

# Effects of salinity on growth of the African Baobab (*Adansonia digitata* L.): Differences between seedlings from Malian provenances.

## INTRODUCTION

The African baobab (*Adansonia digitata* L.) is a multipurpose tree species.

- As a supplement of the local diet.
- A buffer against crop failures.
- A support for the local economy.

Soil salinity is one of the major problems affecting crop in dry regions.

- To study the effect of salinity on growth indicators of seedlings of three provenances.



## OBJECTIVES



- ➡ To analyze the growth of African baobab seedlings from contrasting Malian provenances.
- ➡ To classify them in terms of salt tolerance, with the overall aim of improving baobab cultivation in saline environments.

## MATERIAL AND METHODS

### Study area

- The greenhouse of Antwerp (Belgium/51° 00' N, 3° 50' E).

### Study site

- 3 study sites following a latitudinal, characterized in Mali.
- Based on difference of IWC.IWC-O of the soil characteristics in Mali.
- Seeds of similar weight were planted in the pots with river sand in the greenhouse (20 °C at night to 30 °C day/humidity range from 45% to 65%).

- Irrigated during 11 weeks by tap water and Nutrient Solution.
- After 11 weeks adaptation 0, 20, 40 mM NaCl was added to the final nutrient Solution.

## RESULTS

- The seedlings from the Tatakarat provenance does not seem to be salt tolerant judging by the decrease in length, especially in the treatment with 40mM NaCl.



Tatakarat control plants



Tatakarat 40 treatment plants

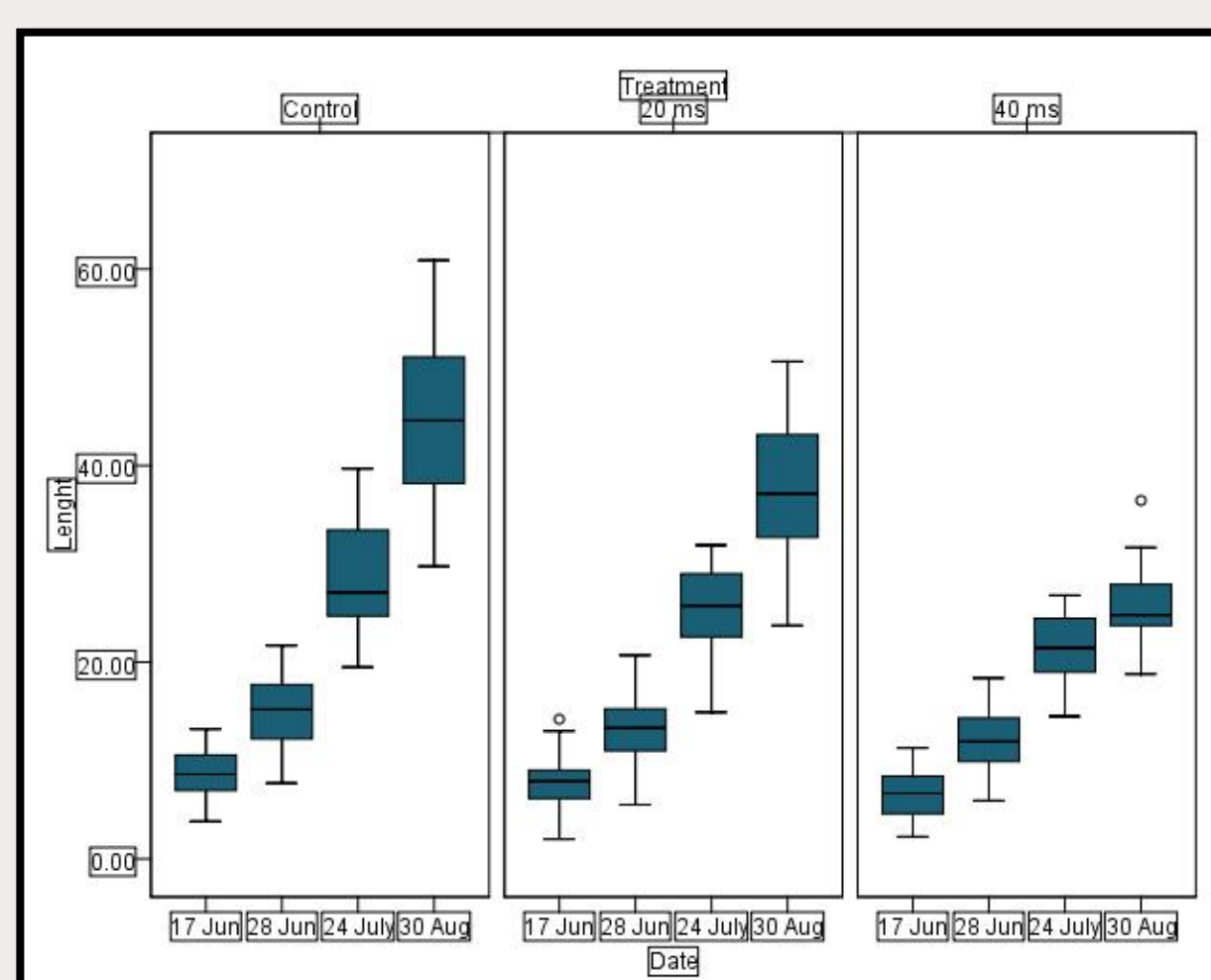
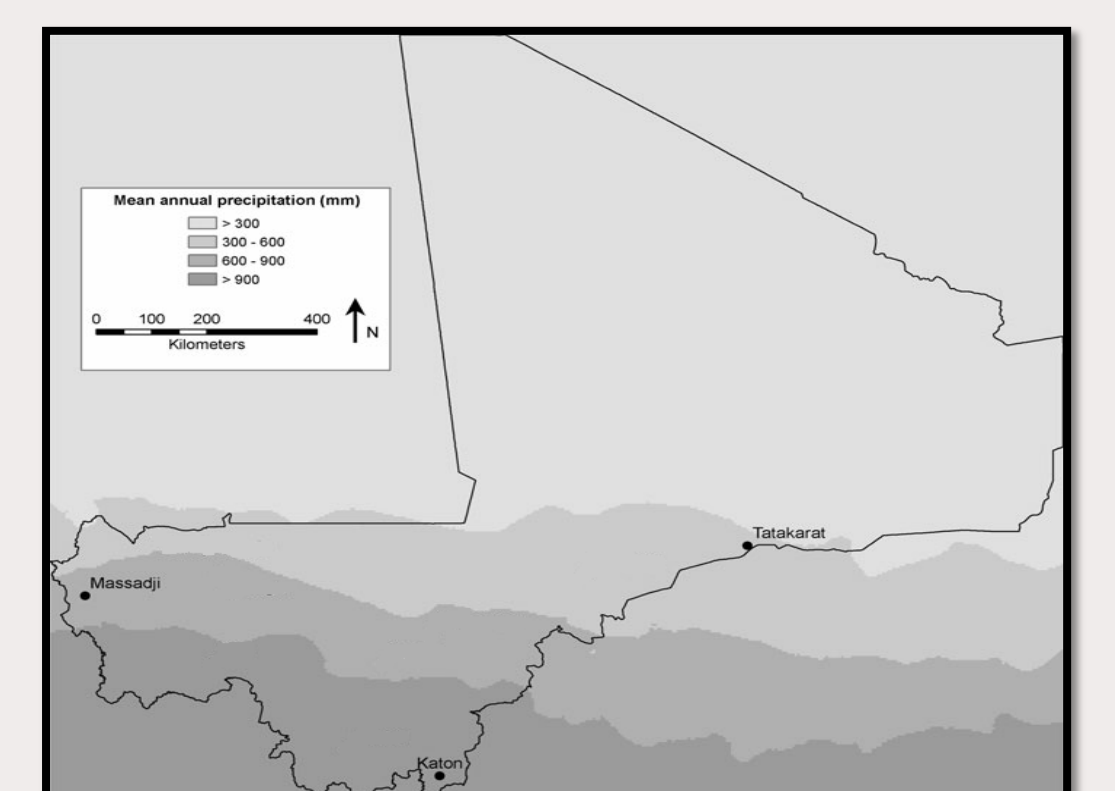
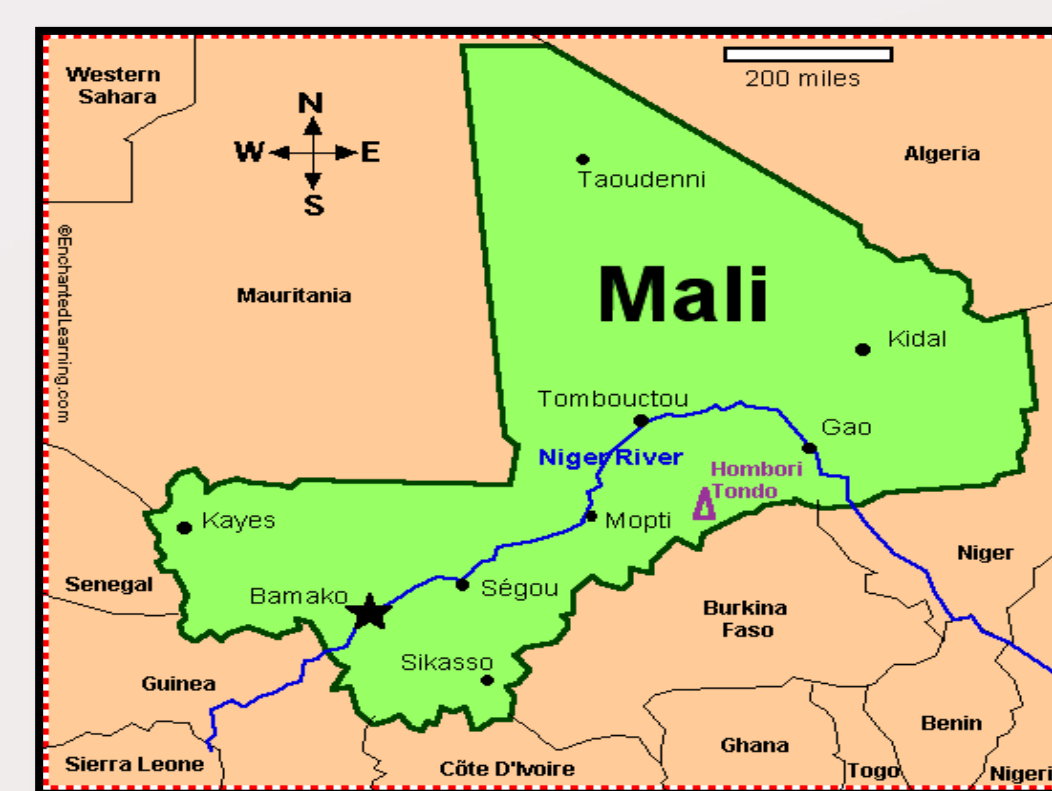


Fig1. Length of Baobab trees from Tatakarat provenance

## DISCUSSIONS

- The baobab seedlings show different responses to exposure to NaCl. This can be observed mainly in the growth.
- At the moment the seedlings from Tatakarat appear to be salt-sensitive.
- No considerable differences are observed in other parameters such as diameter and number of leaves. Also, no other salt related symptoms, such as leaf necrosis are visible at the stage.



## CONCLUSIONS

- ➡ As you can see my experiment has only recently started the salt phase.
- ➡ Further research is necessary and final result are not yet know at this stage.

