

Effects of Scarification on Germination of Acacia tortilis Seeds
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Acacia tortilis seeds may benefit from being consumed by herbivores such as elephants and impalas, however, the mechanism that enhances seed germination may not be only scarification of the seed coat. Acacia tortilis produces both indehiscent and dehiscent seed pods. Herbivores during the dry season consume the indehiscent seed pods for a source of protein and carbohydrates (Miller, 1993 and Dharani, 2002 and Taylor and Cash, 1999). Differences between impala (4-chamber ruminant stomach) and elephants' incomplete digestion of consumed material may influence how Acacia seeds germinate. Four groups of seeds collected were found to all be infested by bruchid beetle larvae. It was hypothesized that scarification induced by digestion or manually, should yield enhanced germination. Additionally, impala digested seeds should show enhanced germination compared to the elephant group. There was no difference in the number of germinated seeds found between the four groups, however, the elephant group had the highest. It was observed that all bruchid larvae bands were black as compared to the white, transparent bands of the three other groups. Additionally the seed length was significantly larger when compared to the other groups. In contrast, the impala group showed enhanced germination and was significantly different in the number of days before germination initiated as well as the highest average difference in seedling growth and overall seedling length. Understanding how scarification and digestion affect seed germination can be helpful in creating techniques that can enhance the yield of crop and plant species for agricultural and conservational purposes.