

Mendel University in Brno
Faculty of Forestry and Wood Technology
Department of Wood Science

Wood Anatomy

WAEF-pra03

The identification of the most important semi ring-porous hardwoods and diffuse-porous hardwoods according to macroscopic features

working sheet for practice

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INVESTMENTS IN EDUCATION DEVELOPMENT

(WAEF-pra03) The identification of the most important semi ring-porous hardwoods and diffuse-porous hardwoods according to macroscopic features

1 The Goal

- To get skill to identify kinds of woods in the group of semi ring-porous hardwoods
- To get skill to identify kinds of woods in the group of diffuse-porous hardwoods

2 Theoretical knowledge for practice

- Features of macroscopic wood structure
- Features of particular wood kinds in the group of semi ring-porous hardwoods
- Features of particular wood kinds in the group of diffuse-porous hardwoods

Questions on theoretical knowledge

1. *What wood that belongs to group of semi ring-porous hardwoods has only macrovessels? _____*
2. *All woods of semi ring-porous hardwoods are with:*
 - a) *heartwood distinct*
 - b) *heartwood indistinct*

3 Tools & equipment

- working sheet
- set of macroscopic samples of softwoods
- set of macroscopic samples of ring-porous hardwoods
- magnifying glass (optional)

4 Procedure

Observe macroscopic features of wood on particular samples as it is required in following tasks. Results of observations must be written down or drawn as required. Ask teacher to check each finished task. If any errors occurred, correct them.

Task 1 – Softwoods

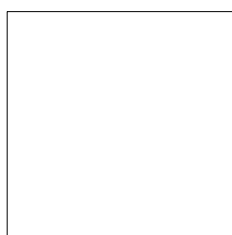
1. Observe transition from EW to LW and separate woods into the following groups:
 - a) very abrupt transition: _____, _____, _____
 - b) medium abrupt transition: _____, _____, _____
 - c) gradual transition: _____, _____.
2. Observe resin canals and write down woods with resin canals:
 - a) visible in all planes and numerous: _____, _____
 - b) visible in all planes and rare: _____, _____
 - c) visible in longitudinal planes: _____
 - d) not present: _____, _____, _____.
3. Observe colour of woods and separate woods to groups with:
 - a) heartwood indistinct: _____, _____
 - b) heartwood distinct: _____, _____.
4. Write down what of wood is odorous even when dry: _____

Task 2 – Ring-porous hardwoods

1. Observe macrovessels and write down in what plane they have an appearance of:
 - a) holes: ___
 - b) grooves: ___
2. Observe microvessels and draw their typical arrangements:



(A)
*Radial
arrangement*



(B) *Wavy
tangential
bands*



(C)
*Nested
arrangement*



(D)
*Without
arrangement*

3. Add examples of wood kinds to each figure in point 2.
4. Observe rays and fill wood species for category:
 - a) Rays wide (X, R, T): _____, _____
 - b) Rays narrow (R): _____, _____, _____, _____
 - c) Rays very narrow: _____.