

STUDY REGARDING THE DEVELOPMENT OF THE SEMINAL OFFSPRING OF ACACIA IN THE SECOND VEGETATION YEAR FROM THE HILL AREA OF CODRU MOMA MOUNTAINS

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Abstract

Acacia is considered a tree which is easily adaptable to the climatic conditions of the western area of Romania, it can be identified in forest cultures but especially in isolated bodies which have set in without the help of human resources, in various areas of the country, thus we can find it approximately from the sands of Oltenia up to the mountainous sub-areas of the Carpathians. The obtained results will allow the indication of the most appropriate acacia variety for the pedoclimatic conditions specific to the studied area as well as adopting some new strategies of capitalization of the experimental data in case these will prove just as precise and just as easy or even easier to apply compared to the currently used methods.

Apart from the capacities of the acacia varieties of adaptation to certain environmental conditions, a major interest is also in the economic value obtained by the cultivation of the varieties favourable to it.

Key words: acacia development, seminal offspring, acacia, woods, rectissima, oltenica, Codru Moma

INTRODUCTION

Present in Romania since 1852 when it was introduced in forest cultures, acacia displays the capacity to easily adapt to the pedoclimatic conditions of the western part of Romania.

Apart from the advantage of adaptation to various soil types, it also displays special economic advantages, it fixes the eroded soils or those undergoing erosion, sandy soils which display the desertification phenomenon, it is used in creating forest covers protecting farming cultures, national highways or localities, it is the most melliferous forest tree and its caloric value is among the highest values.

MATERIAL AND METHODS

The present study is a stage of the research regarding the introduction of some acacia variabilities in the hill area near the Codru Moma mountain chain.

The research aims at the species' way of adaptation and development to the pedoclimatic conditions from the respective area.

Introduced in culture since 2010, the studied biological material is represented by two acacia varieties (*Robinia pseudoacacia* var. *rectissima* and *Robinia pseudoacacia* var. *oltenica*.), the culture being set up in the planting scheme of 2x1, localized near Bârzești locality, of Arad county.

After the second vegetation year after setting in one carried out five repetitions by random sampling from each variety, each repetition summing up to a total number of ten samples.

One carried out measurements of the following characteristics:

- height of the seedling in centimetres from the ground level up to the tip of the axle;

- diameter at the base ring;

For the precision of the diameter measurements one used the calliper and for the height the dendrometer.

The results obtained from carrying out the biometric determinations on the mentioned kinds, in the two studied acacia varieties were statistically processed by variation analysis, specific to the monofactorial experiences carried out in rows of measurements (Ardelean., 2008).

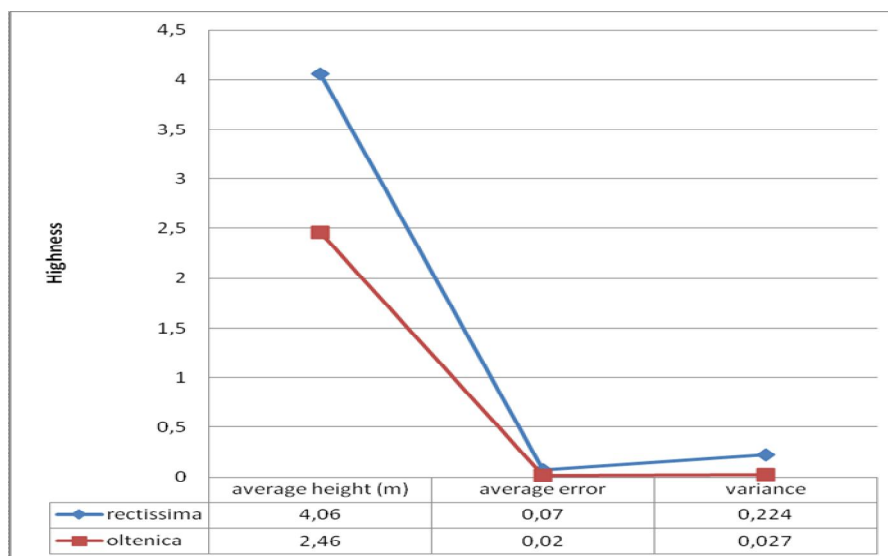


Fig. 1 Influence of the acacia variety on the seedlings' height at the end of the second vegetation year. Bârzești, 2011.

After the second vegetation year the acacia rectissima variety displays a growth difference of the seedlings' average height of 1,6 meters compared to the oltenica variety, this difference proved to be very significant, which confers a very large credibility to the obtained results regarding the seedlings' average height in the two varieties.

It is confirmed for the second vegetation year as well, that regarding the height of the plants from different varieties set up in Bârzești, the acacia rectissima variety displays a much more significant and vigorous growth than the oltenica variety.

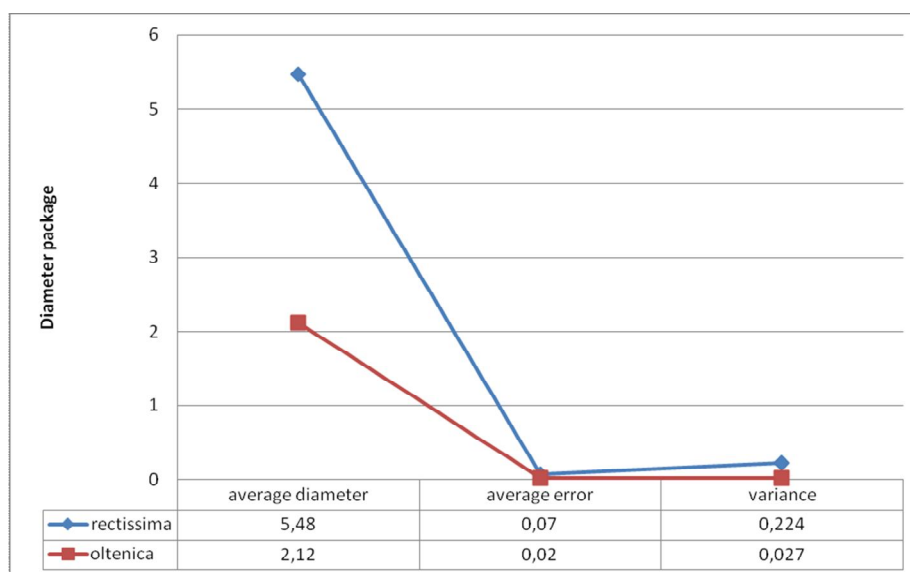


Fig. 2 Influence of the acacia variety on the diameter at the seedling's base ring at the end of the second vegetation year. Bârzești, 2011.

The rectissima variety displays at the end of the second vegetation year a considerable base ring growth, which has an average value of 5,48 cm, in relation to the oltenica variety, the growth difference at the base ring level being very significant, this difference having a value of 3,36 cm.

CONCLUSIONS

The interpretation of the obtained results was made by taking into account the specific characteristics of an acacia plantation in the second vegetation year after planting.

The characteristics vary obviously compared to the ones considered in the adult trees, referring especially to elements of vegetative growth of the seedlings from the two studied acacia varieties.

Apart from the aspects of vegetative growth, in acacia as well as in other forest species, one takes into account the extent to which the planted seedlings developed in a vegetation season under the same conditions.

Together with the results obtained in the first year, the results obtained in the second year confirm the fact that the *rectissima* variety is clearly superior to the *oltenica* variety, fact which allows the indication of the most appropriate acacia variety for ecological conditions specific to the studied area as well as adopting some new strategies of capitalization of the experimental data in case these will prove just as precise and just as easy or even easier to apply compared to the currently used methods.

In conclusion, the hill area of Bârzești near the Codru Moma mountain chain displays favourable conditions for the development of the acacia varieties, and the *rectissima* variety is clearly superior from the point of view of the tree stock in thickness as well as of the speed of height growth to the *oltenica* variety.

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