RESEARCH PROGRAM ON Livestock

CGIAR

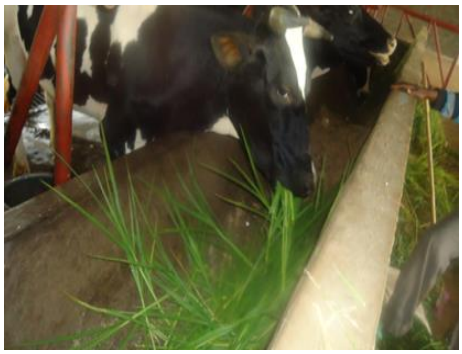
More meat, milk and eggs by and for the poor

TESTED IN ETHIOPIA

Desho grass to feed livestock in mid to high altitudes

Key messages and solutions

- Desho grass has a multifaceted potential. It is fodder for livestock, used for soil conservation and rehabilitation of degraded grazing lands. It is also a source of income through sale of cut forage or vegetative planting material.

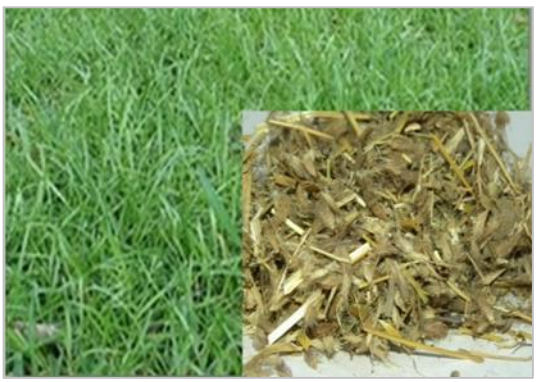


Problem statement

- Low productivity of livestock in Ethiopia is mainly due to insufficient supply and poor quality of feed. To combat feed shortage, the use of indigenous forage plants as feed sources is recommended.
- Desho is an indigenous grass of Ethiopia. It is a perennial grass with an extensive root system that anchors well into the soil. It grows anywhere from 1500 to 2800 masl with an optimum elevation over 1700 masl on medium to low soil fertility. It has a high biomass production capacity of 30 - 109 t/ha with nutritive value superior to natural pasture.
- It is suitable for smallholder farming systems for backyard cultivation as cut and carry fodder.

Benefits

- Desho grass provides year round fodder for growing, fattening and lactating animals.
- It can be preserved as hay and silage for use as dry season feed.
- It is a source of income through sale of cut forage and planting material.
- It improves grazing land; rehabilitates degraded land, controls water loss effectively, and recovers rapidly after watering even under severe drought.



Evidence

- Field surveys of 240 households in Northwestern and Southern Ethiopia revealed the use of desho predominantly for land conservation and lesser as a feed resource.
- Agronomic studies to determine the effects of altitude and harvesting dates (90, 120 and 150 days after planting) on morphology, dry matter (DM) yield and chemical composition revealed that desho grass performs well in mid and high altitude areas and is a potential livestock feed resource during early stages (90 to 120 days after planting).
- Feeding and digestibility trials with 25 Washera yearling rams with mean body weight of 19.4+1.89 kg to evaluate the feeding value of desho grass as a basal diet showed that daily DM intake and mean daily body gain of sheep showed significant improvement ($P<0.05$) with increased inclusion of desho grass into the basal ration. Desho grass hay can substitute natural pasture hay at 50-100% in small ruminant basal rations.

Suitability

- The intervention is suitable for mixed crop-livestock systems in mid to high altitudes where free grazing is a Natural Resource Management challenge and where backyard fodder development interventions can be suitable entry points to tackle the problem of land degradation and animal feed shortage
- The intervention contributes especially to employment and livelihoods (sale of fodder and planting material).

Resource requirements (low to high)	
Land	●●●○○
Water	○○○○○
Labour	●●●○○
Cash	●●●○○
Access to inputs	●●●○○
Knowledge and skills	●●●○○

Impact areas (low to high)	
Food security	●●○○○
Human nutrition/ food safety	○○○○○
Employment and livelihoods	●●●○○
Natural resources base	●●○○○
Gender empowerment	○○○○○
Market linkages	○○○○○

Value chain focus

Input & services → Production → Processing → Marketing → Consumption

Contacts

Jane Wamatu, ICARDA, j.wamatu@cgiar.org; Bimrew Asmare, Bahir Dar University, limasm2009@gmail.com; Barbara Rischkowsky, ICARDA, b.Rischkowsky@cgiar.org

Acknowledgements

This is a product of the CGIAR research programs on Livestock and Fish (2012-2016) and LIVESTOCK (2017-2022) as well as the International Fund for Agricultural Development (IFAD)-funded SmaRT Ethiopia Project - Improving the Performance of Pro-Poor Sheep and Goat Value Chains for Enhanced Livelihoods, Food and Nutrition Security in Ethiopia. The project is led by ICARDA in collaboration with national partners. The Project thanks all donors and organizations who globally support its work through their contributions to the CGIAR system. Organizations contributing to this work are: ICARDA, Bahir Dar University, Jimma University.

May 2017