

An Overview of Ethiopia's Barley Productivity, Import Quantity and Consumption

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Abstract: Barley, grown on 975 hectares in the Ethiopian highlands, is a major cereal crop that serves as both a food source and an important source of income for small-holders in Ethiopia. Due to the significance of this crop, it is crucial to analyze the production volumes, productivity, and consumption trends. The study utilized secondary data from the USDA, and the findings reveal an overall 0.5 MT/ha increase in barley productivity between 2014 and 2023. Additionally, there was a 1.04% decrease in the area of land used for barley production during the same period. Household consumption of barley has risen from 1975 Metric Tons (MT) in 2014 to 2475 Metric Tons (MT) in 2023. Furthermore, the level of imports has increased from 31 Metric Tons (MT) in 2014 to 50 Metric Tons (MT) in 2023. Therefore, the Ethiopian government is taking significant measures to increase barley production in order to meet the demand and supply gap. It is recommended that these initiatives continue, along with support in developing improved agricultural technologies and recommendations, such as crop variety, agronomic practices, crop protection measures, encouraging farmer training centers, modernizing the village road and other infrastructure and also increasing the provision of technical advice and practices.

Keywords: Barley, Production, Productivity, Consumption, Import, Ethiopia

1. Introduction

Barley, which is the main cereal used in malt production worldwide, is the fifth most cultivated crop [12]. It was domesticated from its wild relative, *Hordeum spontaneum* C. Koch, around 10,000 years ago, as evidenced by archaeological findings in the Fertile Crescent [7]. Barley cultivation and consumption have since increased globally due to its adaptability to various agro-ecologies and numerous uses [6]. According to the study of [10] the first crop to be domesticated in Ethiopia, since the beginning of agriculture is barley. Malt barley plays a significant role in beer manufacturing, and the global demand for it is directly linked to the growth of brewery industries.

The study result of [11] shows that in the highlands of Ethiopia, where other cereal crops have lower productivity, malt barley has become the main source of income for small-scale farmers. Ethiopia possesses varied agro-ecologies that are well-suited for malt barley cultivation and also according to the study result of [2] numerous key stakeholders and support service providers are involved in the entire value

chain, which includes supplying inputs, producing malt barley, and ultimately manufacturing and marketing beer.

According to the studies conducted by [5, 8], there are a total of 31 species of barley. It is believed that all of these species have originated from one ancestral plant, known as *Hordeum spontaneum*. Out of these species, three-quarters are perennial grasses that bloom every year during the summer season and die off in the winter.

Barley is primarily used as malt for beer production, which is its second most important use [4]. On the other hand, it is least used for human consumption, with food accounting for about 2% of total barley production [13]. This important grain plays a crucial role in the Ethiopian highlands, constituting over 60% of the local diet and being cultivated by small-scale farmers across the nation [9].

Drawing conclusions from the previous reports, it can be deduced that a considerable quantity of barley will most likely be accessible in the upcoming season. Consequently, the prices are anticipated to stay comparatively low. Thankfully, the tendency to buy barley solely based on its description has largely ceased, as it has frequently led to

unfavorable consequences [3]. The cultivation and efficiency of malt barley are limited by the utilization of susceptible varieties prone to diseases and having low yields [1].

Nevertheless, indications suggest that the barley industry in Ethiopia is currently experiencing a notable shift, resulting in a rapid increase in productivity. Despite these recent improvements, there are still deficiencies that need to be addressed in order to bridge the gap between supply and demand and attain self-sufficiency in barley production, which is a top priority for the nation. The government of Ethiopia places great emphasis on ensuring food security and reducing the expenditure of limited foreign currency reserves on costly imports of barley.

As a result, the aim of this study was to examine the pattern of Barley production, consumption, import volume, and consumption.

2. Methodology

The study utilized a review of secondary data from USDA,

2023. The results of the analysis were then summarized and presented through the use of line graphs to depict trends.

3. Results and Discussion

3.1. Barley Production and Area Harvested Trend in Ethiopia (2014 to 2023 GC)

Because of its improved qualities, such as disease tolerance, Ethiopia is also acknowledged as a global center of diversity for barley. The overall data of USDA (2023) results indicate that the land allocated for barley production decreased by 1.04% between 2014 and 2023 GC. This suggests that farmers allocated their land for the multipurpose production of other crops and beginning using their land efficiently. The findings also reveal a general increase in barley production, with the amount rising from 1,953 Metric Tons (MT) to approximately 2,378 Metric Tons (MT) during the same time period, resulting in an 8.21% increase in production (see figure below).

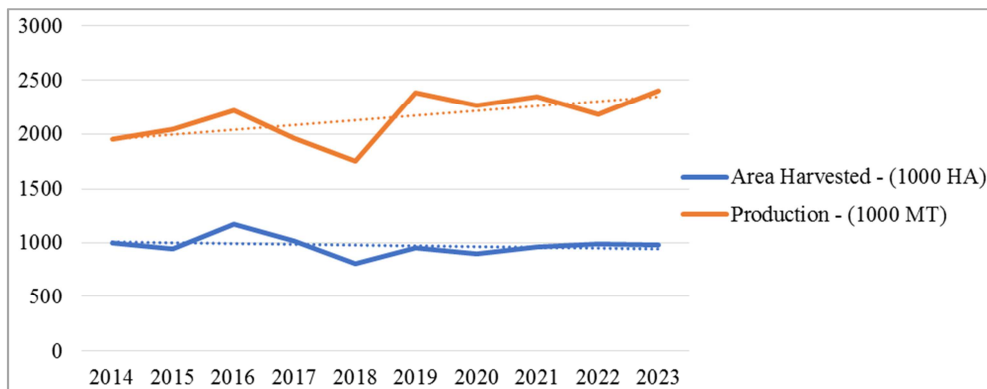
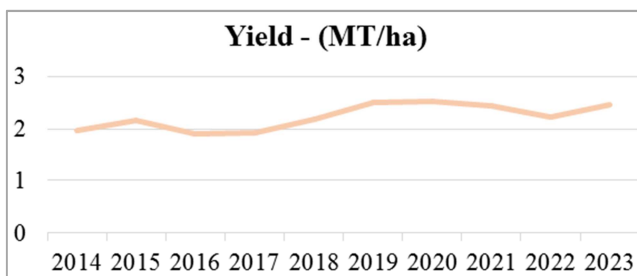


Figure 1. Barley production and Area Harvested trend in Ethiopia.

3.2. Barley Productivity Trend in Ethiopia (2014 to 2023 GC)



Source: USDA, 2023

Figure 2. Barley productivity trend in Ethiopia (2014 to 2023 GC).

Among the fundamental responsibilities of the research system are recording, processing, and providing barley technologies, as well as educating and informing users. The results indicate that barley productivity increased overall by 0.5 MT/ha between 2014 and 2023. This increase in productivity can be attributed to the development and

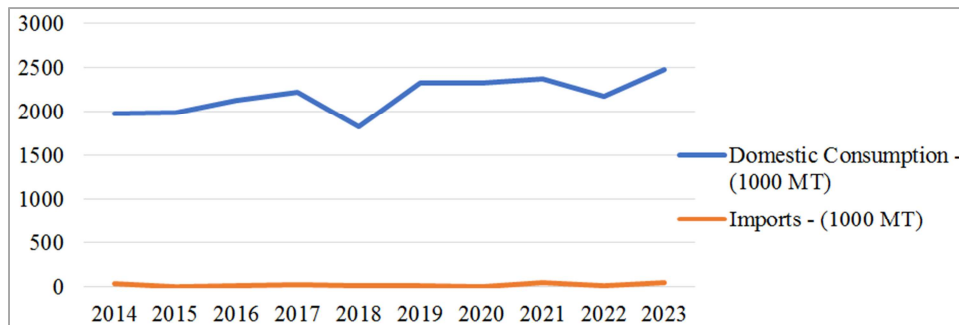
introduction of high-yielding and disease-resistant varieties, as well as the implementation of recommended practices and measures in crop variety, agronomy, and crop protection. These efforts were carried out in collaboration with the Ethiopian Institute of Agricultural Research, international organizations, and other stakeholders. Despite the increase in productivity to meet the growing domestic demand, further efforts were being made to bridge the gap between supply and demand.

3.3. Barley Consumption and Import Quantity (2014 to 2023)

Regarding the possible benefits of increasing malt barley production, there are multiple reasons to be upbeat. Historical data on demand indicates that when incomes rise, so do consumption patterns. The consumption of alcoholic beverages has increased, contributing to the diversification of dietary patterns. Although Ethiopia has significant potential and a suitable agroecology for growing Barley, its agriculture sector, which is dominated by traditional farming methods, cannot keep up with the growing demand for Barley due to population growth and urbanization. The domestic

consumption of Barley by households has increased from 1975 Metric Tons (MT) in 2014 GC to 2475 Metric Tons (MT) in 2023 GC. Unlike wheat, Ethiopia does not import barley. However, some Metric tons of barley are imported to

our country in order to adopt newly released technologies from other countries. The import level has increased from 31 Metric Tons (MT) in 2014 GC to 50 Metric Tons (MT) in 2023 GC (see figure below).



Source: USDA, 2023

Figure 3. Barley consumption and import quantity.

4. Conclusion and Recommendation

Barley plays a crucial role as a staple food crop in urban areas of Ethiopia. It is a significant part of the diets of many Ethiopians, contributing to their caloric intake. The study found that there has been an overall increase in production, productivity, and consumption of barley within a specific period of time. Additionally, the study revealed a significant gap between the demand and supply of wheat, leading the Ethiopian government to spend a substantial amount of foreign currency to fill this gap. To address this issue, the government has taken proactive measures, including investing in modernizing breeding programs and the national agricultural research system. It is recommended that these efforts continue, focusing on generating improved agricultural technologies and recommendations such as crop variety, agronomic practices, crop protection measures, and other technical advice and strategies.

Conflicts of Interest

The authors declare no conflicts of interest.

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