Food & Business Knowledge Platform

Factsheet interim findings Applied Research Fund Call 1

Stabilizing sesame yields and production in the Lango region, Northern Uganda

Summary

This project aims to stabilize and improve sesame productivity in Lango in northern Uganda. The objectives are: [i] To increase awareness and better planning in order to reduce sesame production losses due to climate change impacts; [ii] To get higher and more stable yields and production of good quality sesame as a result of adoption and use of climate smart innovations; [iii] To better inform stakeholders so as to enable them to implement innovations that reduce risks of negative climate change impacts on sesame production; and [iv] To improve knowledge on sesame production for increased income and employment of the target beneficiaries.

To achieve the aforementioned objectives stakeholder workshops are organized, in which research findings on changing weather patterns and their influence on sesame yields are disseminated. Climate smart sesame innovations are being developed through trials that include [i] the development of new sesame varieties that are climate smart and more tolerant to drought, gall midge and webworms, [ii] *cercospora* leafspot control, [iii] the integration of soil nutrient management, [iv] the screening for disease resistance of sesame genotypes, and [v] research on the effectiveness of insecticide and fungicide use for control of gall midge. Two seasons have been completed and final harvest data is expected by January 2018.

Interim Research Findings

Trials set up to evaluate climate smart innovations to increase and stabilize sesame yields showed that seven lines had lower gall midge damage than the released varieties. Use of insecticides reduced gall midge damage while webworm damage was less in sites where the life cycle of the pest was interrupted by an off-season. Trials on varietal reaction and fungicide application in the control of *Cercospora* leafspot showed differences in incidences by location with some genotypes showing resistance. Fertilizer application tended to enhance sesame grain yields with most limitation by seemingly low potassium. These findings indicate a high possibility of developing successful climate smart innovations by the end of the project: Farmers will plant a resistant variety with an off-season and apply insecticides and fungicides with fertilizer use. For farmers to benefit, appropriate policies on seed, fertilizer and inputs are necessary, as well as on-farm soil testing and advisory services on implementation of the climate change strategy.

Outcomes achieved

Increased awareness and better planning to reduce sesame production losses were partly achieved through sharing information on the impact of climate change with stakeholders in the target districts. District governments recognized sesame as one of the priority crops and agreed to allocate resources in their development plans and stopped crop cultivation in wetlands. The district of Lira passed a bye-law on fake seeds.

Higher and more stable yields and production of good quality sesame is being achieved. On-farm demonstrations showed that use of improved sesame seeds increased yields by 44 % and earned more US dollars than local varieties. Selected farmers were provided with 196 kg of *sesim3* breeder seed, which was multiplied into 22.4 ton of Quality Declared, enough to plant

>5,000 acres. A total of 4,174 women and 3,398 men followed lessons on climate change, sesame production and marketing. Additionally, information on climate smart sesame production is distributed through manuals, extension bulletins and policy briefs to enable stakeholders innovate to reduce risks of climate change on sesame production.

Messages to

A) Actors from private sector:

- Start trading genuine sesame varieties like *sesim 2 and 3* that are available as breeder and quality declared seed and discourage sale and distribution of fake seeds and inputs.
- Seed companies, oil processors and grain exporters should link up with UOSPA to benefit from good quality seed and grain sesame from farmers trained by UOSPA and this project. To this end provide a mark-up price as an incentive for good quality.

B) Civil society and practitioners organizations:

- Sensitize stakeholders and raise awareness about climate change effects and possible mitigation measures.
- Promote behaviour change among beneficiaries on how to improve their livelihoods from increased income arising from sesame sales.

C) Policy makers:

- Policies should be enacted to ensure sustainable sesame production by protecting fragile eco-systems such as forests, wetlands and mountain hilltops.
- Ensure enforcement of regulations prohibiting sales and distribution of fake seeds and other inputs that are needed in climate smart agriculture to support sesame production.

Knowledge products

- Crop scientists initiate climate smart innovations to improve simsim (sesame). Article. January 2017
- Farmers in Northern Uganda embrace new Simsim (Sesame) varieties for improved yield. Blog. January 2017
- Northern farmers urged to engage in sesame cultivation. News article. January 2017
- Project factsheet
- Project poster

Knowledge networks

The Food & Business Knowledge Platform
The Africa Innovations Institute (AfrII)
Supporting Indian Trade and Investment for Africa (SITA)
Uganda Oil Seed Producers and Processors Association (UOSPA)

Co-creation

Consortium partners provided leadership in their areas of mandate, experience and expertise. AfrII coordinated board-meetings and annual review- and planning-meetings, monitored progress of on-farm trials and led discussions with Syspons consultants. Additionally, AfrII leads the knowledge management aspects of documentation and the preparation of manuals, publications and pamphlets. NaSARRI was the source of the new sesame breeding lines and climate smart technologies. They provided Trial Variety Centers and research competences and skills in breeding, plant protection, soil fertility and agronomy. UOSPA identified and mobilized farmer groups to host trials, demonstrations and trained them to multiply Quality Declared Seed. They provided them with quality specifications and linked them to buyers of sesame seed such as FICA Seeds and grain.

Consortium Partners

- Africa Innovations Institute (AfrII)
- National Semi Arid Resources Research Institute (NaSARRI)
- Uganda Oilseeds Producers and Processors Association (UOSPA).
- FICA Seeds Ltd.

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Project website

F&BKP Research Project page