1. ABOUT THE DATASET

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Title: Data used in the article ‘The effects of processing steps on avenanthramides, avenacosides and β-glucan content during the production of oat-based milk alternatives”

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Organisation: University of Reading

Rights-holder(s): University of Reading

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Description: This dataset contains data obtained from Chapter 4 of Thesis. Experimental measurements of the concentration of beta glucan, and compounds avenanthramides and avenacoside a, in oat-based milk samples throughout various stages of production.

The data was obtained using a HP LC-MS, and an enzymatic assay followed by spectrophotometer readings, as well solid content measurements.

Cite as: McCarron, Roisin and Lignou, Stella (2025): Data used in the article ‘The effects of processing steps on avenanthramides, avenacosides and β-glucan content during the production of oat-based milk alternatives”. University of Reading. Dataset. <https://doi.org/10.17864/1947.001421>

Related publication:

McCarron, R., Methven, L., Khalil Ghawi, S., Grahl, S., Elliott, R. and Lignou, S. (2025) *The effects of processing steps on avenanthramides, avenacosides and β-glucan content during the production of oat-based milk alternatives.* Food Chemistry Advances, 6. 100907. ISSN 2772-753X doi: [10.1016/j.focha.2025.100907](https://doi.org/10.1016/j.focha.2025.100907)

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2. PROJECT AND FUNDING INFORMATION

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3. CONTENTS

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Data processing and preparation activities

Data was collected in Excel files. Different tabs have been assigned for different measurements/figures.

File listing

Processing\_Data\_Chapter4.xlsx

Tabs:

**Beta glucan:** Data set for figure 4.4 - showing concentration of beta glucans in sample

Sample: Milk samples at each stage of production

g/100ml calculated via formula in text, based off spectrophotometer measurements

g/100g calculated by g/100ml and solid measurements

**LC-MS**: Data set for figure 4.2 and 4.3 - showing measurement of compounds through LC-MS calibrated using external standards

Sample: Milk samples extracted for LC-MS

Rep = extraction rep

Compound measured: result from LC-MS calibrated by external standards

**Solid content to work out g/100g:** Data set for figure 4.4 and table 4.1 - showing solid content calculated by weight of samples before and after dehydration at 50C overnight

Sample: Milk samples at each stage of production

4. METHODS

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Please see Materials and Methods section in the related article:

<https://doi.org/10.1016/j.focha.2025.100907>

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