

Comparative Evaluation of Underground Pit Storage Systems for Grain Quality Attributes in Jigjiga and Awubarre Districts of Fafen Zone, Ethiopia

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Sorghum and maize grain stored in traditionally prepared pit in Jigjiga and Awubarre districts of Ethiopian Somali region. We used semi-structured interviews, focus group discussions and participants' storage pit observation. Survey result indicated that 30% to 56% respondents of grain physical quality stored in bare traditional and plastic lined pit. We used semi-structured interviews, focus group discussions and participants' storage pit observation. Survey result indicated that 30% to 56% respondents of grain stored in the plastic lined pit storage for quality attributes such as grain color, taste, odor, seed germination, etc. grain quality attributes are preferred by consumers.

Keywords: Sorghum; Maize; Grain quality; Underground storage; Ethiopia

Introduction

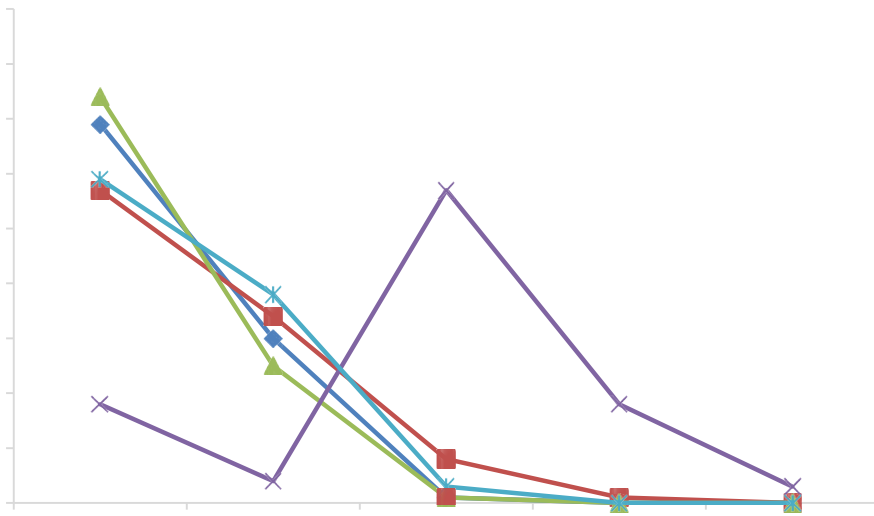
Grain storage is a critical component of food security and agricultural productivity. In Ethiopia, traditional underground storage pits (USPs) are widely used for storing grain. However, these pits often suffer from moisture and pest infestation, leading to significant grain losses. The use of plastic lining in USPs has been shown to improve grain quality and reduce losses. This study compares the quality attributes of grain stored in traditional and plastic-lined pits in Jigjiga and Awubarre districts of the Fafen Zone, Ethiopia. The results show that plastic-lined pits significantly improve grain quality attributes such as color, taste, odor, and seed germination. These findings suggest that the use of plastic lining in USPs is a viable and effective strategy for improving grain quality and reducing losses in the region.

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July 04, 2016; August 09, 2016; August 10, 2016

Mulu A, Belayneh Z (2016) Comparative Evaluation of Underground Pit Storage Systems for Grain Quality Attributes in Jigjiga and Awubarre Districts of Fafen Zone, Ethiopia. *Adv Crop Sci Tech* 4: 235. doi: [10.4172/2329-8863.1000235](https://doi.org/10.4172/2329-8863.1000235)

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