

ČSN 48 2115

FOREST REPRODUCTIVE MATERIAL

(Chosen passages)

FORM OF THE ABOVE-GROUND PART

Except for *Pinus mugo*, the planting stock of tree species is characterized with a continuous trunk with relatively regular distances between side branches and buds. On the terminal shoot, there is a mature, intact viable apex (terminal) bud. The requirement related to the maturity does not apply to containerized planting stock. The above-ground part of plant is not mechanically damaged except for intentional shaping of the crown. For broadleaves, seedlings and transplants that have a trunk with multiple terminal shoots are acceptable. Multi-trunk plants are impermissible. The description of permissible deformations and impermissible irregularities in individual tree species is shown in Appendix. Shoot pruning is allowed and means shortening or removal of the side branches to the branch ring. A fresh wound is acceptable if its diameter does not exceed 6 mm.

Appendix: For the planting stock of coniferous:

- if the height of the above-ground part is less than 15 cm, trunk wave is not acceptable;
- if the height of the shoot is more than 15 cm, wave within ± 1 cm of the imaginary axis of the trunk up to 3 cm is acceptable for single wave (Fig 1);
- the maximum size of single wave must not be just above the root collar (Fig. 2)
- the wave must be continuous, without any sharp breaks (Fig. 2).

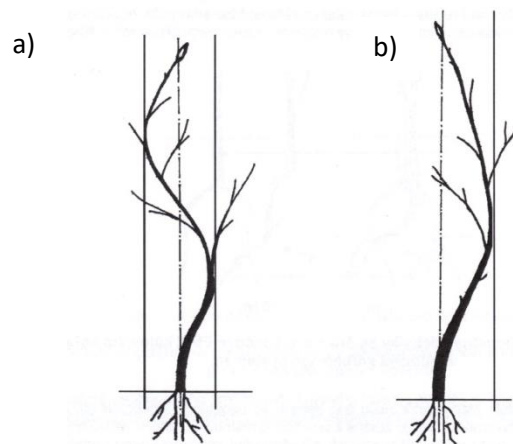


Fig. 1: Trunk is not straight if there is overmuch (a) bilateral wave or (b) single wave

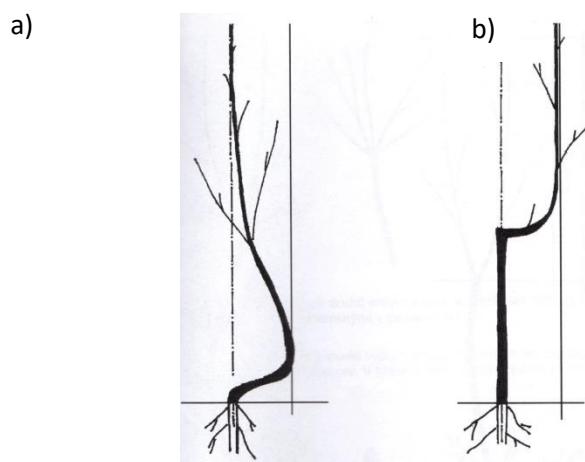


Fig 2: Trunk is not straight if there is (a) a single wave just above the root collar or (b) a sharp break

ACCEPTABLE DEVIATIONS FROM THE ROOT SYSTEM ARCHITECTURE

Picea abies

Natural ideal root system architecture:

- at least 4 skeletal roots growing parallel to the soil surface are growing from the stem base;
- these roots show continuous (straight) growth and the maximum angle between them is 90° (the angle between two straight lines intersected by the axes of adjacent roots and intersecting at the stem base) (Fig. 3).

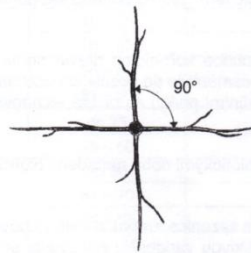


Fig. 3: The limits of the idealized natural, idealised architecture of the *Picea abies* root system in terms of the number and the angle of skeletal roots

Acceptable deviations:

- the root system consists of at least 3 skeletal roots, while the maximum angle between the two outermost ones is 180° and the minimum angle between the two nearest ones is 45° (Fig. 4);

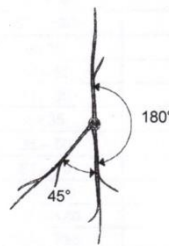


Fig. 4: The limits of a permissible natural architecture of the *Picea abies* root system in terms of the number and the angle of skeletal roots

- in case of a positively geotropically growing (stake-like) root, at least one surface-growing skeletal root must be present;
- the skeletal roots maintain the same growth direction and do not twist or overlap each other;
- the only permissible deviation from the original straight direction of the growth of the skeletal root is a change from a superficial root to a positively geotropically growing root; it is about creating the so-called root-branches (Fig. 4).

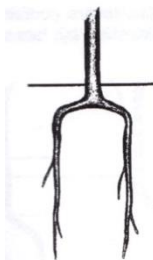


Fig. 4: Example of a permissible change in the direction of the growth of skeletal roots in *Picea abies*