ISSUES RELATED TO THE DEPRECIATION OF BEECH WOOD (*FAGUS SYLVATICA* L.) AFTER HARVESTING AND STORAGE

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Abstract

In the context of the present crisis, namely of the existing wood crisis, but especially of the one foreseen in the near future, besides the depreciation of the wooden fabric due to natural causes, it can appear at harvesting also depreciations which beat to the wood downgrade as a economical value from qualitative point of view. The proper achievement of the phases and work procedures at harvesting, the used equipment, the human resource, and the storage, are important aspects which contribute directly to the value of the product resulted from the wood exploitation. The present paper presents a few defects that frequently appear after harvesting and storage of the pieces resulted in the wood timber extraction activity, the study taking place at the Belin Forestry, D.S.Arad

Key words: wood harvesting, products of the forest beech, wood depreciation, mechanic cutter, wood fiber, exploitation of forests.

INTRODUCTION

When we speak about the economical value of a forest, when this reaches the exploitability age, besides the encountered natural physiological factors as: the sprawl, the groove, dote, the curvature, which lead to the wood`s displacement namely to the diminution of its economical value, can also intervene depreciations due to the harvesting process.

In the view of superior revaluation of wooden fabric given to exploitation, it is indispensable, the harvest sortation transportation, manipulation and storage, due to the inobservance of the working techniques. (Giurgiu, et al, 1982).

The logs of the beech are affected by suffocation in the hot season and measures need to be taken in the timber yards, against their alteration (Smit, Timofte., 2008).

Also, the way of storage and the assurance of a minimum conservation of the logs of beech (for example, through aspersion and immersion) could lead to a diminution of the cracks that appear in time (Timofte, 2006).

The present paper exposes the frequency of defects which appear, as the following: the pulling of wood`s fiber, its chopping at the extremities or laterally, important aspects that lead to the qualitative depreciation of the wooden fabric, depreciation that results after process of harvesting and storage, the subject taken under study is, in our case, the beech wood: the pulling of wood`s fiber, its chopping at the extremities or laterally, important aspects that lead to the qualitative depreciation of the wooden fabric, depreciation that results after process of harvesting and storage, the subject taken under study is, in our case, the beech wood.

MATERIAL AND METHODS

For the present the paper data from the depositary of logs, of the Beliu Forestry, Forestry Department, in the period April – May 2010 have been taken.

The pattern of pieces that have been inventoried in this period is of 850 pieces of logs from the beech species.

In order to have a more selective image of the variation of the diameters their distribution on classes and subclasses diameters has been organized, respectively the class of diameters 4, the class of diameters 5, and the class of diameters 6, the division of these three classes in subclasses has been made only for a more precise analysis, being taken under observation the frequency of the phenomenon of pulling fiber occurrence, respectively the cracking of wood at its extremities and laterally, frequent defects that arise from the process of harvesting.

RESULT AND DISCUSION

After the inventory of data, has followed their centralization resulting table 1:

Table 1

The frequency of defects in beech logs on diameter classes

Specifications	**The Diameters Class**						**The total of the logs**
	4		5		6		
	The diameters subclass						
	4a	4b	5a	5b	6a	6b	
Pulled of fiber	8	11	14	15	22	23	93
Lateral cracking	-	-	1	1	7	12	21
Terminal cracking	8	13	16	17	22	25	101
Total	**16**	**24**	**31**	**33**	**51**	**60**	**215**

Fiber pulling occurs when trees are not felled properly, according to the feeling phases (choice of technical direction, respecting the specific and dimensional elements at knockdown) pulling can be made from knots or from the trunk, showing holes in this case (Smit, Timofte., 2008).

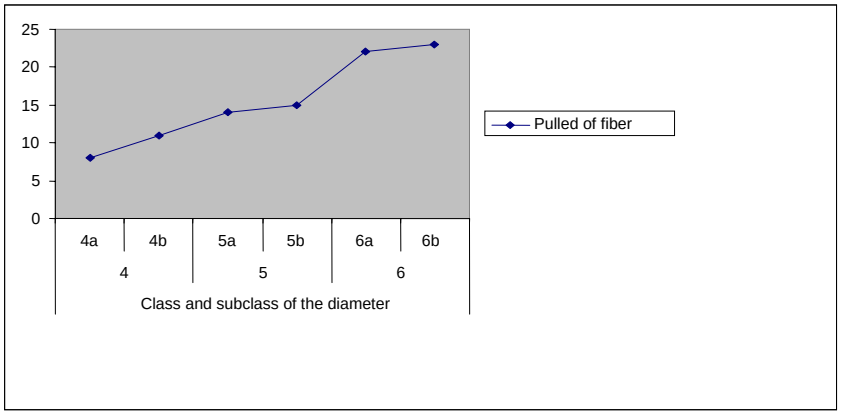

Fig. 1. The frequency of pulling fiber at beech wood on diameter classes

Beech wood exceeds in strength the resinous wood and it is an excellent fuel, instead quickly snaps, and the strong variations under the influence of humidity and it is easily attacked by byxylophagous insects (Copăceanu et al., 1983).

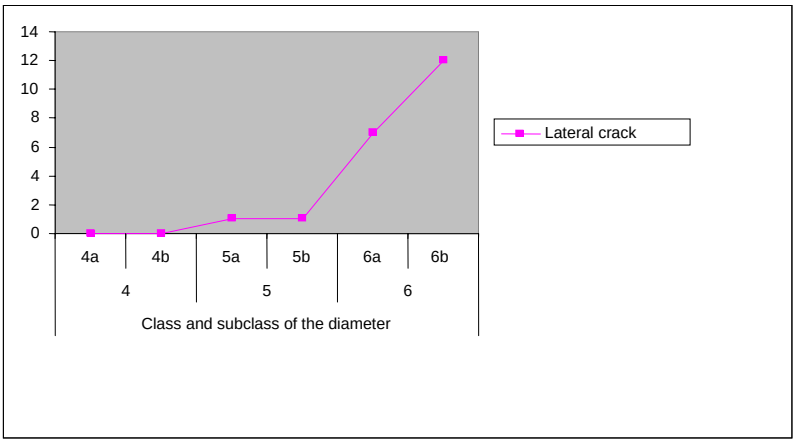

Fig. 2. The frequency of side cracking phenomenon of pieces of beech on diameter classes

According to Guidelines for the measurement, in order to classification of round wood assortments, (***, 2005), in order to capitalize higher, the most valuable raw wood products which could result in a good sort, from a beech tree of good quality are: (in %)

- wood for veneer
- wood for lumber and other products obtained by cutting.

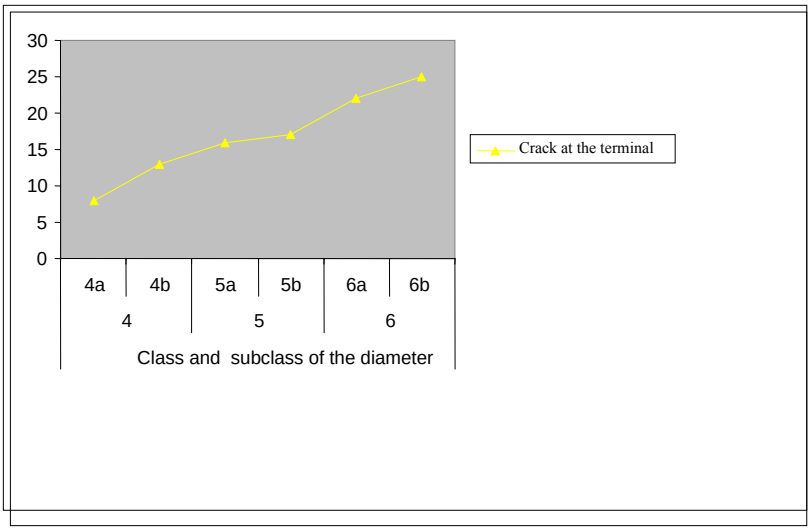

Fig. 3. The frequency of cracking phenomenon at the ends of pieces oh beech on diameter classes

The defects analyzed greatly influence these proportions.

CONCLUSIONS

The quality of beech wood besides the physiological, qualitative properties that shows, largely depends on the harvest work which in certain extend can depreciate timber quality.

The results from this study show that the most frequently defects that result in the process of harvesting is to crack heads, followed by pulling the fiber defect, respectively the defect of the lateral cracking, the results reflecting the existing situation of beech wood trading fabric that reduces qualitatively and economically due to these defects the frequency of occurrence of these depreciations increases with the increase in diameter of the pieces

In conclusion, the qualification of mechanic shapers both theoretical and practical training could reduce these avoidable damages.

For a superior recovery of these pieces, areas with torn fibers have to be sectioned, thereby decreasing the length, the volume of parts.

According to the Romanian Standard, SR 2024/1993 a round piece of beech wood can be made lumber or veneer if you meet certain dimensional and qualitative dimensions.

Regarding the proposed study the lateral cracks are admitted only if their depth does not exceed 1/20 from the pieces diameter for plywood veneer, 1/50 for technical veneer timber and 1/10 for lumber.

For cracks in the end, the maximum depth allowed is 1/10 the diameter of the bottom where they appear to aesthetic plywood and the technical and of a half for timber.

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