

**Farmers Field Day on the Promotion of Sweet lupin as a Feed resource
in Doyogena, Ethiopia**



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By

Habite Tilaye, Jane Wamatu & Nahom Ephrem

CRP: Livestock Agri-Food Systems

Flagship: Feeds & Forages

Center: ICARDA and ILRI

Action site: Doyogena, Ethiopia

Activity title: Context specific cultivated forages and utilization options for value chain sites in Ethiopia

Sub activity: Participatory evaluation of processed sweet lupin grain on sheep performance

Activity leader: Jane Wamatu

Key national partner: Areka Agricultural Research Center

Introduction

The farmer exposure and learning event was conducted in Anicha-Sadicho *Kebele* (*village*), in Doyogena district, South-western Ethiopia on December 3, 2020. The goal of the field day was to introduce and promote processing techniques of sweet lupin grain prior to supplementation to farmers to enhance performance of Doyogena. The field days aimed to meet several objectives among them to promote sweet lupin grain as a feed resource for fattening rams, familiarize farmers with various processing techniques of sweet lupin grain prior to feeding livestock, and to share knowledge and experience gained from on farm participatory feeding trials using sweet lupin grain that had been conducted with 16 farmers in the *Anicha-Sadicho Kebele*.

The field day was hosted by 3 champion farmers identified in the area with at least some best practices in fattening their rams using sweet lupin. Over 120 farmers from the *Kebele* and neighboring *Kebeles* attended the field day. The field day comprised of demonstrations and practical training offered by 16 farmers who participated in the on-farm feeding trials organized by ICARDA and ILRI and were guided by ICARDA and AREKA researchers. In attendance were also AFRICA Rising researchers and their model farmers who have been promoting sweet lupin in other regions of Ethiopia. Farmers learned a lot with regards to formulating rations using processed sweet lupin grain. The farmers appreciated the opportunity to learn from each other as they faced similar challenges using sweet lupin grain as feed due to its high content of alkaloids. The 16 farmers were also strategic as reference points post the field day for farmers in that area and beyond. One of the suggestions of the farmers was for AREKA Research Institute to establish demonstration plots within the model farmers' farms to enable more practical demonstration of cultivating and processing sweet lupin grain. Recommendations for future field days included stakeholder engagement to be able to synchronize activities, dates and schedules to maximize participation of farmers, site selection for champion farmers needs to be more inclusive and include women and youth to showcase best practices and the trainings should also tap into broader expertise within the agriculture departments at *Woreda* (district) and zonal level to enrichen the trainings and if possible, provide reference materials for the farmers that attend the field days.



Figure 1 : Participation of farmers in the experience sharing field day for sweet lupin in Doyogena, Ethiopia
Photo credits, Habite Tilaye.

During the period from October-December 2020, 16 farmers were engaged in on-farm feeding trials, coordinated by ICARDA in collaboration with ILRI (AfricaRising). 4 farmers were assigned to each treatment and engaged in fattening their rams during that period using the 4 treatments: Supplementation with commercial concentrates (control); roasted and coarsely ground sweet lupin grain (Fig 2); soaked sweet lupin grain (Fig 4) and steamed sweet lupin grain (Fig 3). Rams were weighed ever fortnightly and data on intake, refusals and weight recorded. Prior to the begin of the trials, the 16 farmers underwent trainings on data collection, processing sweet lupin and improved husbandry. The 16 farmers shared their observations, knowledge and experience gained from the trial with other farmers during the field day. In attendance were researchers from Areka ARC and experts from district livestock office and Africa-Rising coordinating office (Hossaena), and guest farmers from Hossaena, sheep fattening youth group members and farmers from neighboring *Kebeles*.



Fig 2: Processing sweet lupin seed by roasting



Fig 3: Processing sweet lupin seed by steaming



Fig 4: Processing sweet lupin seed by soaking

After demonstrations was conducted, guest participant farmers and youth group members set their own parameters to evaluate the performance of rams. Participants identified two major evaluation criteria namely, physical status/appearance and body weight/condition. Table 1 shows results from farmer ranking and results from research results collected from the 16 trial farmers.

Table 1: Performance evaluation of rams based on farmers and researcher criteria

Treatment Groups	Farmers Ranking (1 - 4th)	Researcher Ranking (1 - 4th)
Concentrate Mix	4 th	4 th
Roasted SLG	3 rd	2 nd
Soaked SLG	2 nd	3 rd
Steamed SLG	1 st	1 st

SLG: Sweet lupin grain

Evaluation made by farmers showed that rams supplemented with *Steamed sweet lupin grain* showed a better performance and rams supplemented with commercial concentrate mix were poor in performance which was in line with the researcher criteria. The difference in rank between farmers and researcher in treatment group soaked and roasted SLG was mainly due to higher initial body weight by the treatment group (roasted SLG) that farmers assumed the body condition without taking the initial body weight into account. In general, it was concluded that sweet lupin grain supplementation showed a positive effect on weight gain of Doyogena rams and it was recommended that much effort is needed to fill the gaps of access to sweet Lupin grain for future utilization and development.

Farmers particularly enquired about the source, availability and accessibility of sweet lupin planting material, importance of the forage part of the sweet lupin crop as animal feed, agronomic practices of growing sweet lupin and best forage development strategy suggested for growing sweet lupin. Their major concern, however, was that processing sweet lupin grain is labor intensive, and that processed grain cannot be stored long as it spoils very fast.

These are certainly two issues that further research needs to pay close attention to.

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