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## Quality of maize stored in family farm cribs of the state of Minas Gerais, Brazil

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In Brazil, the majority of the maize production is stored in adequate silos with efficient insects and fungi control. However, many small farmers of the state of Minas Gerais, Brazil often store their production in small cribs, under precarious conditions. This unsuitable storage may increase the insect and fungal attacks and the mycotoxin synthesis, which may cause loss of grain mass and damage in the animal and human health. So, this study aim to evaluate the sanitary quality of maize stored in cribs of family farms located in Minas Gerais, Brazil. Samples were collected from June 2013 to January 2014 and from July to November 2014, in 11 family farms, totalizing 44 samples. The loss index, the insect pests incidence and the total aflatoxin content were evaluated in the samples. The results showed that the bulk density reduced over the storage periods, varying from 2.7% to 16.2%. The mass of 1000 grains also decreased, with values ranging up to 13.0%. The insect infestation ranged from 0.3 to 52.5% and most samples were above the Brazilian maximum limit for commercialization (8%). Aflatoxins were detected in 88.64% of the 44 samples with levels ranging from 2.5 to 7.0  $\mu\text{g kg}^{-1}$ , but, only two samples were above the maximum tolerable limit (20  $\mu\text{g kg}^{-1}$ ). Although the aflatoxin contamination in samples was low, good agricultural and storage practices must be adopted by these farmers, to control insect infestation in order to minimize the grain loss and to produce maize with better sanitary quality.

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