Highlights

- ICRAF plays a key role in conserving and making available high quality agroforestry germplasm.
- We surveyed 51 users of ICRAF genebank who had requested Calliandra and Gliricidia.
- The ICRAF genebank is the preferred source of Calliandra and Gliricidia germplasm for the majority respondents.
- Nearly 500 requests for Calliandra and Gliricidia were made by farmers.
- 60% of respondents reported that they shared the germplasm with other farmers.
- 80% of respondents were satisfied with the germplasm they received from the ICRAF genebank.

The ICRAF genebank

The ICRAF Genetic Resources Unit was established in 1993 with the mandate to collect, conserve, document, characterize and distribute agroforestry trees, mainly focusing on indigenous species in all ICRAF working regions. The genebank is situated at the World Agroforestry Centre (ICRAF) in Nairobi, Kenya.

ICRAF plays a key role in the conservation of tree genetic diversity. currently holding 6,336 seed accessions of multipurpose trees, representing 190 tree species. Calliandra calothyrsus (Calliandra) and Gliricidia sepium (Gliricidia) are the two most requested species.

ICRAF also maintains field genebanks in Latin America, East Africa, Southern Africa, West and Central Africa, South East Asia and South Asia, collectively holding a total of 139 species. The field genebanks are managed through ICRAF projects, national partners, farmers and communities.

Buffering climate change by conserving agroforestry diversity

Multipurpose trees provide multiple products or services to the farmer. They can contribute to rehabilitating degraded land and stabilizing soil, while providing animal fodder, fuelwood, food, and income for farm households. Hence, agroforestry diversity is crucial in sustaining ecosystem services against a backdrop of increasing pressures from drivers of environmental and economic change.

Why Calliandra?

Calliandra is an affordable protein rich fodder. It has been identified as a suitable protein substitute or supplement within the smallholder dairy farming context.

Why Gliricidia?

Gliricidia is appreciated for its role as a soil fertility enhancer. The fodder tree – known for its nitrogen fixation and carbon sequestration abilities – is a “nutrient-fixing” alternative for resource-poor farmers.

Data and methods

The data for this study was obtained from a user survey and key informant discussions. Stratified random sampling was employed to select the sample of requestors for the user survey, based on the distribution data provided by ICRAF genebank for the two species (Calliandra and Gliricidia). The study targeted 119 users and we were able to interview 51 respondents (43% response rate) during the period between 12 to 29 September 2018. We also consulted with 9 experts and scientists from ICRAF based on their diverse and recognized experience in the promotion of fodder trees.

The ICRAF genebank is the preferred source of Calliandra and Gliricidia germplasm for the majority of respondents. Respondents noted the difficulty in acquiring planting materials from other sources. The germplasm from the ICRAF genebank is also accessed at no cost, a matter that is highly appreciated by users.

Users acknowledged that the genebank distributes high quality germplasm, a crucial factor in guaranteeing successful germination. The assurance of high quality germplasm from ICRAF was a key factor in requests, with respondents noting that they cannot be guaranteed of the same germplasm guaranteeing successful germination. The assurance of high quality germplasm from ICRAF was a key factor in requests, with respondents noting that they cannot be guaranteed of the same germplasm.

Majority of respondents were satisfied with the germplasm they received from the ICRAF genebank.

The satisfaction was attributed to the good germination rate, signifying high quality germplasm. Good customer services and easy instructions on the seed package were also identified as additional advantages associated with sourcing germplasm from ICRAF genebank.

Why we need the ICRAF genebank: results from the user survey

The ICRAF genebank is the preferred source of Calliandra and Gliricidia germplasm for the majority of respondents. Respondents noted the difficulty in acquiring planting materials from other sources. The germplasm from the ICRAF genebank is also accessed at no cost, a matter that is highly appreciated by users.

Users acknowledged that the genebank distributes high quality germplasm, a crucial factor in guaranteeing successful germination. The assurance of high quality germplasm from ICRAF was a key factor in requests, with respondents noting that they cannot be guaranteed of the same germplasm.

Tree-based production systems are one of the solutions to the myriad challenges facing the African drylands. The ICRAF genebank is the most reliable source of high quality tree fodder germplasm for farmers in Kenya.