



PREFERENCES OF COLOUR SHADE OF BIRCH VENEER AT POTENTIAL CUSTOMERS

14th INTERNATIONAL SCIENTIFIC CONFERENCE **WOODEMA**

Authors

Roman Dudík

Koper, Slovenia, *June 16th - 18th 2021*



INTRODUCTION

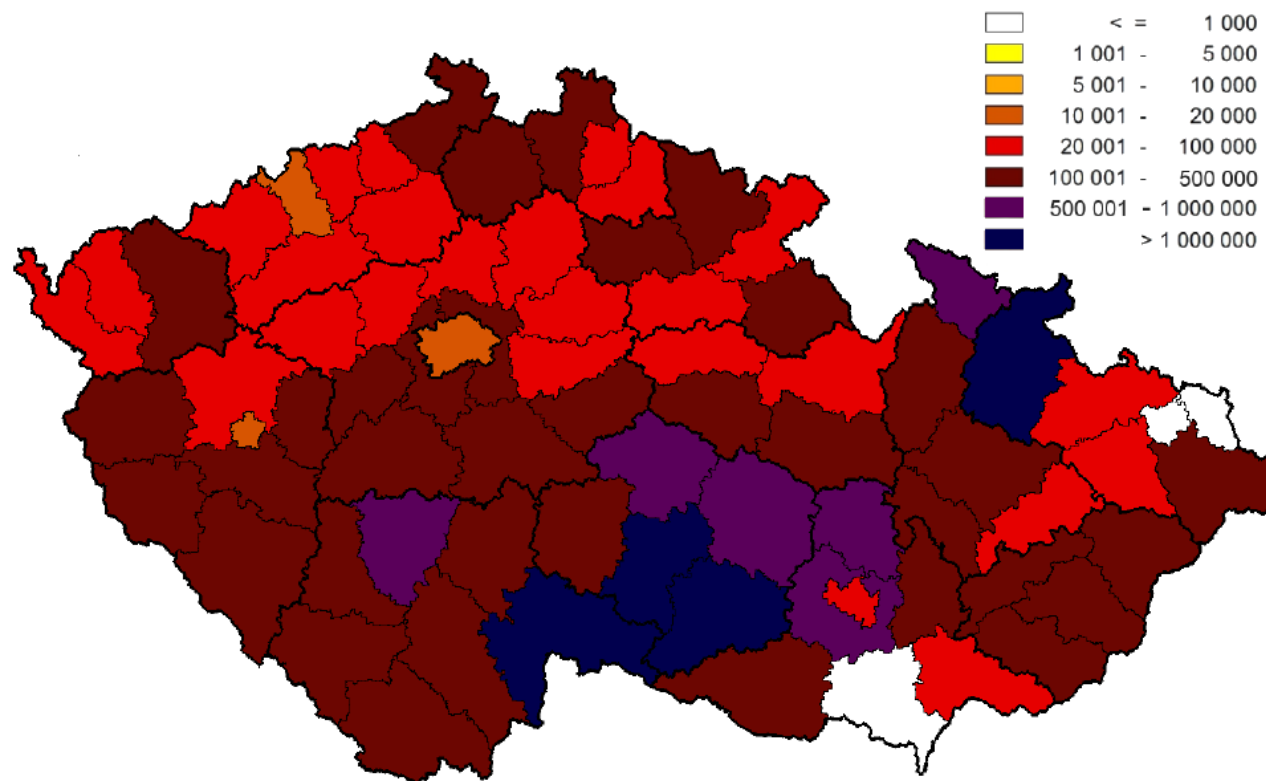
- Czech forestry has been addressing an issue of spruce stands declining at lower and middle altitudes.
- 2015: volume of harvested timber 16.16 mil. m³ (out of that 8.2 mil. m³ salvage felling – 50.4%),
the share of coniferous harvested timber in total volume of harvested timber: 89%.
- 2019: volume of harvested timber 32.58 mil. m³ (out of that 30.94 mil. m³ salvage felling – 95%),
the share of coniferous harvested timber in total volume of harvested timber: 96%.

Source: The Ministry of Agriculture of the Czech Republic, 2016, 2020



INTRODUCTION

The amount of harvested bark beetle timber in the Czech regions (in m³ in 2019).



Source: The Ministry of Agriculture of the Czech Republic, 2016, 2020



INTRODUCTION

- How to solve the consequences of salvage fellings, which leads to extensive forest openings in size of even tens of hectares?
- Such quickly spreading disaster areas are exposed to natural seeding of pioneer tree species, especially the birch (*Betula pendula* L.).
- However, it is possible to use the “creative force of nature” and to regulate the self-seeded birch until its felling maturity.



INTRODUCTION

- Changing the view of the birch from a “weed tree species” to “worthy” alternative production tree species was analysed within a second project of the Grant Service of the Forests of the Czech Republic, state enterprise, called

“Economy and silviculture of birch stands as an alternative to the regeneration of declining spruce stands in the Czech Republic” (2018-2020).

Project solution areas:

- economics of birch forest silviculture,
- possibilities of using birch wood raw material in the Czech Republic.



MATERIAL AND METHODS

The use of birch wood for:

- energy purposes, where lower monetization can be expected,
- birch round assortments is possible to use especially for furniture purposes etc.
- Is heat-treated wood more attractive to a potential customer?
- The starting point for the analysis of the influence of the colour shade of solid birch wood on the decisions of potential customers is a questionnaire survey on a random sample of 102 people from the population of the Czech Republic.



MATERIAL AND METHODS

- The attractiveness of the colour appearance of selected real samples of birch veneer (1 reference sample and 4 samples with different degrees of thermal treatment) was determined and evaluated.



A. untreated (BR-REF)



B. treated at 170°C/3 h (BR-170-3)



C. treated at 190°C/3 h (BR-190-3)



D. treated at 190°C/5 h (BR-190-5)



E. treated at 200°C/3 h (BR-200-3)



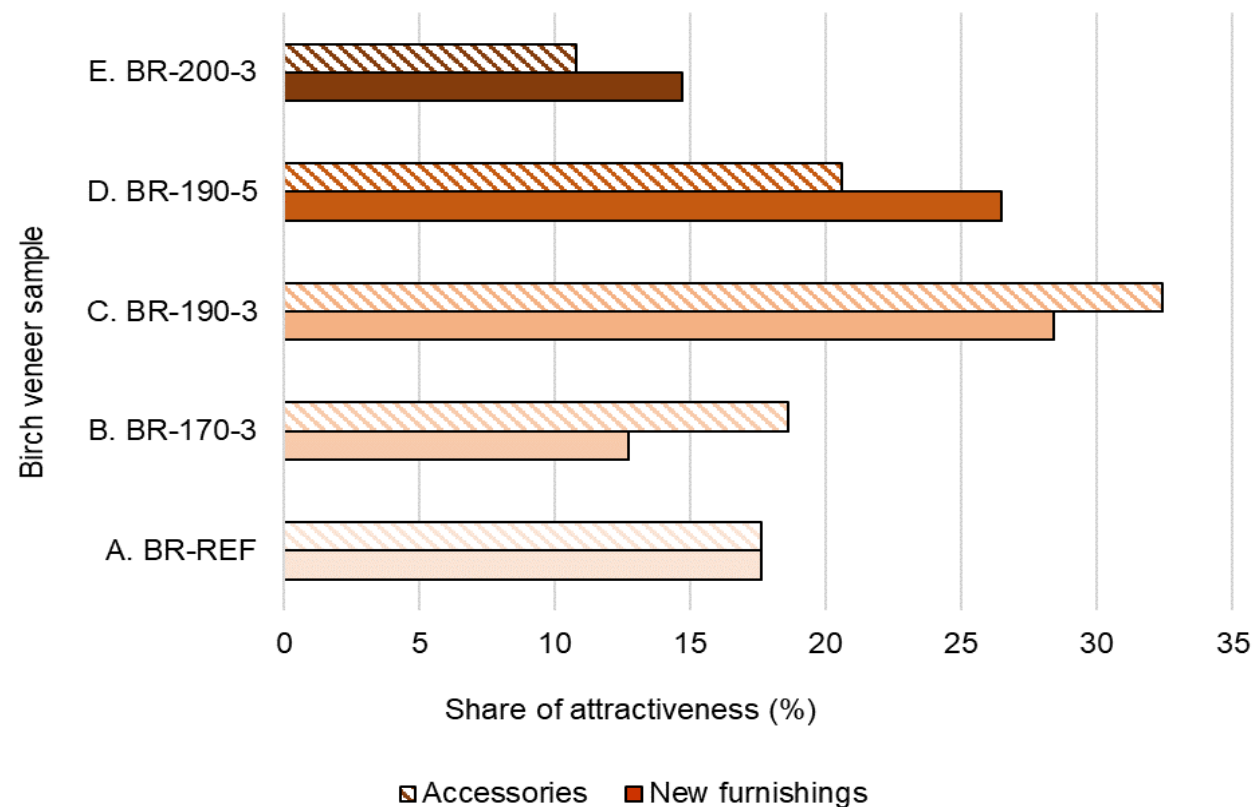
MATERIAL AND METHODS

- The attractiveness of the colour appearance was determined in two basic variants:
 - the first furnishing of a new house / flat with furniture (e.g. living room).
 - a purchase of a piece of furniture (e.g. into the living room) to the already existing equipment of the house / flat.
- Another important information obtained was the level of attractiveness of each individual sample of birch veneer, which was evaluated according to the selected point scale (1 point – least preferred; 5 points – most preferred).



RESULTS

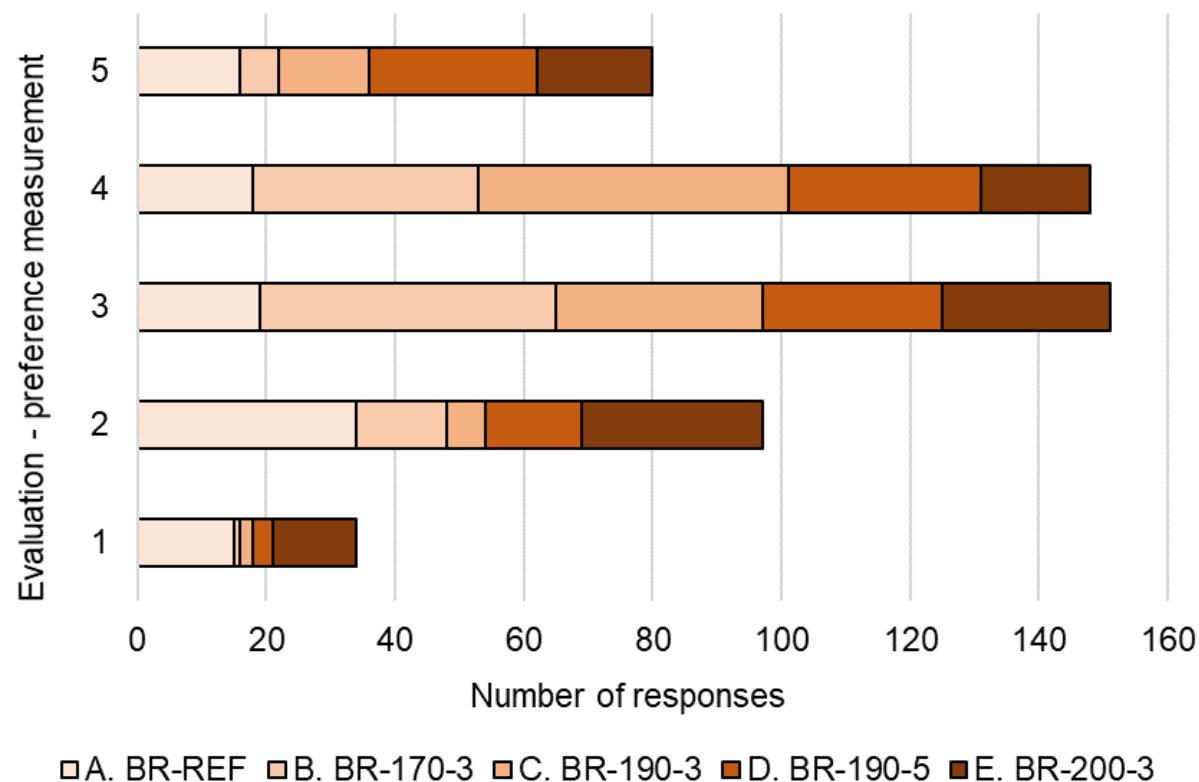
- The results of potential customer preferences show greater interest in darker shades in both cases - in case of a purchase of an accessory (buying in addition to the present equipment at home) and in case of equipment of a new apartment or house.





RESULTS

- The level of attractiveness of each individual sample of veneer shows that degree of preference 3 (medium preference) was used most often, in 151 cases of responses.





CONCLUSION

The conditions of the Czech Republic:

- The results of the questionnaire survey show more significant preferences for darker birch veneer samples, so for heat-treated samples.
- This can provide a greater potential in the use of quality birch wood raw material in products with higher added value.
- This conclusion is also an important signal for forest owners in the Czech Republic, who still perceive birch only as a weed tree species suitable for firewood to be used in the fireplace.

Further related information and reasons for the research can be found in the following sources:

- Borůvka, V., Dudík, R., Zeidler, A., Holeček, T. Influence of Site Conditions and Quality of Birch Wood on Its Properties and Utilization after Heat Treatment. *Part I Elastic and Strength Properties, Relationship to Water and Dimensional Stability*. Forests. 2019, 10(2). ISSN: 1999-4907. DOI: 10.3390/f10020189.
- Dudík, R., Borůvka, V., Zeidler, A., Holeček, T., Riedl, M. Influence of Site Conditions and Quality of Birch Wood on its Properties and Utilization after Heat-treatment. *Part II—Surface Properties and Marketing Evaluation of the Effect of the Treatment on Final Usage of Such Wood*. Forests. 2020, 11(5). ISSN: 1999-4907. DOI: 10.3390/f11050556.



THANK YOU



Roman Dudík



+420 224 383 736



ro.dudik@gmail.com

<http://www.woodema.org/>