

**Name:** *High zingiberene (Hzb)*

**Map position:**

**Gene function:**

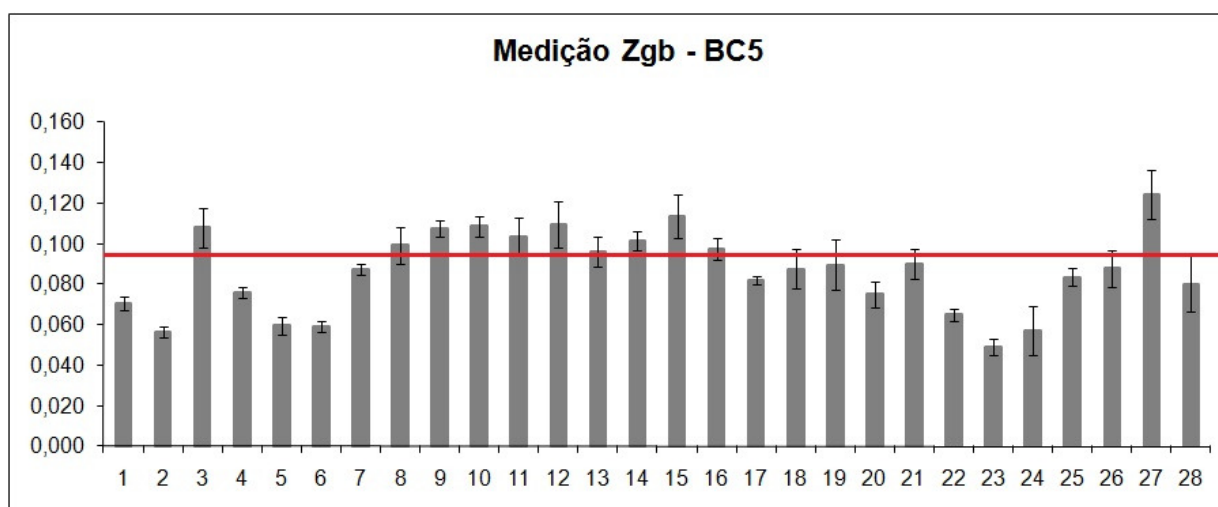
**Gene effect:**

**Phenotypes:** Production of high amounts of the sesquiterpene (C15) zingiberene.

**Description of accessions available:** MT-*Zgb* is a BC6Fn obtained from the cross MT x *S. habrochaites* PI127826.

**Comments:** This trait is probably under epistatic interaction of other genes from *S. habrochaites* controlling the formation of glandular trichomes (type I and IV). The lack of such genes in MT hampers the production of zingiberene levels compared to that of *S. habrochaites* even in the presence of the *Hzb* allele.

**Figures:**



Segregation of a BC5 population for *High zingiberene* trait. The red line marks a zingiberene level securely beyond that of the control MT. A mix of pollen from genotypes #3, 9, 10, 15 and 27 was used to pollinate MT and thus produce the BC6 generation.

## Bibliography

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Gianfagna TJ, Carter CD, Sacalis JN (1992) Temperature and photoperiod influence trichome density and sesquiterpene content of *Lycopersicon hirsutum* f. *hirsutum*. Plant Physiol 100: 1403–1405

Maluf WR, Campos GA, Cardoso MG (2001) Relationships between trichome types and spider mite (*Tetranychus evansi*) repellence in tomatoes with respect to foliar zingiberene contents. Euphytica 121(1): 73-80.

van der Hoeven RS, Monforte AJ, Breeden D, Tanksley SD, Steffens JC (2000) Genetic control and evolution of sesquiterpene biosynthesis in *Lycopersicon esculentum* and *L. hirsutum*. Plant Cell 12: 2283–2294