

Comparison of Cowpea and Groundnut Haulm Trading in Urban and Rural Fodder Markets in Niger



Presentation at the Economics, Value Chains and Post-Harvest Handling of Grain Legumes session, in the Economics and Value Chain Development Thematic Area for the Pan African Grain Legumes and World Cowpea Conference, Livingstone, Zambia 27 February-4 March 2016

Sapna Jarial¹, Michael Blümmel², Idrissa Soumana³, Ravi D⁴, Salissou Issa³, Anthony Whitbread⁵ and Ramadjita Tabo⁶,

¹Resilient Dryland Systems, International Crop Research Institute for the Semi-Arid Tropics, Niamey, Niger, ²ASSP, International Livestock Research Institute, Addis Ababa, Ethiopia, ³Department of Animal Sciences, Institut National de la Recherche Agronomique du Niger (INRAN), Niamey, Niger, ⁴International Livestock Research Institute, Patancheru, India, ⁵Resilient Dryland Systems, International Crop Research Institute for the Semi Arid Tropics, Patancheru, India, ⁶International Crop Research Institute for the Semi Arid Tropics, Bamako, Mali



Produced for the
**Pan-African Grain Legume
& World Cowpea Conference**

27 February – 4 March 2016

Introduction

In West Africa 80% of small holder farmers are living in mixed crop-livestock/agro-pastoral systems.

Niger, multiply constrained:

- Poorest country of the world
- Harsh climates,
- Extreme maximum temperatures, decreasing rainfall
- Globally highest population growth
- Rapid urbanization
- Demographic pressure
- Climate change



	2012	2050
Niger Population(M)	17.2	55

Source: Statistique INdl.2014

- Agriculture expansion in marginal lands
- Livestock keeping in urban and peri-urban areas as a livelihood strategy but constraint by feed scarcity. Legume haulms superior fodder resources
- Cowpea (*Vigna unguiculata*) is number one legume crop, followed by Groundnut (*Arachis hypogaea*) in Niger.
- Farmers grow and market these multi-purpose crops for food (grain) **and** fodder (haulm) with anecdotal evidence suggesting the latter becoming more important
- To better understand these demands, trading and pricing of cowpea and groundnut haulms were investigated in urban and rural Fodder Markets in Niger.

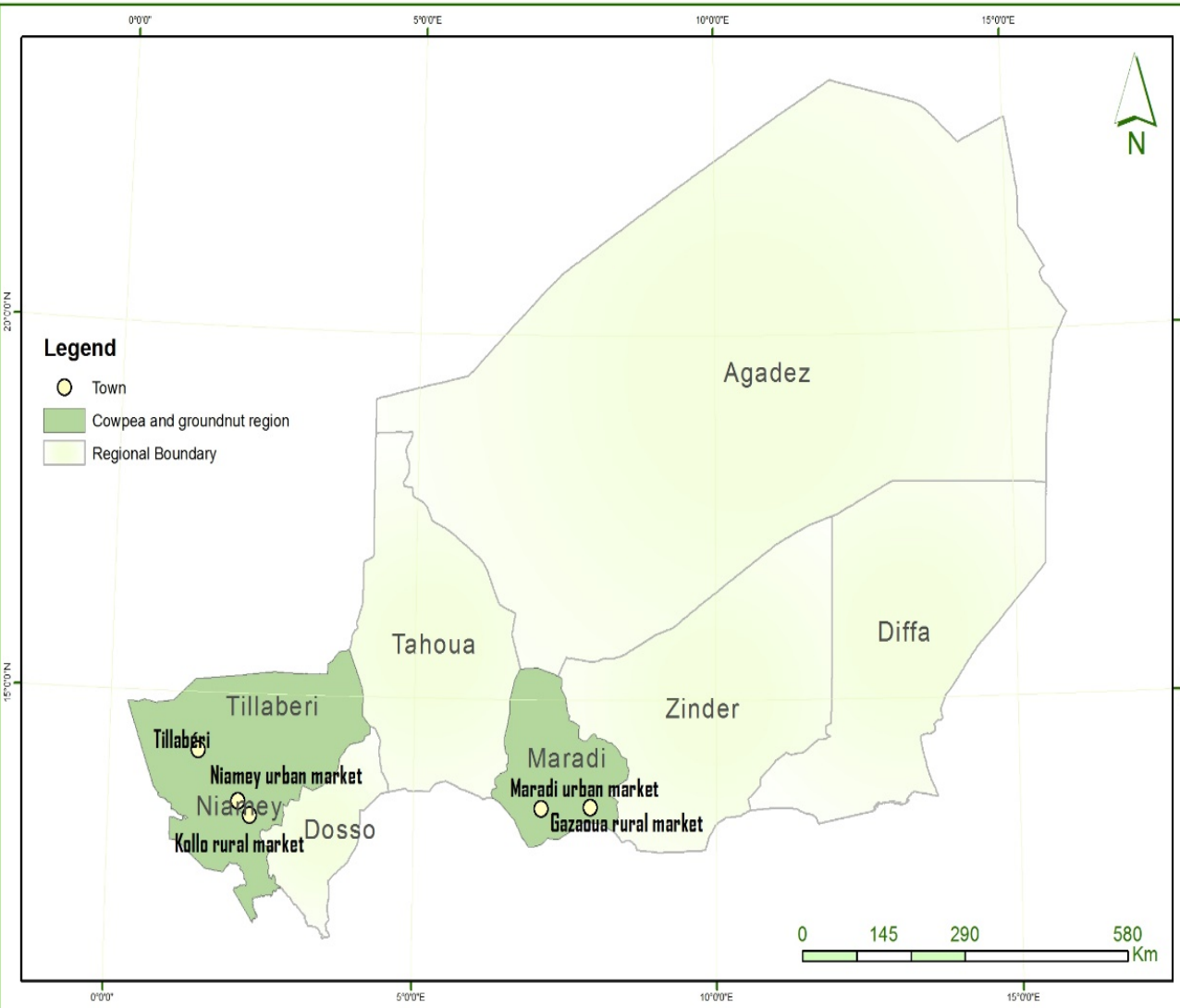


Live weight gains in sheep fed exclusively on groundnut haulms

Groundnut cultivars	Gain (g/d)
ICGV 89104	137
ICGV 9114	123
TMV 2	111
ICGS 76	76
ICGS 11	76
DRG 12	66
ICGS 44	65
ICGV 86325	83
ICGV 92020	95
ICGV 92093	109
Prob > F	0.02

Methodology

- Maradi and Tillabery districts were purposively selected.
- Selection criteria: cowpea and groundnut growing areas and 0.35 aridity index, 70 habitation km² population density.
- Total 4 markets: two rural and two urban
- Focus group discussion with randomly five traders and five farmers from each markets. Haulms were visually scored by traders and farmers for quality.



- One year survey, on bimonthly basis price of haulms of cowpea and groundnut along with with collection of feed samples from July 2014 to June 2015. Grain prices were also collected.
- Haulms were analysed for nitrogen (N), neutral (NDF) and acid (ADF) detergent fiber, acid detergent lignin (ADL), *in vitro* organic matter digestibility (IVOMD) and metabolizable energy using NIRS at ILRI India.
- Data were analysed by ANOVA.



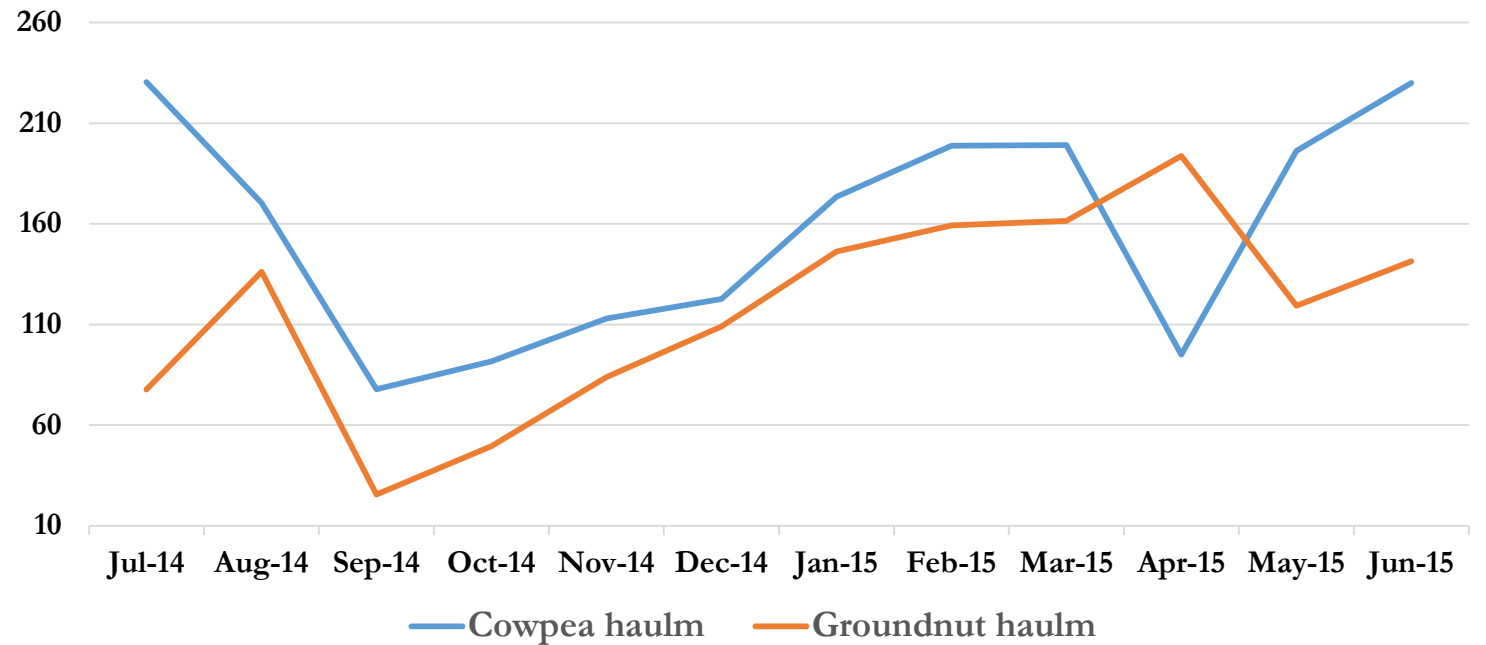
Results

-Cowpea haulm was more in demand than groundnut haulm

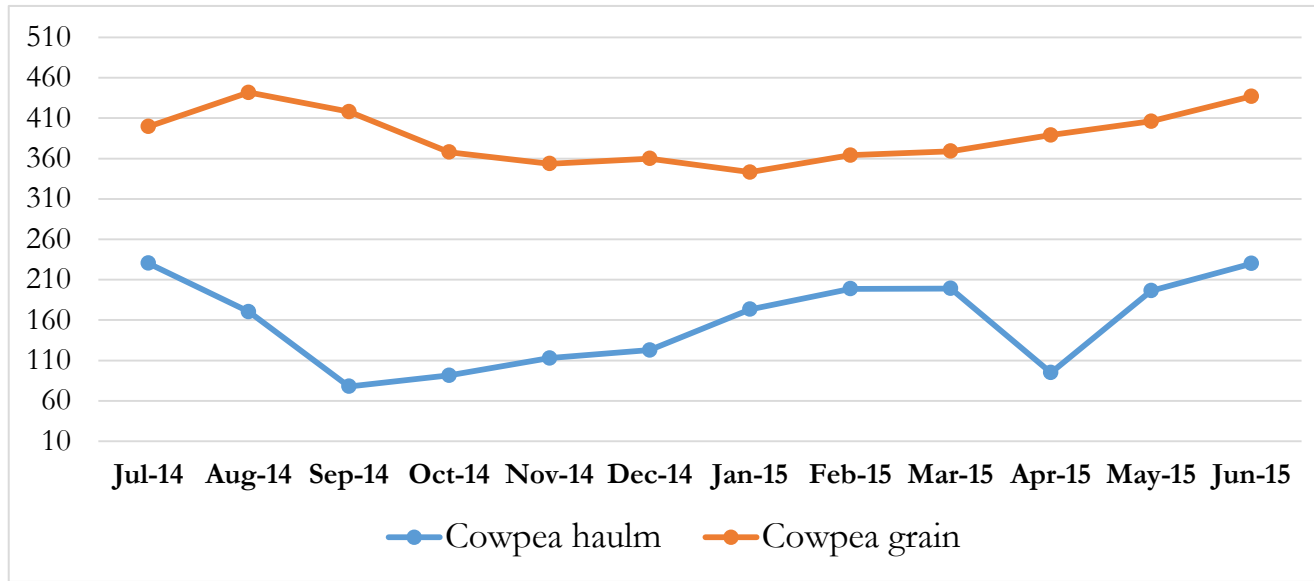
-Cowpea haulm (average 162.43 CFA/kg) were sold consistently at higher prices than groundnut haulm (119.50 CFA/kg).

-Haulm prices were lowest after harvest.

AVERAGE PRICE OF COWPEA HAULM AND GROUNDNUT HAULM

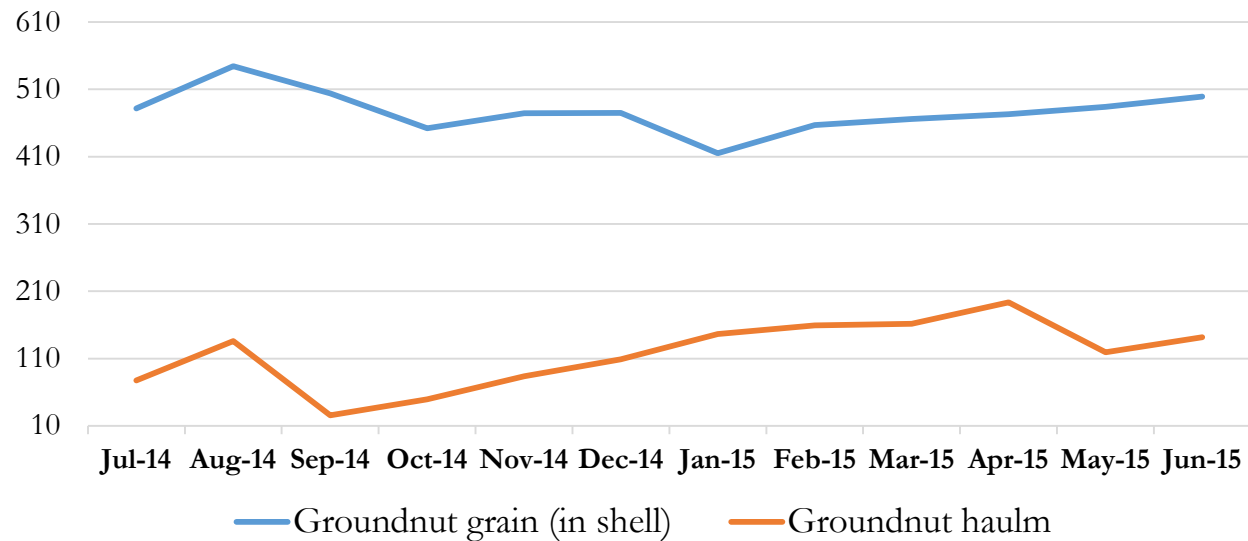


AVERAGE PRICE OF COWPEA HAULM AND GRAIN



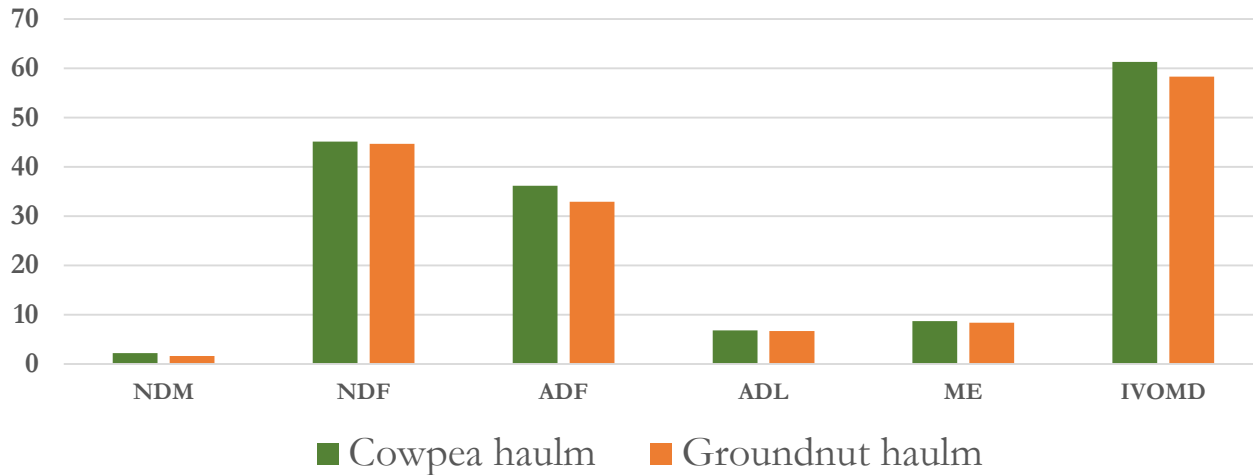
Average price ratio of:
cowpea grain to haulm
was 2.4:1.

AVERAGE PRICE OF GROUNDNUT GRAIN AND HAULM



Average price ratio of
Groundnut grain to haulm
was 4.0:1.

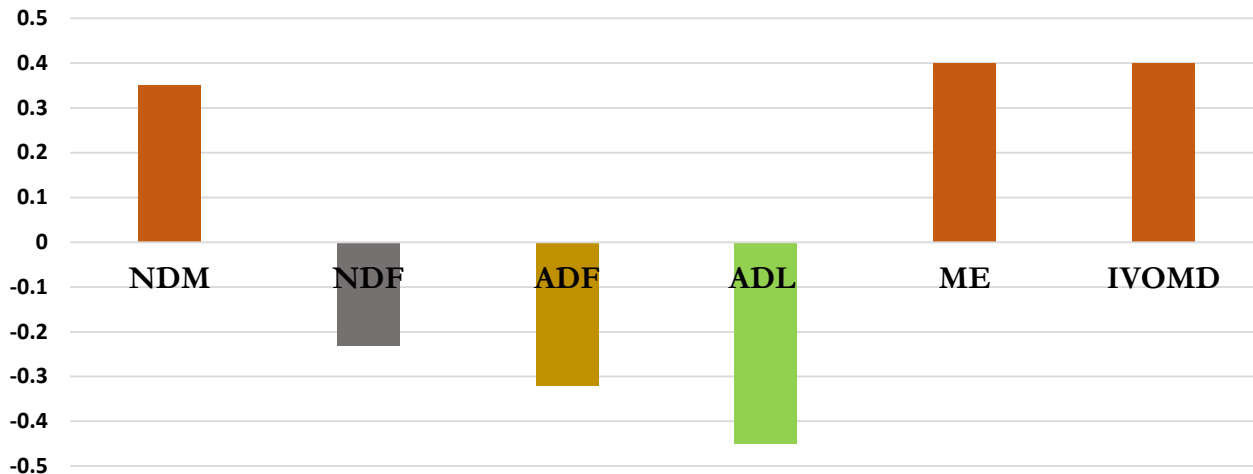
COWPEA HAULM AND GROUNDNUT HAULM FODDER QUALITY TRAITS



Trader and farmer perception on quality was green leafy haulm perceived to be high quality, yellow coloured medium and leaves infested with moulds, insects as low

Cowpea haulm fodder quality traits were superior to those of groundnut haulm in some key quality traits.

CORRELATION OF PRICE WITH HAULM QUALITY TRAITS



Significant difference in haulm for N ($p < .0001$), ADF ($p = 0.01$), ME ($p = 0.03$), IVOMD ($p = 0.00$)



- Sales prices at urban markets were about twice that at rural markets.
- Niamey 233.93 CFA/kg, Kollo- 112.77 CFA/kg
- Maradi-132.91 CFA/kg, Gazaoua-83.65 CFA/kg
- Significant difference in average price mean (140.50 CFA/kg), in rural and urban markets ($p < .0001$), in cowpea and groundnut haulm ($p = 0.0007$).
- Significant variation in prices between rural and urban markets and haulm ($p = 0.0034$) types.

Conclusion



Farmers can make significant additional income from selling of cowpea, groundnut haulm and cowpea and groundnut breeder should pay attentions to haulm yields and disease resistance.

The high price premium of cowpea relative to groundnut haulm suggest that attention should also be given to haulm fodder quality.

Thank you for your attention !