

Review of: "The Effect of Fermentation on the Physicochemical Quality and the Presence and Levels of Pesticide Residue in Cow Milk"

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Potential competing interests: No potential competing interests to declare.

Comments

The present study investigated the effect of spontaneous fermentation time on the physicochemical properties (pH, titratable acidity, total soluble solids, and color) and pesticide residue levels in cow's milk. Pesticides were extracted by the QuEChERS method and analyzed by gas chromatography. The manuscript covers an interesting and current topic. For this reason, I believe that the work conducted by the authors is worth publishing. I suggest, however, that the manuscript undergo a revision, and some adjustments could be made before publication. I present a few comments and suggestions for improving the quality of the manuscript and its scientific impact.

Abstract: Only chlorpyrifos was detected in about 15% of raw milk samples in concentrations above the Maximum Residue Limit (MRL) (0.0670) - Please mention the concentration unit of the pesticide residue and the regulatory agency responsible for establishing maximum residue limits (MRL).

Please introduce the novelty of the work in the introduction section.

Standardize the chronological order of references throughout the text. In some places, they are in descending order, and in others, in ascending order. Ex: pg 2 (Armenova et al., 2023; Petrova et al., 2022)/pg 6 (Bexiga et al., 2017; Setiawati et al., 2021). Please review the entire manuscript.

Were replicate analyses performed? Please mention this in the text.

Reagents and solutions - Please mention the purity of the reagents. In addition to the country, also add the city from which the reagents were purchased.

At the end of page 2, define the abbreviation LAB.

Page 3, item 2.2 - replace 'ml' with 'mL' and pg 3 'ppm' with 'mg L⁻¹'.

How were the pesticides under study quantified? Please mention the points (concentrations) of the analytical curve

used.

Page 4, item 2.2.3. Replace 'handheld Chromameter ' with 'Handheld Colorimeter". Please add the equations for calculating the color parameters.

Item 2.3.1. Preparation of Pesticide Standards - Mention where and at what temperature the standard solutions were stored.

Item 2.3.3. Sample Extraction - Please add a reference where QuEChERS is applied for pesticide extraction in milk samples.

Item 2.3.4. Cleanup - Falcon tube or glass. Mention this in the text.

Item 2.3.4. The extract was evaporated using a rotary evaporator to dryness; 1 mL of ethyl acetate was then added to reconstitute the extract with the aid of an ultrasonic bath. The sentence is confusing; please rewrite it.

Item 2.3.4. What is the function of polyethylene glycol?

Item 2.3.5. Gas chromatography - What are the run times? Will the samples be injected in split or splitless mode?

Item 2.3.6. Quality Control - How were the limits of detection (LOD) and quantification (LOQ) calculated?

Page 8 - Gill et al. (Gill et al., 2020) detected chlorpyrifos among other pesticides as the most common organophosphate in the milk of cattle. Chlorpyrifos was detected in milk samples that were above the MRLs, according to Kathpal et al. (Kathpal et al., 2001). Similarly, Cheema et al. (Cheema et al., 2004)..... Please check the correct way to cite references in the text.

Page 8 The absence of pesticide residues in our samples may be owing to the difficulty in detecting pesticide residues in water bodies due to their dilution effects, hydrolysis, and photolysis on superficial waters (Fantke et al., 2014). The sentence is confusing; please rewrite it.