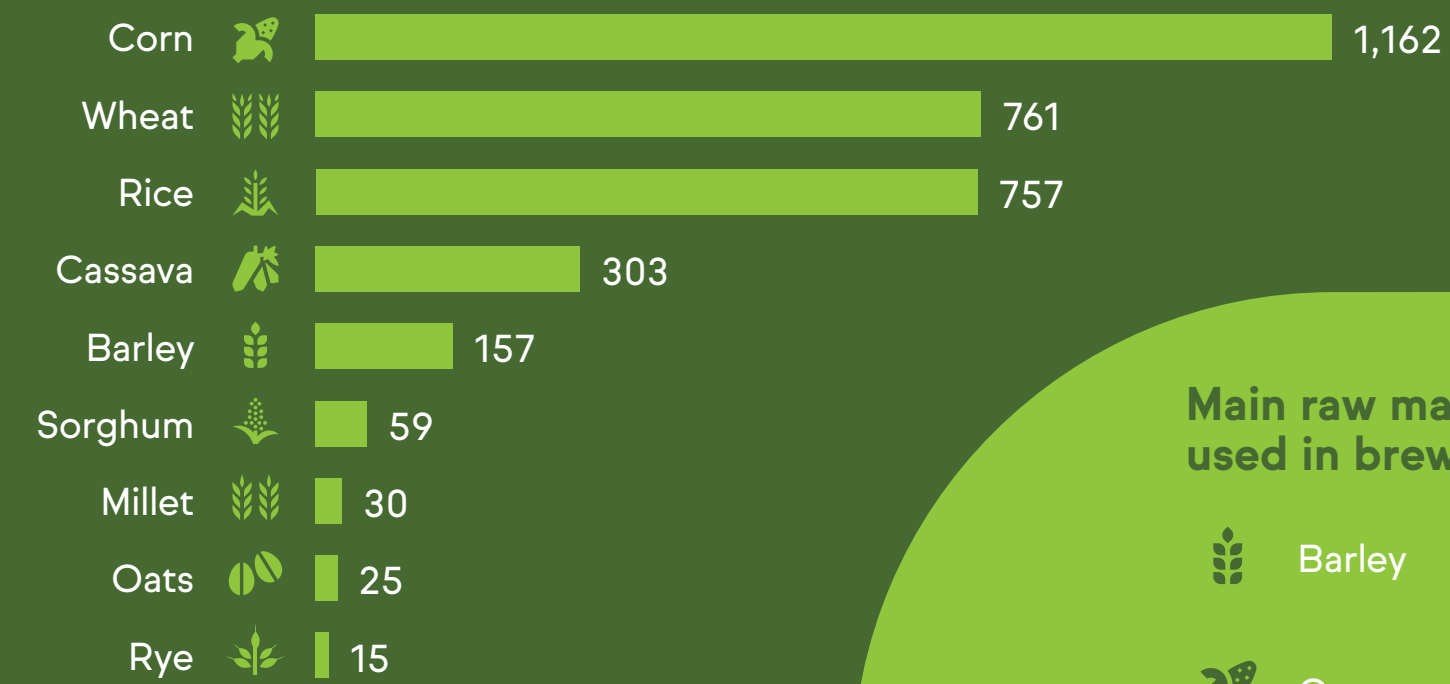
40-50%
USA



50-75%
Africa



Relative quantity of cereals being produced in the world in 2020 (FAOSTAT) in million metric tons



Main raw materials used in brewing:^{2,4}

- Barley
- Corn
- Rice
- Sorghum
- Sugar and starch products

Alternative raw materials:^{2,4}

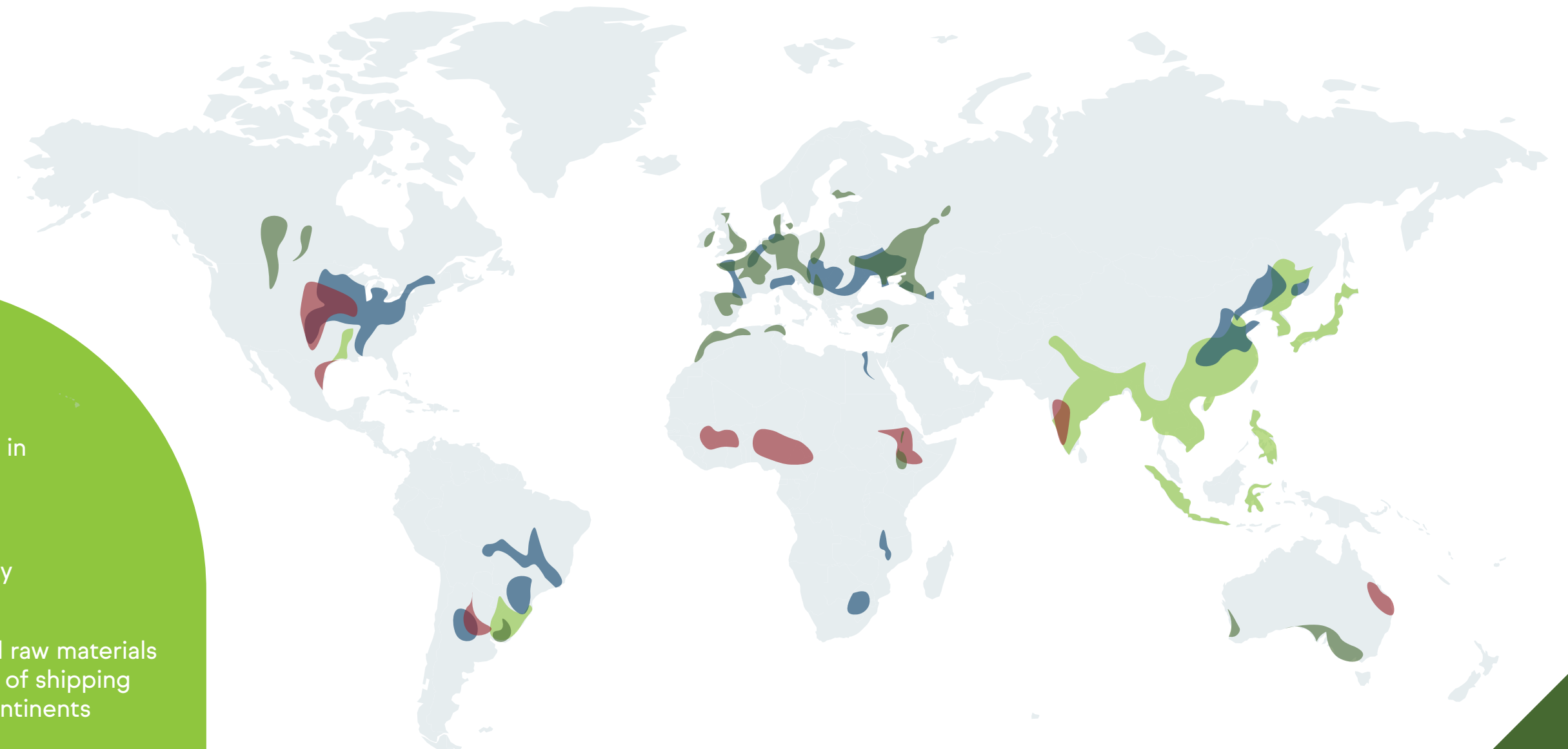
- Wheat
- Oats
- Rye
- Triticale
- Cassava

Less important materials:^{2,4}

- Buckwheat
- Amarant
- Quinoa

Map of production

- Barley
- Corn
- Rice
- Sorghum



Factors driving the use of raw materials beyond malt:³

From the consumer point of view:

- Consumers seeking an authentic, high-quality experience
- Desire to feel more connected to their community
- Sustainability
- Gluten-free options

From a brewer's point of view:

- Providing a uniqueness in brand positioning
- Distinctive taste identity
- Sustainable use of local raw materials may reduce the impact of shipping raw materials across continents
- Cost management of the beer production

1. Euromonitor data 2. Anнемüller, G., & Manger, H.-J. (2013). Processing of various adjuncts in beer production (1st ed.). Berlin: VLB. Atnafu, T., & Abebaw, G. (2015). Partial 3. Adriana Dabija, Marius Eduard Ciocan, Ancuta Chettrariu and Georgiana Gabriela Codina. Maize and Sorghum as Raw Materials for Brewing, a Review. Appl. Sci. 2021, 11, 3139 Paulina Bogdan, Edyta Kordialik-Bogacka* 4. Institute of Fermentation Technology and Microbiology, Faculty of Biotechnology and Food Sciences, Alternatives to malt in brewing 5. <https://ipad.fas.usda.gov/cropexplorer/cropview/commodityView.aspx?cropid=0430000> ©2022 by International Flavors & Fragrances Inc. IFF is a Registered Trademark and IFF, the IFF logo and all products denoted with * are trademarks of International Flavors & Fragrances Inc. (IFF) or its affiliates. The information contained herein is based upon data IFF believes to be reliable. IFF cannot guarantee or warrant such information and assumes no liability for its use.