Participatory on-farm evaluation and demonstration of improved teff () varieties in Western Amhara Region, Ethiopia

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ABSTRACT

Teff, a staple food for most Ethiopians, is first in area coverage and second in total annual production next to maize. Its productivity is low compared to other cereals grown in the country partly because of less or ineffective promotion and dissemination of new teff varieties. Therefore, this activity was conducted in Libokemkem and Ebenat woredas of South Gondar Zone of the Amhara region, Ethiopia with the objectives of identifying teff variety selection criteria for use in future variety development, increasing farmers' awareness and their access to improved teff varieties, enabling farmers to assess the performance of improved teff varieties with their production package, and accelerating the dissemination of farmers preferred varieties in teff growing potential woredas of the region. The woredas were selected purposively, as they were intervention areas of the Norwegian Forestry Group/Forest Landscape Restoration Program, which is a stakeholder to ARARI and the need to acquaint farmers with recently released teff varieties. Twenty-five FREGs members and 6 interested and committed host farmers from each woreda were selected to undertake the trial on their farm plots. Two improved teff varieties: Hiber-1, and Etsub, and a local check (CR-37) were used in the trial. Farmers in the two woredas set their own evaluation and selection criteria and ranked them in order of importance using the pair-wise ranking method. Thus, based on the overall evaluation and selection criteria farmers in Libokemkem selected Hiber-1 while in Ebenat woreda they selected Etsub teff variety as their 1st choice. However, in the two woredas, Cr-37 was selected by farmers as their second choice next to Hiber-1, and Etsub which gave a mean grain yield of 1.73, and 1.6 t ha⁻¹, in Libokemkem and Ebenat woreda, respectively. Hiber-1 variety gave a yield advantage of 15.3% in Libokemkem, while Estub in Ebenat woreda gave a yield advantage of 14.3% over the local check. Therefore, since the two varieties were selected by farmers because of their quality, dry biomass yield, and yield advantage, it is worthwhile to scale up them in the woredas and other similar agro-ecologies of South Gondar Zone to ensure increased income, food, and nutrition security of the rural households.

Keywords:

INTRODUCTION

Teff

teff

Teff

Teff

teff

teff teff

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Teff

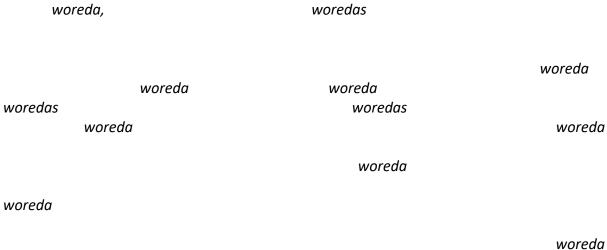
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teff varieties





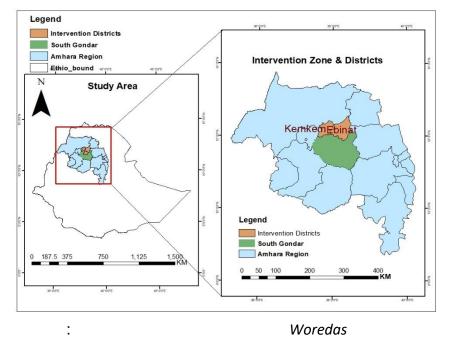
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Woreda



Selection of w

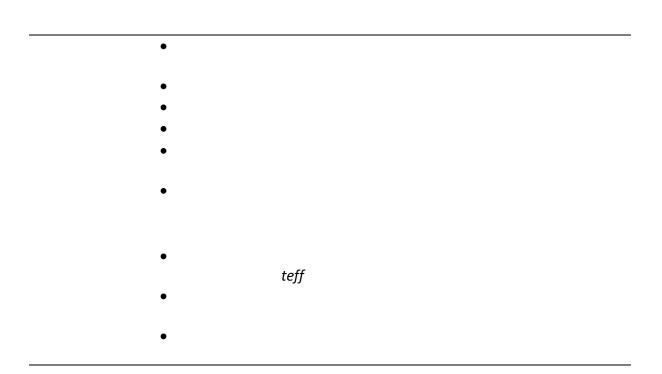
and working with NFG/ FLRP

teff

Discussion with relevant stakeholders

Signing of MOU

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	• Woreda •	Kebele	
	• •	teff	
Woreda Kebele	• •		
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FREG establishment, trial sites, and host farmers' selection

kebele

Provision of couples training and delegation of committee

 teff
 Etsub, and Hiber-1,
 Tsedey/

 Planting and other agronomic practices
 teff
 Etsub, and Hiber-1,

 teff
 Etsub, and Hiber-1,
 Tsedey/

 Monitoring and evaluation (M & E)
 woreda
 kebele

Setting evaluation and selection criteria teff

varieties

kebele

teff

teff

Field visits, field days and mini-field days *teff*

teff

Woreda

Kebele

kebele

Data collection and analysis

teff

teff

rs

$$r_s = 1 - \frac{6\sum d^2}{n(n^2 - 1)}$$

RESULTS AND DISCUSSION

Agronomictraits

teff Etsub Hibre-1 woredas • Etsub teff teff Hiber-1 Etsub woredas, Tsedey woreda Hiber-1 Etsub and 90% Hiber-1 woredas Hiber-1 woredas. . Hiber-1 Etsub variety. Hiber-1 Etsub woreda Tsedey Etsub woredas Tsedey woredas

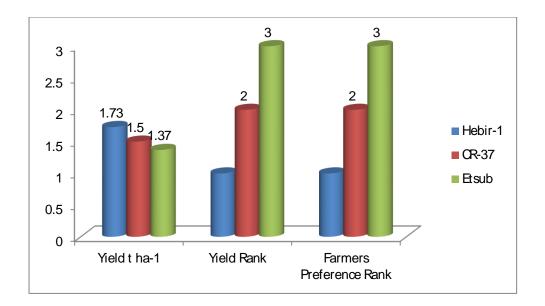
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teff v	
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Preference Ranking	
teff	
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Woreda	

Tsedey	Hiber-1. Hiber-1	Etsub teff		
	toff	woreda		
	teff	woredd		
Hiber-1				
Estub				

Hiber-1

Etsub

Hiber-1



woreda

teff

teffworedaTraitsPlant
heightPanicle
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teff

woreda

Hiber-1

Etsub

woreda

Etsub

Hiber-1 teff



Etsub

teff

teff

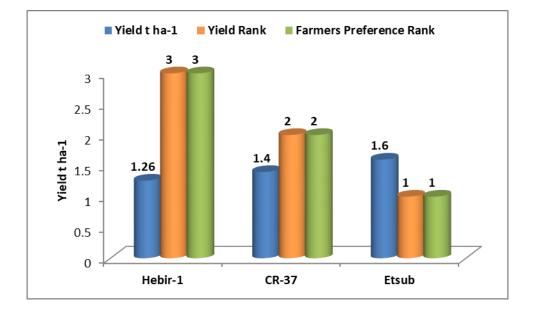
woreda



Hiber-1

Etsub

Etsub teff



Hiber-1

Etsub

Etsu	ıb			
Hibe	er-1			
Tsea	dey			

Cost benefit analysis

Hiber-1

Hiber-1

 teff varieties	woreda	
 Etsub		Hiber-1

		woreda	
Etsub	Cr-37		Hiber-

teff variety			21300	
	teff	и	voreda	Hiber-1
	Estub			
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woredas	woredas woredas		Etsub teff Tsedey	Etsub
teff	teff wozam	Hiber-1	Etsub	

Etsub

woredas Woreda Tsedey Tsedey Etsub, Woreda Etsub Hiber-1 teff Hiber-1 Tsedey woreda Etsub Tsedey woreda woredas woredas Etsub Hibre-1 woredas woredas woreda Kebele woreda kebele Kebele woreda kebele woreda kebele woredas.

woreda

Hiber-1

woreda

Etsub

teff

We have been using Tsedey for a long time and its yield has been declining year after year. Research has saved us from loss by bringing Hibre-1 to our area which is not only productive in grain yield but also in straw yield.

: "We are very happy to see Etsub variety, as its name implies it is indeed Etsub. Its grain and straw yields are better than the Tsedey variety. Moreover, its white color, softness, and malleability (woze) will help us get a better selling price."

woredas,

teff varieties

The two teff varieties Hiber-1 and Etsub have adopted the woredas, which are characterized as drought-prone woredas, and gave yields that surpassed Cr-37. Therefore, we are very happy to see the happiness of farmers and to work with research in the next up-scaling endeavors.

teff

the kebeles

woredas

teff

teff varieties woredas,

woredas.

CONCLUSION AND RECOMMENDATION

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woredas	teff	teff	woreda,			
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ACKNOWLEDGEMENTS

woredas

REFERENCES