Block 2 Poster 7

Sweetpotato silage-based diets for pig feeding

TECHNOLOGY DESCRIPTION

- In Uganda, sweetpotato (SP) residues are the most common fodder fed to pig. Nevertheless, large amount of these residues (e.g., about 600kg of vines per acre/season) are wasted.
- Silage is a relatively easy and affordable technology for preserving SP vines and roots for feeding livestock in times of scarcity
- Sweetpotato silage (SPS) is made by chopping SP vines and non-marketable roots into pieces (2-2.5 cm length) using a machete or a forage chopper, wilting the mixture for two hours and adding maize bran (fermenter). The mixture is then stored in a silo for 30days after which it is ready for use.
- In the framework of the RTB-ENDURE project, CIP and ILRI, in collaboration with national partners, have successfully tested, validated and promoted (SPS) based pig diets in Uganda.

Farmers in Kamuli attending a training in silage production

END USERS AND BENEFITS

- Feeding costs represent 62-70% of the variable costs to raise pigs. SPS can reduce these by 40% to benefit smallholder livestock farmers, especially pig farmers, who are predominantly women and youth.
- As a result of feeding pigs on silage, farmers have increased their herd and, due to better performance of the pigs fed on silage based diet, income from piggery has improved.
- SPS technology is providing employment, including for youth groups (e.g. Twekembe youth group) making silage for sale, SP farmers selling vines and non-commercial roots to silage makers, and NGOs offering training on silage making and supplementation (over 700 pig farmers trained).

SCALING STRATEGY

- Fourteen potential SPS entrepreneurs (individuals/groups) with ready business plans will be facilitated to operate silage making businesses in Masaka and Kamuli. More entrepreneurs will be recruited in Mukono and Rakai and trainings conducted.
- Three silage business centers established in Kamuli and Mukono to: i) sell silage; ii) provide input for silage making and support services; and iii) offer fee-based training in silage making will be facilitated to continue offering silage services. Two silage centers will be established in each of the new districts (Mukono and Rakai).
- Market linkages will be promoted as “pull-factor” for increased pig quality and, therefore, demand for silage.
- Awareness and uptake of SPS innovation will be promoted through national and regional pig multi-stakeholder platforms.

LEVEL OF ADOPTION OR USE

- The 16 pilot farmers are still using SPS and some have taken it up as a business enterprise. A few purchased motorized choppers ($500-700) or fabricated cheaper ones.
- Over 77 tons of silage made by entrepreneurs since mid-2016; mainly sold to pig farmers.
- Youth group sold about 18.5 tons of SPS in 2016 (>85% sold to small-scale pig farmers).
- 72 farmers bought SPS from the silage center in Masaka and many more have made enquiries about the technology (incl. from neighboring countries).
- Silage currently sold at about UGX 400/kg. While this already offers a good profit there is evidence that farmers are willing to pay up to UGX 600/kg.
- By 2020 we anticipate that 10% of sweetpotato growing households and livestock farmers will be involved in SPS value chains in Kamuli, Masaka, Mukono and Mpigi districts.

CRITICAL GAPS AND NEXT STEPS

- Apart from pigs, the silage based diet feed has not been tested with other livestock e.g. cattle
- Evaluation of additional diets based on locally available feedstuffs in terms of pig performance and economic benefits required.
- More dual-purpose sweetpotato varieties for different agro ecologies need to be validated
- Validate gender-responsive business models and institutional mechanisms for silage making and commercialization.
- Backstop newly established silage business centers and supervise implementation of the 14 business plans.
- Scale out SPS technology in Mukono and Rakai districts which offer good opportunities for integrating the sweetpotato and pig value chains.
- Promote S-S collaboration and knowledge exchange with countries where the technology is widely adopted (e.g. SEA).

Manager of CHAIN silage center explains silage utilization in Masaka

KEY PARTNERS FOR SCALING

- NARO - Technical trainings, especially in the new districts
- Volunteer Efforts for Development Concerns (VEDCO) - On the ground implementation in Kamuli and Mukono
- Pig Production and Marketing Ltd (PPM) - Market linkages & training of farmers in pig and pork marketing
- Miti farmer field schools- implementation in Masaka and Rakai districts

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