Inoculant promotes wheat yield increase.

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Azospirillum brasiliense is a facultative, endophytic bacteria capable of fixing nitrogen from the atmosphere, providing part of the N required to the associated plant. The bacteria also may induce plant hormones, which stimulate the growth of plant roots, improves water and nutrient absorption, and increases chlorophyll content of the leaves and tolerance to stress, especially that caused by drought. Field experiments at Fepagro Nordeste, Vacaria, with five wheat cultivars from the state of Rio Grande do Sul, Brazil, evaluated the effect of *A. brasiliense* inoculant on wheat yield. Wheat seed inoculated with *A. brasiliense* increased grain yield from 165 to 555 kg/ha (3–15%). Considering the statistical analysis, in 67% of the experiments, the grain yield average from the inoculated treatments were higher than that from the non-inoculated treatments (Tukey Test, $p \leq 0.05$). This technology may reduce the economic and environmental costs related to the production, transport, and use of nitrogen fertilizers for the wheat crop. As a follow-up step ro these studies, a core collection of genotypes from the active germ plasm bank of Embrapa Trigo are under testing to observe the response to inoculation with *A. brasiliense*.

ITEMS FROM GERMANY

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Haplotype analysis of molecular markers linked to stem rust resistance genes in Ethiopian durum wheat cultivars and landraces.

Wheat is one of the most important cereals cultivated in Ethiopia. In the country, more than 70 bread and 30 durum wheat cultivars have been released for production since the 1940s. However, the national average yield of wheat is still about 1.4 tons/ha. Even though over 30 fungal diseases of wheat have been identified in Ethiopia, stem rust, caused by *Puccinia graminis* Pers. f. sp. *tritici* (Pgt), is a major production constraint in most wheat-growing areas and causes up to 100% yield losses in epidemic outbreaks. The recent emergence of wheat stem rust race Ug99 (TTKSK) and related strains threaten Ethiopian as well as world wheat production because they overcome widely used resistance genes that had been effective for many years. The major cause that aggrivates the ineffectiveness of Ethiopian wheat cultivars against stem rust is the narrow genetic base on which breeding for resistance has been founded, however, little is known about the resistance genotypes of Ethiopian tetraploid wheat cultivars and landraces.

Our objective was to identify the stem rust resistance genes that are present in the Ethiopian tetraploid wheat cultivars and landraces using molecular markers and assess which genes are effective for current Ethiopian stem rust races of Pgt including Ug99. A total of 58 tetraploid wheat accessions consisting of 22 Ethiopian cultivars released during from 1966–2009, four ICARDA cultivars, and 27 landraces were genotyped using 17 molecular markers (SSR, EST, and InDel) linked or diagnostic for stem rust resistance genes *Sr2*, *Sr13*, *Sr22*, and *Sr35*. Haplotype analysis indicated that many of the Ethiopian durum wheat cultivars carried *Sr13*. The resistant cultivar Sebatel showed a haplotype for *Sr2* and *Sr22* and cultivar Boohai for *Sr22*. However, further evaluation for the diagnostic value of these haplotypes is needed. This study is the first report on the presence of stem rust resistance genes in Ethiopian durum wheat cultivars and tetraploid landraces based on linked or associated molecular markers and may help to identify cultivars carrying resistant