

Whole Plant - Evaluate

Stone cells

Occurrence

- | | | | |
|------------------------------|-----------------------------------|--------------------------------|-----------------------------------|
| ☐ N/A | ☐ Isolated | ☐ Group | ☐ Abundant |
| ☐ Few | | | |

Walls

- | | | | |
|--|---|-------------------------------------|---|
| ☐ Thick walled | ☐ Lignified | ☐ Striations | ☐ Radiating pits |
| ☐ Projections | ☐ Crenate margin | ☐ Beaded | ☐ Pitted |
| ☐ Transversely pitted | ☐ Branching pits | ☐ Distinctly | ☐ Devoid of pits |
| ☐ Thin walled | | | |

Shape

- | | | | |
|-------------------------------------|-------------------------------------|---------------------------------------|--------------------------------------|
| ☐ Oval | ☐ Circular | ☐ Isodiametric | ☐ Rectangular |
| ☐ Rounded | ☐ Polyhedral | ☐ Spherical | ☐ Pentagonal |
| ☐ Triangular | ☐ Squarish | ☐ Irregular | ☐ Oblong |
| ☐ Angular | | | |

Lumen

- | | | | |
|-------------------------------|---------------------------------|---------------------------------|------------------------------------|
| ☐ Wide | ☐ Narrow | ☐ Pitted | ☐ Slit Like |
|-------------------------------|---------------------------------|---------------------------------|------------------------------------|

Sclereids

Occurrence

- | | | | |
|------------------------------|-----------------------------------|--------------------------------|-----------------------------------|
| ☐ N/A | ☐ Isolated | ☐ Group | ☐ Abundant |
| ☐ Few | | | |

Walls

- | | | | |
|---------------------------------------|---|---|--------------------------------------|
| ☐ Thick Walled | ☐ Lignified | ☐ Striations | ☐ Radiating |
| ☐ Pits | ☐ Projections | ☐ Peg like extension | ☐ Beaded |
| ☐ Branched | ☐ Three sided thickening | ☐ Distinct | ☐ Simple pits |
| ☐ Pitted walls | ☐ Thin walled | | |

Shape

- | | | | |
|--------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|
| ☐ Oval | ☐ Circular | ☐ Isodiametric | ☐ Rectangular |
| ☐ Rounded | ☐ Polyhedral | ☐ Spherical | ☐ Pentagonal |
| ☐ Triangular | ☐ Cylindrical | ☐ Elongated | ☐ Fibre like |
| ☐ Very long | ☐ Blunt end | ☐ Pointed ends | ☐ Oblong |
| ☐ Cone shaped | | | |

Lumen

- | | | | |
|-------------------------------|---------------------------------|---------------------------------|--------------------------------|
| ☐ Wide | ☐ Narrow | ☐ Pitted | ☐ Solid |
|-------------------------------|---------------------------------|---------------------------------|--------------------------------|

Fibres

Occurrence

☐ N/A

☐ Isolated

☐ Numerous

☐ Group

☐ Few

Walls

☐ Thick-walled

☐ Lignified

☐ Striations

☐ Radiating pits

☐ Oblique pits

☐ Projections

☐ Frequently broken

☐ Occasionally twisted

☐ Beaded

☐ Non lignified

☐ Septate

☐ Crenate margin

☐ Smoothly / finely striated

☐ Dentate margin

☐ Faint

☐ Transverse septa

☐ Thin walled

☐ Irregular swellings

☐ Crystal fibres

☐ Transverse pits

☐ Bifurcating ends

☐ Distinct pits

☐ Slit like

Shape

☐ Oval

☐ Circular

☐ Rectangular

☐ Rounded

☐ Polyhedral

☐ Spherical

☐ Pentagonal

☐ Triangular

☐ Squarish

☐ Irregular margin

☐ Very long

☐ Pointed apex

☐ Bent

Lumen

☐ Wide

☐ Narrow

☐ Uneven

☐ Highly pitted wide lumen

☐ Slit like

Starch Grains

Occurrence

☐ Abundant

☐ Few

Shape

☐ Simple

☐ Round

☐ Oval

☐ Compound

☐ Spherical

☐ Triangular

☐ Small

Type of hilum

☐ N/A

☐ Narrow

☐ Cleft

☐ Radiate

☐ Slit

☐ Eccentric

☐ Centrally located Hilum

Number of concentric

☐ N/A

☐ Distinct

☐ Striations

Calcium Oxalate Crystals

☐ N/A

☐ Prismatic

☐ Clusters

☐ Rosettes

☐ Acicular

☐ Microsphenoidal

☐ Sandy

☐ Needles

☐ Crystal layer

☐ Crystal sheath

☐ Idioblasts

☐ Rod shaped

Medullary Rays

☐ N/A

☐ Uniseriate

☐ Biseriate

☐ Multiseriate

☐ Tangentially-cut

☐ Radially-cut

☐ Longitudinally-cut

Cork

☐ N/A

☐ Thick walled

☐ Lignified

☐ Suberized

☐ Polygonal

☐ Isodiametric

☐ Hexagonal

☐ Rectangular

☐ Pentagonal

☐ Beaded walls

☐ Pitted lumen

☐ Oval

☐ Elongated

Trichome

☐ N/A

☐ Unicellular

☐ Multicellular

☐ Stellate hair

☐ Glandular

☐ Thick wall

☐ Lignified

☐ Simple

☐ Covering

☐ Bicellular

Stomata

☐ N/A

☐ Anomocytic

☐ Anisocytic

☐ Paracytic

☐ Actinocytic

☐ Tetracytic

☐ Diacytic

Pollen Grains

☐ N/A

☐ Fenestrate

☐ Tetrad

☐ Pantocolporate

☐ Zonoporate

☐ Pantocolpate

☐ Heterocolpatrate

☐ Tricolporate

☐ Monocolpate

☐ Dicolpate

☐ Spinulate

Massess

- | | | | |
|-------------------------------------|---|--|-----------------------------------|
| ☐ N/A | ☐ Granular masses | ☐ Dark brown cells containing tannins | ☐ Gummy |
| ☐ Large oval | ☐ Resins containing masses | ☐ Pigment containing masses | ☐ Circular |

Vessels

Occurrence

- | | | | |
|--------------------------------|-----------------------------------|-----------------------------------|------------------------------|
| ☐ Group | ☐ Isolated | ☐ Abundant | ☐ Few |
| ☐ N/A | | | |

Wall

- | | | | |
|------------------------------------|---|-------------------------------------|---|
| ☐ Lignified | ☐ Slit pits | ☐ Broken | ☐ Bordered pits |
| ☐ Thickened | ☐ Rectangular pits | ☐ Fragmented | ☐ Swollen |
| ☐ Uneven | ☐ Unlignified | ☐ Thin | ☐ Oblique end |
| ☐ Sepatated | ☐ Rounded pits | ☐ Oval pits | ☐ Oval perforation |

Lumen

- | | |
|---------------------------------|-------------------------------|
| ☐ Narrow | ☐ Wide |
|---------------------------------|-------------------------------|

Shape

- | | | | |
|--------------------------------------|---------------------------------|-------------------------------------|------------------------------------|
| ☐ Annular | ☐ Spiral | ☐ Reticulate | ☐ Elongated |
| ☐ Scalariform | | | |

Parenchyma cell

Occurrence

- | | | | |
|------------------------------|-----------------------------------|---------------------------------|------------------------------|
| ☐ Few | ☐ Abundant | ☐ Groups | ☐ N/A |
|------------------------------|-----------------------------------|---------------------------------|------------------------------|

Wall

- | | | | |
|--------------------------------------|---|---------------------------------------|------------------------------------|
| ☐ Thickened | ☐ Uneven | ☐ Thin | ☐ Wrinkled |
| ☐ Pitted | ☐ Lignified | ☐ Rounded pits | ☐ Slit pits |
| ☐ Unlignified | ☐ Irregular swelling | ☐ Beaded | |

Lumen filled with

- | | | | |
|--|--|---|--------------------------------------|
| ☐ Air space starch granules | ☐ Resins | ☐ Calcium crystals | ☐ Oleo-resins |
| ☐ Oil globules | ☐ Brownish secretions | ☐ Mucilage cell | |

Shape

- | | | | |
|------------------------------------|------------------------------------|--------------------------------------|-------------------------------|
| ☐ Rounded | ☐ Elongated | ☐ Rectangular | ☐ Oval |
| ☐ Irregular | ☐ Polygonal | | |

Testa

Epidermis

- | | | | |
|--|-------------------------------------|------------------------------------|---|
| ☐ Oval | ☐ Elongated | ☐ Hexagonal | ☐ Yellow content |
| ☐ Brown content | ☐ Colourless | ☐ Striated | ☐ Thick walled |
| ☐ Thin walled | ☐ Stomata | ☐ N/A | |

Additional layer

- | | | | |
|--------------------------------------|-------------------------------------|------------------------------------|--|
| ☐ Bearer cell | ☐ Spool cell | ☐ Hexagonal | ☐ Palisade cell |
| ☐ Arillus | ☐ N/A | | |

Pericarp

Epicarp

- | | | | |
|------------------------------------|------------------------------------|--------------------------------------|---------------------------------------|
| ☐ Irregular | ☐ Polygonal | ☐ Thin walled | ☐ Thick walled |
| ☐ Striated | ☐ Stomata | ☐ N/A | |

Mesocarp

- | | | | |
|--------------------------------------|--------------------------------------|---------------------------------------|-------------------------------|
| ☐ Rectangular | ☐ Polygonal | ☐ Reticulate | ☐ Oval |
| ☐ Coloured | ☐ Thin walled | ☐ Thick walled | ☐ N/A |

Endocarp

- | | | | |
|------------------------------------|--------------------------------------|--|------------------------------------|
| ☐ Elongated | ☐ Thin walled | ☐ Sinuous walls | ☐ Polygonal |
| ☐ N/A | | | |

Cotyledon

- | | | | |
|---------------------------------------|--------------------------------------|------------------------------------|--------------------------------------|
| ☐ Oval | ☐ Rectangular | ☐ Polygonal | ☐ Thin walled |
| ☐ Thick walled | ☐ N/A | | |

Endosperm

Occurrence

- | | | | |
|-----------------------------------|---------------------------------------|---------------------------------|--|
| ☐ Dominant | ☐ Thin layered | ☐ Absent | ☐ Multi layered |
| ☐ Wide | ☐ Thin walled | ☐ N/A | |

Shape

- | | | |
|------------------------------------|--------------------------------------|-------------------------------|
| ☐ Polygonal | ☐ Rectangular | ☐ Oval |
|------------------------------------|--------------------------------------|-------------------------------|

Cells filled with

- | | | | |
|--|---------------------------------------|---------------------------------|---|
| ☐ Aleurone grains | ☐ Oil globules | ☐ Starch | ☐ Calcium oxalate crystals |
|--|---------------------------------------|---------------------------------|---|

Anther

- | | | | |
|------------------------------------|-------------------------------------|------------------------------------|------------------------------------|
| ☐ Oval | ☐ Thick wall | ☐ Thin wall | ☐ Irregular |
| ☐ Polygonal | ☐ N/A | | |

Endothelial cell

- | | | | |
|-------------------------------------|------------------------------------|--------------------------------------|------------------------------------|
| ☐ Thick wall | ☐ Thin wall | ☐ Beaded wall | ☐ Polygonal |
| ☐ Irregular | ☐ N/A | | |

Epidermis

- | | | | |
|--|---|--|---|
| ☐ Thin | ☐ Thick | ☐ Straight | ☐ Wavy |
| ☐ Beaded | ☐ Striated cuticle | ☐ Devoid of stomata | ☐ Lignified wall |
| ☐ Anticlinal walls | ☐ Slightly sinuous walls | ☐ Polygonal cells | ☐ Hexagonal cells |
| ☐ Rectangular cells | ☐ Papillose cells | ☐ Dome shaped cells | ☐ Lignified pith cells |
| ☐ N/A | | | |

Miscellaneous

- | | | | |
|---|--|---|---|
| ☐ Margin cell of bract | ☐ Tannin cell | ☐ Oil gland | ☐ stalk of anther lobe |
| ☐ Oil globules | ☐ Tegmen | ☐ Fatty crystal | ☐ Sclerenchyma |
| ☐ Mesophyll cell | ☐ Secretory cell | ☐ Silica crystal | ☐ Aleurone grain |
| ☐ Pigment cell | ☐ Piliferous cell | ☐ Ramenta | ☐ Sporangia |
| ☐ Vittae | ☐ Hypodermis | ☐ Endodermis | ☐ Mucilage |
| ☐ Resin ducts | ☐ Calcium carbonate crystal | ☐ Lactiferous canals | ☐ N/A |

Search