SEARCHES REGARDING THE PRESENCE OF SHAPE AND STRUCTURE DEFECTS AT TURKEY OAK TIMBERS FROM THE CUTS IN THE FORESTRY DISTRICT ORADEA

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Abstract

The shape and structure defects which appear at the Turkey oak timbers from the cuts in the Forestry District Oradea have been the objectives had in view in this work.

Key words*: the wood defects, Turkey oak tree*

INTRODUCTION

Wood is one of the most valuable elements that nature has offered us, having (real) multiple utilisations, being a product that can't be replaced in future because of its positive features.

Wood is a limited resourse and to satisfy the grower needs of the demographic increase, a very important measure is the superior and complex valorification of the wood in future, objective that can be done using a rigurous sorting of the fallen trees wood.

The qualitative wood sorting is being done according to the pieces size and defects.

The wood defects can be grouped in the folowing categories: shape trunk defects, normal structure features, considered ua defects within the wood utilisation (knots, medulla, wood heart) structure defects of the wood, cracks, abnormal deposits, abnormal colouring, distruction defects caused by biotical factors (distructive biotical factors), wound defects [1].

The shape and structure defects which appear at the round wood of the fallen and felled Turkey oak trees (*Quercus cerris*) from the cuts in the forestry district Oradea are the main objectives of this work.

MATERIAL AND METODHS

The measurments were done to the round wood of Turkey oak trees (*Quercus cerris*), in two cuts, placed in U.P. III Ineu, respectively in U.P. II Husasău, both belong to the Forestry District Oradea.

24 round wood pieces of Turkey oak trees (*Quercus cerris*) of different lengths, pieces prepared to be sold to companies in the area, were measured.

Same defects were measured, such as the frost-crack, the root-swelling or excentricity, by measuring the diameters and lengths, other defects such as the knots, the rot, the star shake or ring shake were noticed visually.

Fig. 1 Felled and rough converted round wood of Turkey oak trees from the cuts in the Forestry District Oradea

RESULTS AND DISCUSSIONS

The presence of the main defects identified on round wood of Turkey oak tree (*Quercus cerris*) are shown in the folowing table:

Table 1

Identified Defects on the Round Wood Pieces of Turkey oak trees (*Quercus cerris*)

Crt. nr.	Length (m)	Root-Swelling (cm/m)	Excentricity (%)	Frost-crack (m)	Star Shake (presence)	Ring Shake (presence)	Knots (no/ piece)	Rot (prese-nce)
1	8	-	-	6	-	-	6	-
2	6.5	13	3	-	-	1	6	-
3	6.5	16	-	-	-	-	7	-
4	15.5	5	-	-	-	-	15	-
5	6.5	-	-	4	-	-	5	-
6	10	-	4	-	1	1	8	-
7	6	7	-	2; 3	1	1	5	-
8	6	19	-	4	1	1	5	-
9	7	8	-	2	-	-	6	-
10	16	10	-	-	-	-	9	-
11	9	24	-	-	-	-	-	1
12	9	-	-	-	-	-	6	-
13	12	11	-	-	-	-	6	-
14	9	15	-	3	-	-	5	-
15	3.8	8	-	-	-	-	4	-
16	5	-	-	-	-	-	4	-
17	7.5	14	-	2	-	-	-	1
18	5.5	5	-	1.5	-	-	3	-
19	5	6	-	-	-	-	5	1
20	6	11	-	2	-	-	4	-
21	6	8	-	-	-	-	5	-
22	4	9	-	-	-	-	3	1
23	7	8	-	-	-	-	6	-
24	6.5	13	3	-	-	1	6	-

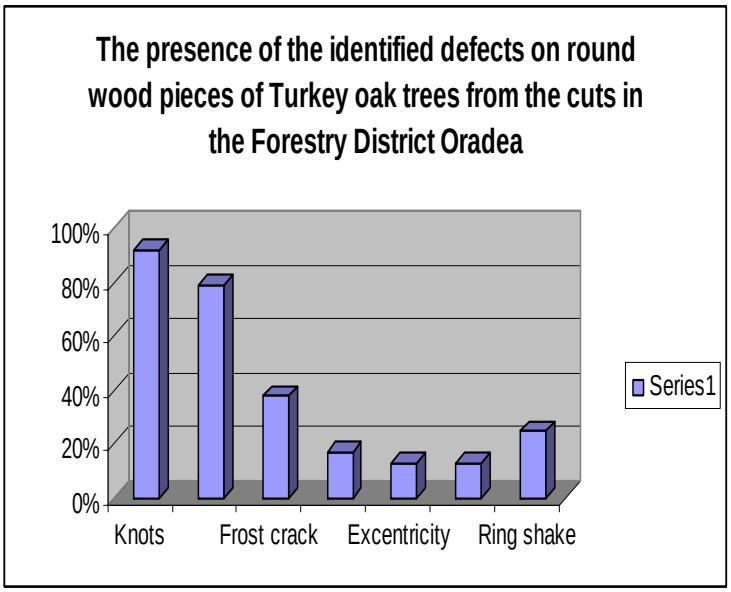

Fig. 2 The presence of the identified defects on round wood pieces of Turkey oak trees from the cuts in the Forestry District Oradea

A lot of results were drawn out analysing the datum picked up.

All the pieces had at least 2 defects up to 5 from the assessed pieces (24) at the round wood of the Turkey oak trees (*Quercus cerris*).

The most frequent defects are the knots 92% visible (22 affected pieces out of 24), respectively the root-swellings 79% (19 affected pieces out of 24).

The existance of a correlation between the piece length and the knots number per piece (a knot per metre of piece) has been established.

The frost-crack had a 38% appearance frequency from the total assessed pieces, the rot (4 pieces out of 24), the excentricity (3 pieces out of 24), the star shake (3 pieces out of 24) and the ring shake (6 pieces out of 24) were the other defects.

Fig. 2 The frost-crack presence in transversal section on a Turkey oak timber

Fig. 3 The interior rot presence on a Turkey oak timber

CONCLUSIONS

Analyzing the assesed pieces it comes out that there are numerous defect types which appear at the Turkey oak wood, defects which affect the quality class of those pieces making it hard, in the same time, for the wood conversion method.

The most frequent defects are: the root-swelling, the knots, and the frost-crack, defects appeard in the tree growing process, respectively the tar shake and the ring shake, defects which appear later, after the cuts.

It is very important to know the defects in the sorting of the rough wood, resulted from the forest exploitation due to the fact that they are qualitatively classified on assortments according to their nature, size, frequency and distribution.

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