

## Acrylamide Occurrence in Keribo: Ethiopian Traditional Fermented Beverage

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**Background:** Keribo is one of the most commonly used traditional beverages in both rural and urban areas of Ethiopia. However, the occurrence of some harmful compounds which could potentially be formed due to its processing methods has never been investigated.

**Objectives:** The aim of this study was to investigate the occurrence of acrylamide in Keribo and its association with processing conditions.

**Methods:** Malted and unmalted barley roasted at three levels and also similar levels of sugar concentration were used in Keribo preparation. The barley flour to water ratio used during preparation was 1kg: 10 L. A total of 18 Keribo samples were analyzed for their acrylamide contents using high performance liquid chromatography-diode array detector (HPLC-DAD). QuEChERS sample preparation procedure was used.

**Results:** In this study, there was a statistically significant variation ( $P < 0.05$ ) in the acrylamide content of Keribo between malted and unmalted barely. The variation in acrylamide content between different levels of roasting and sugar concentrations was also statistically significant ( $P < 0.05$ ). Statistically significant difference ( $P < 0.05$ ) was observed for the three way interaction of malting, roasting and sugar level. The highest concentration of acrylamide (3440 mg/kg) was recorded from Keribo prepared from deep roasted unmalted barley with higher sugar concentration. The lowest concentration (1320 mg/kg) was obtained for light roasted unmalted barley with medium sugar concentration.

**Conclusions:** It can be concluded that level of roasting has high implication on acrylamide concentration. Malted barley had a lower concentration of acrylamide and this warrants malting and light roasting of barely are crucially important to minimize the level of acrylamide concentration and reduce the potential health impacts.

### Biography:

Kumela Dibaba Tolera was born on 21 January, 1987 in Amaya, Ethiopia. Kumela graduated his BSc degree in Food Science and Postharvest Technology in on 12th July 2008 from Haramaya University and his MSc degree in Postharvest Technology from the same University on 7th July 2012. Kumela joined Jimma University College of agriculture and veterinary medicine in July 2012, where Kumela is working as a lecturer in the department of postharvest management (PHM) up to present. He also served as head department of PHM from February 2015 to May 14, 2017. Kumela published 5 articles on international journals. Kumela advised 6 MSc students and major advisor.