

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

## Wood Anatomy

WAEF-pra02

# The identification of the most important softwoods and ring-porous hardwoods according to macroscopic features

*working sheet for practice*

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INVESTMENTS IN EDUCATION DEVELOPMENT

## **(WAEF-pra02) The identification of the most important softwoods and ring-porous hardwoods according to macroscopic features**

### **1 The Goal**

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

### **2 Theoretical knowledge for practice**

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

#### **Questions on theoretical knowledge**

1. Which of softwoods do lack resin canals? \_\_\_\_\_
2. Which of softwoods do have heartwood distinct? \_\_\_\_\_
3. Which of softwoods are susceptible to blue staining in sapwood?  
\_\_\_\_\_
4. What type of vessels (macrovessels/microvessels) is located in earlywood of ring-porous hardwoods? \_\_\_\_\_

### **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**

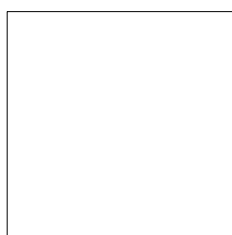
1. Observe transition from EW to LW and separate woods into the following groups:
  - a) very abrupt transition: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
  - b) medium abrupt transition: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
  - c) gradual transition: \_\_\_\_\_, \_\_\_\_\_.
2. Observe resin canals and write 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: \_\_\_\_\_.