



## Response of Improved Durum Wheat (*Triticum durum* L.) Varieties to Wheat Stem Rust in Central Ethiopia

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Wheat stem rust caused by *Puccinia graminis* f.sp. *tritici* is amongst the biotic factors which causes up to 100% yield loss during epidemic years. Therefore, the present study was carried out to observe the reaction of improved durum wheat varieties to virulent stem rust isolates at seedling growth stage and to stem rust population at adult

*P. graminis*, then ten durum wheat varieties including the susceptible check morocco were tested for the virulent in the Eastern and Western Showa of Central Ethiopia at adult growth stages. At seedling growth stage, 60% of varieties tested with the virulent stem rust isolate from Debrezeit exhibited resistance, while all varieties were resistant to Ambo isolate. Ten durum wheat varieties evaluated at adult plant growth stage to stem rust population of Debrezeit (Eastern Showa) showed severities of 20S in the variety Geredo to 70S in the variety Foka, while at Ambo (Western Showa) only the susceptible check, Morocco was infected up to 20S. The result indicated that stem rust from Debrezeit was virulent to durum wheat varieties as compared to the Ambo population.

**Keywords:** Durum wheat; *P. graminis*; Reaction; Ambo; Debrezeit

### Introduction

Wheat is the most important cereal crop in the world and widely grown occupying 17% of the world cultivated land [1,2]. Ethiopia is the second largest producer of wheat in sub-Saharan Africa [3] and it is represented as hexaploid (bread wheat) and tetraploid (durum and emmer wheat types) [4]. The crop has considered as the main staple food of Ethiopian population particularly in highlands of the country [5] where it has produced in a large volume and 95% of the total production is produced by small scale farmers. Wheat accounts for 17.5% of major crops produced in Ethiopia [6]. Currently it ranks second both in terms of volume of production and productivity after Maize and third in terms of area coverage after Maize and Tef [7].

Durum wheat which was believed to be originated in the Abyssinian

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20. Serbessa N (2003) Wheat Stem Rust (*P. graminis* f. sp. *tritici*) Intensity and Pathogenic Variability in Arsi and Bale zones of Ethiopia. Plant Science MSc. Thesis presented to School of Graduate Studies of Alemaya University, Ethiopia.

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