

## BLOTTER TESTING OF MACROTILOMA SEEDS

### TESTE DE BLOTTER EM SEMENTES DE MACROTILOMA

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*Macrotyloma axillare* (E. Mey.) Verdc is a forage legume characterized by the presence of hard seeds, which hinders the entry of water and the beginning of the germination process. In this sense, there is a growing demand for studies to reduce the dormancy of Fabaceae fodder species to improve production, requiring scarification methods that provoke fissures in the integument. Another characteristic of this species is the difference of tegument color classes (light and dark). Besides that, there is also a direct influence of the incidence of fungi on the integument on seed quality. Therefore, it is necessary to evaluate the sanitary quality to obtain information about vigor, which can be affected by inadequate storage conditions and pathogenic fungi, such *Aspergillus*, *Cladosporium* and *Penicillium*. In this context, the fungal species in different color classes of *Macrotyloma* seeds after scarification were evaluated. The experiment was carried out in the Plant Production Laboratory of Federal Institute of Education, Science and Technology of Southern Minas Gerais (IFSULDEMINAS) - Inconfidentes campus, in 2016. A single seed batch of *Macrotyloma axillare* accession NO 279 from the Forage Plant Germplasm Collection of the Institute of Zootecnia, Nova Odessa, SP was used. The seeds were separated into four tegument color classes: grey, yellow, red and black. Each color class was subjected to four scarification techniques: soaking in hot water at 80 °C for 3 minutes, soaking in concentrated sulfuric acid for 10 minutes, manual scarification by cutting the forehead with a scalpel in the region opposite the embryonic zone, and mechanical abrasion with # 120 sandpaper for two minutes (control). The experiment had a completely randomized block design in a 4 x 5 factorial arrangement (4 colors, 4 scarification methods + one control), with 4 replicates of 50 seeds. The treatments were evaluated simultaneously using the blotter test or filter paper method. Data were analyzed using the MIXED procedure of the SAS (Statistical Analysis System) statistical program with a significance level of 1%, and the means were compared by the Tukey-Kramer test. As result, the highest contamination index (97.5%) of *Aspergillus* genus was verified in the scarified red and gray seeds. Regarding the genus *Penicillium*, the highest percentage of fungi was found in the black seeds witnessed (8.1%), but this was not significantly different from the black seeds abraded with sandpaper (4.9%). For *Cladosporium*, there was no significant difference between the scarification methods, although the highest percentage was found in black seeds (3.2%). We concluded that the immersion of seeds in either water or sulfuric acid significantly reduced the development of microorganisms by the removal of fungi from the integument.

Keywords: fungi, health, legume.

Acknowledgments: Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP).