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Choosing a suitable sorghum hybrid helps control the maize weevil in the tropic region?

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Sorghum is the fifth most produced cereal in Brazil, with a total production of 1,919.6 thousand tons, in the 2018/19 crop. Widely used in animal feed, sorghum is stored for some months and damaged, especially by maize weevil, *Sitophilus zeamais*. The lack of data about susceptibility of modern hybrids of sorghum to maize weevil may underestimate the potential loss, especially in the tropics. The objective of this study was to identify sources of resistance to *S. zeamais* in sorghum hybrids during storage. The experiments were carried out using glass jars (1.7 L), with about 1.5 kg of 35 sorghum hybrids grains, characterized by water content and specific mass. The jars were infested with 70 adult insects and stored under ambient conditions (January-April). After 100 days of storage, the number of live insects, water content and specific mass were assessed. The weight loss was estimated by data of specific mass corrected by the water content. The experimental design was completely randomized with three replicates for each hybrid and the data subjected to analysis of variance followed by Waller-Duncan test ($p<0.05$), in addition to correlation analysis. Significant difference in the number of adult *S. zeamais* among the hybrids ($F_{34,96}=1.63$, $P<0.0482$) was observed, with hybrids CMSXS3002, 50A50, CMSXS3000 and 1527039, with lower number of live insects after storage. The hybrids with the highest number of live insects were AGN1806, XB6018, BRG37115 and BRS373. Significant and positive correlation was observed between weight loss and number of live insects. Some sorghum hybrids demonstrate greater tolerance to the development of *S. zeamais*, however, in the more susceptible ones, losses can occur over 11.6% in the period of 100 days of storage.

Key words: *Sitophilus zeamais*, varietal resistance, tropical regions, *Sorghum bicolor*, grain storage