RESEARCHES REGARDING THE PRESENCE OF THE SWEEP OF TURKEY OAK TREES IN THE OAK TREE FOREST OF BOBOSTEA FOREST (BIHOR)

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Abstract
In the present work there presented the results of the observations and measurements made for the Turkey oak trees in the tested areas placed in Bobostea forest (Bihor).
They permitted some conclusions in connection with the localization and the frequency of the sweep defects.

Key words: the wood defectology, sweep

INTRODUCTION

The wood defectology regards its deviations from the standard concerning the shape of the trunk, structure tissue integrity and its chemical composition as well as some structural formations (the knots and the heart), deviations which influence the quality negatively and reduce the possibilities of utilization in certain domains of activity.
Moreover, it answers the need of profound knowledge of quality providing descriptions of the possible deviations, resulted from a long previous experience (Beldeanu E., 2008).
The sweep represents a (serious) defect that leads to lowering the quality of wood in the case of the affected trees, being generated by the great load, procedeed from the wind pressure, the snow weight etc., to which the tree is subjected to, or may be caused by the asymetry of the crown.

MATERIAL AND METHODS

The VIIth Bobostea Management Unit, in which the "Bobostea" forest is being situated, joins the great geographic unit of the Carpathian domain, branch of Crisana Hill, to the group of Beius Hills.
The Oak Tree Forest in this Management Unit has a good vegetation, but one can notice the presence of more exterior defects of trees (in a closer notice).
The placement of the sample areas has been made by using the electronical hypsometer (Vertex IV) for determining the sloping and superlength of the side placed on the direction closed to the biggest slope. The sample areas have rectangular shape 750-2200 m^2 in relation with the homogeneousness under the forest site conditions, the stand and the number of the constitutive trees (30 evaluated trees).

RESULTS AND DISCUSSIONS

From all the wood defects of the *Turkey oak* trees of great importance are those which have declasse portions of wood, from round wood good for work, to splitted wood that is: the wood rat, the bifurcation, the sweep, the frost-crack and the knots.

120 trees have been catalogued (evaluated) to evidence the presence, the size and the location of *Turkey oak* trees defects in Bobostea forest, their deviation and diameter category, as well as the identified defects being presented in the chart below:

Table 1

The frequency of the visible defects of the standing Turkey oak trees

d (cm)	The Bifurcation	The Sweep	The Frost-Crack	The Rot	The Knots	The Root-Swelling	Defectless Trees	Total Trees
26	-	4	-	-	-	-	-	4
28	-	2	3	-	-	-	2	6
30	-	1	3	2	-	1	3	8
32	1	5	3	-	1	3	1	8
34	-	2	3	4	1	8	3	15
36	1	6	6	4	1	5	-	14
38	-	4	7	3	2	3	3	14
40	-	3	4	1	-	4	4	11
42	1	6	7	1	2	7	1	13
44	-	3	4	1	2	2	-	8
46	-	3	1	-	1	3	1	6
48	-	2	3	1	2	1	-	4
50	-	-	4	1	1	2	-	4
52	-	-	2	-	2	-	-	2
54	1	-	1	-	1	2	-	2
60	-	-	1	-	-	-	-	1
Total Trees	**4 (3%)**	**41 (34%)**	**52 (43%)**	**18 (15%)**	**16 (13%)**	**41 (34%)**	**18 (15%)**	**120**

It comes out that the frequency of the radical cracks and of shape defects is more raised than the frequency of the other studied defects.
The data in the first chart are eloquently represented in the graphic.

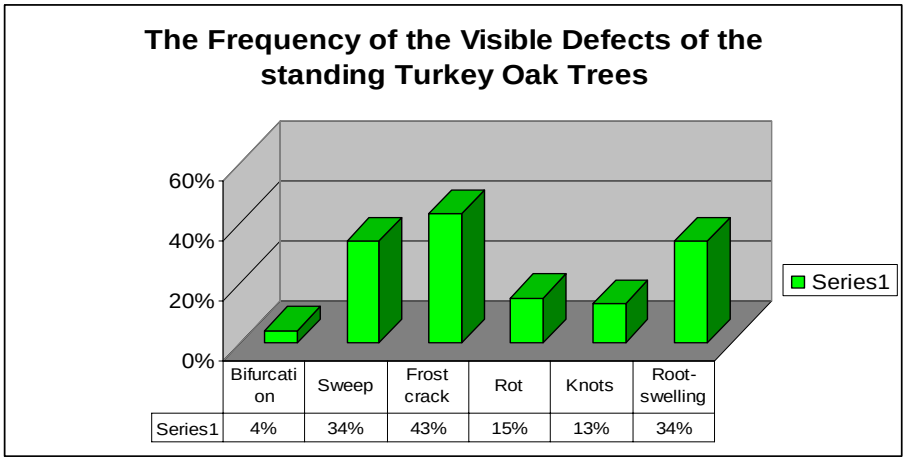

Fig. 1 The frequency of the visible defects of the standing *Turkey oak* trees

A 34 % per cent of the evaluated trees are being affected by (simple or multiple) sweep, resulted from the processing of data picked up from the forest.

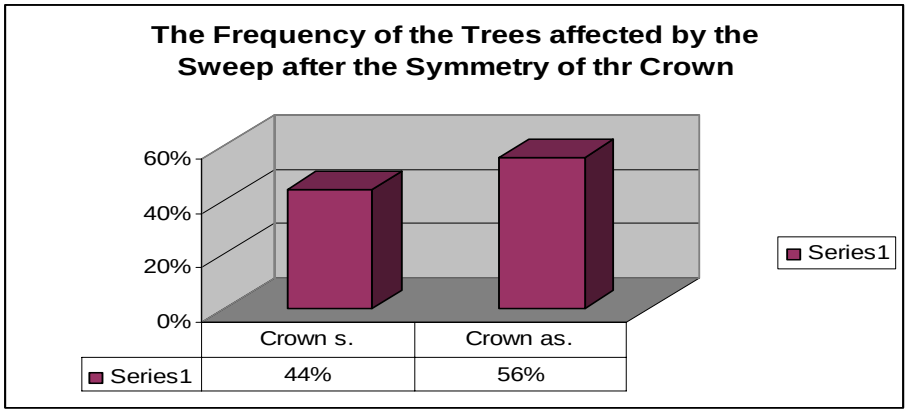

Fig. 2 The frequency of the trees affected by the sweep after the symmetry of the crown

Analysing the graphic above, it comes out that the sweep of the evaluated *Turkey oak* trees isn't due to the coron asymmetry but probably to the other causes at the outset.

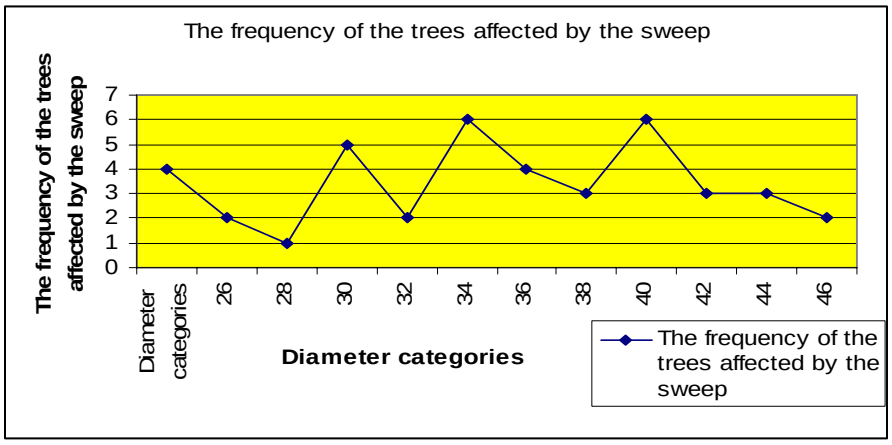

Fig. 3 The frequency of the trees affected by the sweep on diameter categories

It comes out that the presence of the defect in an almost constant proportion to all the diameter categories there not being a bigger incidence of the defect to a certain diameter category.

CONCLUSION

The quality of the wood of the trees in our forests is being affected by numerous (interior and exterior) defects, and the causes of their appearance and changes are of the most diverse ones.

The wood of the *Turkey oak* trees reacts differently to the action of certain physical, chemical, biological factors, depending on age which makes the frequency and the development of the defects not being the same to all the diameter categories.

Many natural factors press a negative influence upon the development of the trees and can be less avoided (the action of the frost, wind, snow etc), but can be controlled in a large manner using the intervention of the silvic personnel.

The next conclusions come out from the presentation made referring to the frequency and distribution of the *Turkey oak* trees with sweep.

- the sweep of the evaluated *Turkey oak* trees isn't due to the asymmetry of the crown, but probably to the other causes at the outset.

- the presence of the defects in an almost constant proportion to all the diameter categories, there not being a bigger incidence of the defect to a certain diameter category.

These researches may lead to the forestalling of the appearance of the wood quality defects and to a better evaluation of the standing wood and to a more correct wood sorting in papers.

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