

7.4.8. Ginger

The transverse section of ginger rhizome is shown in the **figure 7.25**:

- 1) **Cork** is made up of irregularly arranged cells.
- 2) **Cortex** is present below the cork and is made up of **thin walled parenchymatous** tissues. It is distinguished from the stele through well-marked endodermis. Cortical tissue encloses several closed collateral fibro-vascular bundles.
- 3) **Vascular bundles** are present beneath the endodermis and do not show the presence of any fibres.

- 4) **Oleo-resinous cells and starch grains** are distributed in the ground tissue. Endodermis does not contain starch.

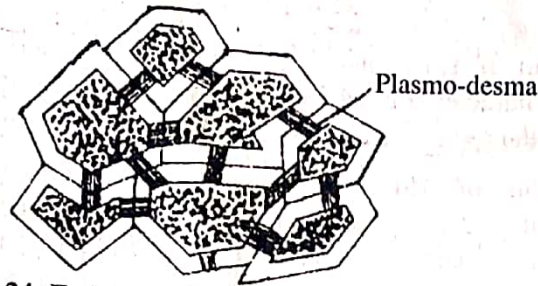


Figure 7.24: Endospermic cells of Nux Vomica Seed

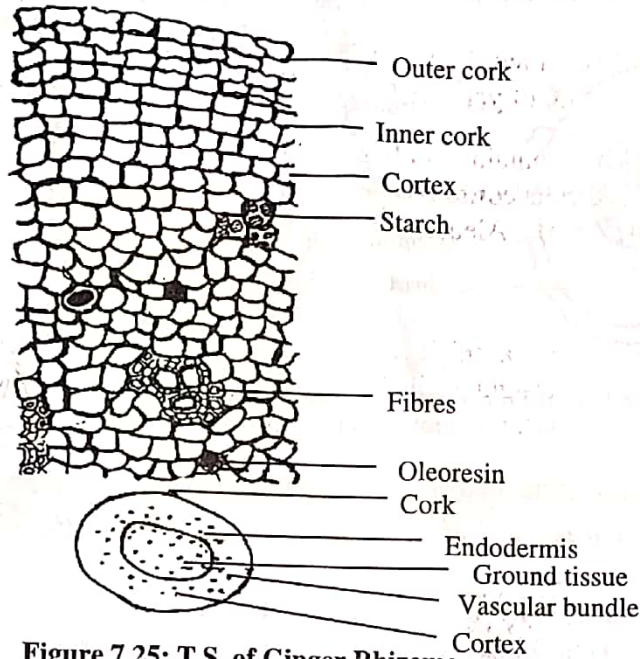


Figure 7.25: T.S. of Ginger Rhizome

7.4.9. Nux Vomica

Epidermis of nux vomica seeds consists of a layer of pitted, thickened, and lignified **trichomes**. Just below the epidermis, a layer of **collapsed cells** is present. **Endosperm** has thick-walled, polyhedral, unligified cells with oil globules, aleurone grains, and plasmodesmata. Crystals of calcium oxalate and starch grains are not found in the drug (figures 7.26).

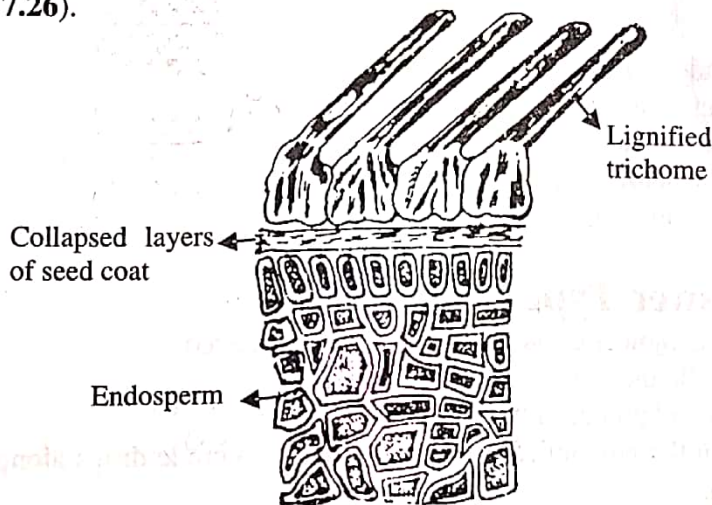


Figure 7.26: T.S. of Nux Vomica Seed

7.4.10. Ipecacuanha

Microscopy of ipecacuanha is studied through the transverse section of rhizome and roots (figure 7.27):

- 1) **Transverse Section of Rhizome:** It shows large pith and a xylem ring. In the pericyclic region, characteristic sclerenchymatous cells are present. Lignified pitted parenchyma forms the pith.
- 2) **Transverse Section of Root:** It shows a thin brown cork followed by parenchymatous phelloderm (secondary cortex). Compound starch grains and raphides of calcium oxalate are present in the phelloderm. There are no fibres or sclerenchyma present in the region of phloem. Central region showing xylem consists of tracheid, xylem fibres, and xylem parenchyma.

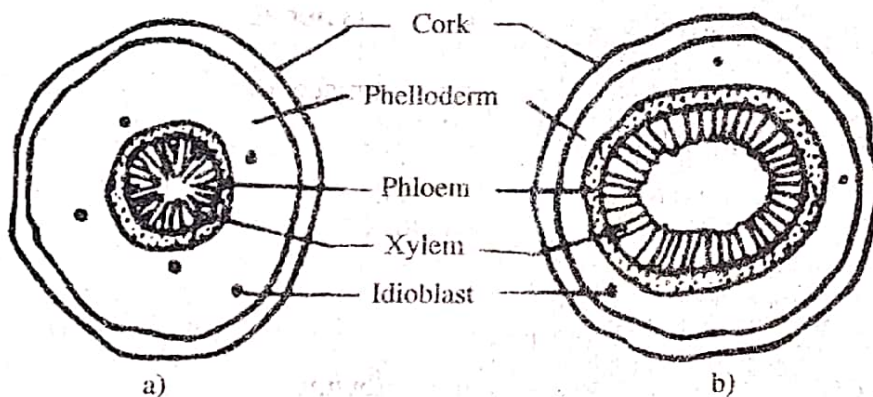


Figure 7.27: a) Transverse Section of Rhizome of Ipecacuanha
b) Transverse Section of Root of Ipecacuanha

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