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# **AN OVERVIEW OF THE SOYBEAN VALUE CHAIN IN UGANDA**

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# 1

## GENERAL INTRODUCTION



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# Contribution of soybean to livelihoods

- ✓ No.1 income earner crop in N and E Uganda
- ✓ Farmers earn 1,200,000 UGX/Ha/per season
- ✓ Key raw material for vegetable oil, Feeds and Food
- ✓ May contribute to ecological balance of our lakes
- ✓ Fixes nitrogen, improves soil moisture retention and breaks life cycle of pests in cropping system





# Soybeans controls witch weed (striga)



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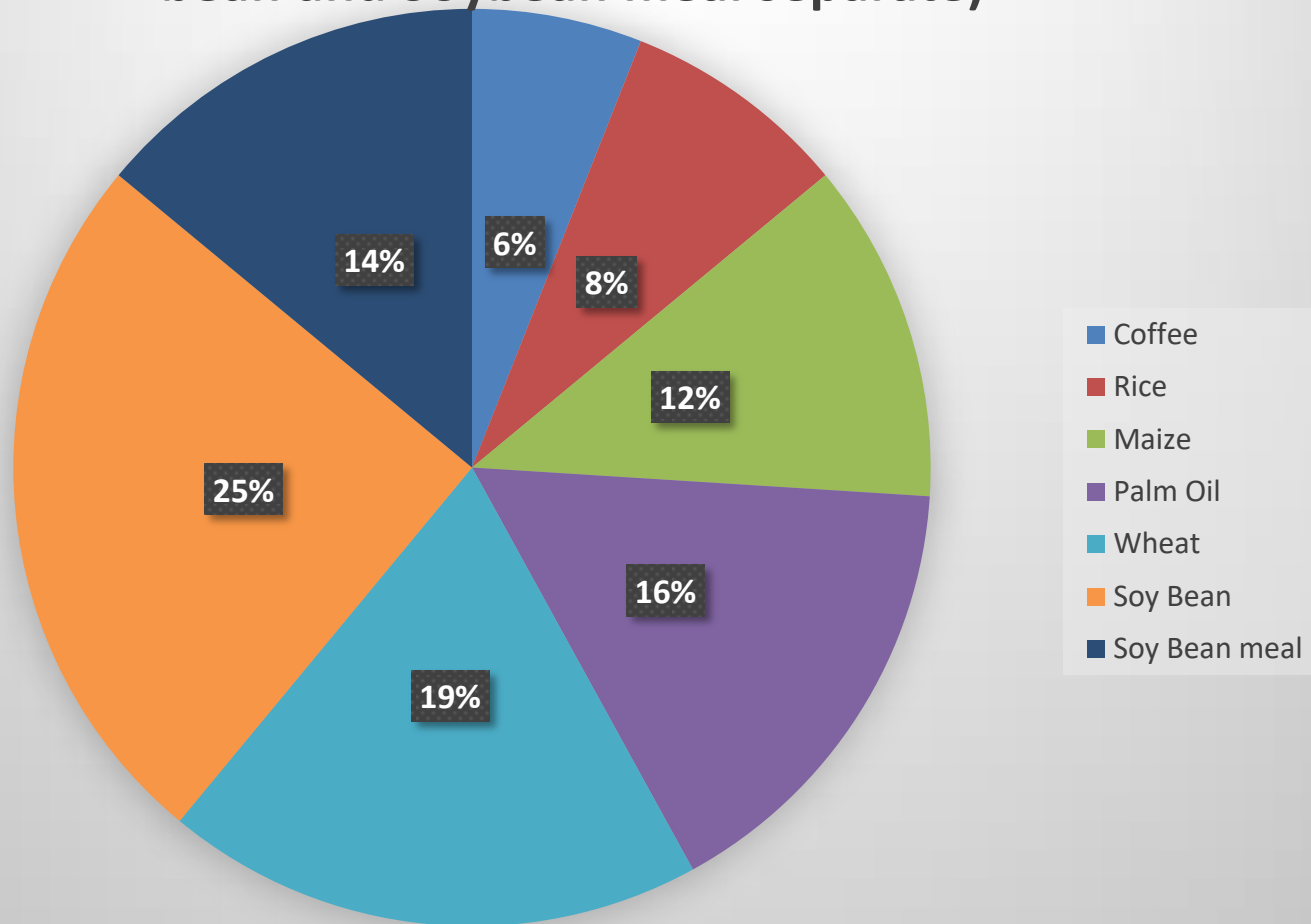


# Challenges of soybean production in Uganda

- ✓ Pests and diseases / breakdown of resistance.
- ✓ Poor agronomic practices/low productivity.
- ✓ Inaccessibility to good seed by farmers.
- ✓ Labour: Drudgery in the production chain (planting, weeding and harvesting).
- ✓ Lack of functional farmers' groups/marketing
- ✓ Poor Post harvest practices for seed and grain/poor quality products
- ✓ Under production



## Most traded Agricultural Commodities, 2013 (Soy bean and Soybean meal separate)



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# MAKERERE CENTER FOR SOYBEAN IMPROVEMENT AND DEVELOPMENT (MAKCSID)

- **Pillar 1:** Soybean Breeding
- **Pillar 2:** Seed systems
- **Pillar 3:** Enterprise Development
- **Pillar 4:** Outreach and Training



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# Soybeans Research at Makerere

- ✓ Initial work: Began in 1960s resulting in varieties KAB 1 and KAB 2.
- ✓ Resumed in 2002 as a project
- ✓ Focus: Breeding and Seed systems
- ✓ Purpose: Demonstrate plant breeding practice to students
- ✓ Approach: Holistic (works along the whole value chain)
- ✓ Today: Center for Soybean Improvement and Development (MAKCSID)



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# Major Center Objectives

- ✓ Develop and Release superior soybean varieties.
- ✓ Improve awareness for increased adoption of released soybean varieties by farmers.
- ✓ Enhance availability and access of improved varieties (Maksoy 1N, Maksoy 2N, Maksoy 3N, Maksoy 4N Maksoy 5N and Maksoy 6N).
- ✓ Value addition for enhanced nutrition (soy flour, soybean milk, Yoghurt etc.) using appropriate technologies.



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# 3

## SOYBEAN BREEDING HIGHLIGHTS



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# Achievements



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# Major Outputs: Features of new Variety Releases

**6 Varieties Released after  
Passing the DUS test:**

Maksoy 1N= 2004

Maksoy 2N= 2008

Maksoy 3N= 2010

Maksoy 4N = 2013

Maksoy 5N= 2013

Maksoy 6N= 2017



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# Nutritional properties of existing soybean varieties

Variety	Protein content (%)	Oil content (%)
<b>Maksoy 1N</b>	<b>41</b>	<b>17</b>
<b>Maksoy 2N</b>	<b>38</b>	<b>20</b>
<b>Maksoy 3N</b>	<b>36</b>	<b>22</b>
<b>Maksoy 4N</b>	<b>38</b>	<b>21</b>
<b>Maksoy 5N</b>	<b>38</b>	<b>19</b>
<b>Maksoy 6N</b>	<b>41</b>	<b>20</b>



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# SOYBEAN SEED SYSTEMS



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# Major challenges of seed systems in Uganda

- Seed is presumed to be expensive by farmers
- Counterfeit seed on the market.
- Less interest in self pollinating crops by most private seed companies.
- Weak policy enforcement.
- Poor access to seed by farmers
- No Seed projections (seed companies).
- Unpredictable weather for breeders seed (Research level)
- Poor post harvest practices



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# Counterfeit seed



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# Major Soybean FS Stakeholders in 2021B

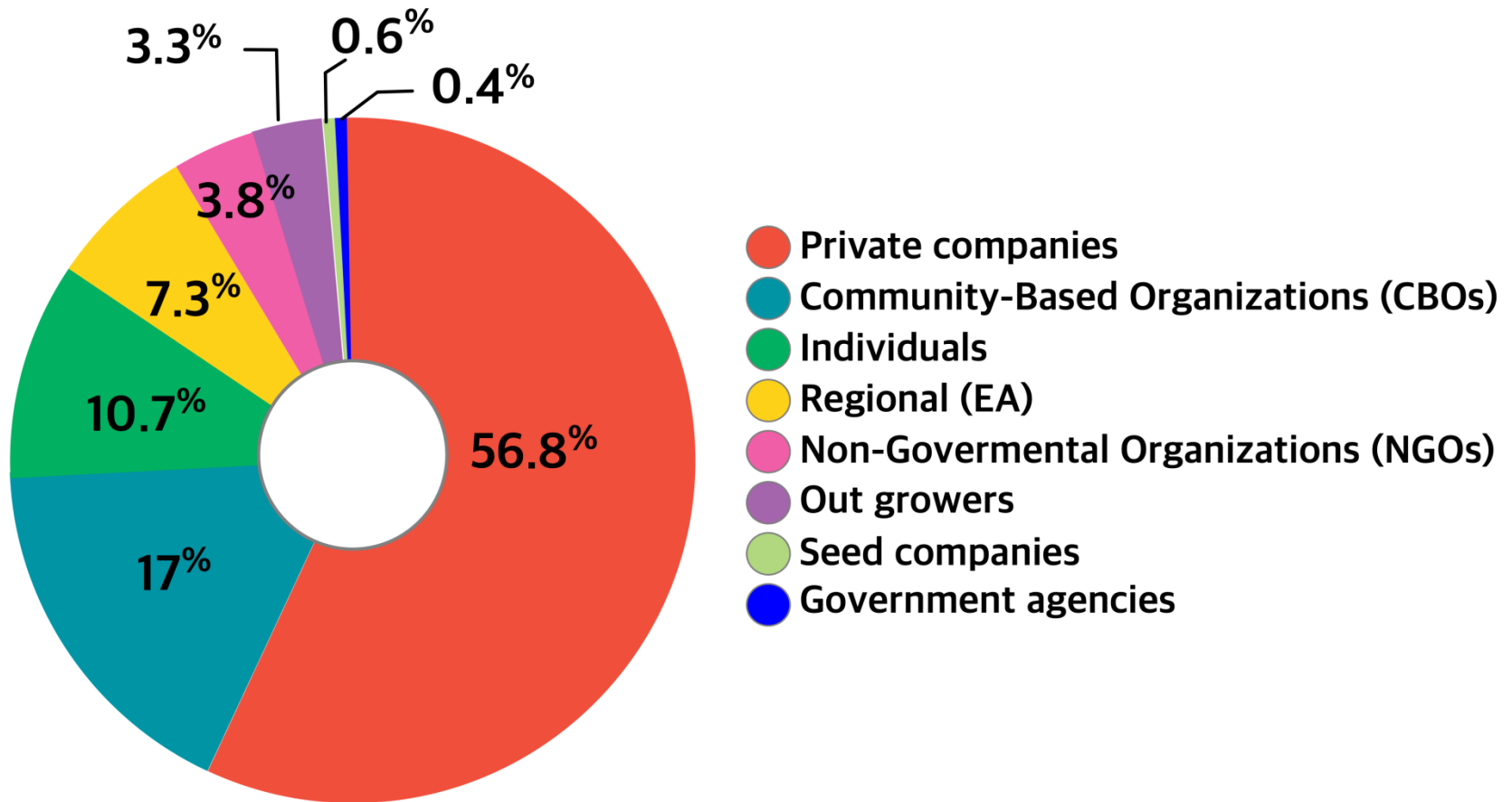
Stakeholder	Freq.	Maksoy 3N	Maksoy 6N	Total
Private companies	23	38834	47426	86260
NGOs	3	1650	4100	5750
Individuals	106	11750	4519	16269
Regional (EAC)	2	860	10280	11140
Gov't agencies	2	120	500	620
Out growers	30	1020	3997	5017
CBOs	45	12605	13187	25792
Seed companies	2	900		900
<b>Total</b>	<b>213</b>	<b>67739</b>	<b>84009</b>	<b>151749</b>



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# Contribution of different stakeholders in the soybean seed system

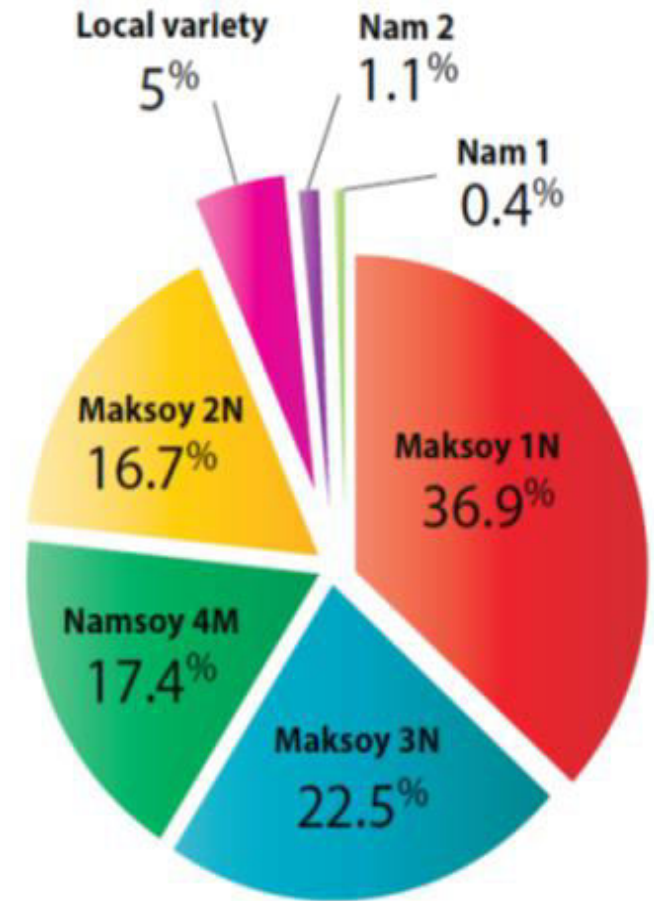


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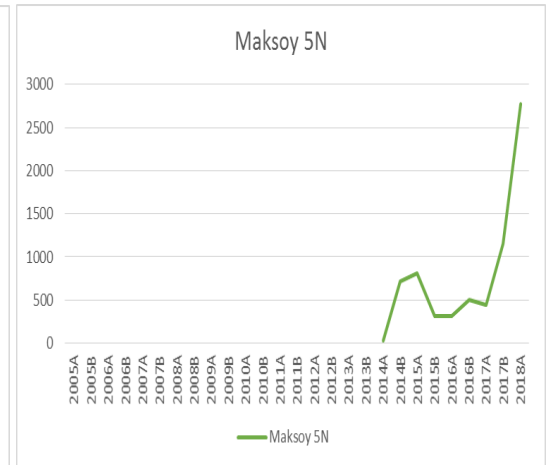
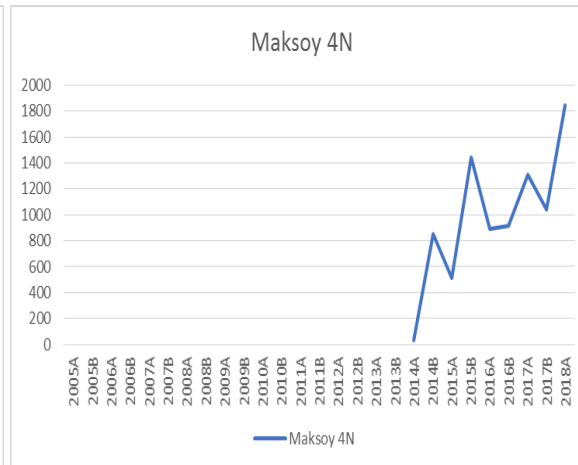
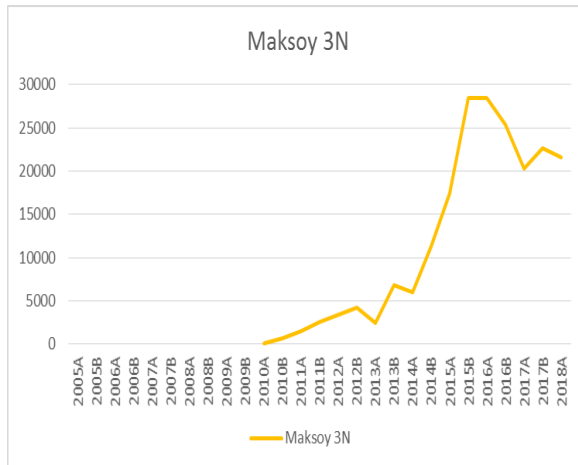
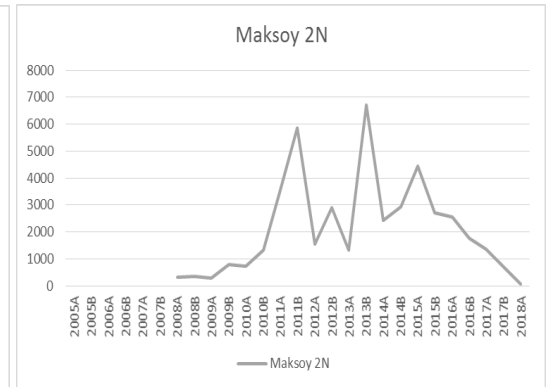
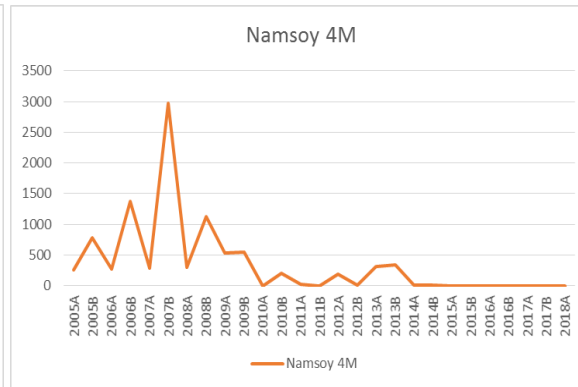
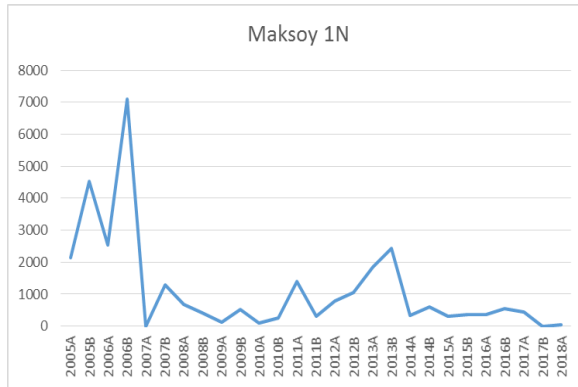


# Farmer awareness of soybean varieties in Uganda

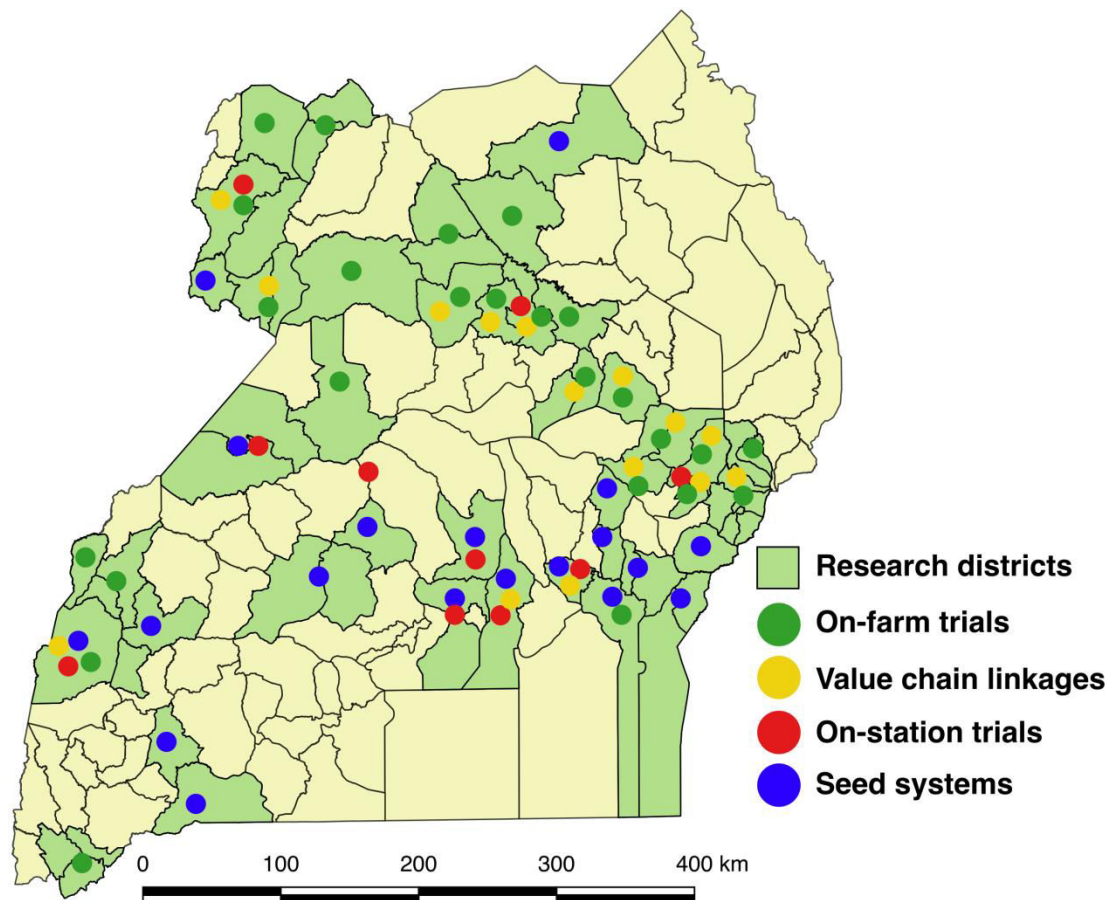




# Life cycle of released soybean varieties



# Map of Uganda illustrating areas of direct contact with soybean research activities



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# ADDRESSING COMMUNITY NEEDS



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# Summary of on-farm trainings conducted in the past 15 years

Period	Males	Females	Total
2002 -2005	123	156	279
2005-2010	270	466	736
2011-2015	542	894	1436
2016-2018	383	780	1163
2019-2021	843	988	1831
<b>Total</b>	<b>2161</b>	<b>3284</b>	<b>5445</b>

**Number of farmer groups trained: over 125**



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# Visitors at the soybean program stall during the National Agricultural Show in Jinja



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## CONCLUDING REMARKS



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# Opportunities

- Uganda has Locally bred and adapted varieties
- MOU between Soybean Africa Limited and Makerere University.
- Huge market both local and external for soybeans
- Interest of the farmers (Somalia; No.1 cash income earner).
- Livestock feed industry and the importance of soybean in human nutrition.



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# Expectations for soybeans in Uganda

## Research

- Establish Soybean centre of excellence at MUARIK.
- Physical infrastructure of a building at MUARIK
- Climate smart soybean varieties.
- Irrigation for foundation seed production.



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# Expectations for soybeans...

## Outreach

- Adoption of best practices in Agronomy (plant pop, fertilizer use etc.).
- Enhanced Soybean processing and utilisation at village level.
- Incubation of small soybean based businesses
- Planters for soybean ( for optimum plant population)
- Threshers to save time and drudgery.



# Expectations for soybeans...

## Youth business opportunities

- Local seed business
- Value addition e.g. Soybean milk and its products yoghurt/ice cream, etc.
- Youths soy co-ops/clubs for production & marketing.





# ACKNOWLEDGMENTS



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# THANK YOU



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