

PERIDERM



PERIDERM

=

OUTER BARK

PERIDERM



PERIDERM SUMMARY

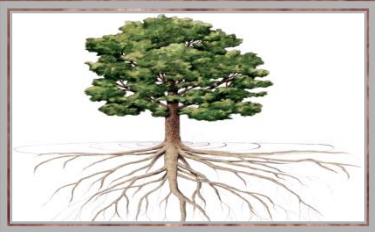


WOODY STEM

C.S.

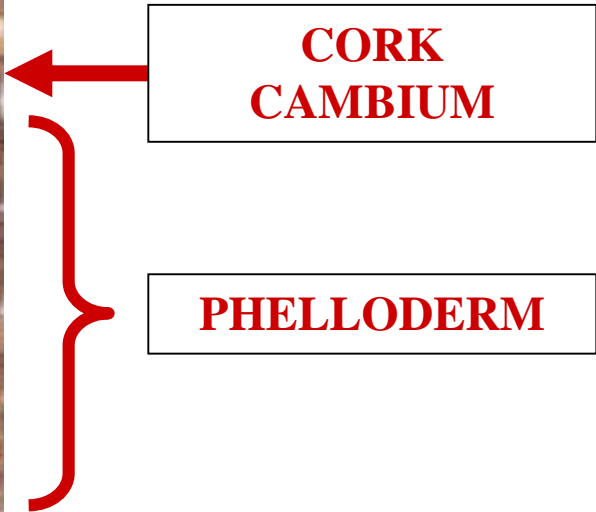


PHELLODERM



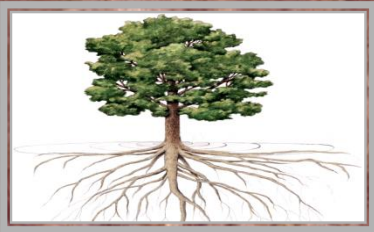
WOODY STEM

C.S.



**CORK
CAMBIUM**

PHELLODERM



WOODY STEM

C.S.



CORK

**CORK
CAMBIUM**

PHELLODERM



WOODY STEM

C.S.



WOODY STEM

CORK

**CORK
CAMBIUM**

PHELLODERM

PERIDERM

C.S.

=

OB



CORK

**OUTER
BARK**

**CORK
CAMBIUM**

PHELLODERM

C.S.



WOODY STEM

PERIDERM



C.S.

WOODY STEM



OB



OUTER BARK



C.S.

WOODY STEM



TRACHEOPHYTE GROWTH FORMS

HERBACEOUS PLANT

HERBACEOUS PLANT



PRIMARY GROWTH
ONLY

HERBACEOUS
PLANT



**HERBACEOUS
PLANT**



**HERBACEOUS
PLANT**

**APICAL
MERISTEM**



**HERBACEOUS
PLANT**

**PRIMARY
GROWTH**



**HERBACEOUS
PLANT**

**NON-WOODY
GROWTH**



**HERBACEOUS
PLANT**

**HERBACEOUS
GROWTH**

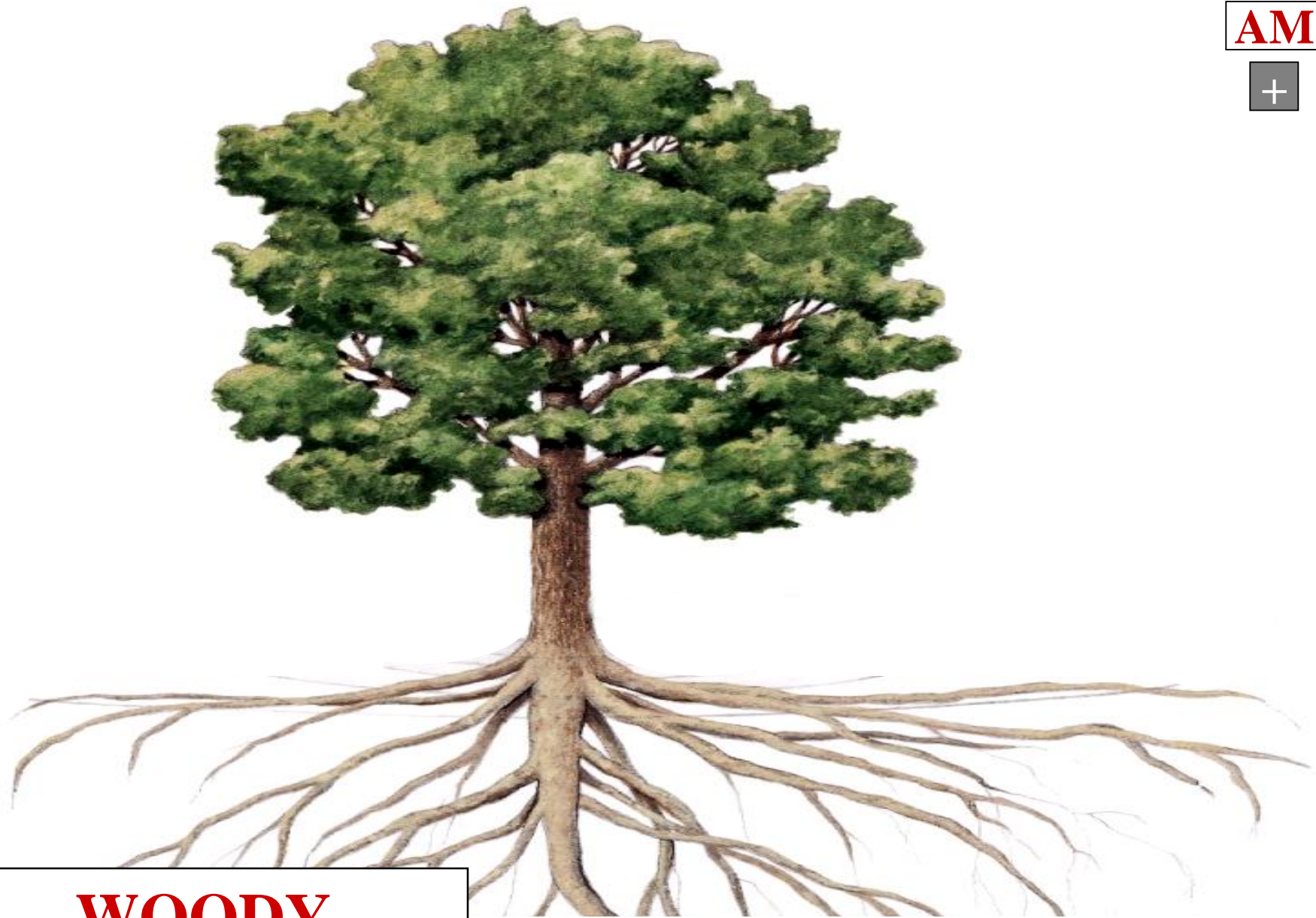
WOODY PLANT



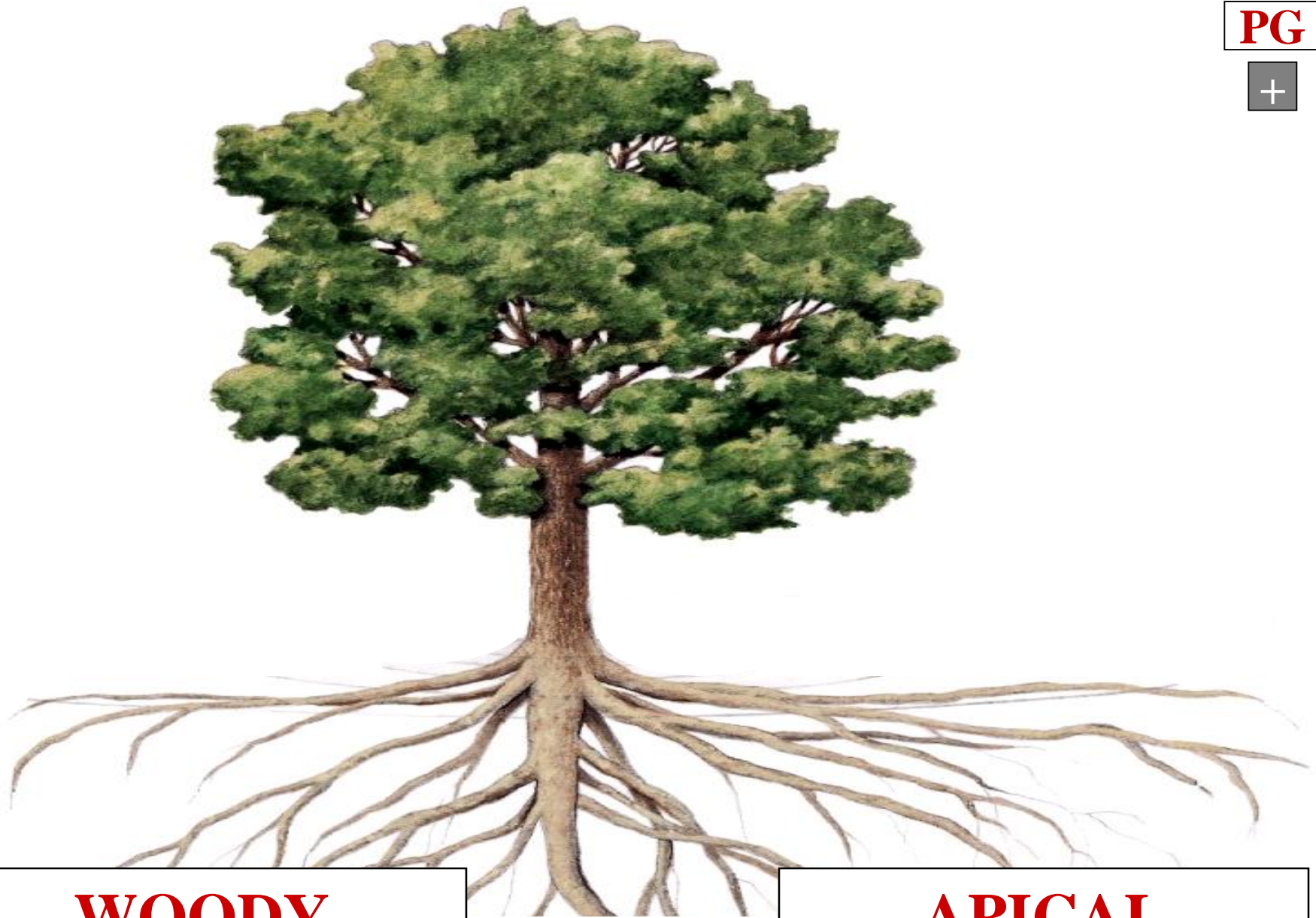
**WOODY
PLANT**

**PRIMARY GROWTH
AND
SECONDARY GROWTH**

**WOODY
PLANT**

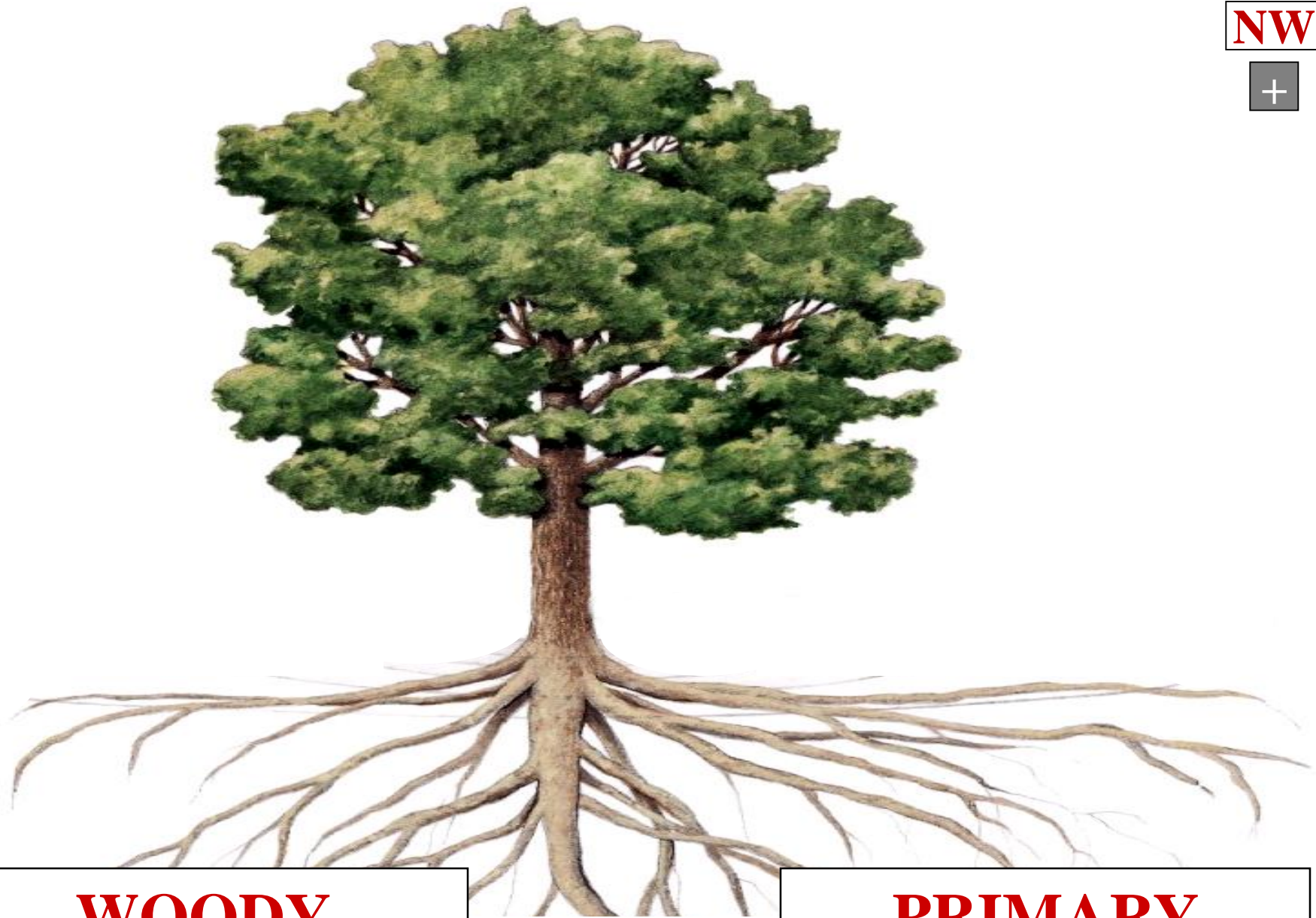


**WOODY
PLANT**



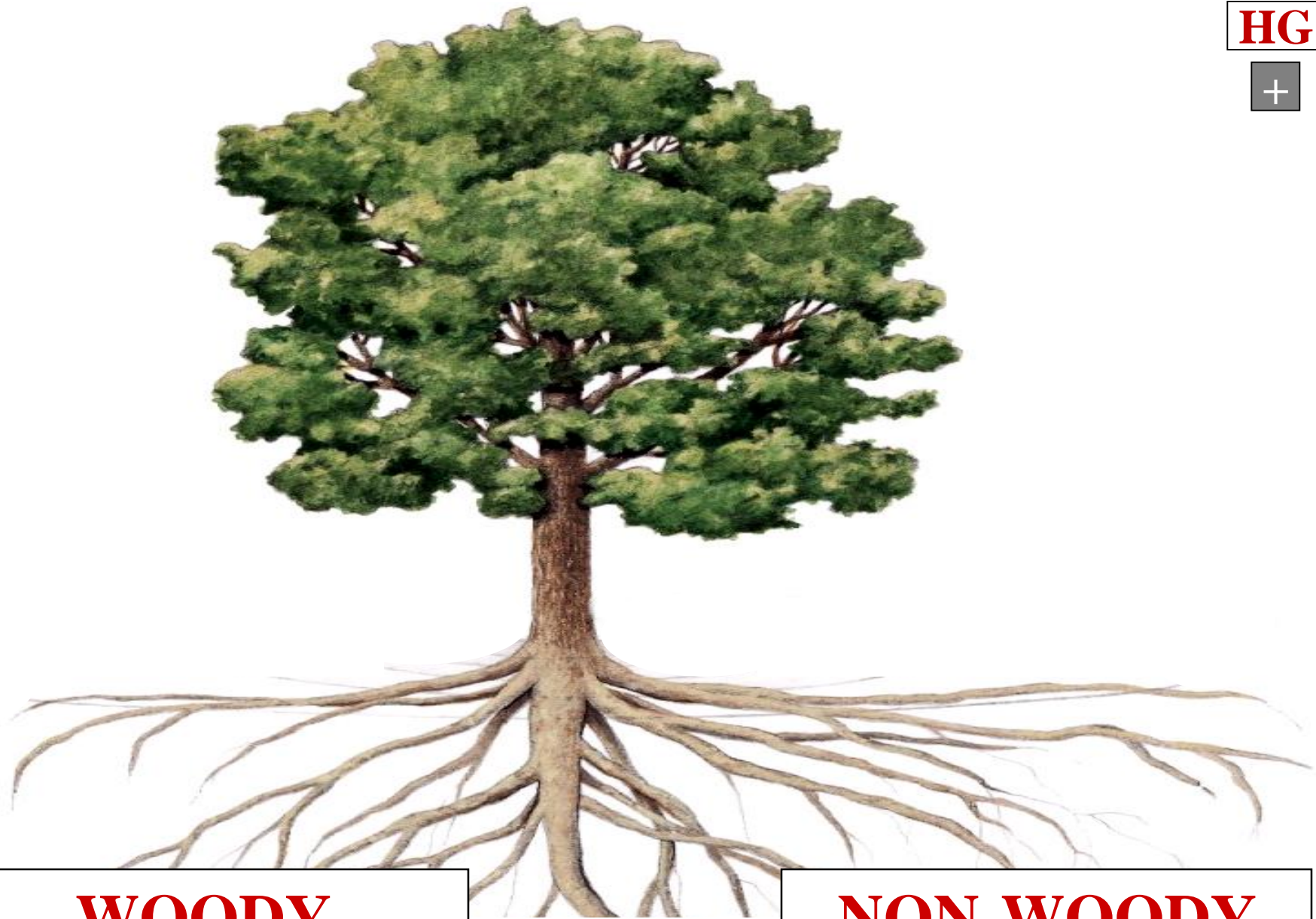
**WOODY
PLANT**

**APICAL
MERISTEM**



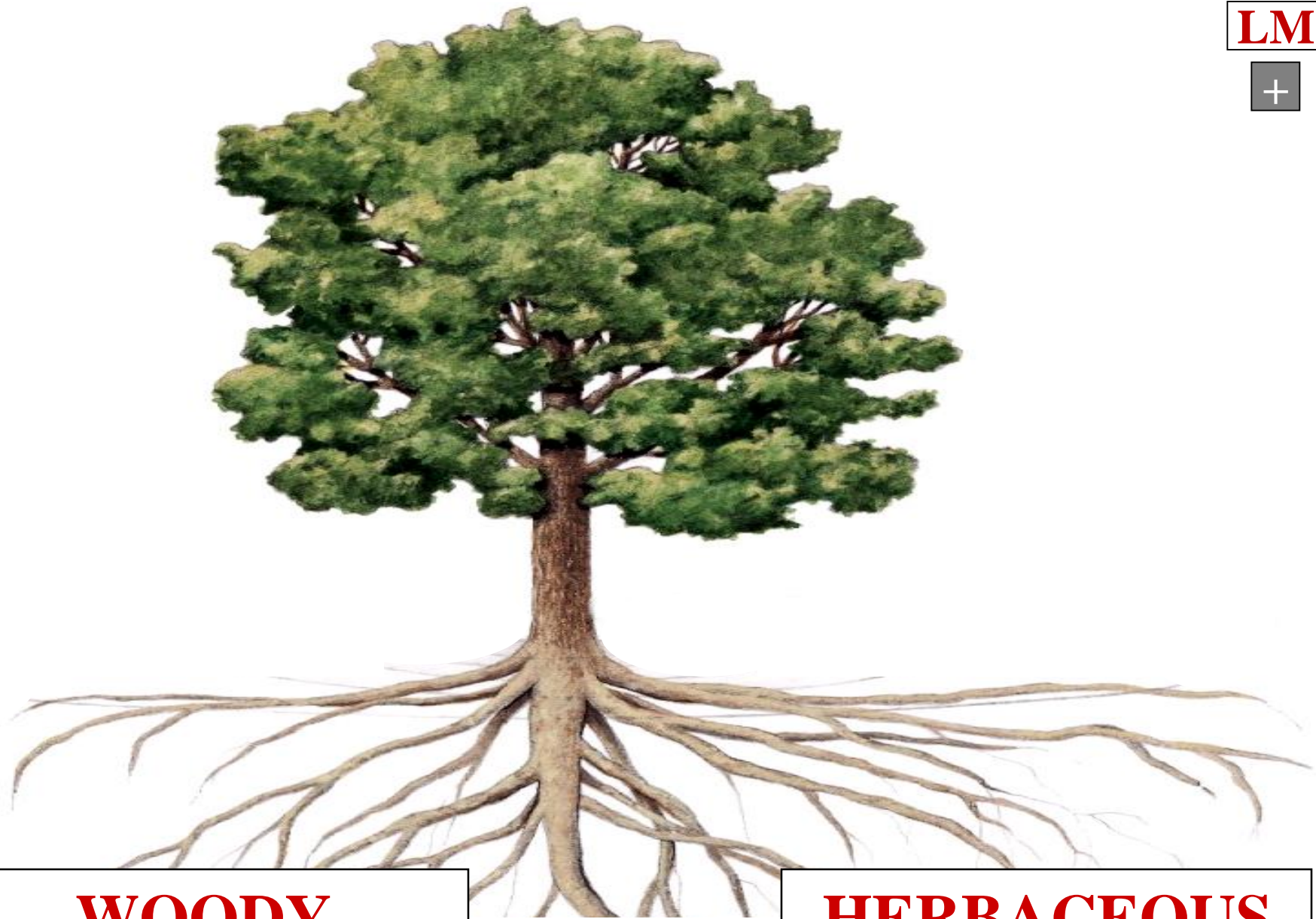
**WOODY
PLANT**

**PRIMARY
GROWTH**



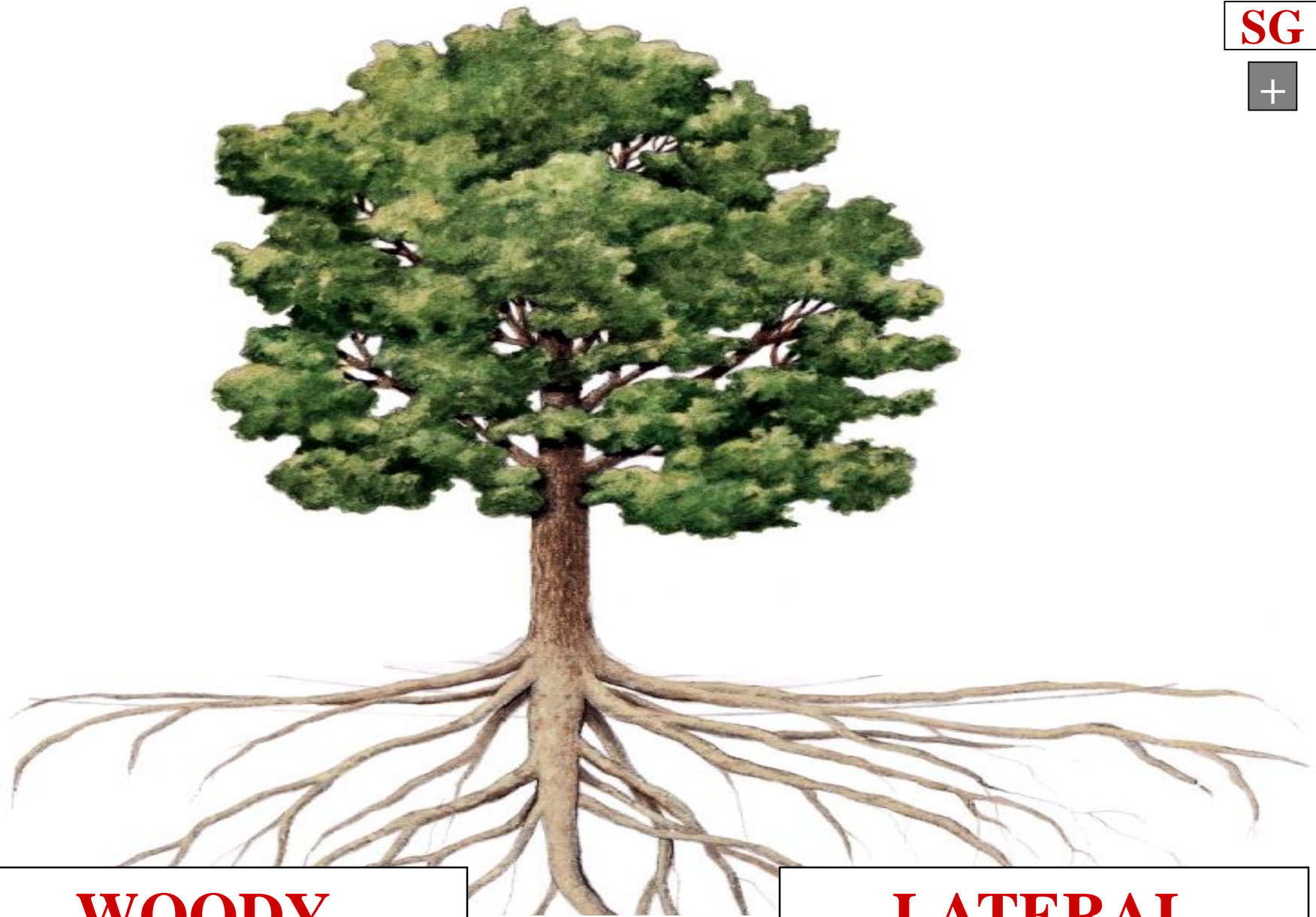
**WOODY
PLANT**

**NON-WOODY
GROWTH**



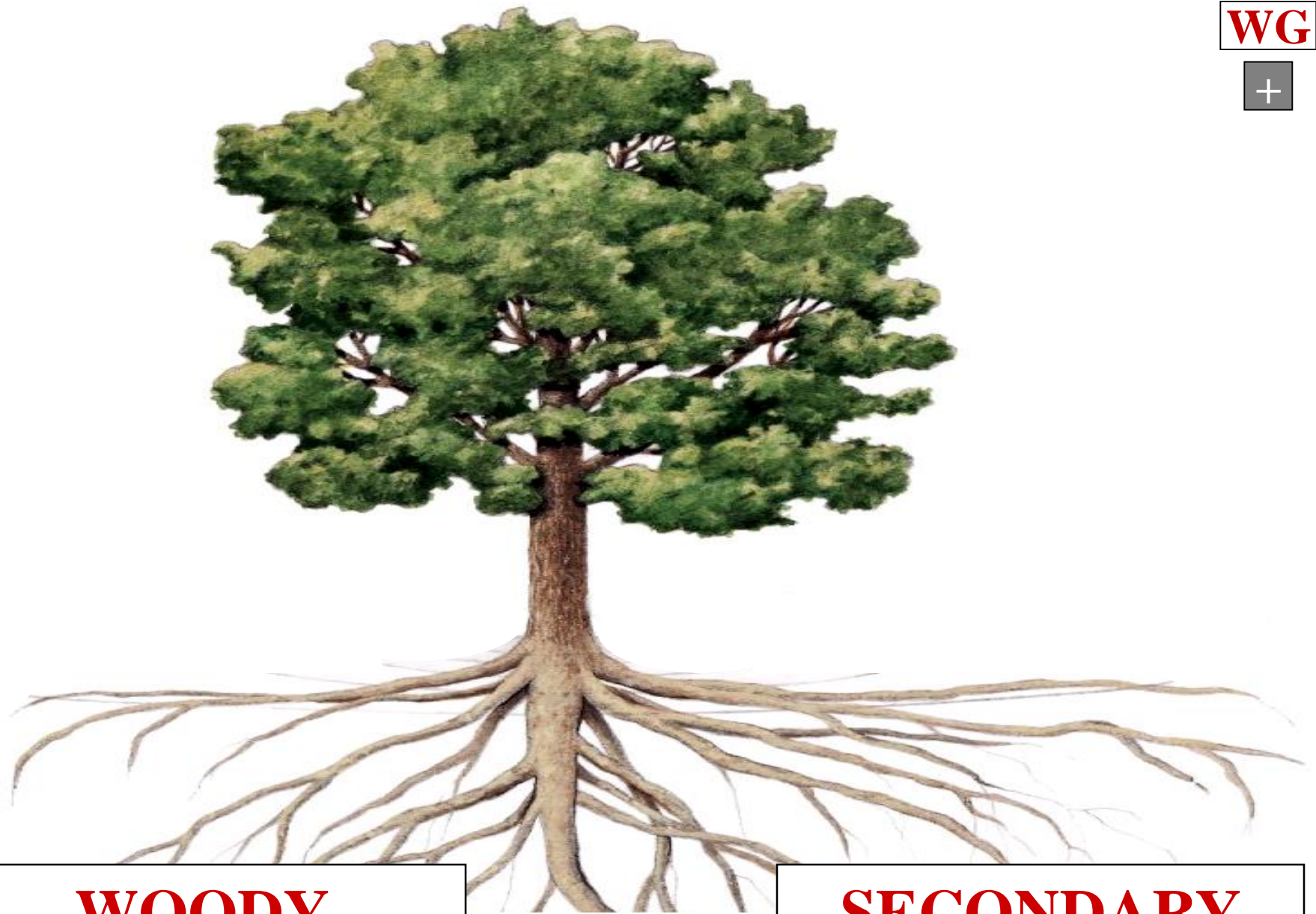
**WOODY
PLANT**

**HERBACEOUS
GROWTH**



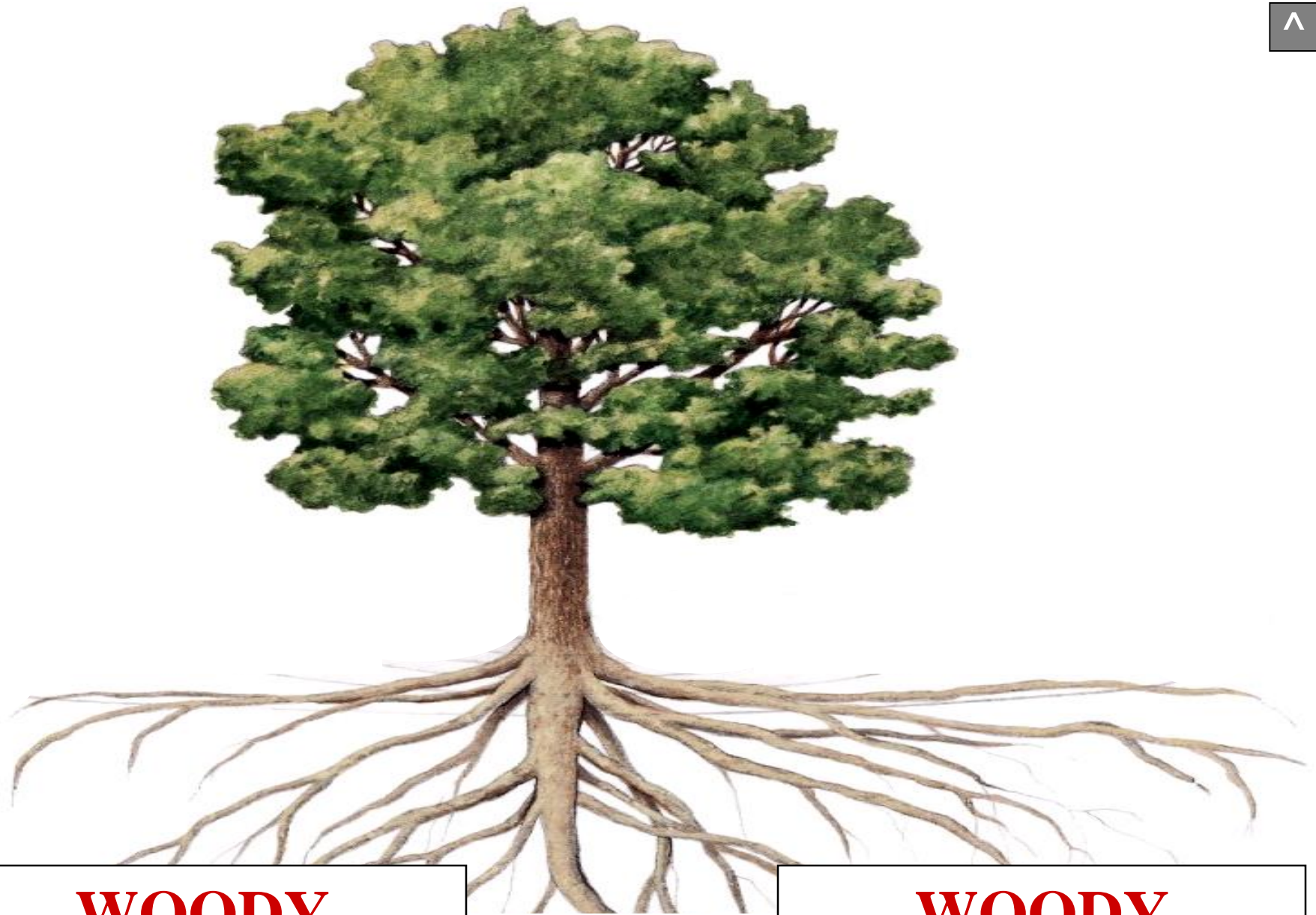
**WOODY
PLANT**

**LATERAL
MERISTEMS**



**WOODY
PLANT**

**SECONDARY
GROWTH**



**WOODY
PLANT**

**WOODY
GROWTH**



TRACHEOPHYTE ORGANS

TRACHEOPHYTE ORGAN TYPES

TRACHEOPHYTE ORGANS

ROOT

TRACHEOPHYTE ORGANS

TRACHEOPHYTE ORGANS

**ROOT
STEM**

**TRACHEOPHYTE
ORGANS**

TRACHEOPHYTE ORGANS

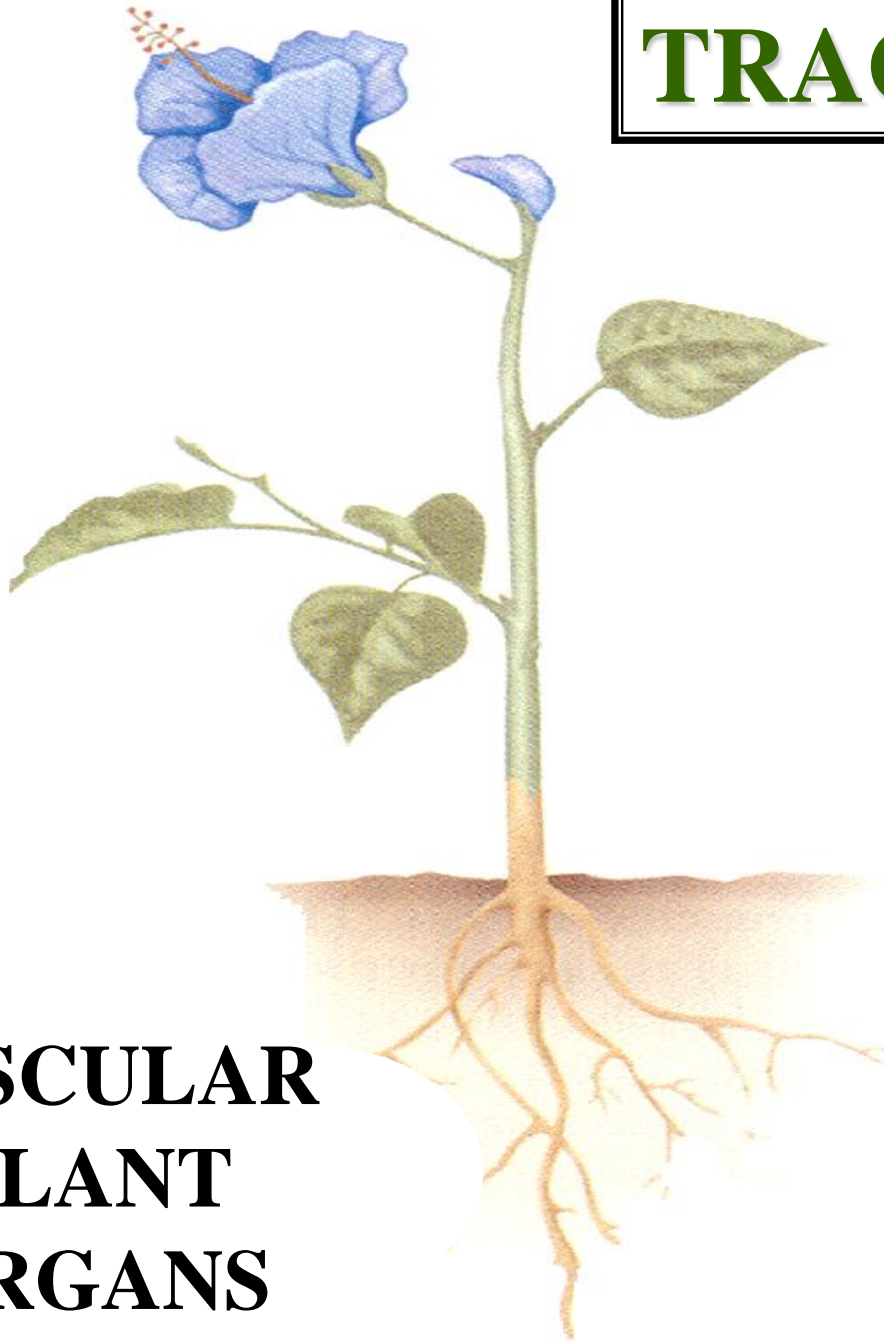


ROOT
STEM
LEAF

TRACHEOPHYTE ORGANS

TRACHEOPHYTE

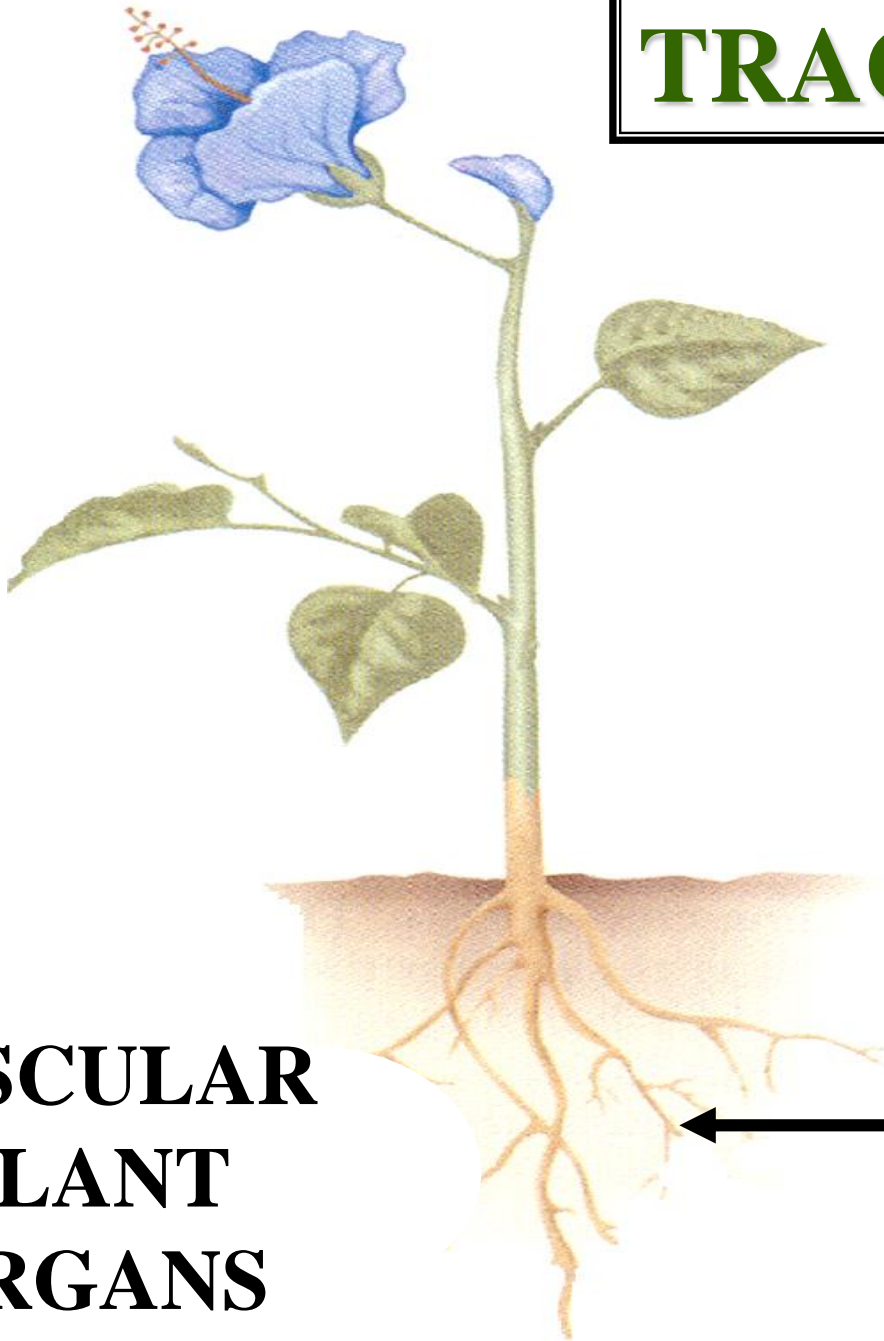
R



**VASCULAR
PLANT
ORGANS**

TRACHEOPHYTE

S

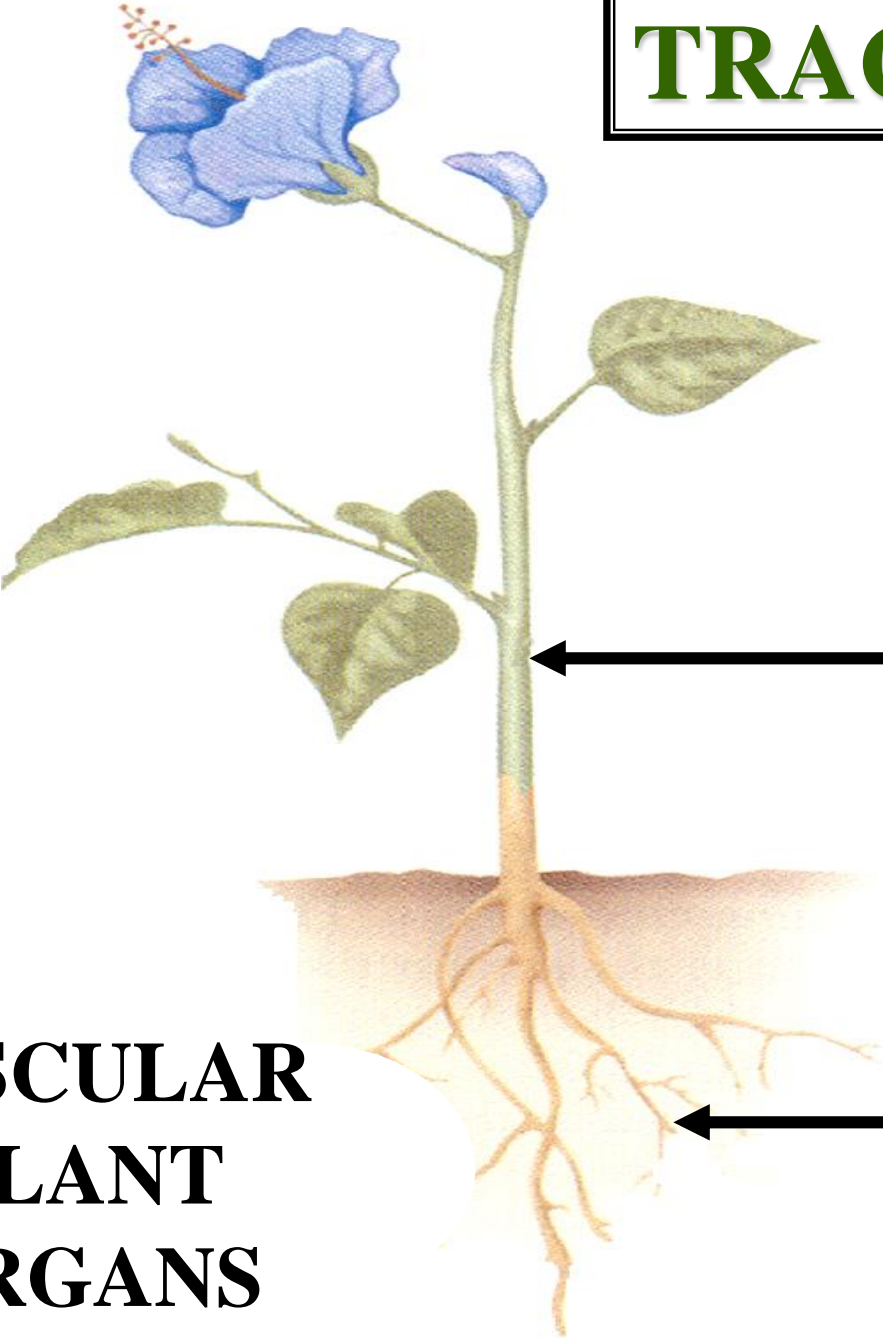


**VASCULAR
PLANT
ORGANS**

ROOT

TRACHEOPHYTE

L

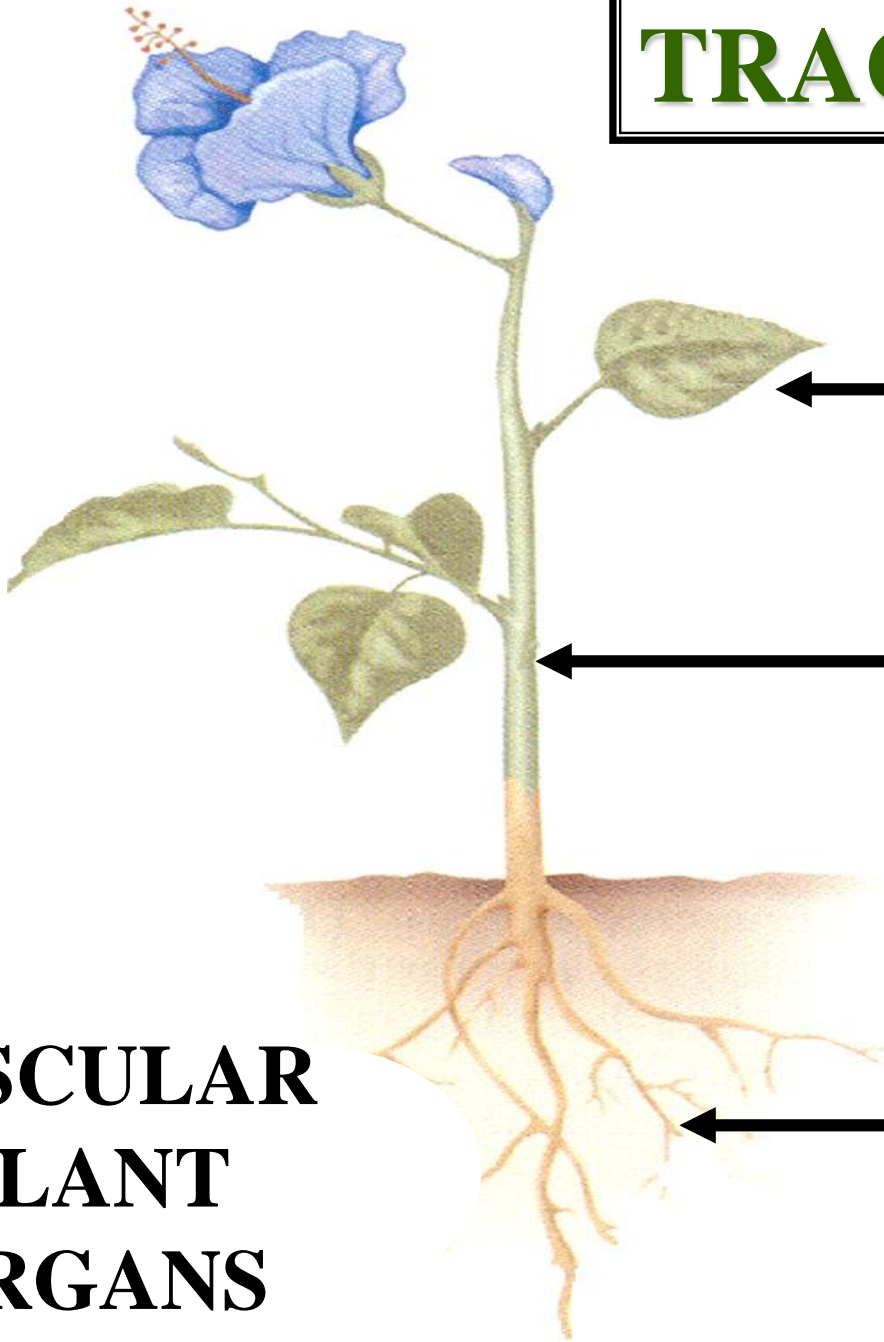


STEM

ROOT

**VASCULAR
PLANT
ORGANS**

TRACHEOPHYTE



LEAF

STEM

ROOT

**VASCULAR
PLANT
ORGANS**

ROOT

ROOT

**TRACHEOPHYTE
ORGANS
ROOT**



DESCENDING PLANT AXIS

**TRACHEOPHYTE
ORGANS
ROOT**



**TRACHEOPHYTE
ORGANS
ROOT**

DESCENDING PLANT AXIS

ANCHORAGE

**TRACHEOPHYTE
ORGANS
ROOT**



**TRACHEOPHYTE
ORGANS
ROOT**

DESCENDING PLANT AXIS

ANCHORAGE - ABSORPTION

**TRACHEOPHYTE
ORGANS
ROOT**

TRACHEOPHYTE ORGANS ROOT



R

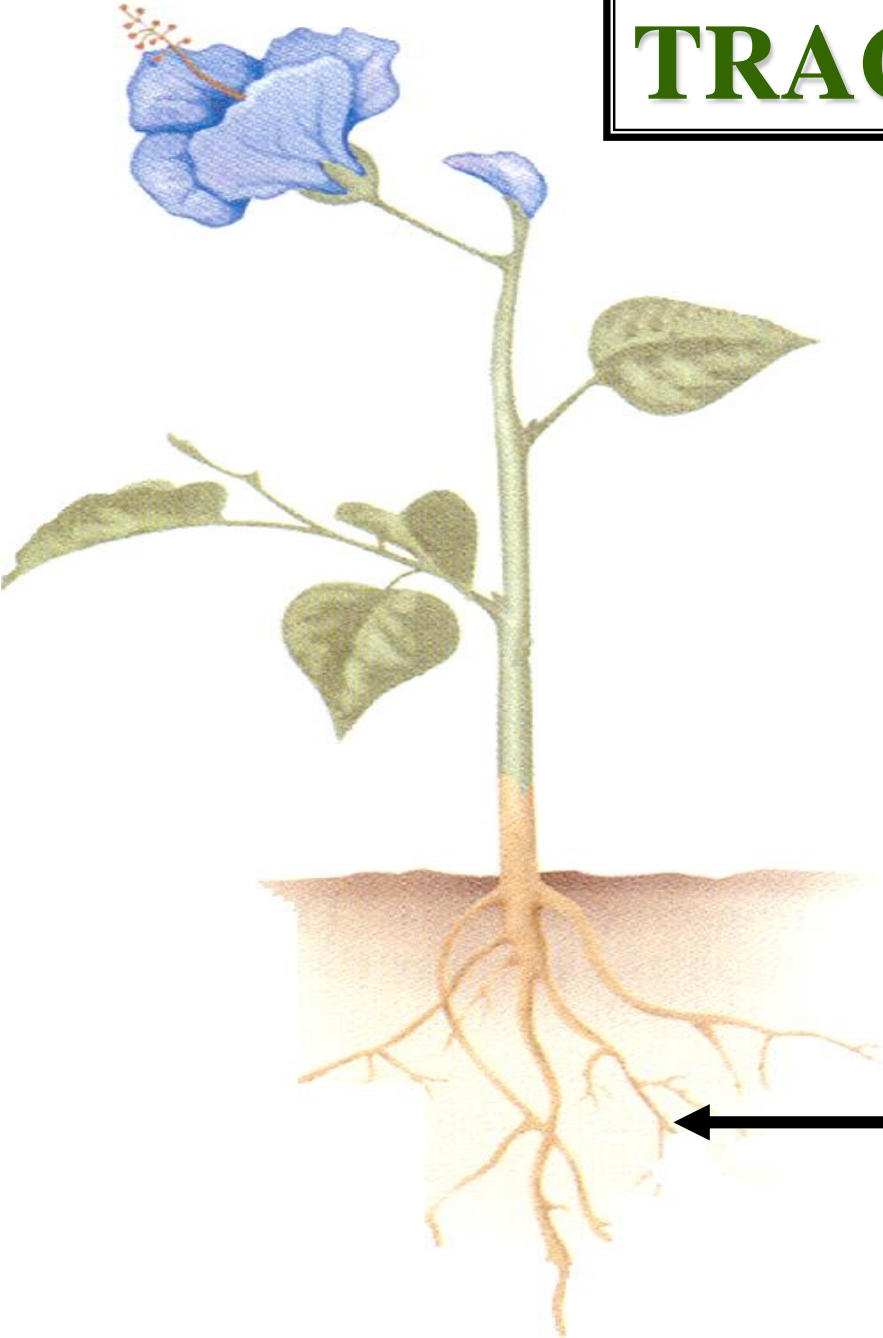
DESCENDING PLANT AXIS

ANCHORAGE - ABSORPTION - STORAGE

TRACHEOPHYTE ORGANS ROOT

TRACHEOPHYTE

D



ROOT

TRACHEOPHYTE

A

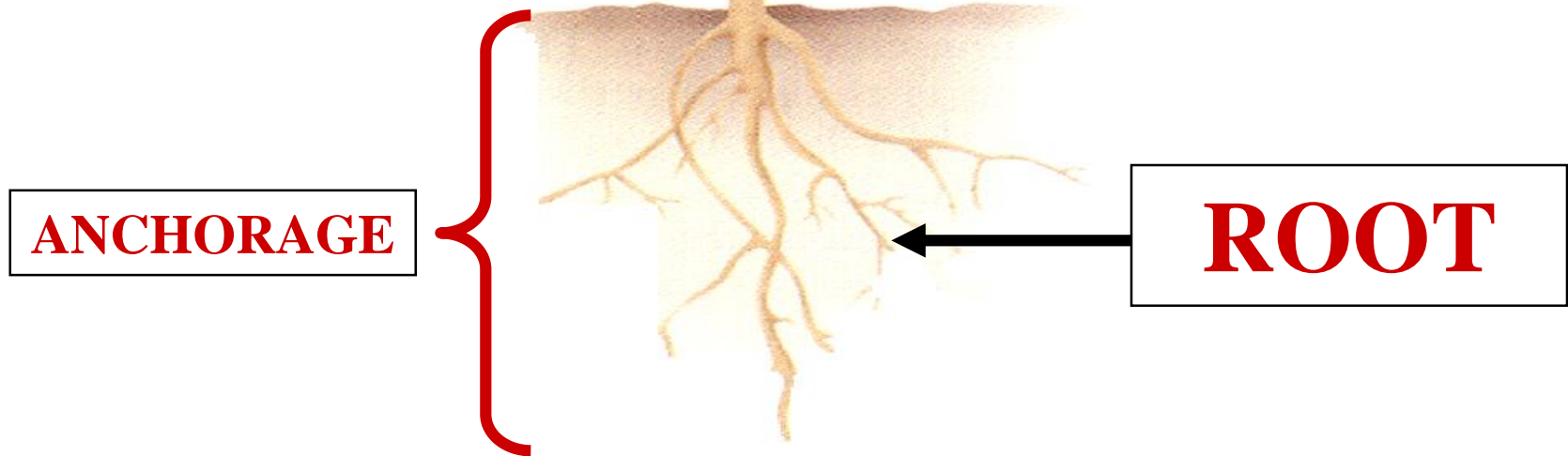
DESCENDING
PLANT
AXIS

ROOT



TRACHEOPHYTE

A

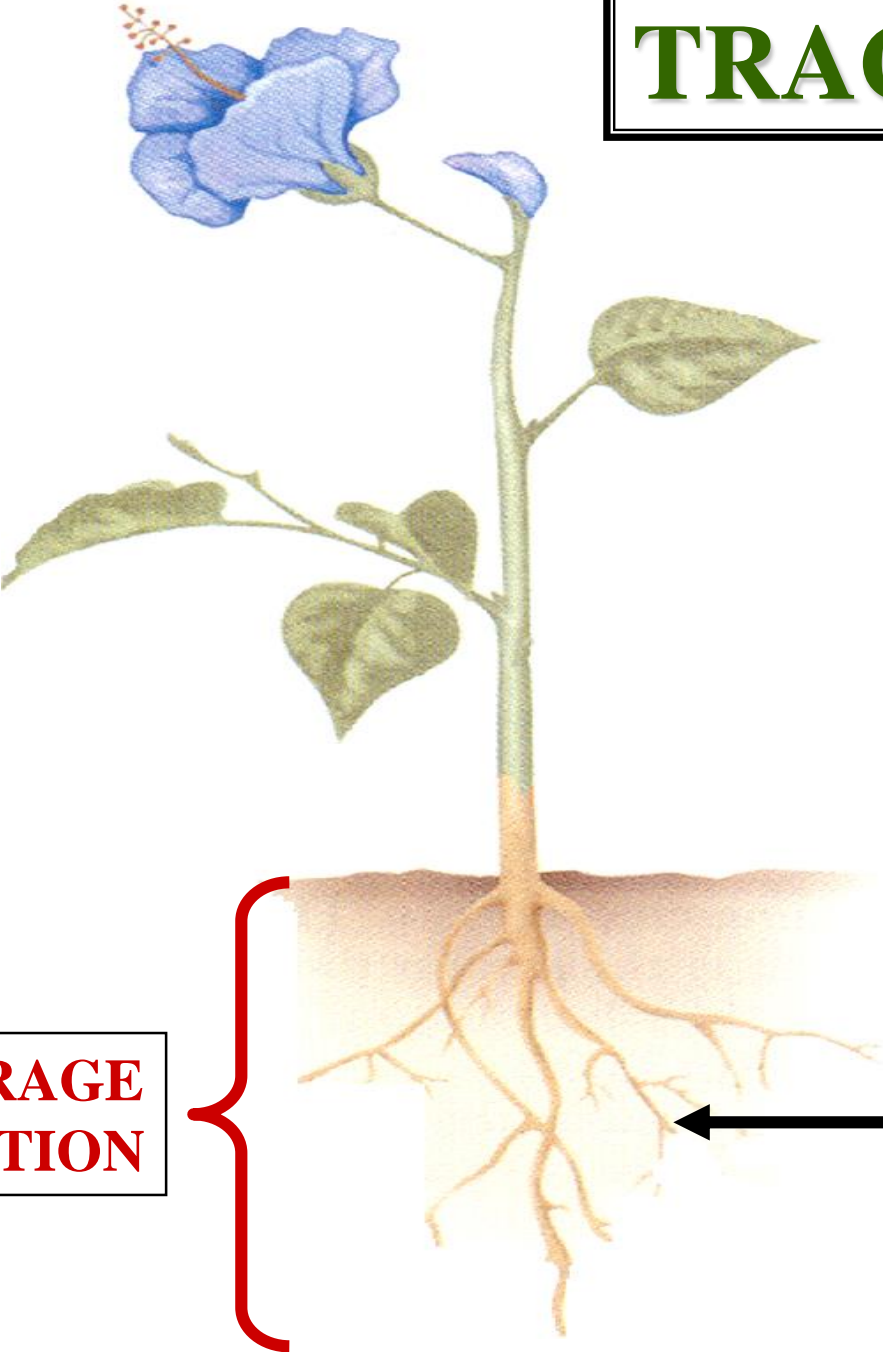


ANCHORAGE

ROOT

TRACHEOPHYTE

S



**ANCHORAGE
ABSORPTION**

ROOT

TRACHEOPHYTE



**ANCHORAGE
ABSORPTION
STORAGE**



ROOT



**TAP ROOT
SYSTEM
VS
FIBROUS ROOT
SYSTEM**

TAP ROOT SYSTEM

TAP ROOT SYSTEM



ROOT TAP ROOT SYSTEM

STOUT PRIMARY ROOT PRESENT

ROOT TAP ROOT SYSTEM



ROOT TAP ROOT SYSTEM

STOUT PRIMARY ROOT PRESENT

STOUT LATERAL ROOTS PRESENT

ROOT TAP ROOT SYSTEM



ROOT TAP ROOT SYSTEM

STOUT PRIMARY ROOT PRESENT

STOUT LATERAL ROOTS PRESENT

DEEP SOIL PENETRATION

ROOT TAP ROOT SYSTEM



R

ROOT

TAP ROOT SYSTEM

STOUT PRIMARY ROOT PRESENT

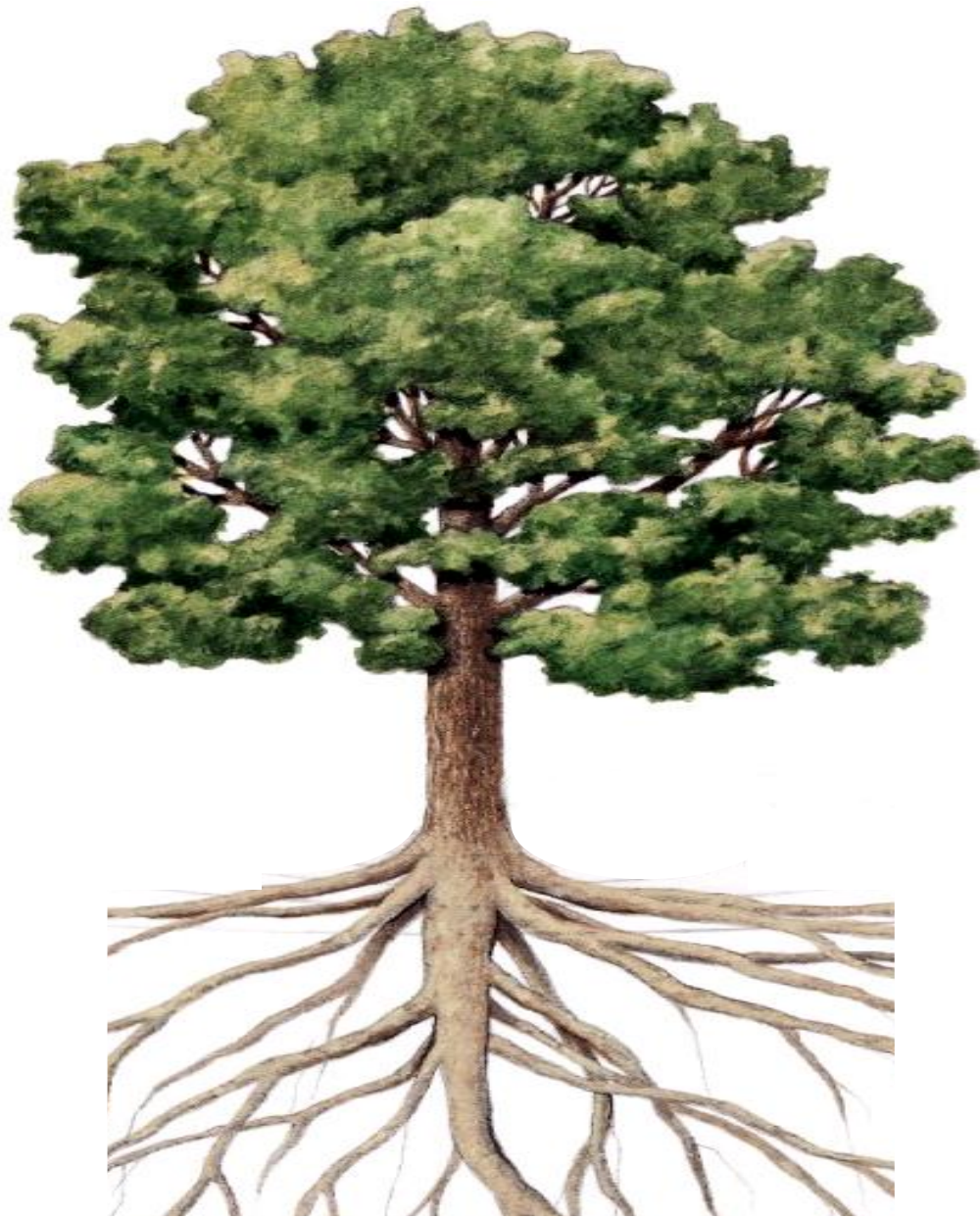
STOUT LATERAL ROOTS PRESENT

DEEP SOIL PENETRATION

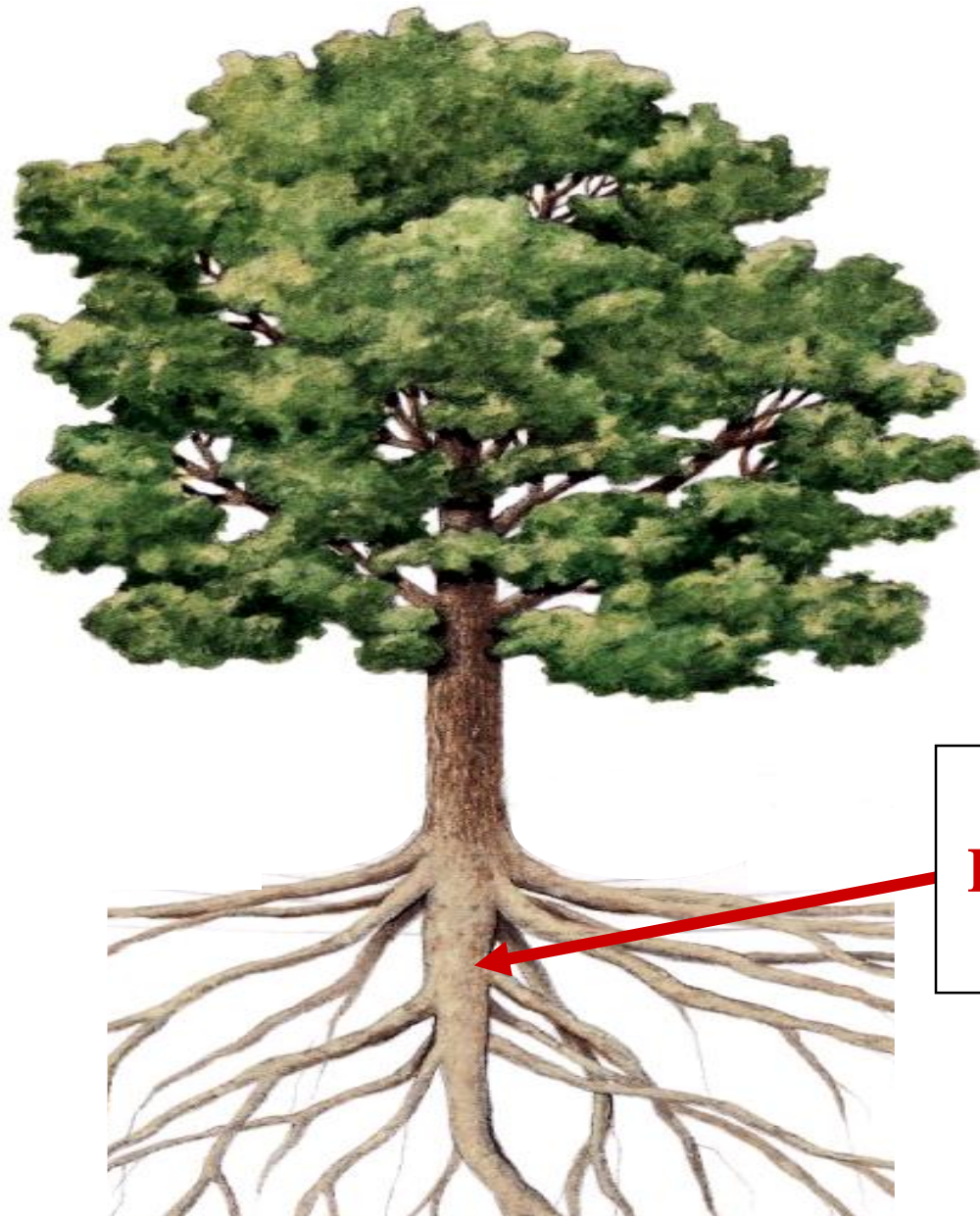
WOODY PLANTS

ROOT

TAP ROOT SYSTEM

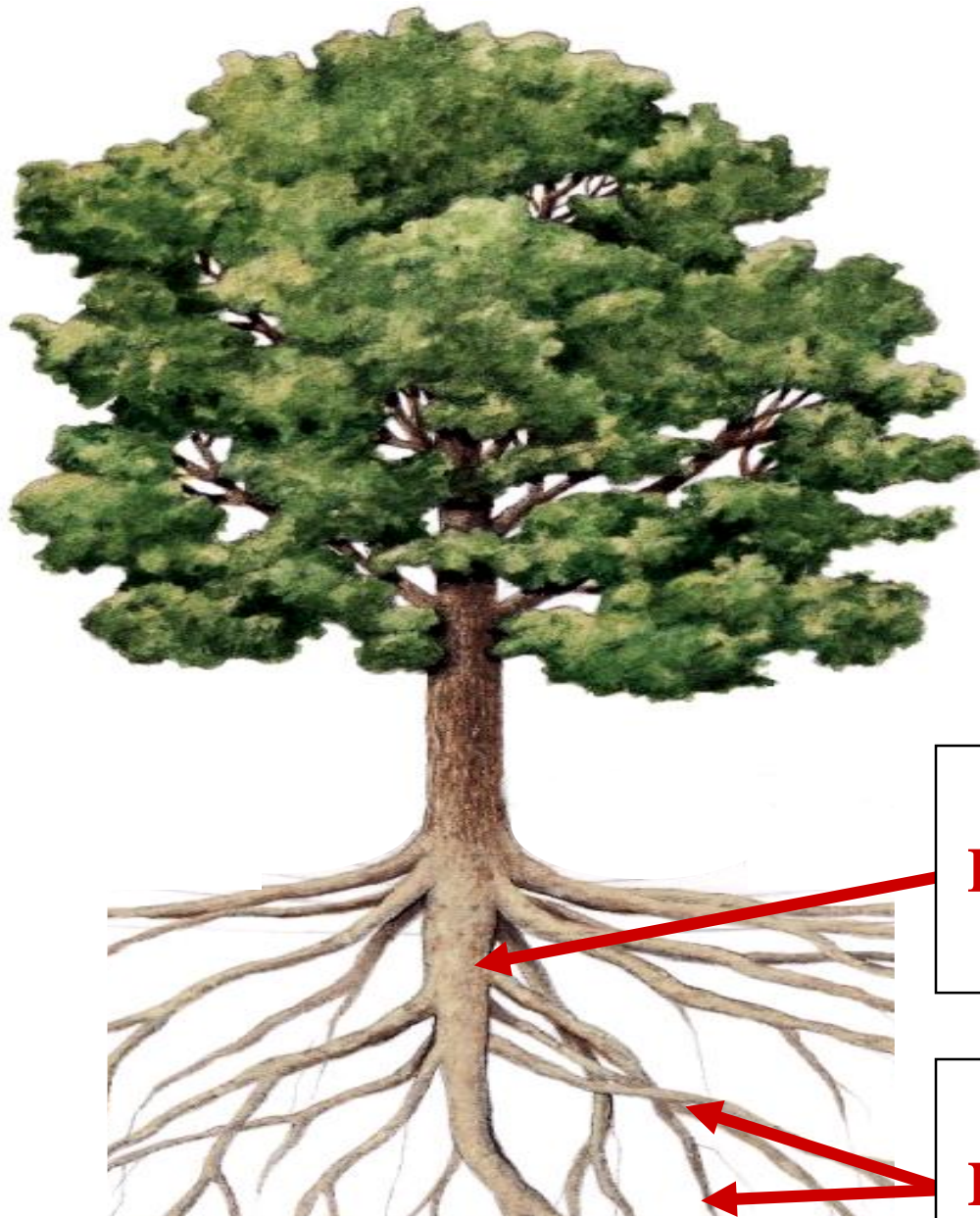


**TAP
ROOT
SYSTEM**



**TAP
ROOT
SYSTEM**

**STOUT
PRIMARY
ROOT**



**TAP
ROOT
SYSTEM**

**STOUT
PRIMARY
ROOT**

**STOUT
LATERAL
ROOTS**

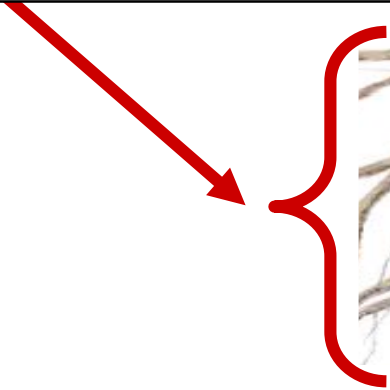


**TAP
ROOT
SYSTEM**

**DEEP SOIL
PENETRATION**

**STOUT
PRIMARY
ROOT**

**STOUT
LATERAL
ROOTS**





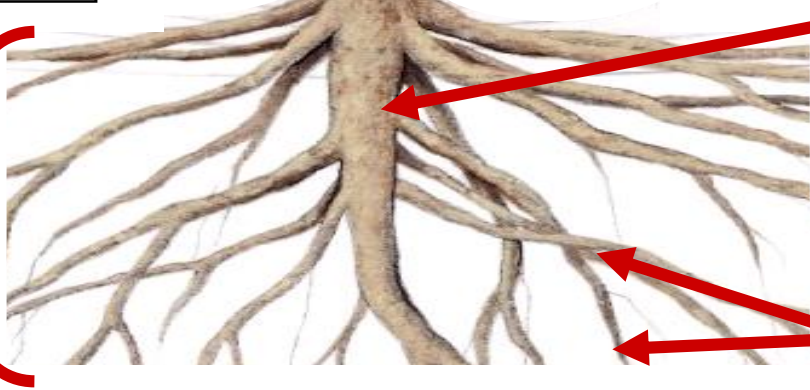
**TAP
ROOT
SYSTEM**

**DEEP SOIL
PENETRATION**

**STOUT
PRIMARY
ROOT**

**STOUT
LATERAL
ROOTS**

WOODY PLANTS





MAGNOLIA

FIBROUS ROOT SYSTEM

FIBROUS ROOT SYSTEM



**ROOT
FIBROUS ROOT SYSTEM**

STOUT PRIMARY ROOT ABSENT

**ROOT
FIBROUS ROOT SYSTEM**



**ROOT
FIBROUS ROOT SYSTEM**

STOUT PRIMARY ROOT ABSENT

STOUT LATERAL ROOTS ABSENT

**ROOT
FIBROUS ROOT SYSTEM**



**ROOT
FIBROUS ROOT SYSTEM**

STOUT PRIMARY ROOT ABSENT

STOUT LATERAL ROOTS ABSENT

SHALLOW SOIL PENETRATION

**ROOT
FIBROUS ROOT SYSTEM**

ROOT

FIBROUS ROOT SYSTEM

STOUT PRIMARY ROOT ABSENT

STOUT LATERAL ROOTS ABSENT

SHALLOW SOIL PENETRATION

HERBACEOUS PLANTS

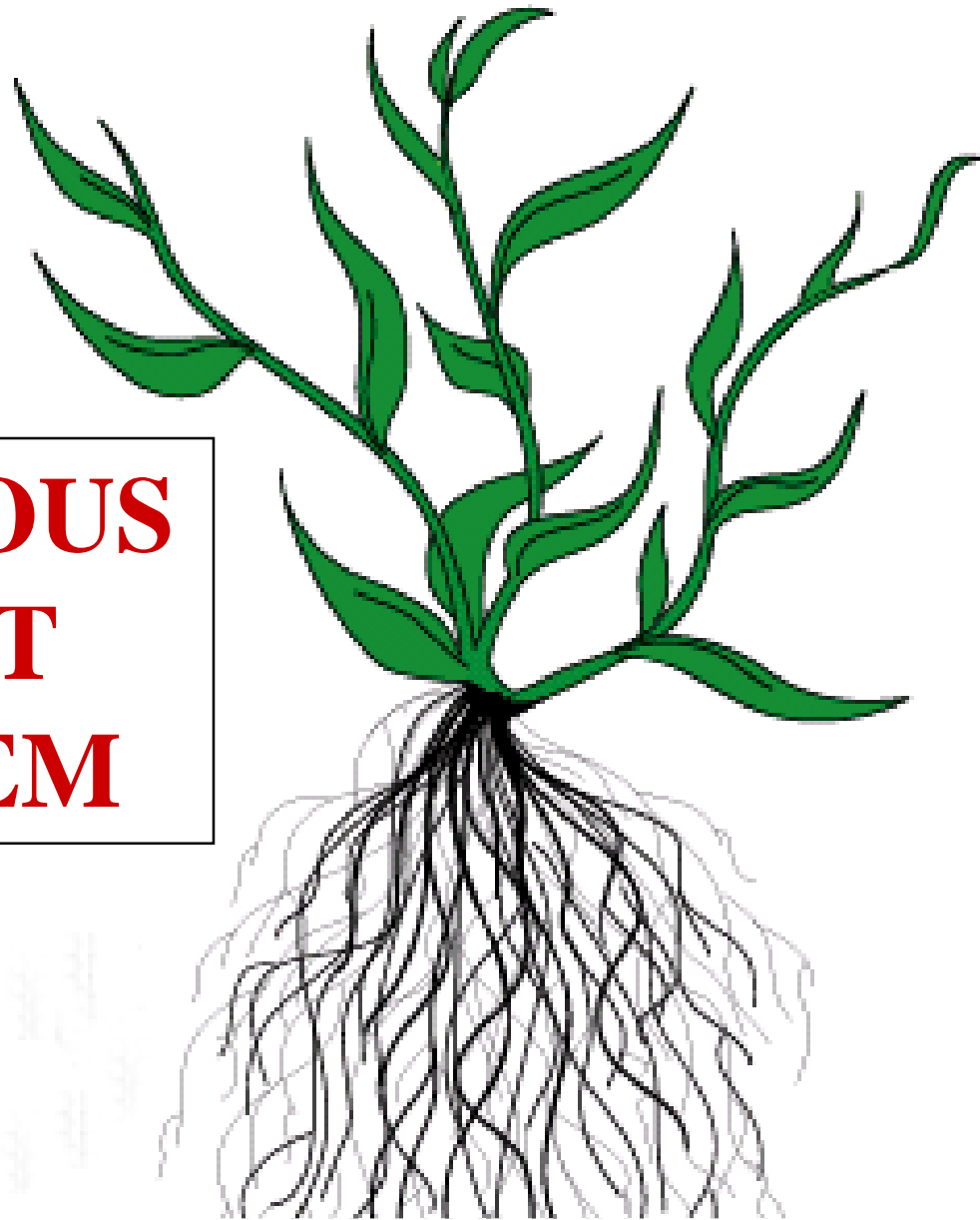
ROOT

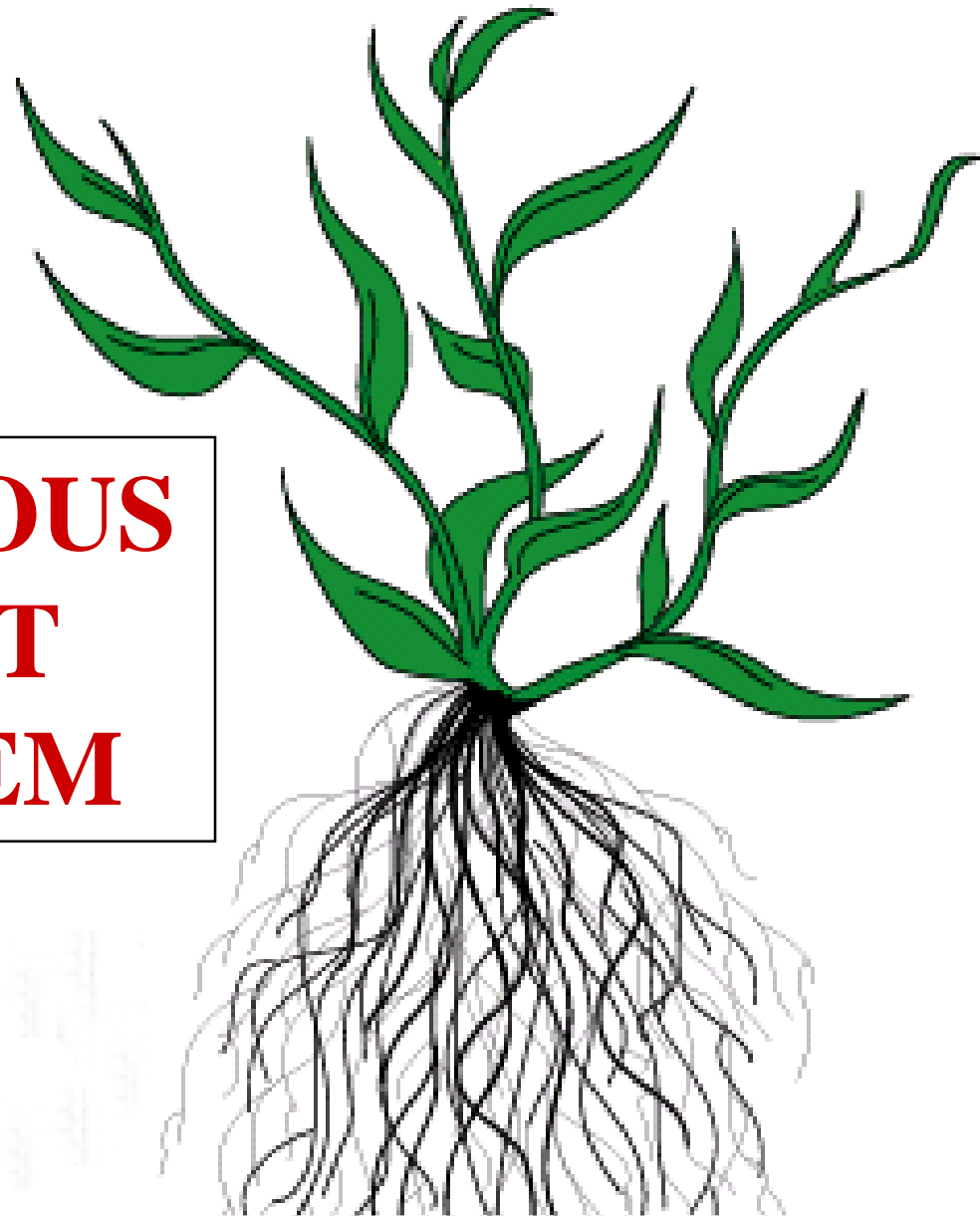
FIBROUS ROOT SYSTEM



R

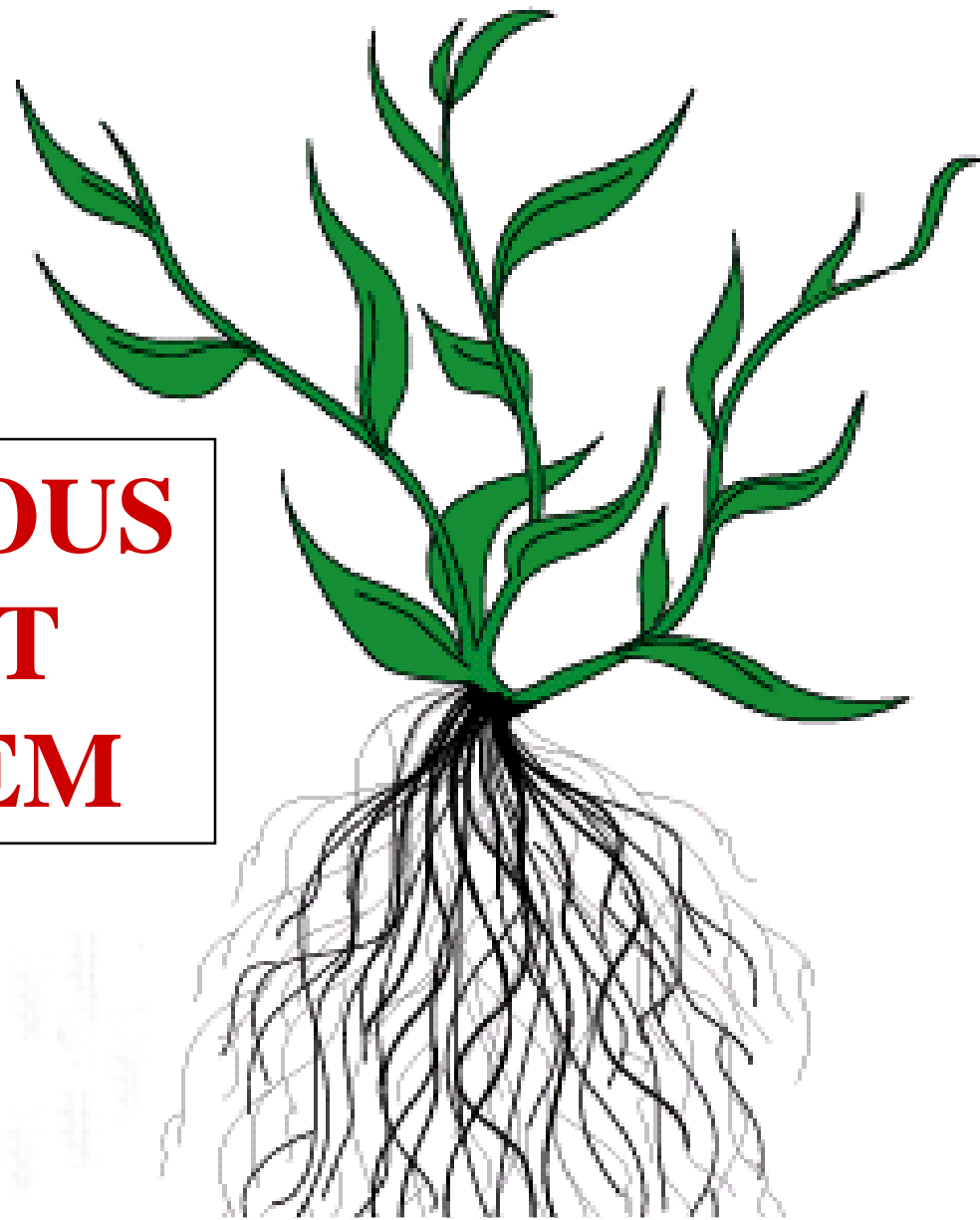
**FIBEROUS
ROOT
SYSTEM**





**FIBEROUS
ROOT
SYSTEM**

**STOUT
PRIMARY
ROOT
ABSENT**

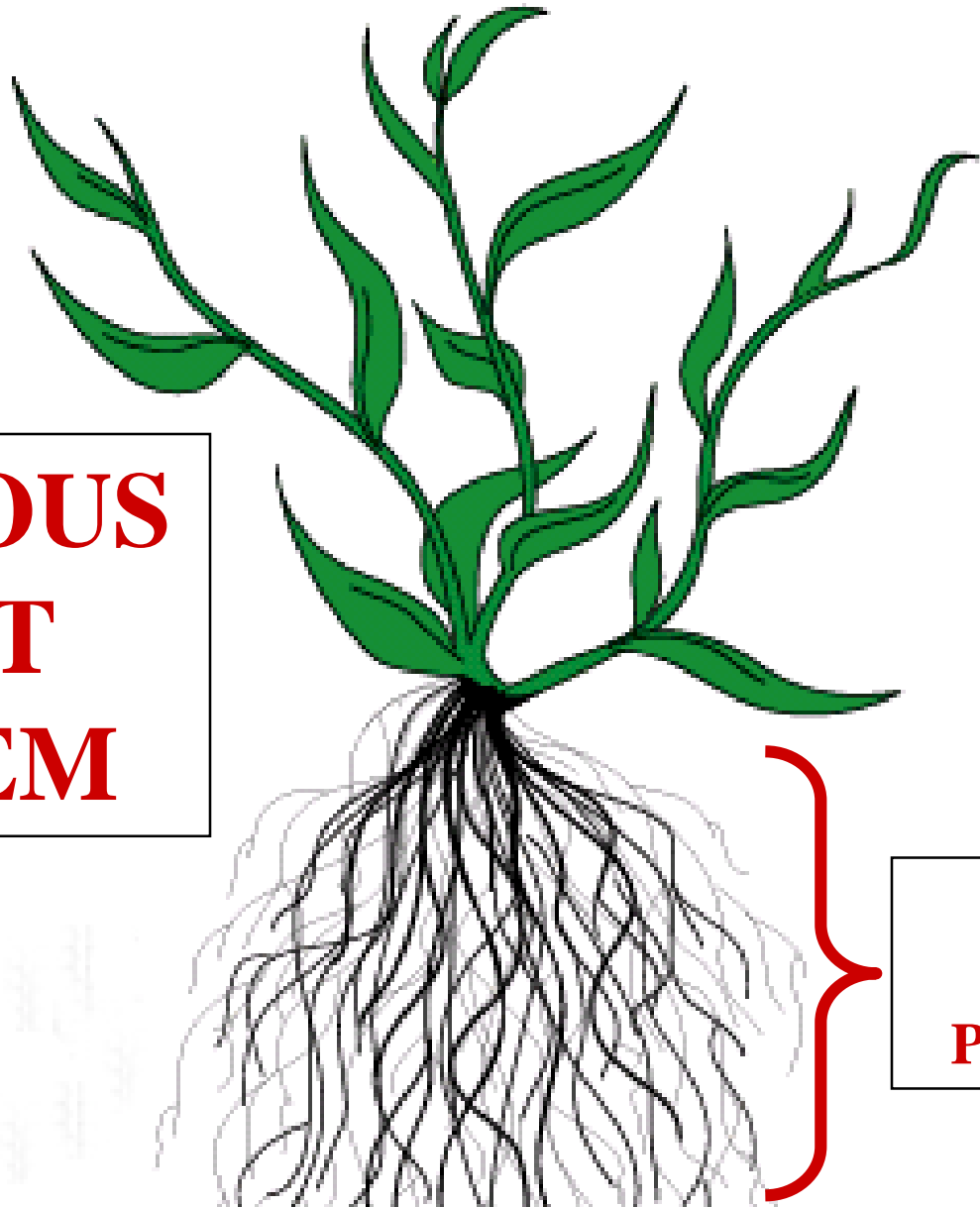


**FIBEROUS
ROOT
SYSTEM**

**STOUT
PRIMARY
ROOT
ABSENT**

**STOUT
LATERAL
ROOTS
ABSENT**

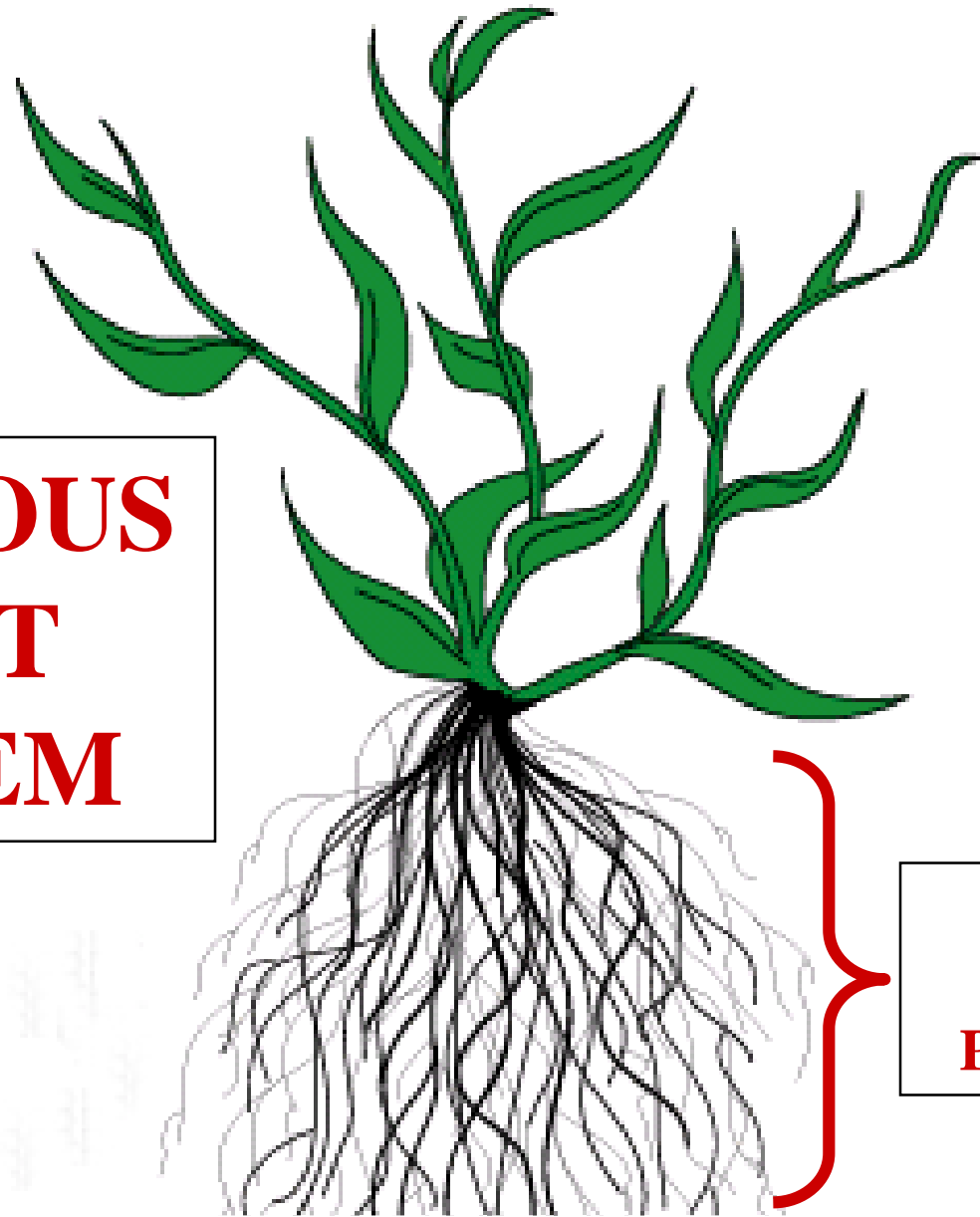
**FIBEROUS
ROOT
SYSTEM**



**STOUT
PRIMARY
ROOT
ABSENT**

**STOUT
LATERAL
ROOTS
ABSENT**

**SHALLOW
SOIL
PENETRATION**



**FIBEROUS
ROOT
SYSTEM**

**STOUT
PRIMARY
ROOT
ABSENT**

**STOUT
LATERAL
ROOTS
ABSENT**

**SHALLOW
SOIL
PENETRATION**

HERBACEOUS PLANTS

S

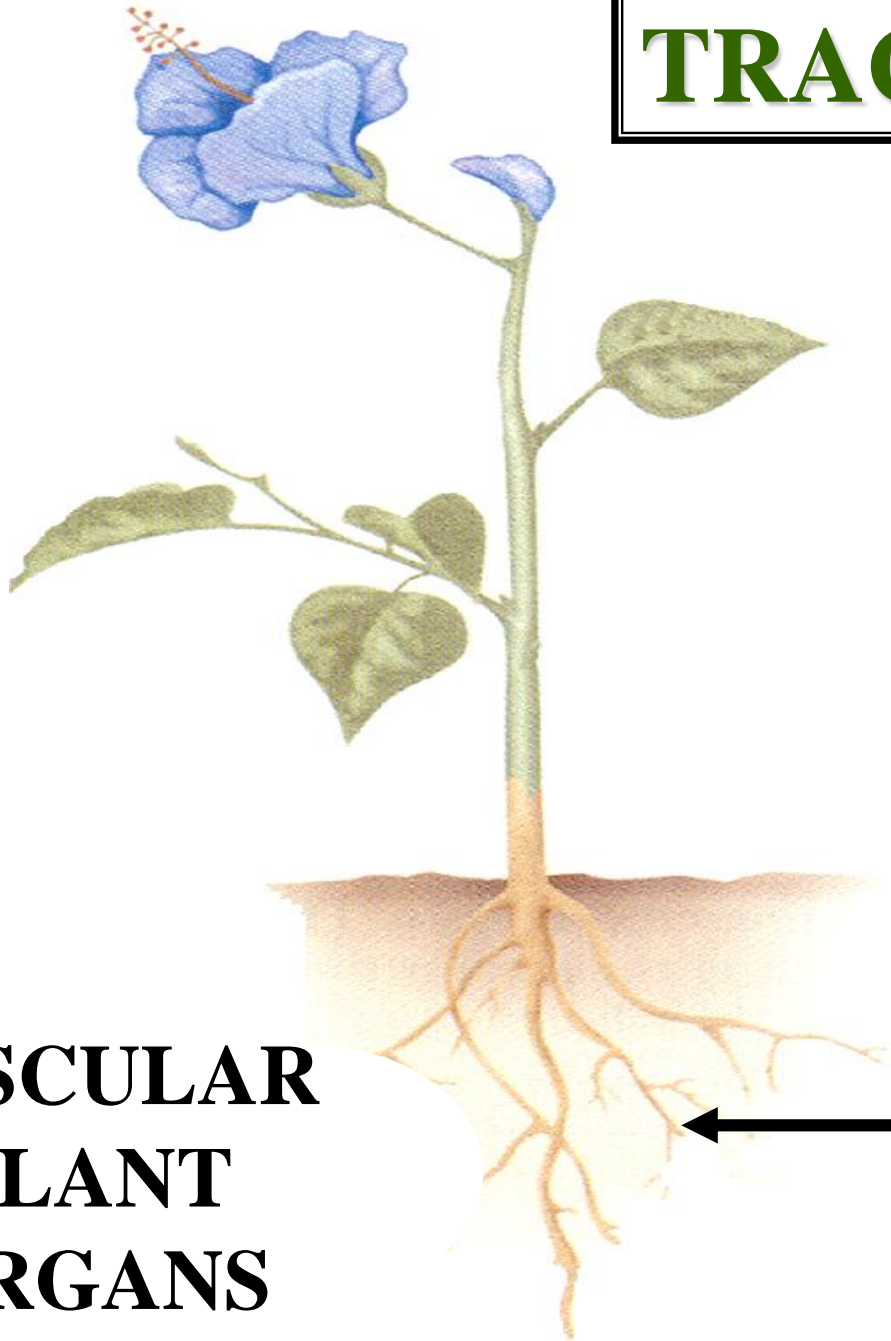


CORN

TRACHEOPHYTE

S

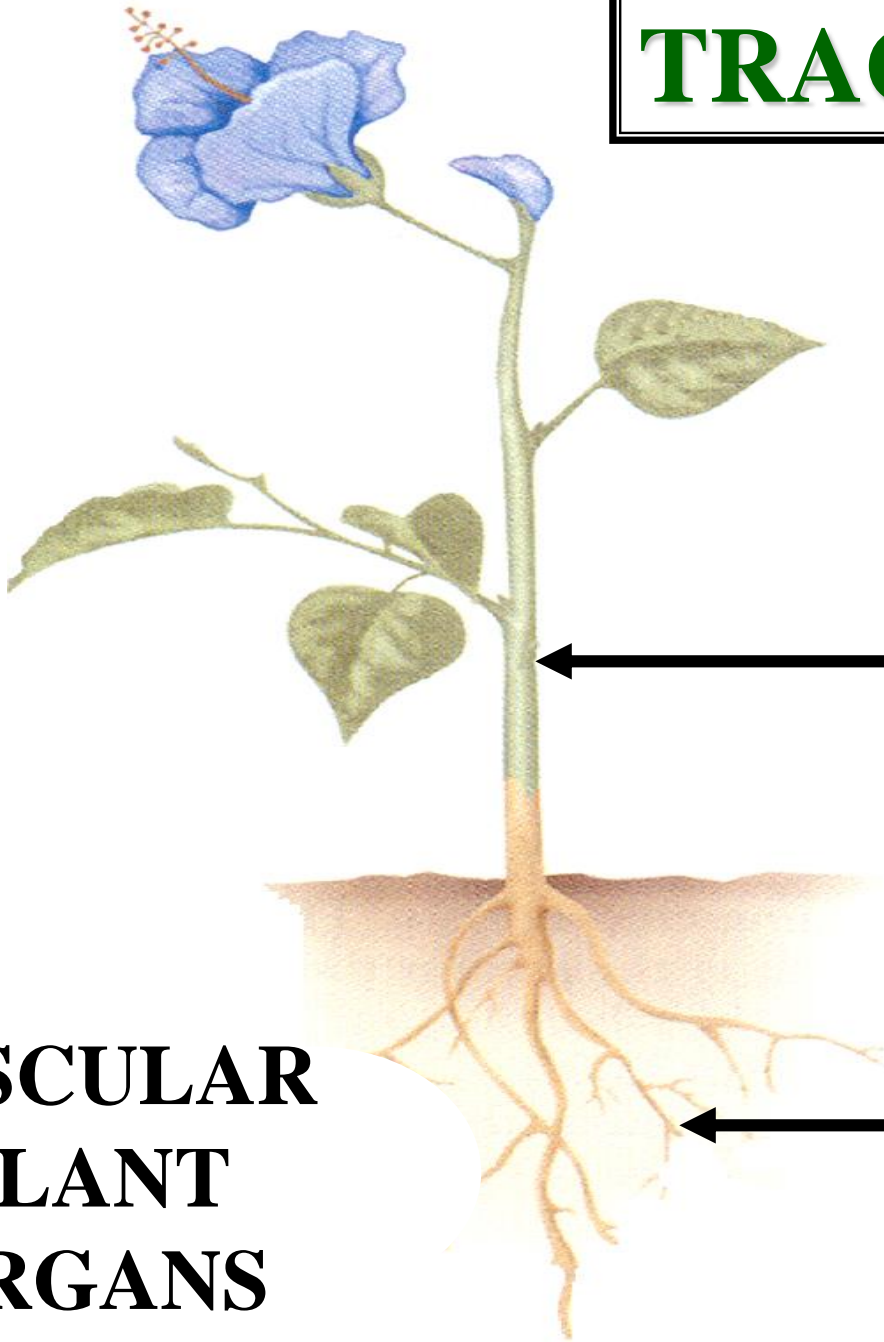
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**VASCULAR
PLANT
ORGANS**

ROOT

TRACHEOPHYTE



STEM

ROOT

**VASCULAR
PLANT
ORGANS**

STEM

STEM

**TRACHEOPHYTE
ORGANS
STEM**



ASCENDING PLANT AXIS

**TRACHEOPHYTE
ORGANS
STEM**

**TRACHEOPHYTE
ORGANS
STEM**



R

ASCENDING PLANT AXIS

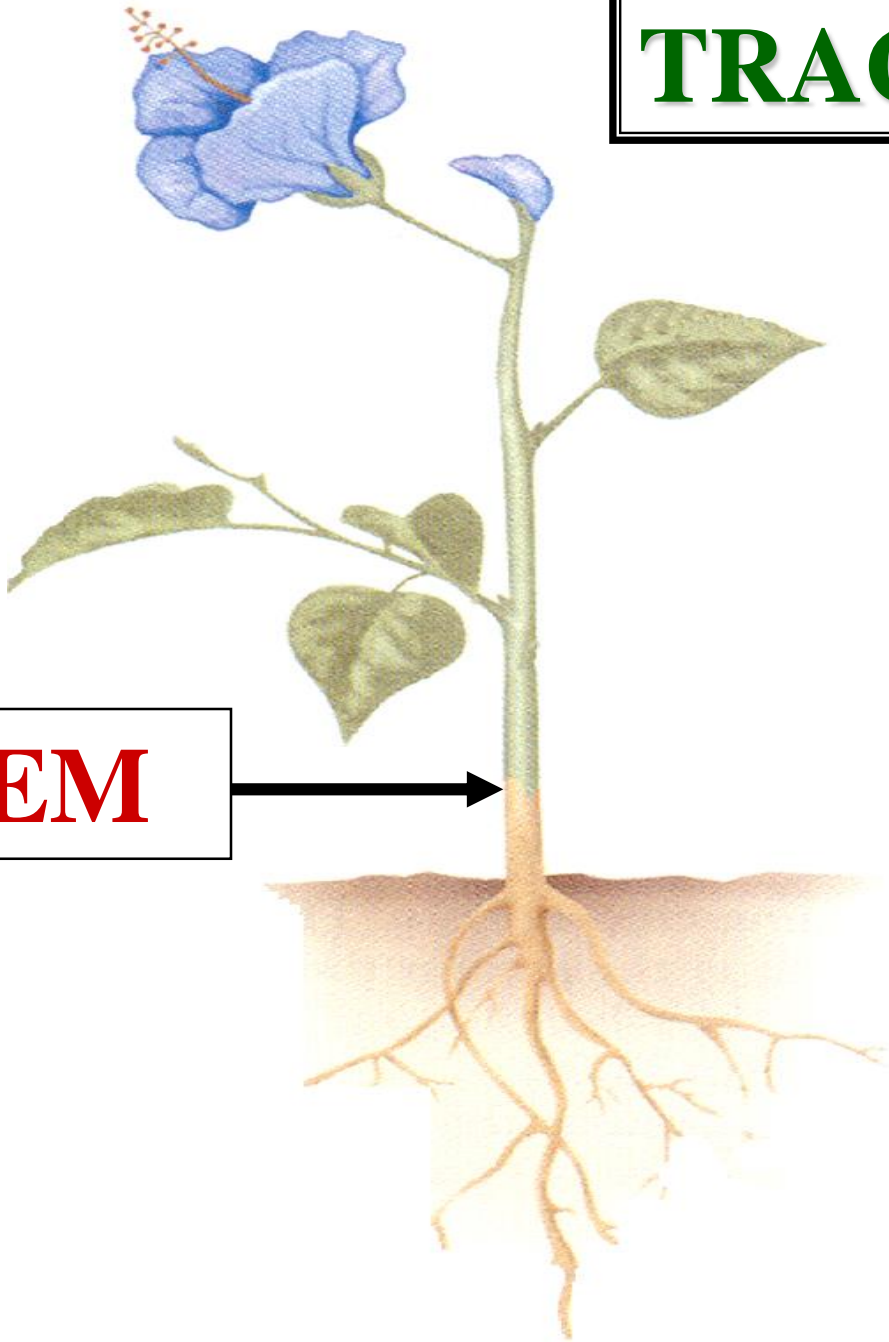
ELEVATES LEAVES TO LIGHT

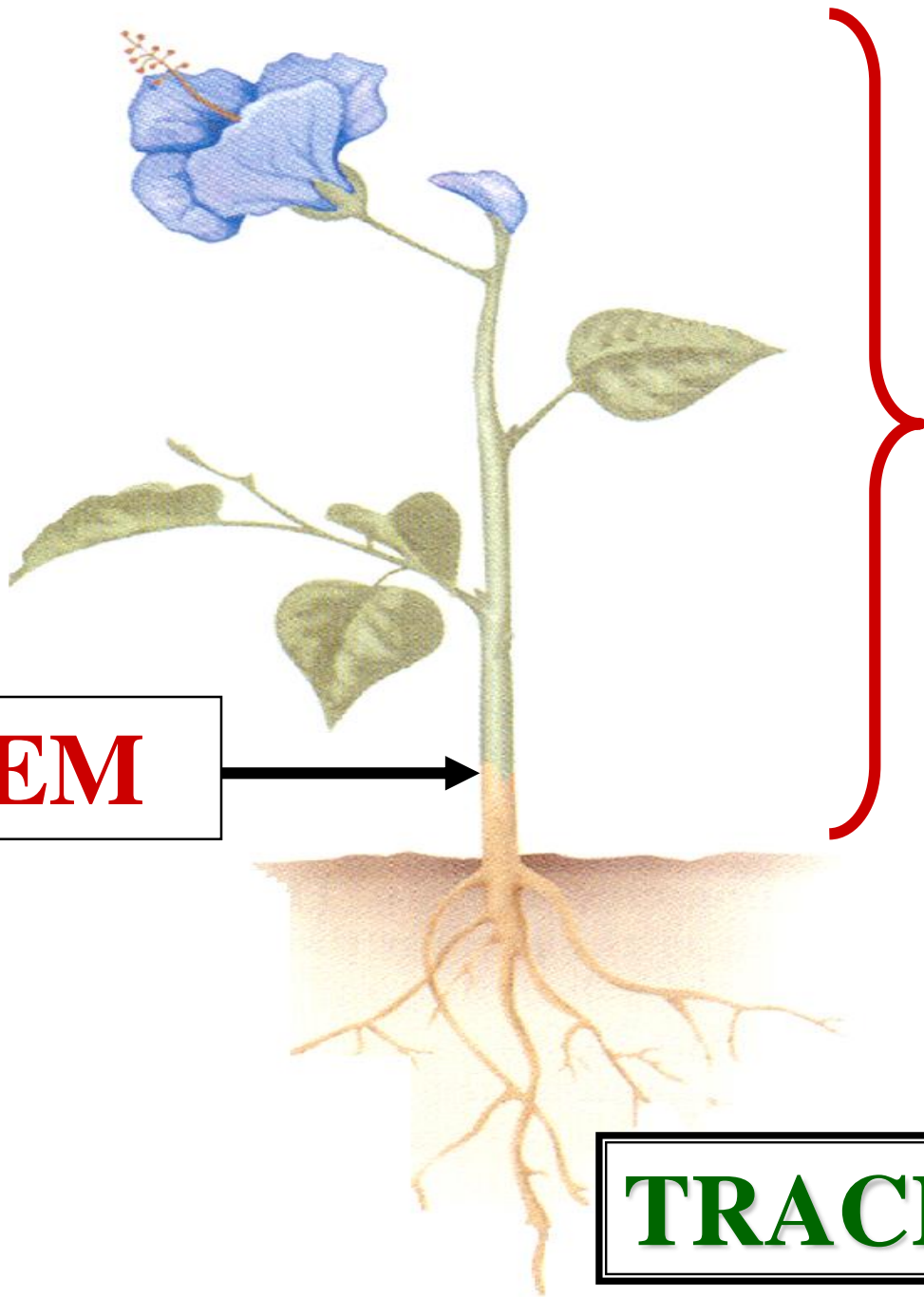
**TRACHEOPHYTE
ORGANS
STEM**

TRACHEOPHYTE

A

STEM

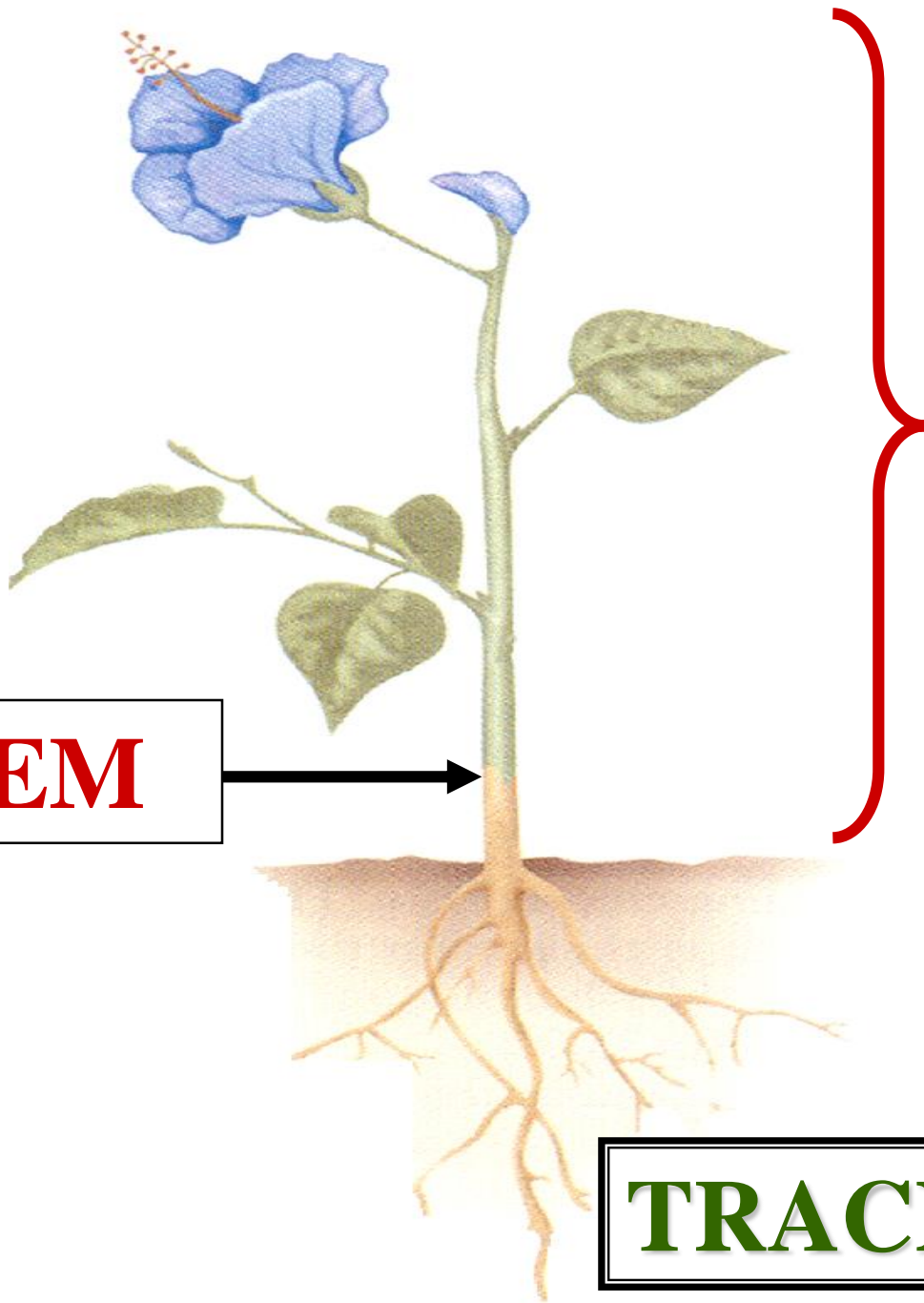




STEM

**ASCENDING
PLANT
AXIS**

TRACHEOPHYTE



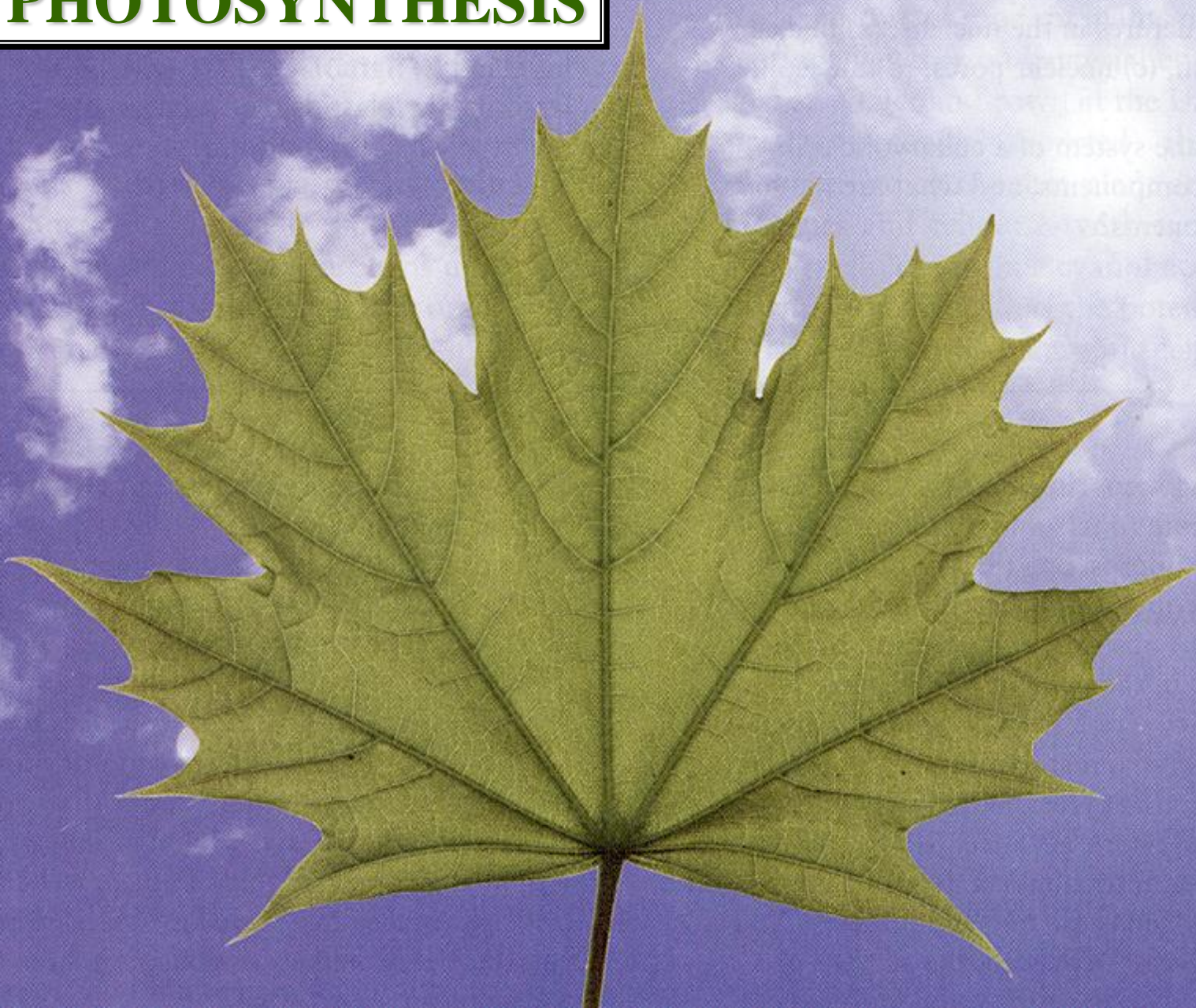
STEM



**ELEVATES LEAVES
TO LIGHT**

TRACHEOPHYTE

PHOTOSYNTHESIS



STEM BRANCHING TYPES

STEM BRANCHING TYPES

DICHOTOMOUS

STEM BRANCHING TYPES

STEM BRANCHING TYPES

**DICHOTOMOUS
MONOPODIAL**

**STEM BRANCHING
TYPES**

STEM BRANCHING TYPES

**DICHOTOMOUS
MONOPODIAL
EXCURRENT**

**STEM BRANCHING
TYPES**

STEM BRANCHING TYPES

D

**DICHOTOMOUS
MONOPODIAL
EXCURRENT
DELIQUESCENT**

**STEM BRANCHING
TYPES**

DICHOTOMOUS BRANCHING

STEM BRANCHING DICHOTOMOUS



**FORKED BRANCHES
WITH
EQUAL STATURE**

**STEM BRANCHING
DICHOTOMOUS**



PSILOTUM



PSILOTUM



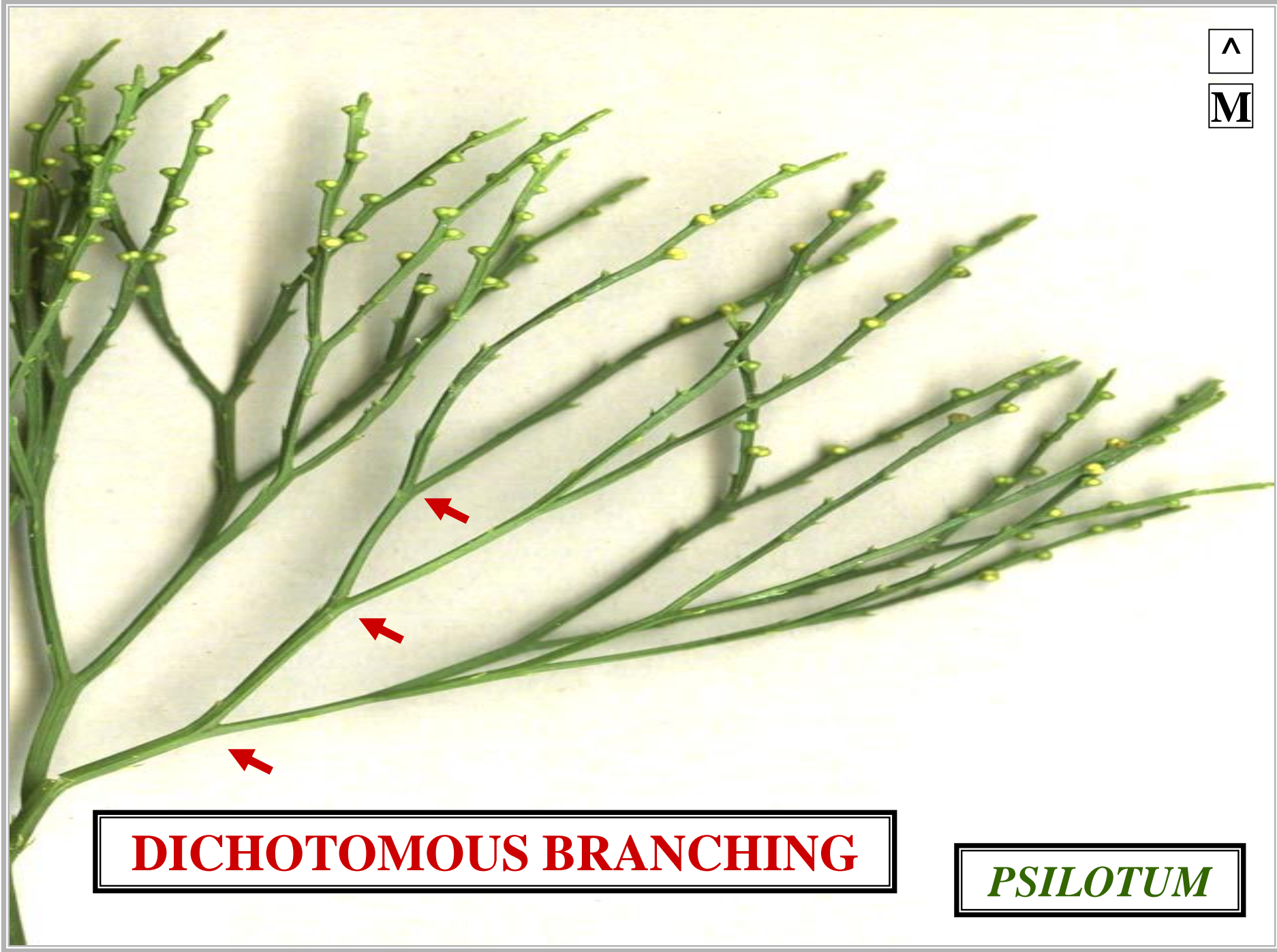
PSILOTUM

D

+



PSILOTUM



DICHOTOMOUS BRANCHING

PSILOTUM

MONOPODIAL BRANCHING

STEM BRANCHING MONOPODIAL



**MAIN AXIS
WITH REDUCED
DICHOTOMOUS
LATERALS**

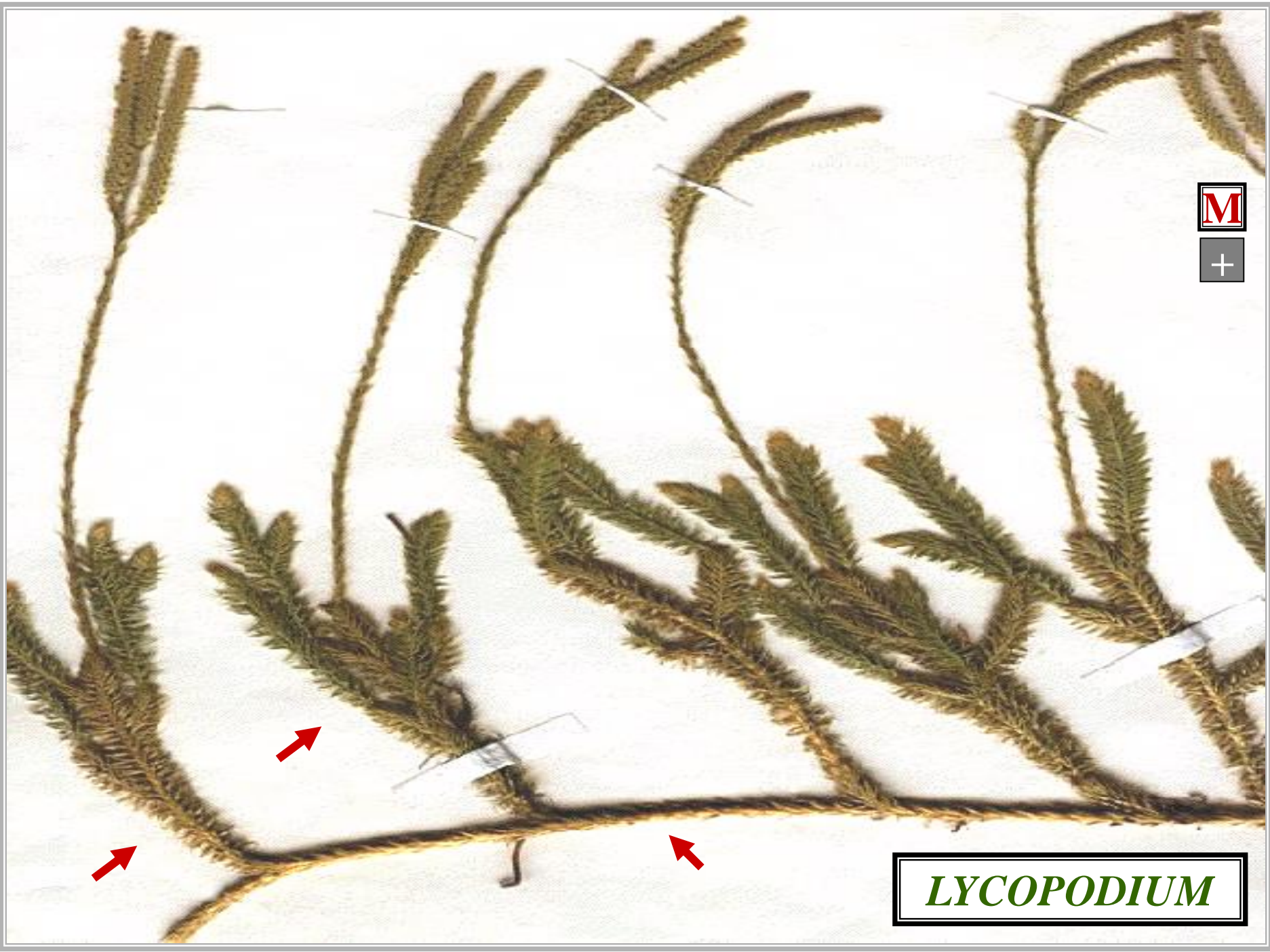
**STEM BRANCHING
MONOPODIAL**



LYCOPODIUM



LYCOPODIUM



M

+

LYCOPODIUM