

DENDROLOGY WOOD ANATOMY LAB II

I. Make a freehand longitudinal section of one of the *Pinus* twigs you collected. Section through the pith throughout three years of stem growth. Examine your section using a binocular dissecting microscope. Note the longitudinal relationship between the successive annual growth rings. Compare your observations with those you made on the angiosperm stems.

II. Make freehand transverse sections midway between successive bud scale scars on the other three year *Pinus* twig you collected. Examine these sections in developmental sequence using a binocular dissecting microscope. Note the transverse relationship between successive annual growth rings. Identify as many tissues as you can in your sections. Compare your observations with those you made on the angiosperm stems.

III. Using the remaining piece of three year old *Pinus* twig, make freehand longitudinal sections in the radial and the tangential planes. Examine these using a binocular dissecting microscope. Relate what you see in each plane of sectioning to each other, the transverse section of the 3 year old *Pinus* twig and the twig as a whole. Identify as many tissues as you can in each section.

IV. Study the prepared light microscopy sections of *Pinus* wood. Make sure you can recognize the transverse (cross), radial longitudinal and tangential longitudinal sections. Relate what you see to your observations on your freehand sections of *Pinus* wood. Identify tracheids and ray parenchyma. Make a three dimensional sketch of the anatomy of a pine wood block to help you visualize how these three types of sections are used in wood reconstruction.