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Improving the Supply of Quality Feeds in Ethiopia: Successes and Lessons Learned

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Livestock Production Potentials & Opportunities

- Availability of large and diverse livestock genetic resources
- Diverse agro-ecologies & different livestock production systems
- High potential for dairy in the cooler highlands
- Stratified beef production
- Increasing demand for livestock products
- Increased government and private sector interest in market oriented livestock production

Productivity of the Livestock Sector

- Very low productivity (much below the potential)
  - Low birth weight and sub-optimal growth rate
  - Low milk and meat production performance
- Increased cost of rearing
- Low per capita consumption of animal products
- A huge gap between actual and potential livestock productivity levels

There is Increasing Demand for Feed

- There is increased interest for promoting intensive and market oriented livestock production
- As livestock production intensifies, there will be increased demand for more and high quality feed
- Opportunities for commercial feed production (income source, job creation, enhancing animal production)

Challenges Related to Livestock Feed Supply

- Shortage of feed supply
- Available feed resources dominated by poor quality natural pastures and crop residues
- Seasonal variation in feed quantity and quality
- Shrinkage of grazing areas
  - ➢ Expansion of cropping and invasive species and other land use changes
- Poor vitamin and mineral profile in feeds used
- High cost of feeds
- Inefficient utilization of available feed resources

Urban and Peri-urban Livestock Operations

- Small to medium scale dairy farms, feedlots and poultry farms
- Most do not have land for grazing or feed production
- Dependent on purchased feed (both roughage and concentrate)
- Affected by unreliable supply and quality and increasing price of purchased feed
- Unavailability and very high price of vitamin and mineral supplements

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Cultivated Forages and Pastures

- Many years of research and development efforts
- Wide range of species adapted to the different agro-ecologies and production systems identified
- Different forage development strategies designed
- Low adoption rate and very limited availability

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Cultivated Forages and Pastures - Challenges

- Forage research and development more focused on species/variety screening, adaptation and biomass production
- Limited on-farm feeding and animal response studies to demonstrate impact on productivity => Lack of compelling evidences demonstrating the benefits of forage production and use
- Poor market linkage for animal products could discourage investing on improved forages
- Difficulty of accessing suitable seeds or planting materials

Cultivated Forages and Pastures - Challenges

- Competition with food and cash crops for resources (land, labour etc.)
- Lack of study to demonstrate opportunity cost of land for forage or crop production
- Most feeding experiments conducted on-station, may not represent the reality on-farm
- Feeding experiments have not been designed in a manner that can bring a breakthrough in productivity – results may not be considered relevant by end users

Effect of Climate Change/Drought

- Affects feed availability, quality and price
- Reduces availability of and access to water
- Aggravates conflicts over scarce resources (pasture and water)
- Increases stress and hamper production and productivity

Opportunities for Enhancing Livestock Feed Supply

- Expansion of agro-industries that produce feed ingredients for compound feed production
- Possibility of integrating smallholder forage production with sustainable land management activities
- Strengthening the roles of customary institutions in range and water resources management in pastoral areas

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Successes

A large number of forage crops adapted to different agro-ecologies and production systems identified and characterized

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Successes

- Integration of forage production with sustainable land management activities
- Importance of improved forage as supplementary feed to improve livestock production performance has been tested and promising results generated but …….

Successes

- Increased private sector interest and engagement in forage and forage seed production and marketing
  - Private entrepreneurs
  - Cooperatives
  - Youth groups
  - Individual smallholder farmers or pastoralists
  - Research and development organizations (governmental and non-governmental)

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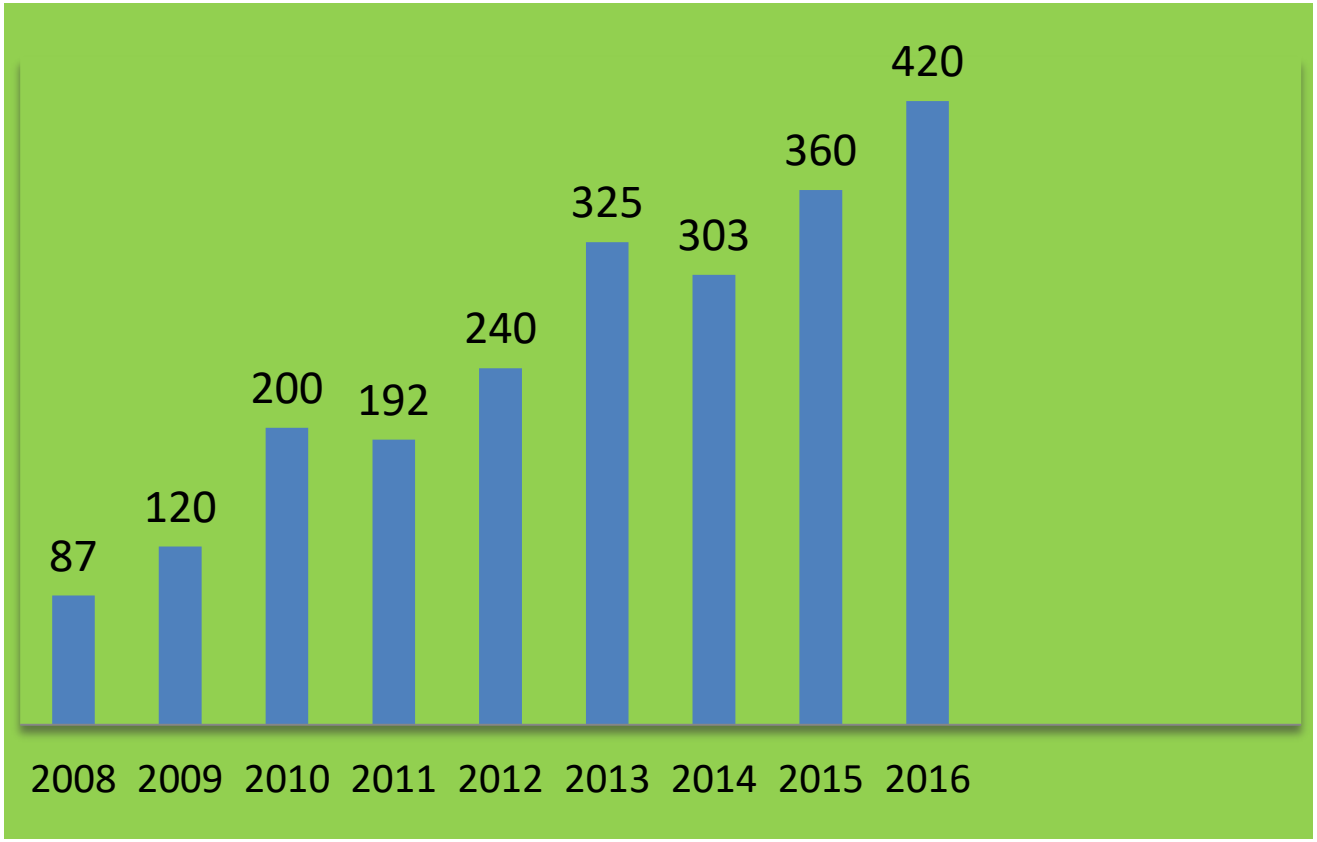
Forage Seed Production (quintals) of Eden Field Agri-seed Enterprise (2008-2016)



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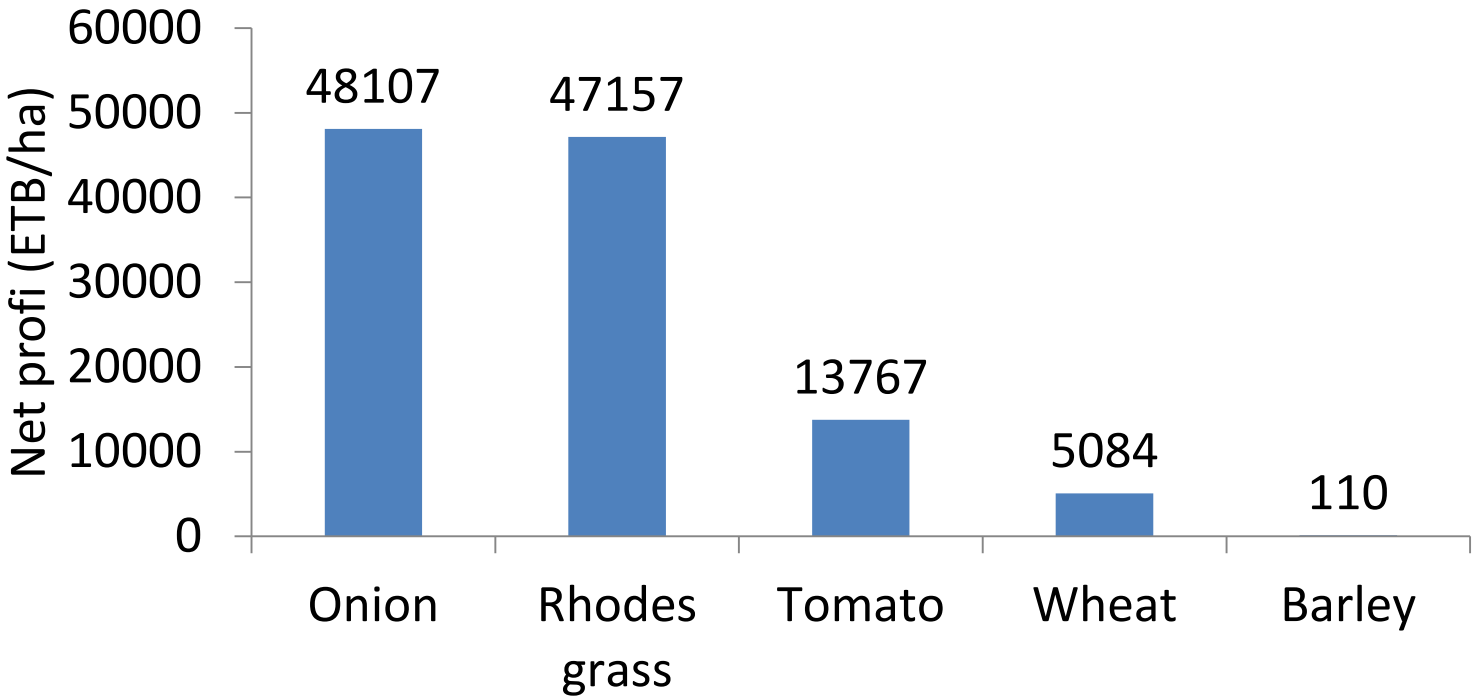
Comparative Net Benefit of Irrigated Rhodes Grass Seed and Other Irrigated Crops at Koga Irrigation Scheme in Ethiopia (Kinde et al., 2015)



Successes

- Studies, awareness creation and demonstrations on proper handling and conservation of major crop residues and other feeds
- Timely collection and storage of crop residues and conservation of excess forage in the form of hay or standing hay

Successes

- The supplementary values of concentrate (composed of different combinations of different agro-industrial by-products) has been studied
- Interest in use of concentrate supplements has increased
- Number and capacity of feed processing plants has increased but ……

Lessons learned

- The Ethiopian livestock industry is in danger unless the current state of low quantity and quality of feed are urgently addressed
- So far research has generated some useful technologies. However, adoption rate is very much limited.

Lessons learned

- For success in adoption of improved feed technologies the following conditions are necessary.
  - Providing compelling evidence on benefits in terms of improving productivity, income and overall livelihood
  - Understanding the context of the target beneficiaries (their capacities, limitations, level of awareness, access to markets and needed inputs etc.)
  - Strong inter-institutional and professional collaboration

The Way Forward

- Support on-farm and commercial feed production to ease the feed shortage problem
- Identify niche areas and encourage improved forage production in the areas
- Integrate forage development with soil & water conservation activities
- Evaluate opportunity costs of forage production in areas where there is high demand for forage crops

The Way Forward

- Exhaustive assessment of the availability, distribution, seasonal dynamics and nutritional profile of local feed resources
- Developing strategies to address seasonal gaps in feed availability and quality
- Exploit full potential of food-feed crops
- Make effective use of available feed resources (avoid wastage, use balanced feed to increase efficiency and reduce cost)
- Demonstration & scaling up of promising technologies and best practices

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