



INITIATIVE ON

Market Intelligence

POLICY BRIEF

Challenges and opportunities in the improved forage seeds market in selected East and West African countries

Jesús Fernando Flórez; Peggy Karimi; John Jairo Junca Paredes; Natalia Triana Ángel; Stefan Burkart
International Center for Tropical Agriculture, Tropical Forages Program

KEY MESSAGES

- Key players in the improved forage sector anticipate sustained growth in seed demand in the coming years, both in East and West Africa.
- Among the main challenges are high seed prices, delays in the registration process for new varieties, and limited awareness among producers regarding their use and benefits.
- A virtuous circle for the adoption of improved forages is identified in the selected African countries. Stakeholders share common interests but must collaborate cohesively to activate this virtuous circle in the coming years.

INTRODUCTION

In Africa, as in the rest of the world, cattle farming is becoming increasingly important. The demand for products of animal origin is expected to rise due to population growth, increased family income, and the expansion of urban centers. Africa hosts a third of the global cattle population, contributing to about 40% of the continent's agricultural gross domestic product (Balehegne et al., 2021). Cattle farming in Africa is crucial economically, socially, and environmentally, necessitating strategies for sector improvement. Since forages are the primary feed source for cattle, animal nutrition should be a central focus in designing these strategies, presenting an opportunity for enhancement. On the continent, the adoption of improved forages has proven to be a successful strategy for enhancing sector productivity in terms of quantity and quality. It also improves climate change adaptation and mitigation (Enciso et al., 2021; Enciso and Burkart, 2019; Maina et al., 2020; Schiek et al., 2018; Sandoval et al., 2023).

The seed market is crucial for promoting the adoption of improved forages. Coordinated efforts among key players in the forage value chain, including seed developers, seed import and trading companies, government entities, development organizations, producer associations, and cattle farmers, are essential for the proper functioning of this market. This qualitative study aims to develop a descriptive analysis of the behavior of the improved forage seed market in selected East and West African countries in recent years. It also provides a perspective on the expected evolution of this market in

the coming years, along with identifying key challenges and improvement opportunities.

MATERIALS AND METHODS

A qualitative study was conducted using semi-structured interviews with key actors in the forage value chain, as mentioned in the introduction. This qualitative methodology was chosen as it was deemed more appropriate for gaining a deep understanding of the perceptions of key actors and for identifying the main challenges as reported by the interviewees. Between October and December 2022, a total of 43 interviews involving 48 individuals were conducted, spanning 10 countries and involving 22 institutions, organizations, and companies. The selected countries include Ethiopia, Kenya, Uganda, Tanzania, Zambia, Senegal, Mali, Benin, Madagascar, and Rwanda. For each type of key actor, an interview guide was designed, consisting of three sections focused on each of the research questions: i) market development, ii) market perspectives, and iii) challenges and improvement opportunities. Additionally, in October 2022, various dairy farms where improved forages are cultivated were visited in Kenya, and the perspectives of eleven producers were collected to enrich the present study.

RESULTS

Recent market behavior and development

The improved forage seeds market is an emerging market in Africa, where local forage varieties still predominantly serve as a source of feed for cattle. It is important to note that forage cultivation in Africa is a common practice in dairy farming. Therefore, improved forages have garnered more interest from dairy producers rather than beef producers. The following is a brief description of the market behavior in recent years.

- **Local forage varieties** are the main feed source in dairy farming.
- **Sustained growth in demand and prices** of improved forage seeds has been observed.
- Currently, there is a deficit in **seed supply in the region**, i.e., demand outstrips supply, and if this gap is not closed, prices will continue to rise.
- The sales price ranges between **40-50 US\$/kg**, posing a barrier to access this technology for producers.
- The most used varieties in the region are local varieties, mainly ***Cenchrus purpureus*** and ***Chloris gayana***. Regarding

improved forages, the most frequently used ones are ***Megathyrsus maximus*** and ***Urochloa*** spp. (e.g., ***Urochloa*** hybrids cvs. **Mulato II, Cayman, Camello, and Cobra**).

Market perspectives

The interviewed key players expect the current market growth trend to continue in the coming years, with an increase in demand for seeds and sales. Achieving a more rapid growth in seed supply is crucial to closing the gap between supply and demand and stabilizing prices. Regarding varieties, it is anticipated that the continued growing popularity of *Urochloa* spp. and *Megathyrsus maximus* will continue. It is essential for research centers, governments, and development organizations to continue promoting the adoption of these varieties. The interviewees hope that plant breeding programs, such as the one at CIAT in Colombia, will persist in improving existing varieties and generating new ones. Key requirements for plant breeding programs, as highlighted by the interviewees, include:

- Continue with hybrid breeding, i.e., of ***Urochloa*** spp. and ***Megathyrsus maximus***.
- Start working on the improvement of local African varieties, i.e., *Cenchrus purpureus* and ***Chloris gayana***. Start improvement of legumes such as ***Medicago sativa*** and ***Desmodium*** spp.
- Increase **biomass** production.
- Enhance the **nutritional quality** of forages.
- Work on the **environmental adaptation** of forages.
- Develop resistance to pests and diseases, especially **resistance to spider mite**.
- Increase **drought tolerance** and reduce water requirements for forage cultivation.
- Improve **the palatability and digestibility** of forage for increasing animal welfare.
- Reduce **greenhouse gas emissions**: Develop forage varieties that can reduce CH₄ emissions from ruminants.



Challenges and improvement opportunities

The interviewees identified three major challenges and improvement opportunities for the improved forage seeds market:

i. Seed prices: The primary constraint is access to seeds for producers due to their high price (40-50 US\$/kg), which is associated with seed scarcity and high transportation costs for importing seeds, as they are not produced in the region. Transportation costs increased significantly with the COVID-19 crisis and the temporary disruption of the global supply chains.

ii. Registration of new varieties: This process is quite complex and delays the introduction of new varieties to the region, creating a disincentive for importation. The regulatory authority responsible for registering new seed varieties in one of the prioritized countries described the process in three main steps: i) the importing company submits the request to the regulatory authority, ii) the regulatory authority conducts stability and adaptation tests in different agroecological zones of the country, and iii) if the seed passes the tests, it is recommended for use in the country, registered as a new variety, and authorized for commercialization. The regulatory authority acknowledges that this process is slow and involves significant administrative burden.

iii. Knowledge: Improved forages can be more challenging to manage than the locally used traditional varieties. In general, producers still have limited knowledge about these forages and their on-farm management, and many of them, i.e., in remote areas of the countries, are not even aware of their existence. Consequently, it is challenging for producers to decide to replace local varieties with improved forages.

CONCLUSIONS

The improved forage seeds market is a growing market with significant potential in the studied countries of East and West Africa. There exists a virtuous circle that includes the specific interests of the sector's key players that can facilitate the acceleration of the adoption of these forages in the region: Research centers aim to continue their plant breeding programs and seed selection to improve existing varieties and introduce new ones to the market. Similarly, seed companies are interested in expanding their seed offerings both in quantity and variety diversification. Governments and development organizations express their interest in continuing to support and finance the promotion and adoption of improved forages. Producer associations plan to form partnerships with seed companies to distribute varieties among their members at

more accessible prices through bulk purchases. Finally, at the foundation of this value chain, dairy producers are interested in improved forages to increase milk production, reduce land use for feed production, and mitigate vulnerability to climate change. To realize the market's potential, specific strategies are needed to address its main constraints, such as i) the sustained increase in seed prices, ii) the complex process of registering new varieties, and iii) the low knowledge levels among producers.

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ABOUT THE AUTHORS

Fernando Flórez Economist. j.f.florez@cgiar.org

Peggy Karimi Agronomist. p.karimi@cgiar.org

Jhon Jairo Junca Economist. j.j.junca@cgiar.org

Dr. Natalia Triana Anthropologist. n.triana@cgiar.org

Dr. Stefan Burkart Economist. s.burkart@cgiar.org

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CONTACT

Stefan Burkart

✉ s.burkart@cgiar.org



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