EDITORIAL

CHEMISTRY AND TRADITIONAL TECHNOLOGY/KNOWLEDGE

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ABSTRACT

Traditional technologies in most countries are believed to involve elements of the scientific technologies and are particularly important for introducing school chemistry to students. This is so because the traditional technology has been more accessible to learners even before joining schools. As such they form an important aspect of the prior knowledge of students that are important for constructing relevant and meaningful knowledge. This short papers focuses on making local beer and spirits in Ethiopia. *[African Journal of Chemical Education—AJCE 9(2), July 2019]*

Making Local Beer and Spirits

There may be objections to the teaching of this topic. However, it is felt that a careful presentation of the topic gives an opportunity to emphasize the very considerable dangers of drinking crude spirit.

The beverages involve fermentation, which is one of the earliest chemical processes known to human beings. In fact, the details vary from place to place in Africa, and even in Ethiopia. The final products are drunk in spite of impurities. Allsop et al. (1971) pointed out that the formation of impurities could be reduced by employing suitable strain of yeast to promote the production of ethanol, while suppressing that of aldehydes, methanol and higher alcohol.

In Ethiopia, one can identify two categories of traditional fermented beverages: low alcoholic and high alcoholic beverages (Nigatu and Urga, 2000). Whereas tej and tella belong to

low alcoholic beverages category, the high alcoholic one consists of katikala (araki), dagim araki and related distilled beverages. Although the type and nature of substrate used and sequence of processing may differ, both categories of beverages involve fermentation.

While noting that scientific information is not available for most of the Ethiopian traditional fermented drinks, Ashenafi (2000) classifies these traditional fermented drinks as follows:

- High alcoholic beers such as tella
- Low alcoholic beers such as borde, shamita, korefe
- Non-alcoholic beers such as keribo, bugri, embushbush
- Wine such as tej
- Distilled spirit such as katikala

The most commonly consumed alcoholic beverage in Ethiopia is tella. According to Samuel and Berhanu (quoted in Ashenafi, 2000), the ethanol content of tella ranges from 2.2% to 5% during fermentation and the pH of the final product from 4.5 to 4.8.

One of the major components of tella is gesho. Dagne (2000) notes that the role of gesho in tella is not yet clear. He, however, points out that gesho is the main agent for the desirable bitter taste of tella. He further states that the characteristic bitter taste of the plant is ascribed by organoleptic evaluation to geshoidin. This chemistry of gesho was investigated by Abegaz and Kebede in 1995 (quoted in Dagne, 2000).

It is not well-known how long ago these local beers were first distilled to give spirits. The important point her is that a method of distilling beer can be used to illustrate the principles of

distillation to secondary school students. The whole process of making and analyzing local beers thus provides a fascinating topic for chemistry classroom discussion.

AJCE welcomes research papers, book/article reviews and feature articles in this area for future publications.

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