Irieleth Gallo, Karen Enciso, Stefan Burkart. Alliance Bioversity-CIAT, Tropical Forages Program **CONTACT**: k.enciso@cgiar.org

Introduction

- · Cattle production in Latin America and the Caribbean (LAC) mostly happens in extensive systems, with low levels of competitiveness and modernization.
- Sustainable intensification, particularly through the adoption of improved forages, is a promising solution for the development of the cattle sector.
- The access and availability of forage seeds (FS), however, are a bottleneck for the adoption of improved forages.
- · Knowing the functioning and behavior of the FS market is key for guiding future research and policy formulation efforts that seek to boost a sustainable development of the sector.

Methodology

- Descriptive analysis of the behavior and operation of the forage seed market.
- Data sources: literature review, forage seed import and export database analysis, and interviews with 13 forage seed suppliers from various LAC countries (conducted between December 2020 and May 2021).
- Estimation of the potential market: current areas used as pastures that require intensification with improved forages.

Objective

- To analyze the behavior and potential of the LAC forage seed market.
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Results and analysis

Market behavior

- The forage seed market has exhibited a fluctuating but growing behavior (2.3% annually) between 2006 and 2017.
- Seed commercialization covers two segments: 89% of the sold seeds are improved varieties and 11% hybrids, respectively. Brachiaria brizantha cv. Marandú and Brachiaria hybrid cv. Mulato II are the most important forages sold within each of the two segments.
- The market defines itself as traditionalist, despite the introduction and commercialization of new materials (e.g., B. brizantha cultivars).

How the forage seed system works

- Brazil is the main producer and exporter of forage seeds for the tropics and is the key player in deciding about which varieties to be commercialized and at which prices.
- The direct actors in the forage seed system are the Brazilian exporting companies that supply the Latin American countries, the importing and trading companies, and the research entities.
- Indirect actors comprise the extension and technical assistance institutions, the control and regulatory bodies, and governmental entities (e.g., Ministries of Agriculture).

Main bottlenecks of the forage seed system

- Lack of articulation among the involved actors
- Strong dependence on the dynamics of the forage seed market in Brazil.
- Cultural aspects that limit the adoption of new materials by cattle producers.
- Forage hybrid seeds are more expensive than other improved varieties and require a different knowledge set and inputs

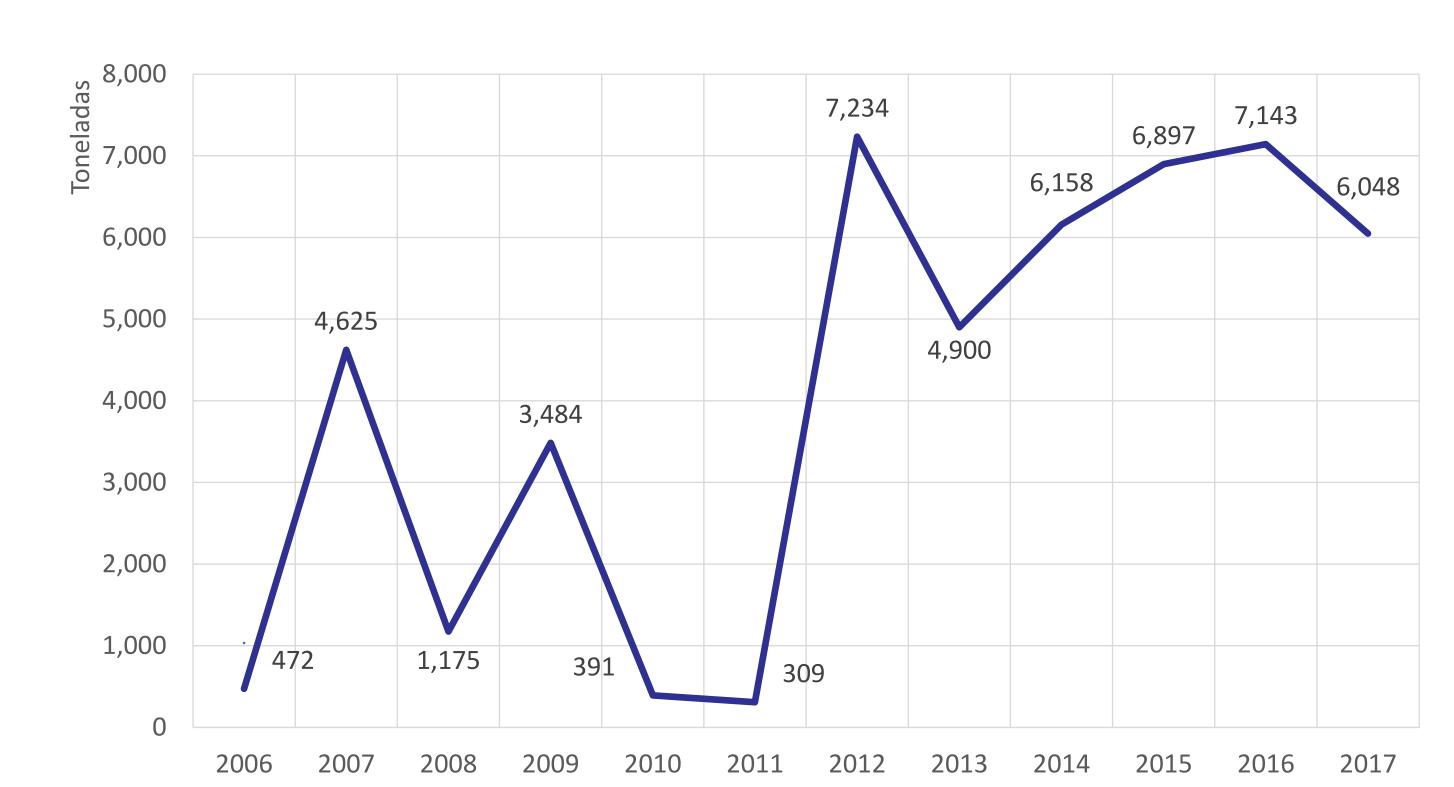


Figure 1: Behavior of the total volume of commercialized seed in LAC (Colombia, Costa Rica, Bolivia, Argentina, Nicaragua, Honduras, Ecuador, Paraguay, Mexico, Brazil, and Panama) in the period 2006-2017.

Table 1: Potential anual market value for forage sedes for Colombia and Bolivia (in US\$).

Country	Potential annual market value (US\$)
Colombia	364,470,460
Bolivia	310,052,296

Potential market for (hybrid) forage seeds

- As an example, the annual market values for forage seeds in Colombia and Bolivia amount to more than 300 million US\$ (Table 1), with Brachiaria cultivars holding the highest potential.
- · The market presents favorable prospects for expansion, given the high use and demand for forages in grazing systems, national policies that boost the sustainable intensification of the cattle sector, and the increasing demand for animal source foods.

Conclusions

- The dynamics of the Brazilian forage seed market affect the behavior of the LAC forage seed market, i.e., in the seed importing countries, causing the market to be speculative, with uncertainty and risk.
- Traditional practices and limited access assistance/information hinder the growth of the forage seed market. To overcome this, a participatory approach is recommended that involves all relevant actors and processes.
- The poor articulation among the actors involved in the forage seed system prevents meeting the needs of the sector and reduces growth opportunities. This results in an incipient and rudimentary market.
- The forage seed market has growth potential, which encourages research for the development of new materials and the expansion of seed commercialization to meet current and future market demands.

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