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EXAMINATIONS ON CHINESE SILVER GRASS (*MISCANTHUS SINENSIS*) RHIZOMES WITH DIFFERENT QUALITIES IN SMALL PLOT EXPERIMENTS

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Introduction

- According to our previous researches *Miscanthus* does not have particular demand about soil require
- It can be produce successfully even in areas with not so favourable characteristics and temporary water coverage
- Seeds of the plant are sterile hence it can only be propagated vegetatively (by rhizomes)
- Determining the quality of rhizomes as propagation materials is more difficult than in the case of seed kernel

- Production of propagation material can be done by hands, the disadvantages of which are a high demand for manpower and slowness

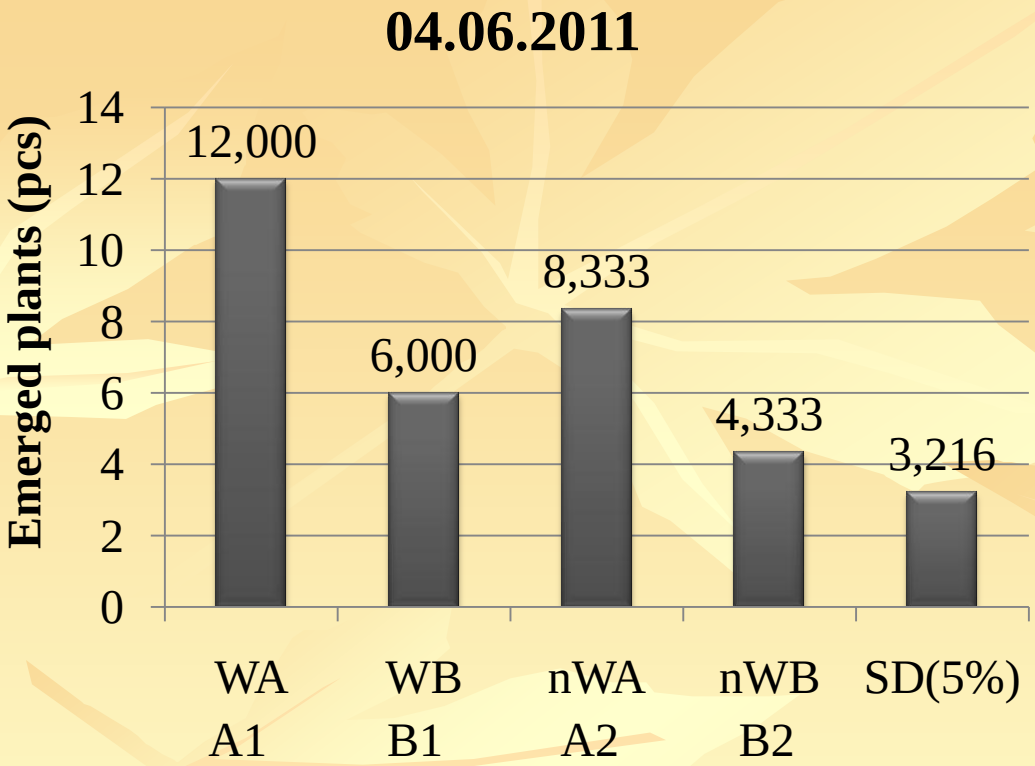
- Mechanical handling of rhizomes cause heterogeneity in reproductive material that is a source of problem

- In the international literature the size of rhizomes suitable for cultivation is indicated as 10 to 15 cm, however, this size can be provided only with a certain extra cost

Material and methods

- Small plot experiments (size of plots were 3 m^2) were set in Gödöllő in 2011, in randomized block arrangement in sandy loam soil
- In experiment 3 to 5 cm long rhizomes (B) and 6 to10 cm long rhizomes (A) have been compared under watered (1) and unwatered (2) conditions in 3 replications
- We planted 15 rhizomes in each plots
- The plots were irrigated 2 times after the planting
- Each time10 mm water was given to the watered plots

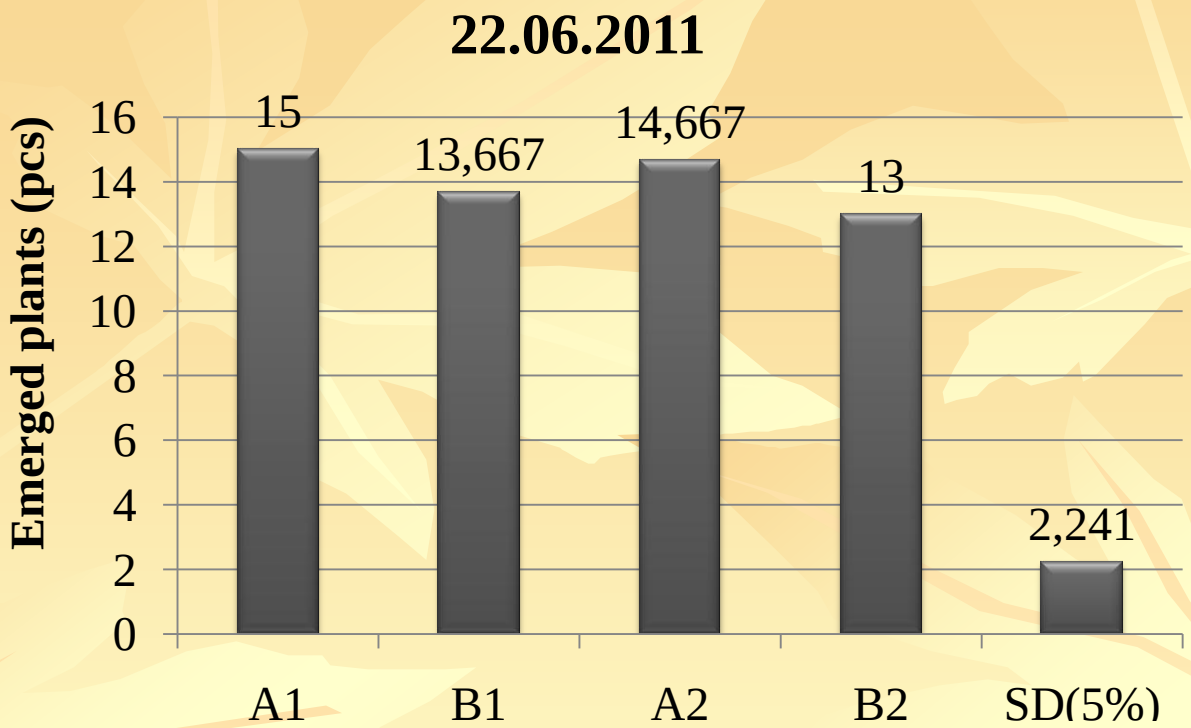
Results 1.



- In this figure you can see the average plant number emerged per plot on the 21st day after the planting
- Significant difference can be seen between A1 and B1 plots, and between the A2 and the B2 plots

- As we comparing the results of A1 and A2 plots, significant difference could been also detected

Results 2.



This diagramm represents the average number of emerged plants on the 39th day after the planting

No significant difference could be seen among the plots. In the case of 10 cm long rhizomes (plots A1 and A2) the average rate of emergence reached 98%, while in the case of 5 cm long rhizomes (plots B1 and B2) this rate was 89%

Conclusions 1.

- According to our experimental results we can conclude that spring and early summer months with an average water supply equalize the shooting of propagation materials with different parameters (rhizomes A and B) and so the state of *Miscanthus* plantation

- Longer rhizome with more buds (A) emerged faster and more dynamically after planting and making the number of emerged plants higher in the first month

- This benefit disappeared until our next plant survey (on 22 June 2011) as there was no significant difference between types of rhizomes (A and B)

Conclusions 2.

- In case of „A” rhizomes we observed 98% shooting, but in case of „B” rhizomes this rate was 89%
- Pre-shooting irrigation provides safer development just as initial benefits. Probably this benefit could become more impressive in a drier year

Acknowledgements

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