

Grain legume crop-livestock integration in Ethiopian smallholder systems: The way forward



Mesfin Dejene, PhD Student, University of Queensland, Australia. m.ejigu@uq.edu.au

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WHAT IS THE PROBLEM?

- The Ethiopian small-holder crop-livestock system
 - comprises about 40% of the country's land area,
 - involves nearly 90% of the human population and
 - 70-75 % of the livestock population of the country.
- As an integral component, livestock provide:
 - inputs for crop production,
 - food and cash income
 - asset, wealth, security and investment
- livestock productivity is low mainly due to
 - feed shortages and low N content of cereal crop residues specially during the dry season
- Improving the feed supply, both in yield and quality, build assets and improve whole farm productivity.

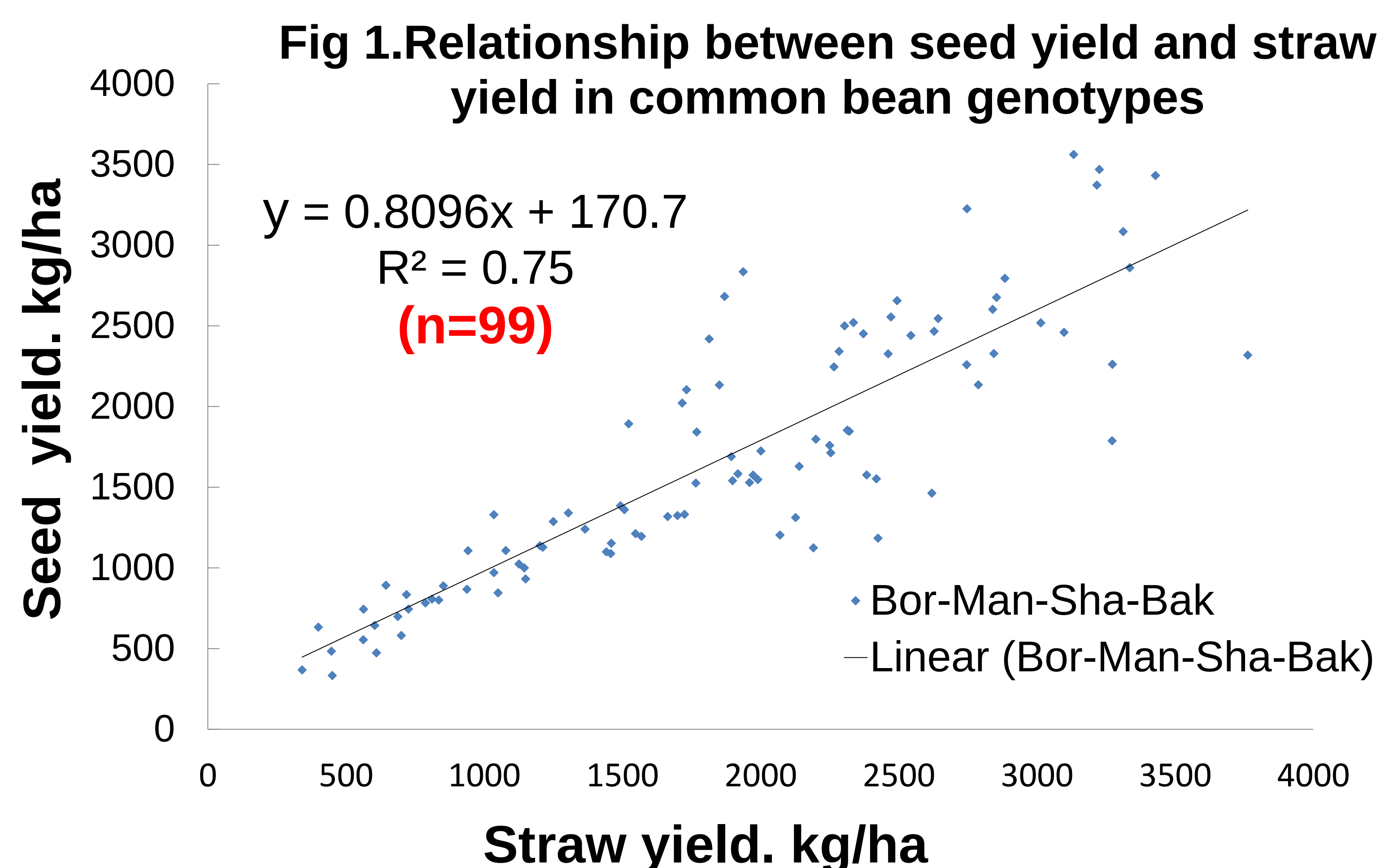
HOW GRAIN LEGUME DEVELOPMENT COULD IMPROVE LIVESTOCK PRODUCTIVITY?

- Select legume species/ varieties that combine high grain and straw yields (Fig 1).
- Breed/selection of legume varieties
 - that tolerate leaf shattering towards maturity stage
 - suitable for integrating with cereals.
- Improve feed supply through
 - proper/timely harvesting, threshing and conservation of grain legume residues
- Improve palatability and digestibility of the whole basal diet for ruminants through
 - grain legume residue processing (chopping) and
 - optimizing of mixtures of legume and cereal residues
- Improve whole farm productivity and sustainability through better feeding and management of livestock and manure.



WHAT ARE THE MAJOR INTERACTIONS BETWEEN LIVESTOCK AND GRAIN LEGUMES?

- Between 40 and 60% of livestock diets are made up of crop residues in the Ethiopian small-holder systems.
- Use of **grain legume residues** as livestock feed is the major interactions between legumes and livestock production.
- **Livestock** provide
 - inputs (draught power, transport, and manure) for crop production,
 - important avenue for farm diversification.



Mesfin Dejene

University of Queensland, Australia; EIAR, Holetta Agricultural Research Centre

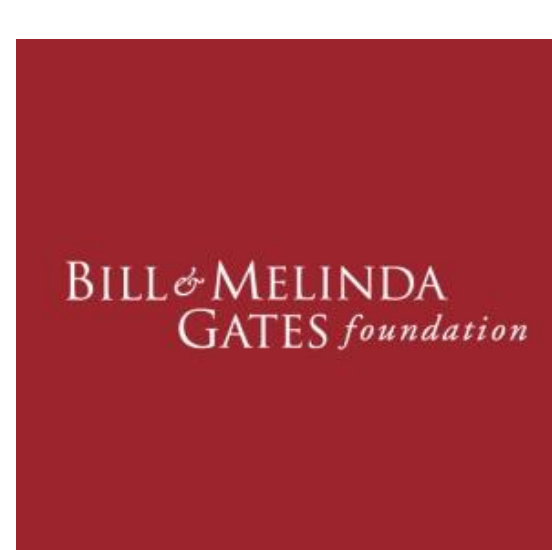
Tel: +251 911 477473; Email: m.ejigu@uq.edu.au; mdejigu@gmail.com

ILRI-N2Africa

Box 5689 Addis Ababa, Ethiopia • +251 11617 2200/25/33/35

ilri.org • n2africa.org • n2africa-Ethiopia.wikispaces.com

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