



Tropentag, September 17-19, 2013, Stuttgart-Hohenheim  
“Agricultural development within the rural-urban continuum”

## Effects of Salinity on Growth of the African Baobab: Differences Between Seedlings from Malian Provenances

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### Abstract

The African baobab (*Adansonia digitata* L.) is a widely used multipurpose tree species, growing in the dry regions of tropical Africa, with medicinal properties, numerous food uses, and bark fibers used for a variety of applications. In this way, the tree plays an essential role in the rural communities of western Africa as a supplement to the local diet, a buffer against crop failures and a support for the local economy. Although the baobab is used by millions of people on a daily basis, the species has not yet been given the right attention and is being underutilised at this moment. Over the last few years a lot of research has been done on the baobab and much is already known about its behaviour. However, little is known about the effects of salinity stress. Soil salinity is one of the major problems affecting crop productivity in arid and semi-arid regions. Throughout the world, hundred million hectares or five percent of the arable land is adversely affected by high salt concentration, which reduces crop growth and yield. Almost fifty percent of the irrigated land is affected by high salinity, often resulting from secondary salinisation due to inappropriate use of saline irrigation water. In warm and dry areas, salt concentrations increase in the upper soil layer due to high evaporable water losses which exceed precipitation. Therefore, the objectives of this study are to analyse the growth of African baobab seedlings from contrasting Malian provenances and to classify them in terms of salt tolerance, with the overall aim of improving baobab cultivation in saline environments. For this study baobab seedlings from contrasting Malian provenances will be used and tested for their salinity tolerance. Growth indicators of seedlings from the selected provenances will be compared after exposure to increasing salt stress.

**Keywords:** Baobab, Mali, salinity, soil