Polygonum multiflorum Thunb.

Fo-ti Root (Processed)

Polygoni multiflori Radix

Pinyin: He shou wu, zhi he shou wu (processed)

Polygonaceae

In its processed form, fo-ti—more correctly known in Chinese as he shou wu—is classified in traditional Chinese medicine as a blood tonifier and a kidney, liver, and longevity tonic. Legend claims that if it is taken for 101 days in a row, a new set of teeth will grow and that it can return gray hair to black. A variety of forms are on the market, including raw unprocessed root (sheng he shou wu) and root that is cooked in rice wine and black bean juice (thin and thick slices; zhi he shou wu or zhi shou wu). The material used for this characterization was thinly sliced zhi he shou wu. Unprocessed material will not have the same brown coloration as processed material.

A. Root

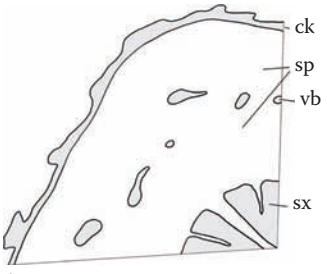
Narrow, red-brown cork; underlying parenchyma is yellow, with infrequent fibers; secondary phloem parenchyma with brown cell walls (walls are wavy due to pressure from starch granules); all parenchyma cells are completely filled with starch, and some also contain a red-brown substance; calcium oxalate cluster crystals are abundant, up to 100 µm in diameter; occasional vascular bundles may be scattered or arranged in a ring in the secondary phloem; central xylem is compact; a few very large vessels, up to 200 µm diameter, occur among narrow vessels, tracheids, and fibers; vessels and tracheids with bordered pits and fibers with simple oblique pits; parenchymatous medullary rays vary in width.

B. Rhizome

Structure is similar to that of root, but secondary xylem forms a ring around a central pith.

Starch: Abundant in parenchyma; granules are simple or compound in aggregates of two or three; within an aggregate, granules vary considerably in size, up to 25 µm diameter; individual granules have a distinct central split or stellate hilum; large granules have a fine concentric striation; after boiling with chloral hydrate solution, gelatinized starch remainders are conspicuous; starch granules in cells with red-brown contents are usually not destroyed by boiling with chloral hydrate.

Powder: Parenchyma with wavy cell walls and conspicuous gelatinized remains of starch; cells with brown content and intact starch granules; few fragments of vessels, tracheids, and fibers; fragments of cork.



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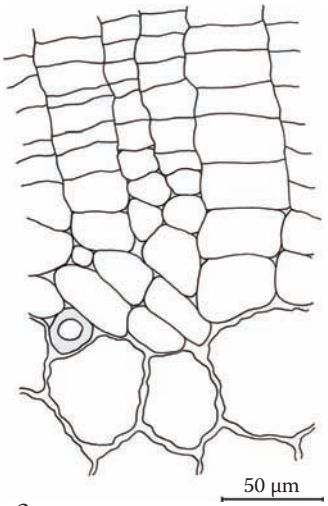

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