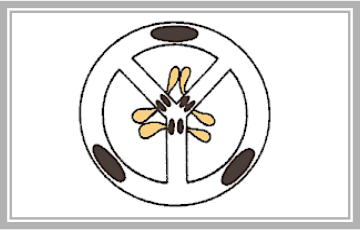
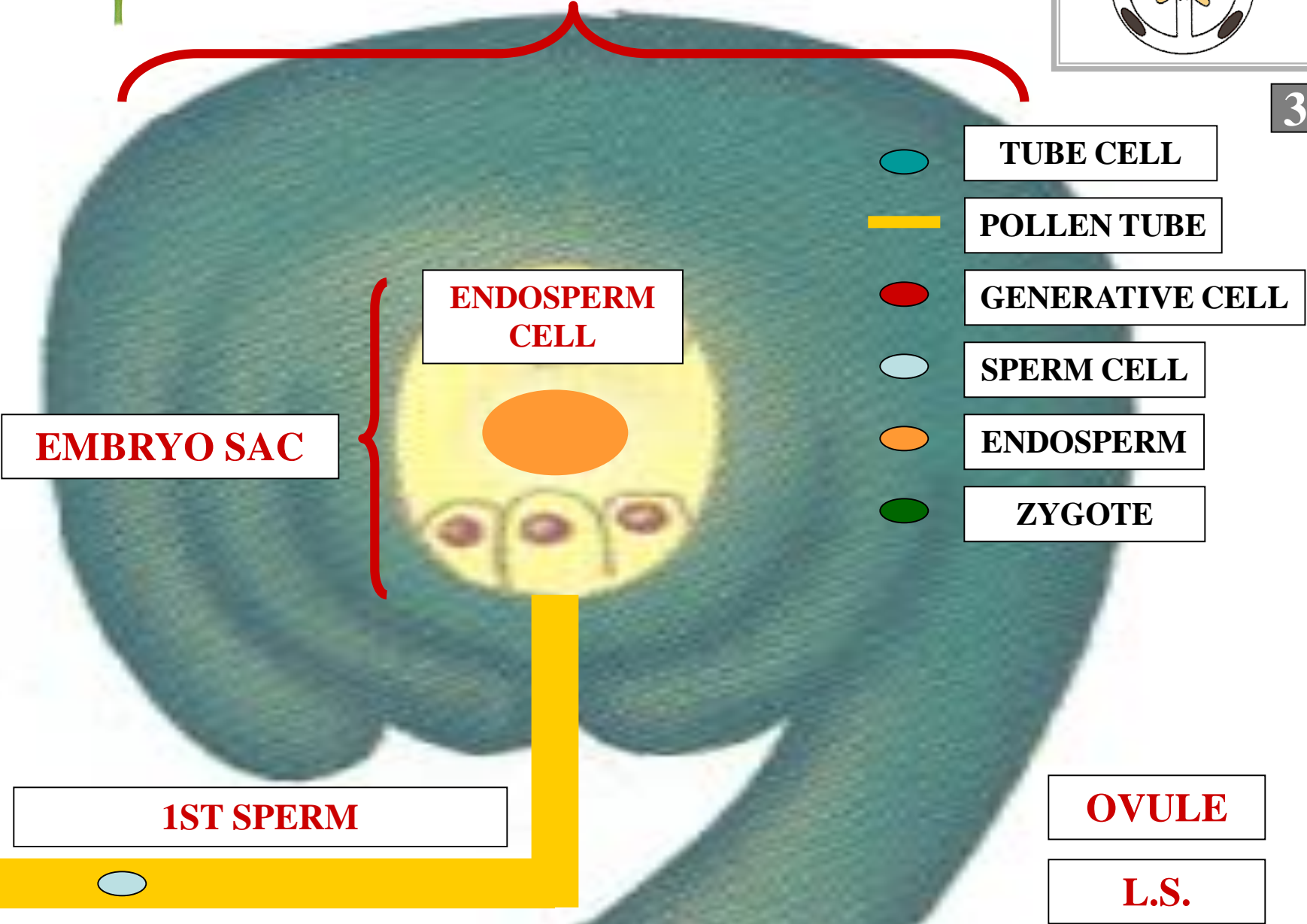




OVULE



3



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM CELL

EMBRYO SAC

1ST SPERM

OVULE

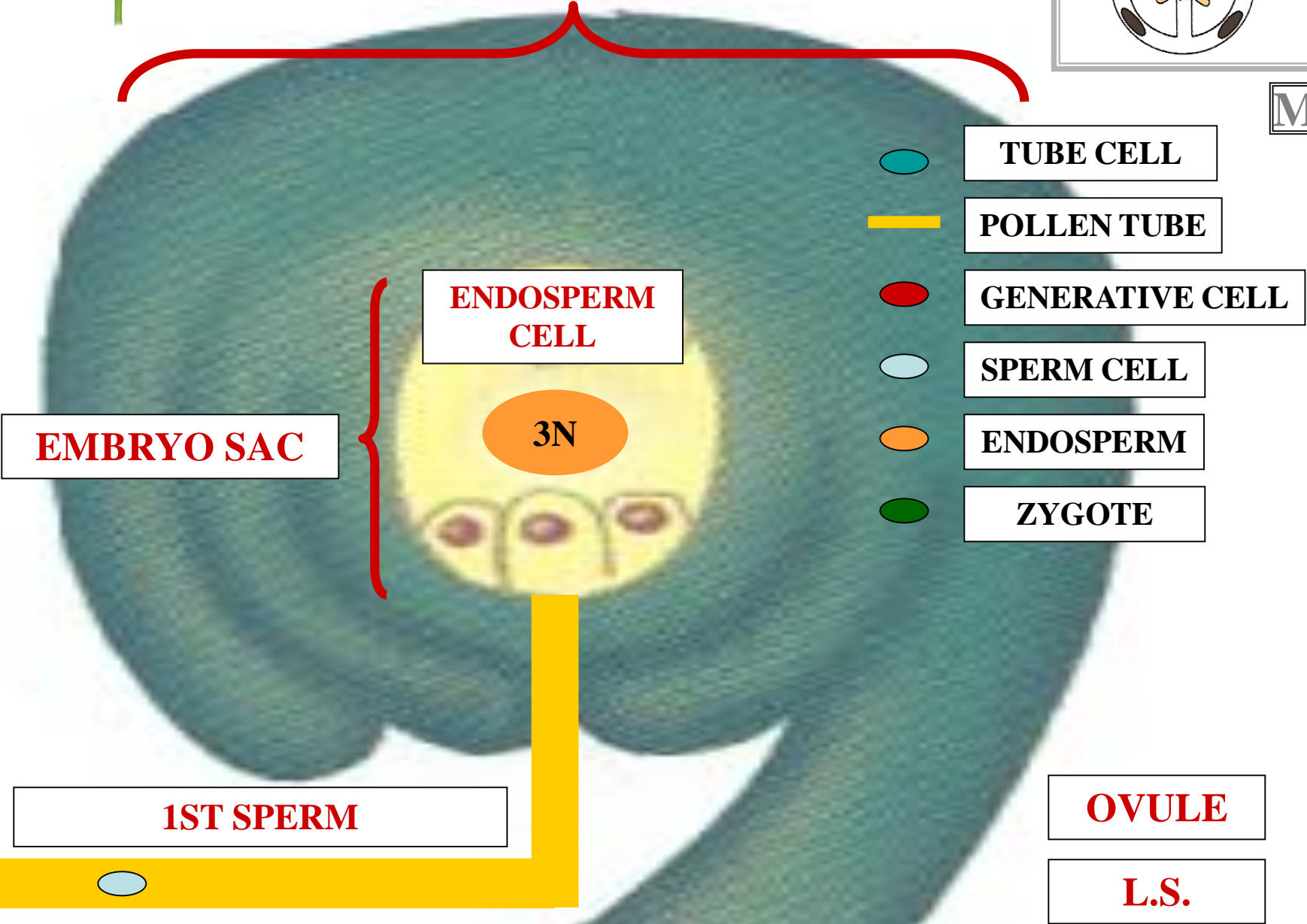
L.S.



OVULE



M



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM CELL

3N

EMBRYO SAC

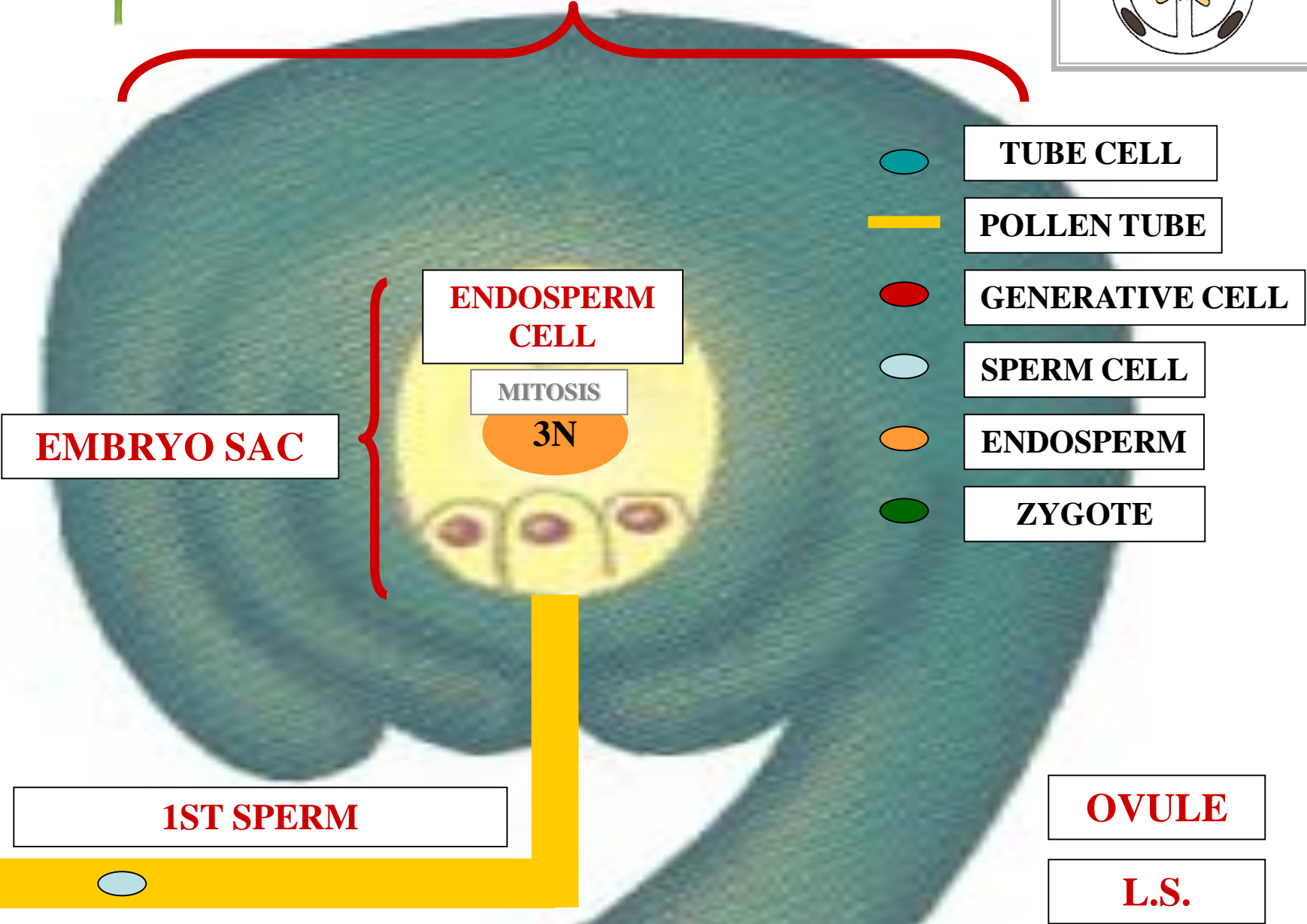
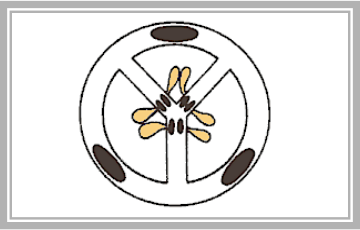
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM CELL

MITOSIS

3N

EMBRYO SAC

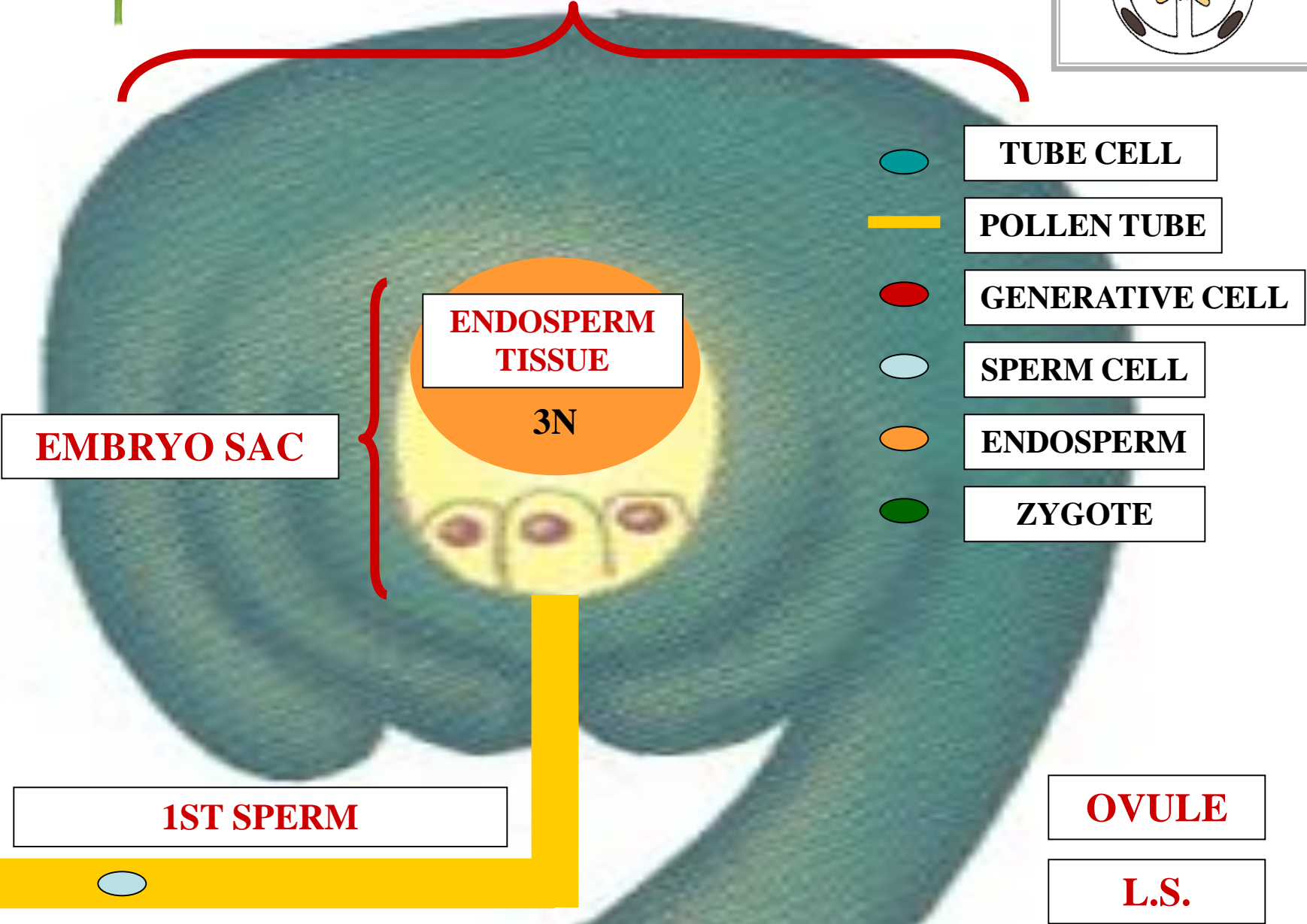
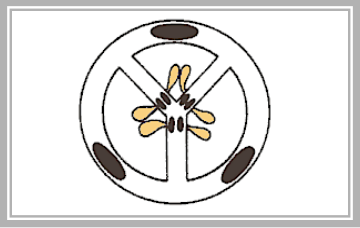
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EMBRYO SAC

1ST SPERM

OVULE

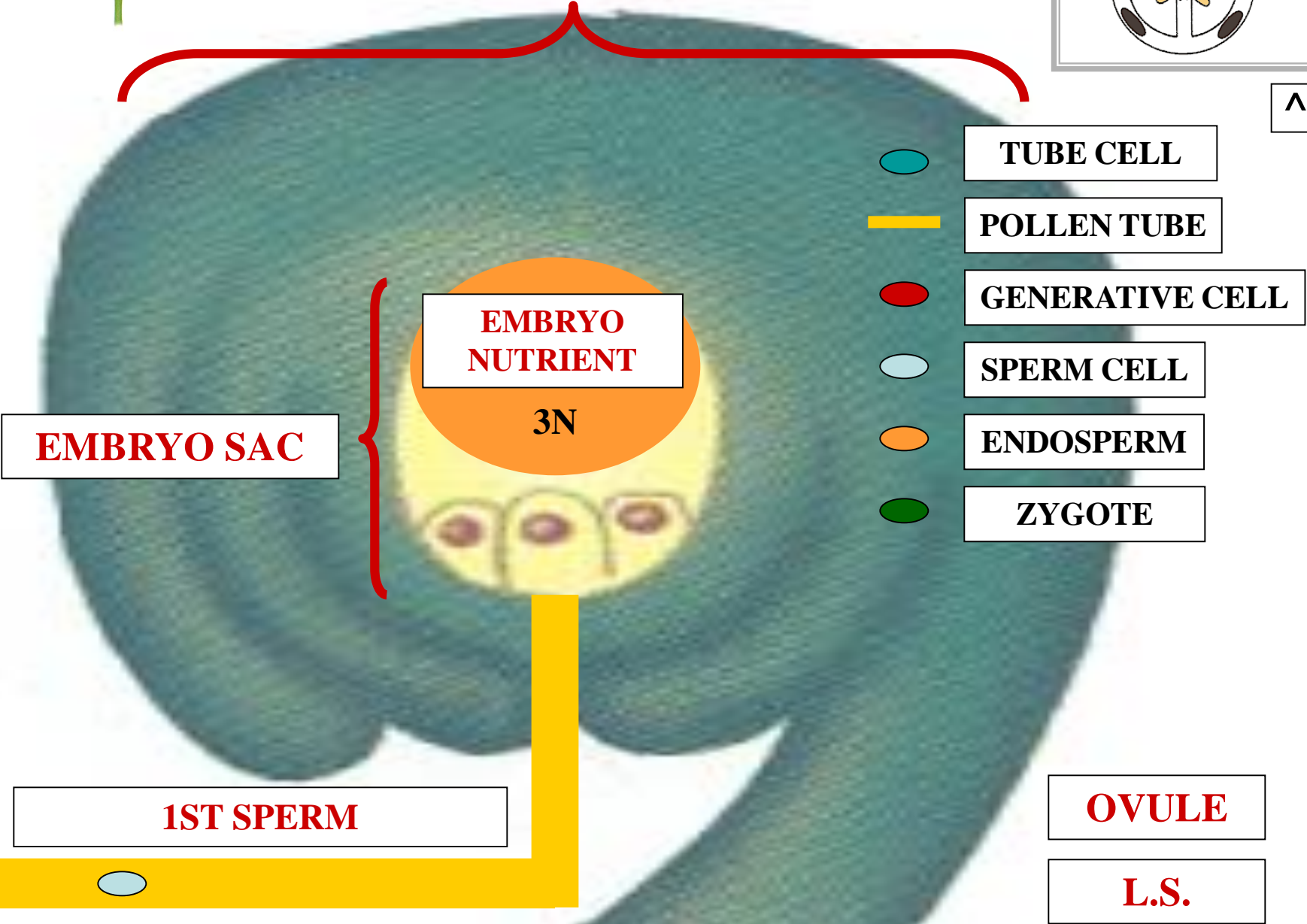
L.S.



OVULE



^



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO NUTRIENT

3N

EMBRYO SAC

1ST SPERM

OVULE

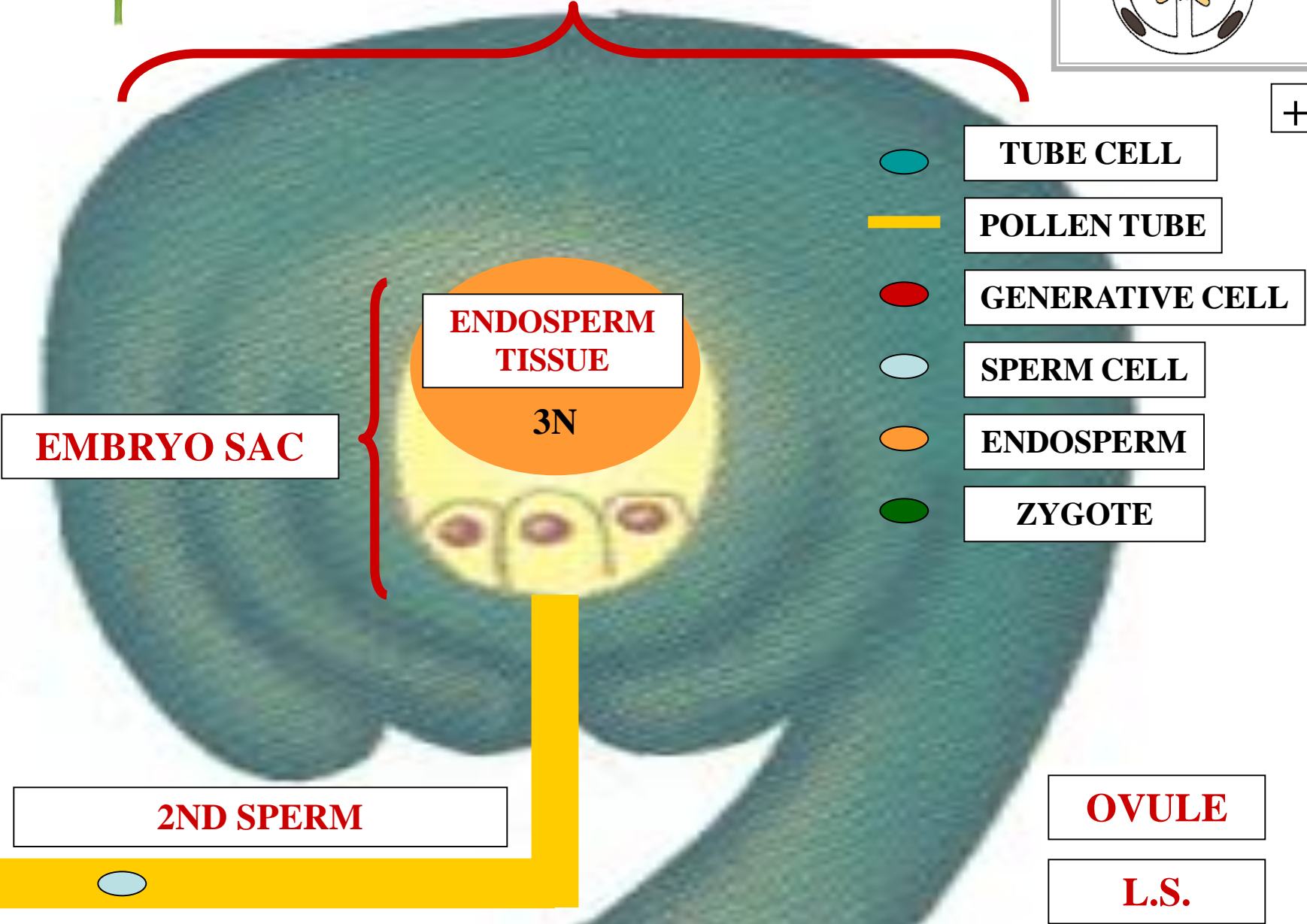
L.S.



OVULE



+



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EMBRYO SAC

2ND SPERM

OVULE

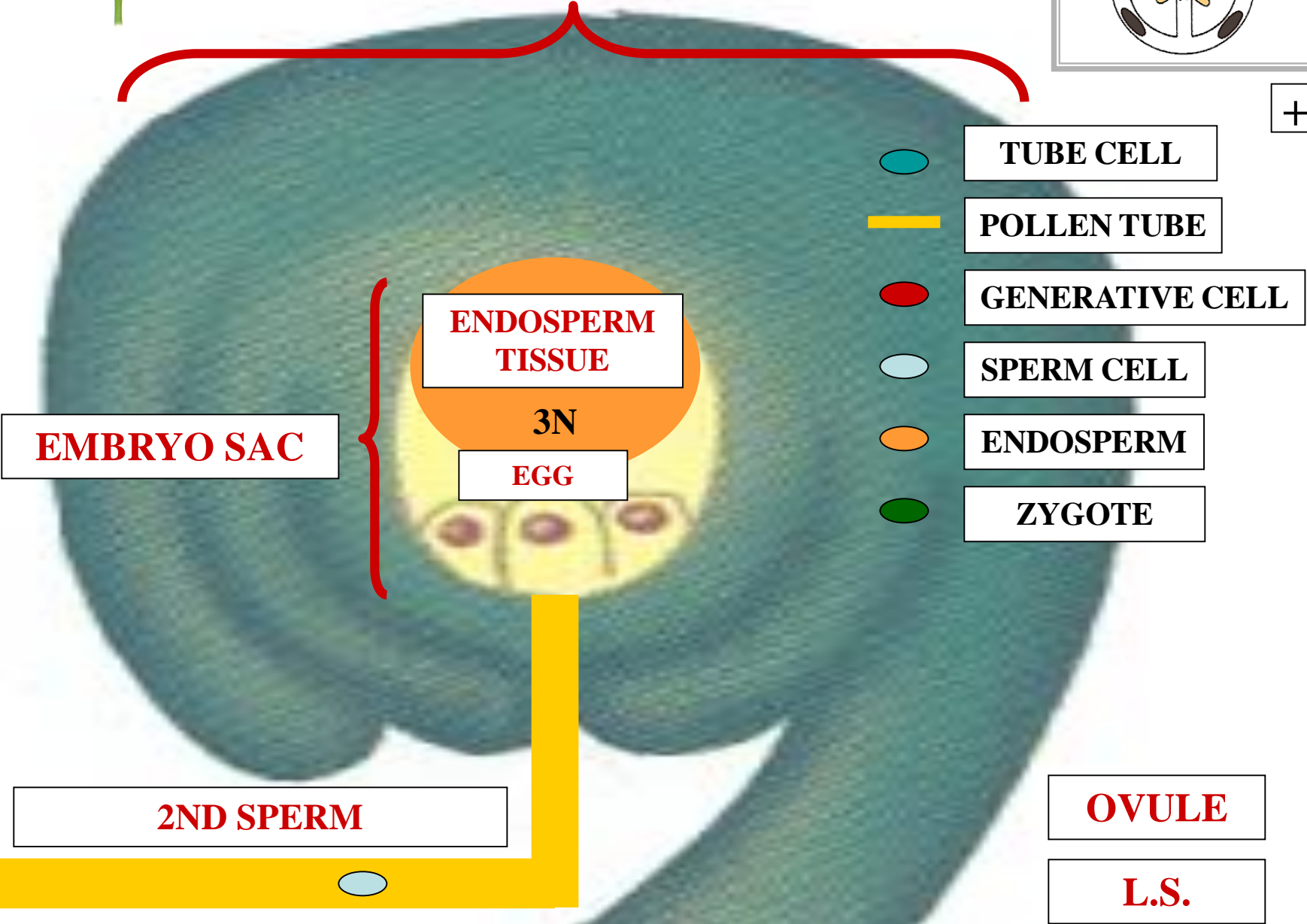
L.S.



OVULE



+



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EGG

EMBRYO SAC

2ND SPERM

OVULE

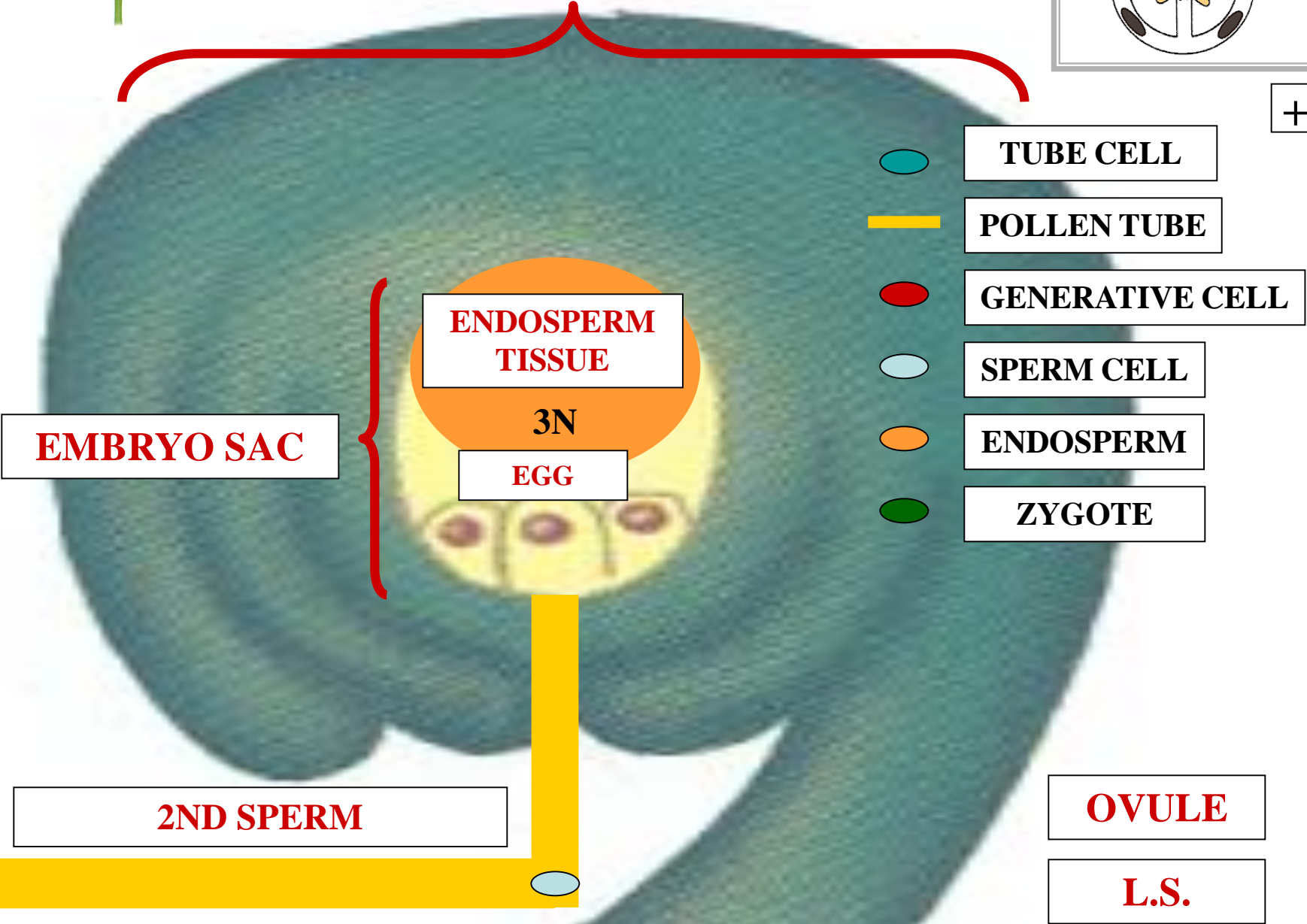
L.S.



OVULE



+



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EGG

EMBRYO SAC

2ND SPERM

OVULE

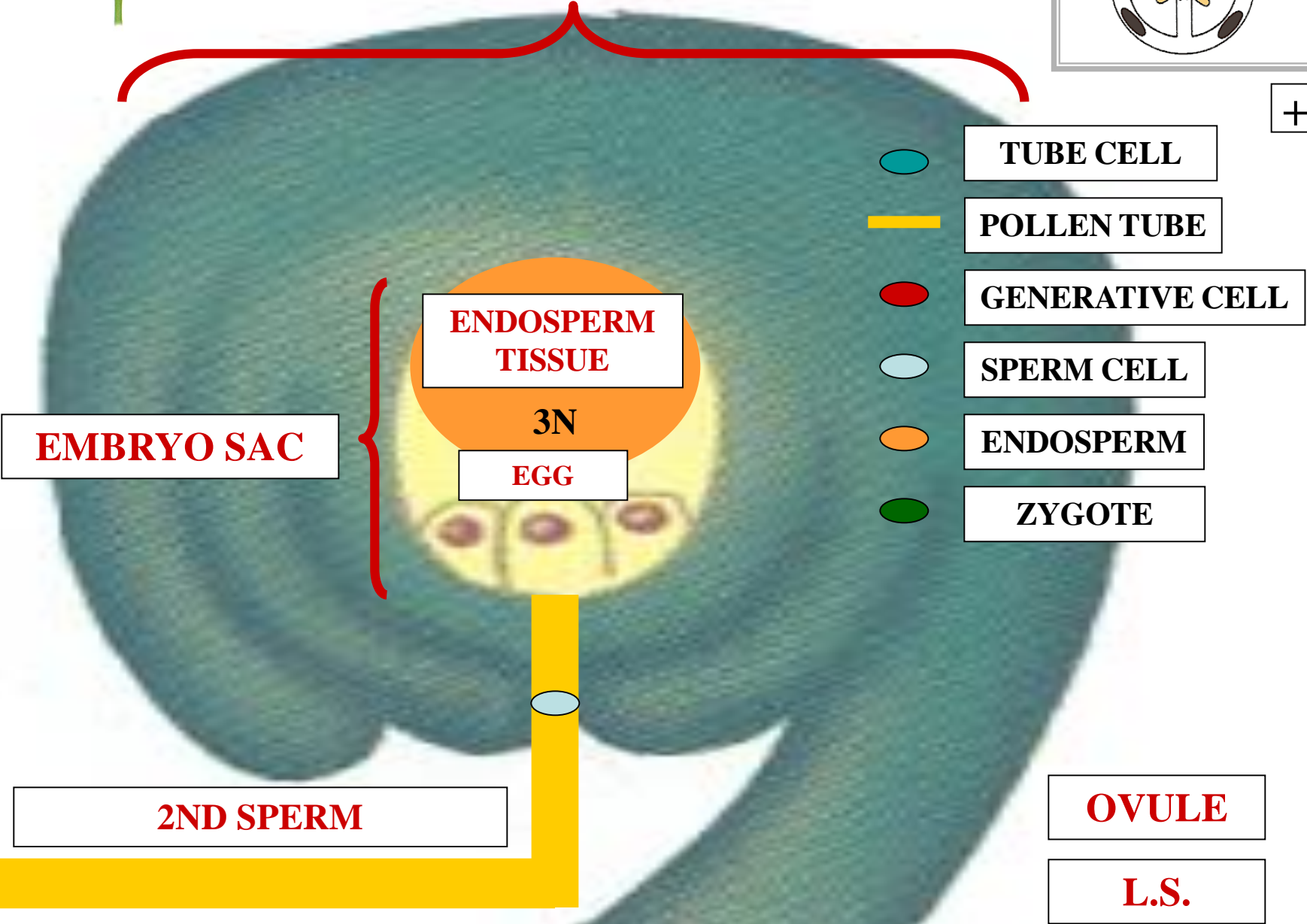
L.S.



OVULE



+



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EGG

EMBRYO SAC

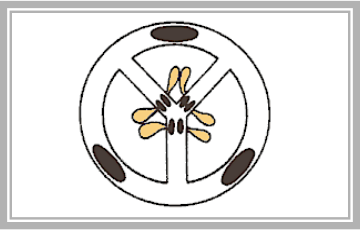
2ND SPERM

OVULE

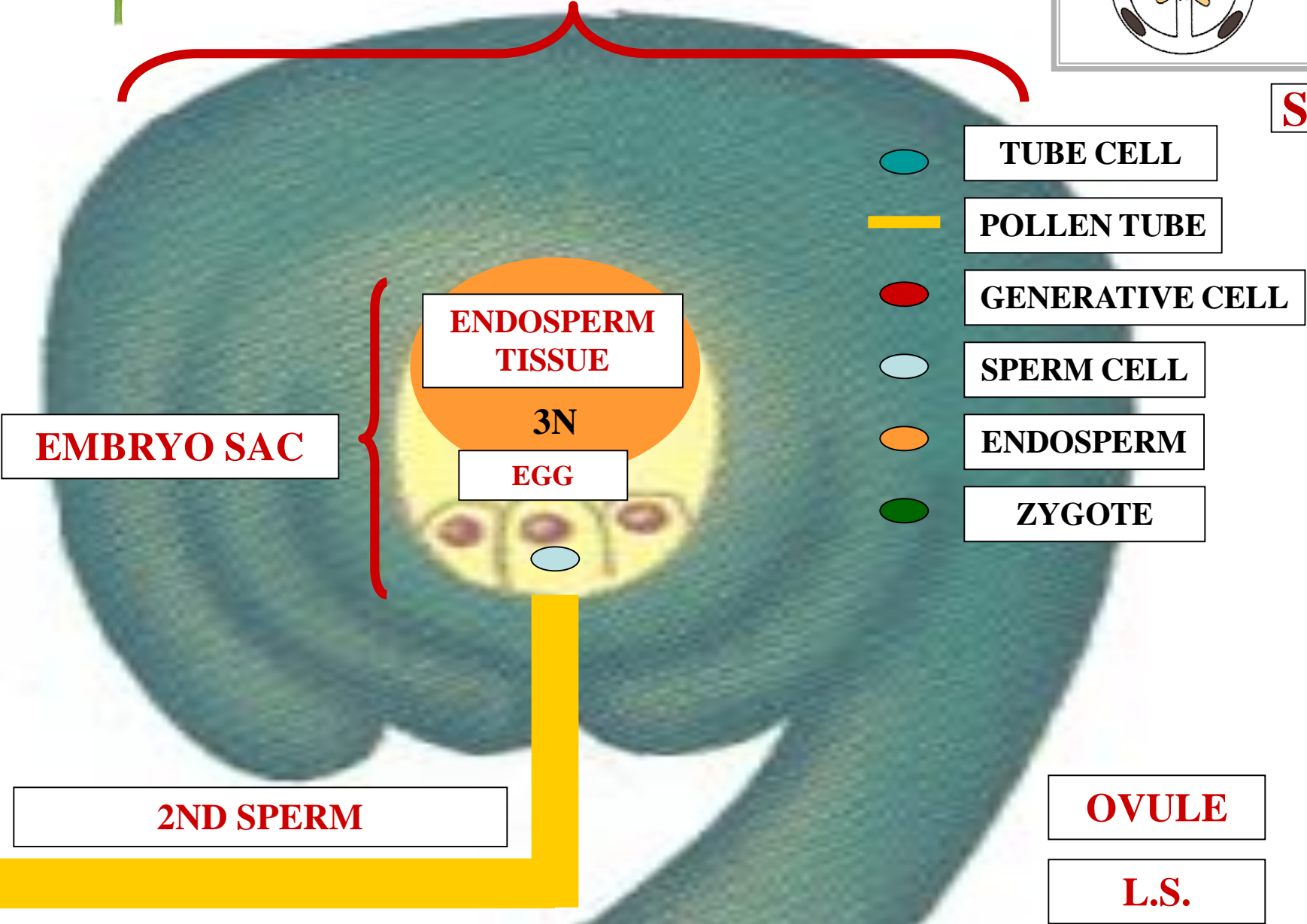
L.S.



OVULE



S



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EGG

EMBRYO SAC

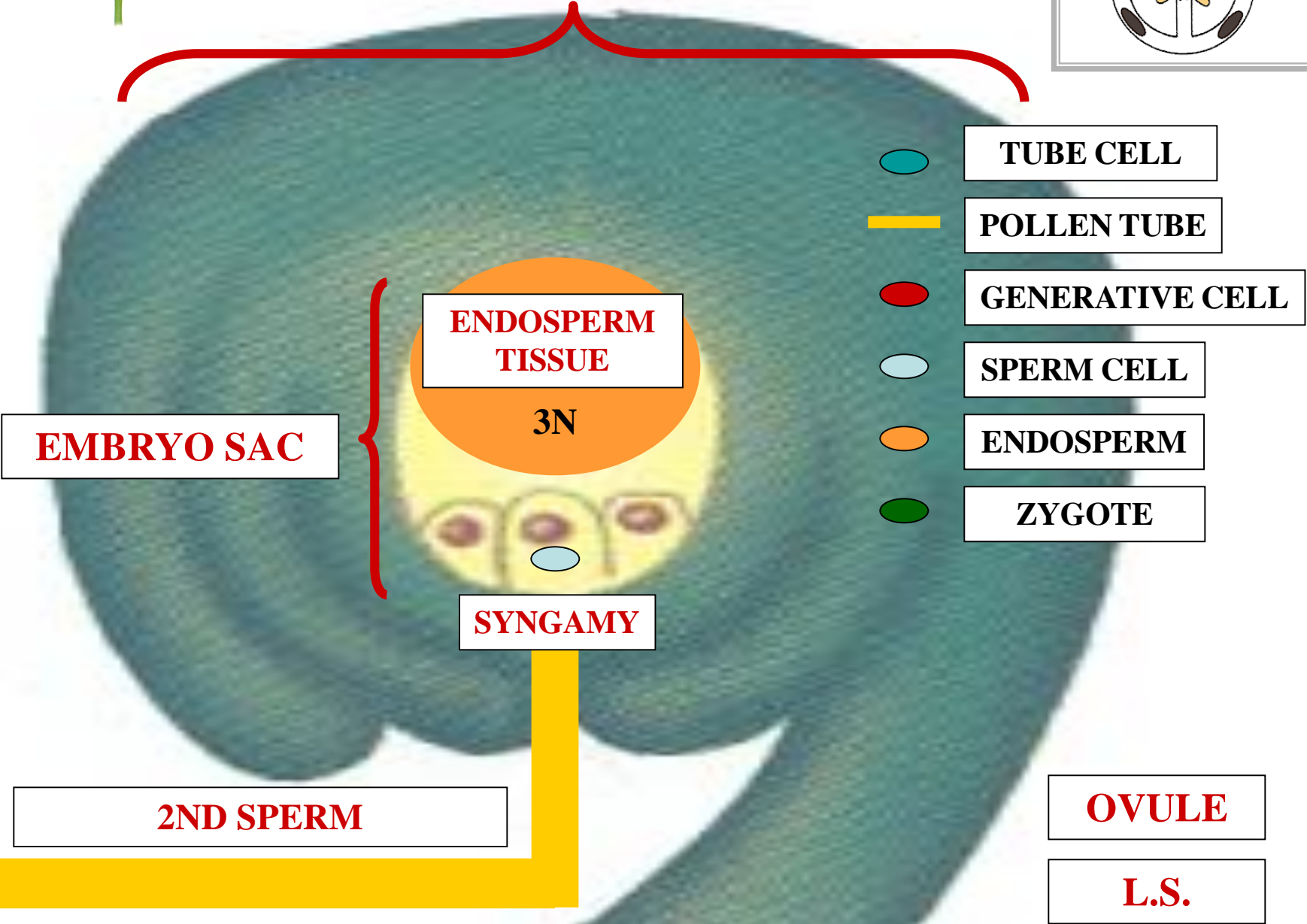
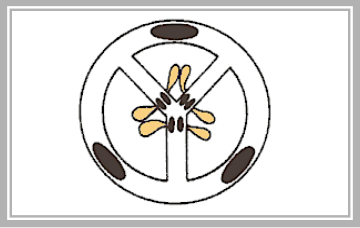
2ND SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

ENDOSPERM TISSUE

3N

SYNGAMY

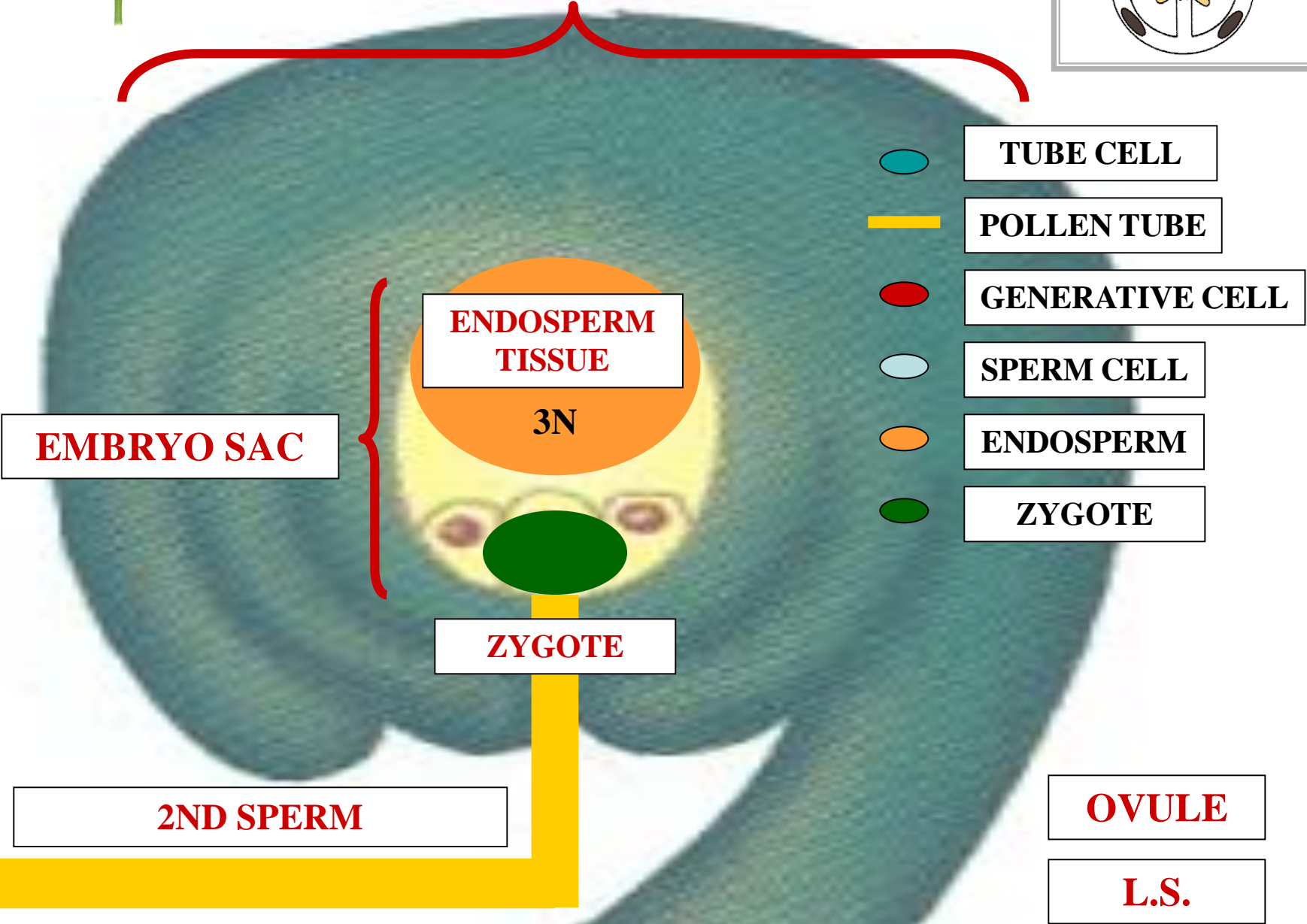
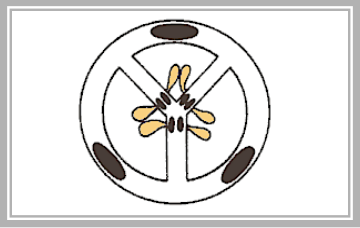
2ND SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

ENDOSPERM TISSUE

3N

ZYGOTE

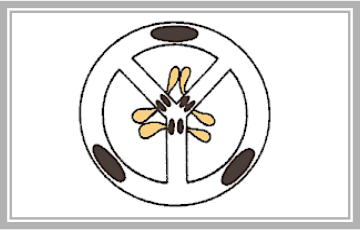
2ND SPERM

OVULE

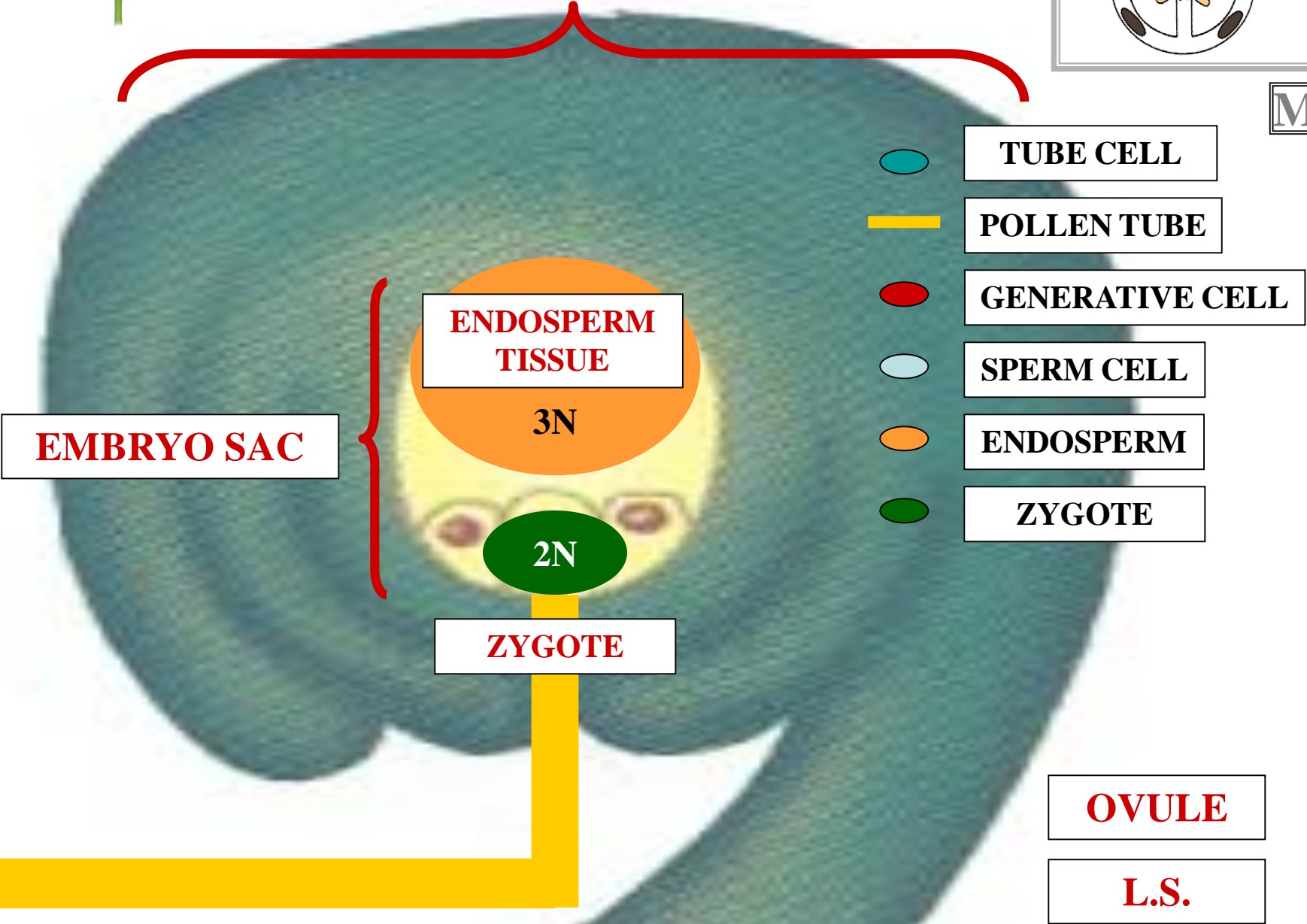
L.S.



OVULE



M



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

ENDOSPERM TISSUE

$3N$

$2N$

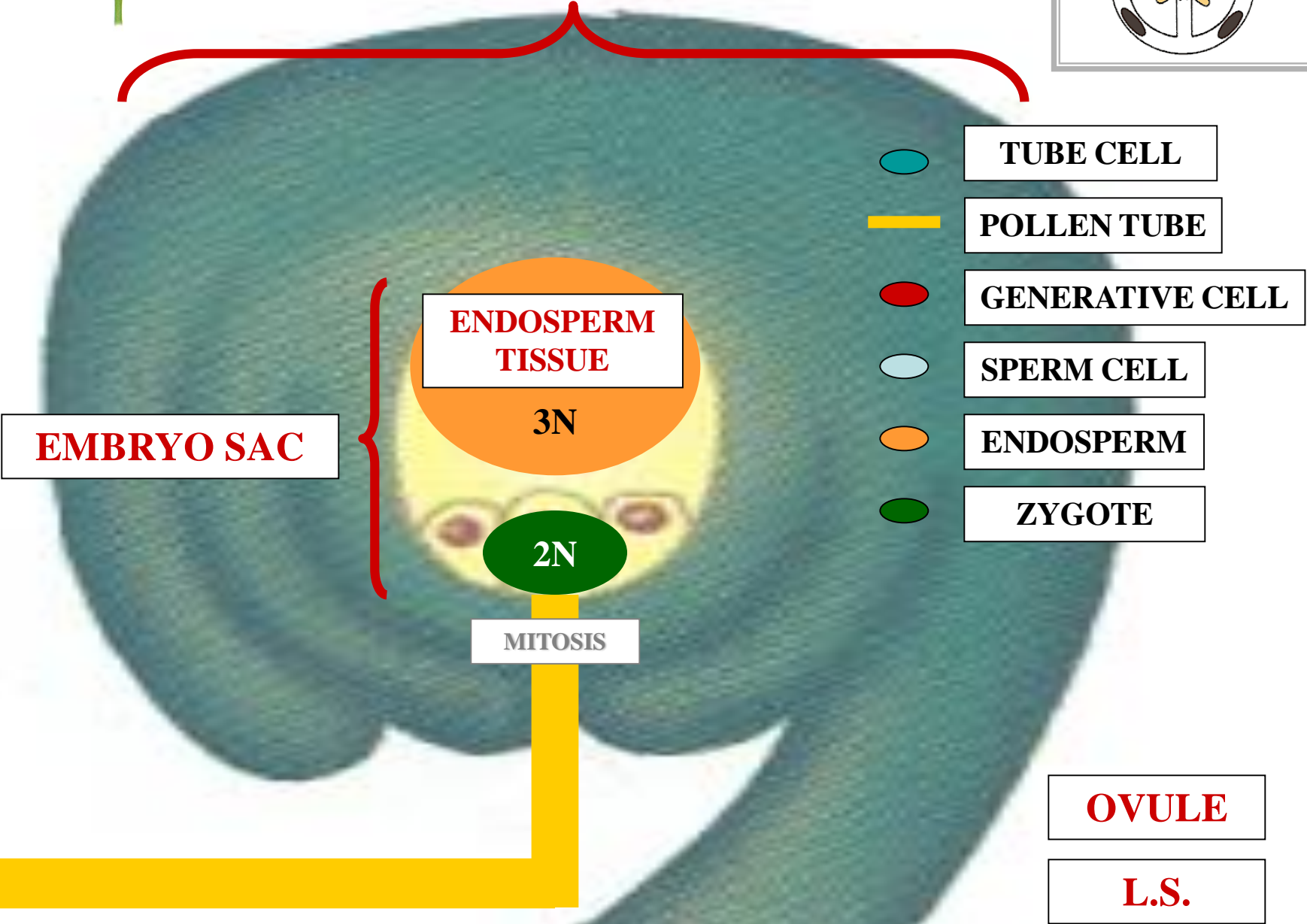
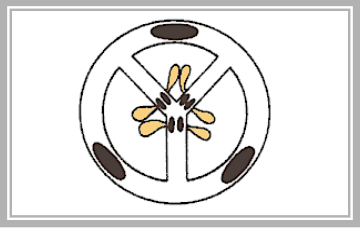
ZYGOTE

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

**ENDOSPERM
TISSUE**

3N

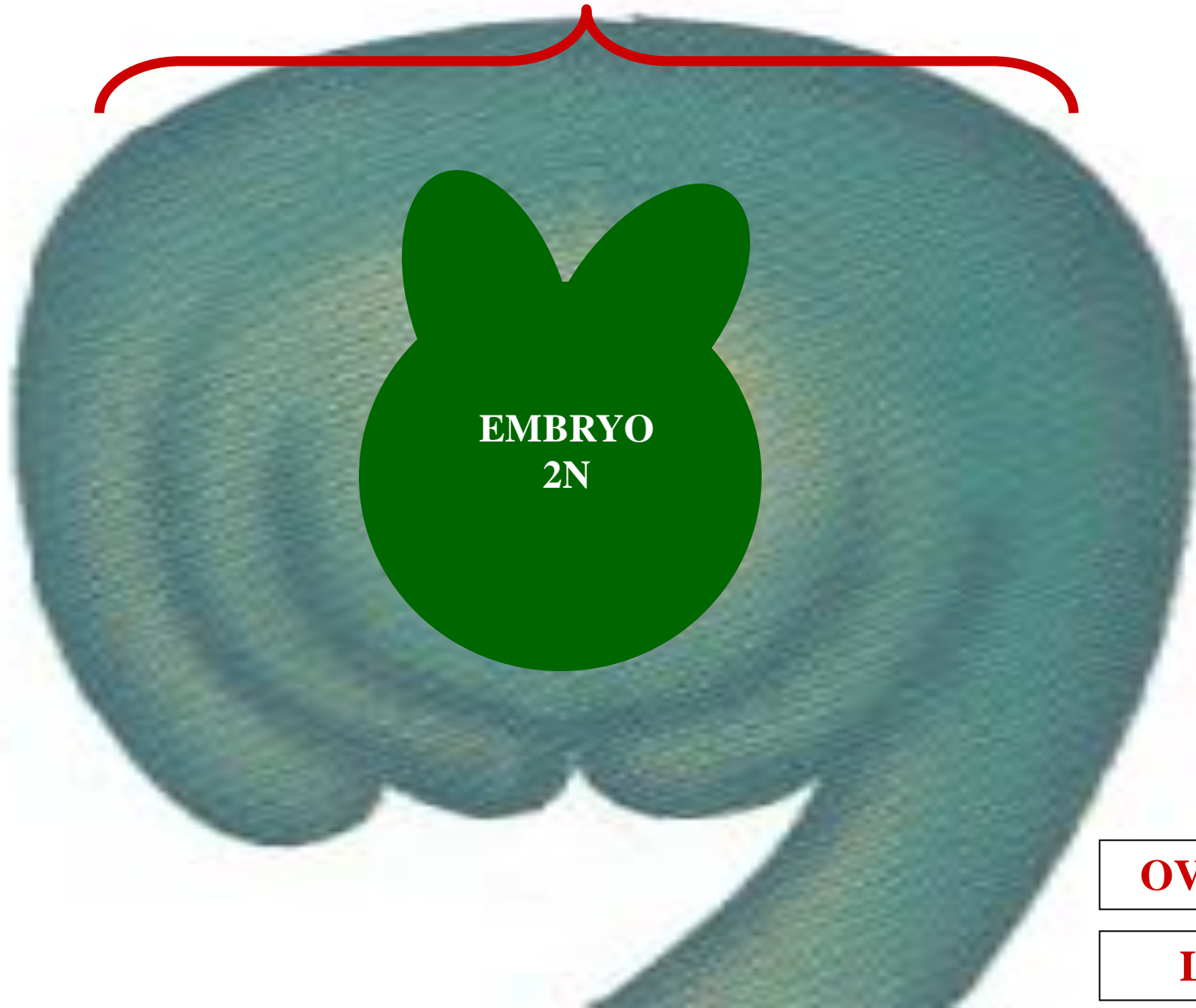
2N

MITOSIS

OVULE

L.S.

OVULE

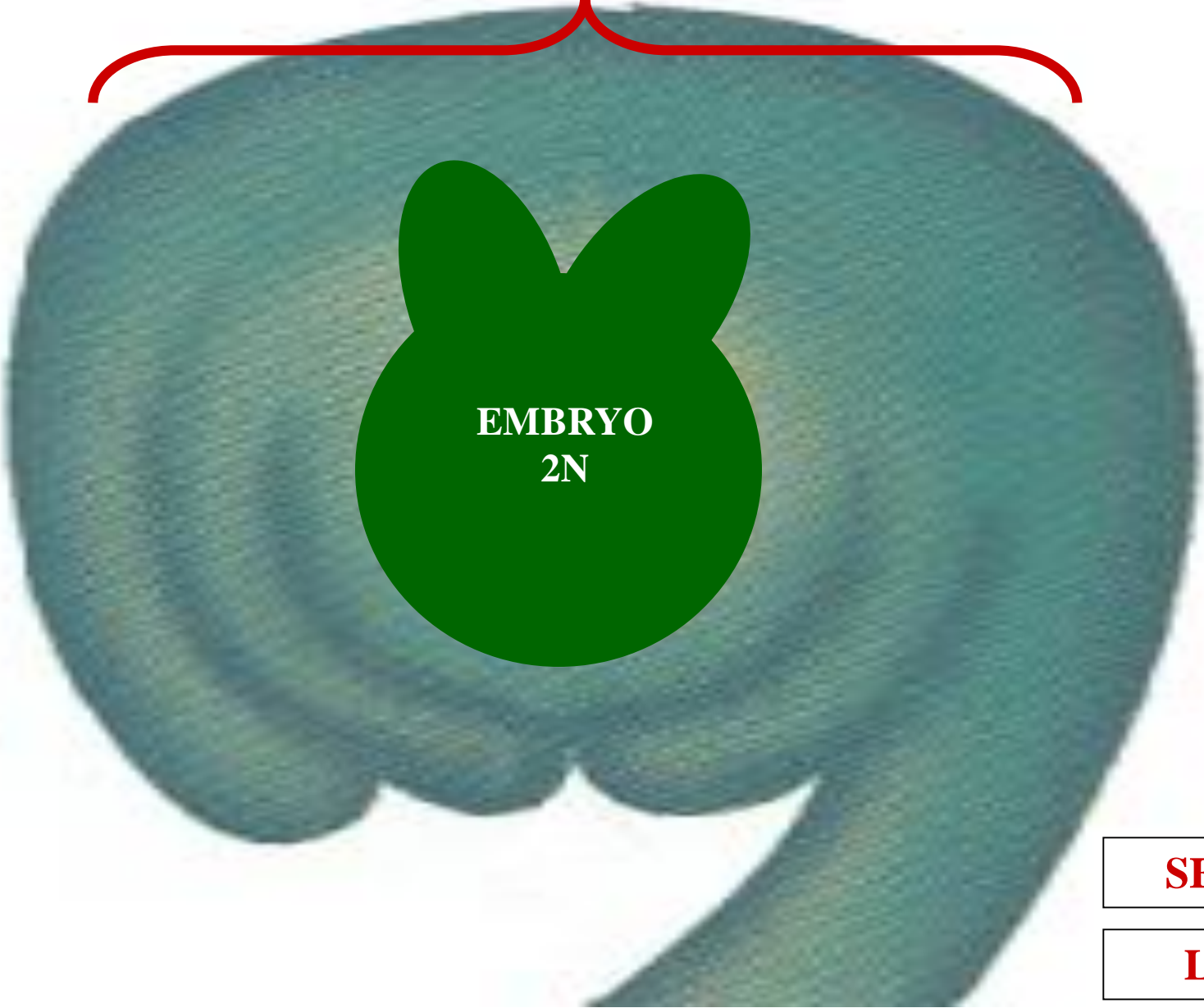


EMBRYO
2N

OVULE

L.S.

SEED



EMBRYO
2N

SEED

L.S.

SEED



EMBRYO
2N

MITOSIS

SEED

L.S.

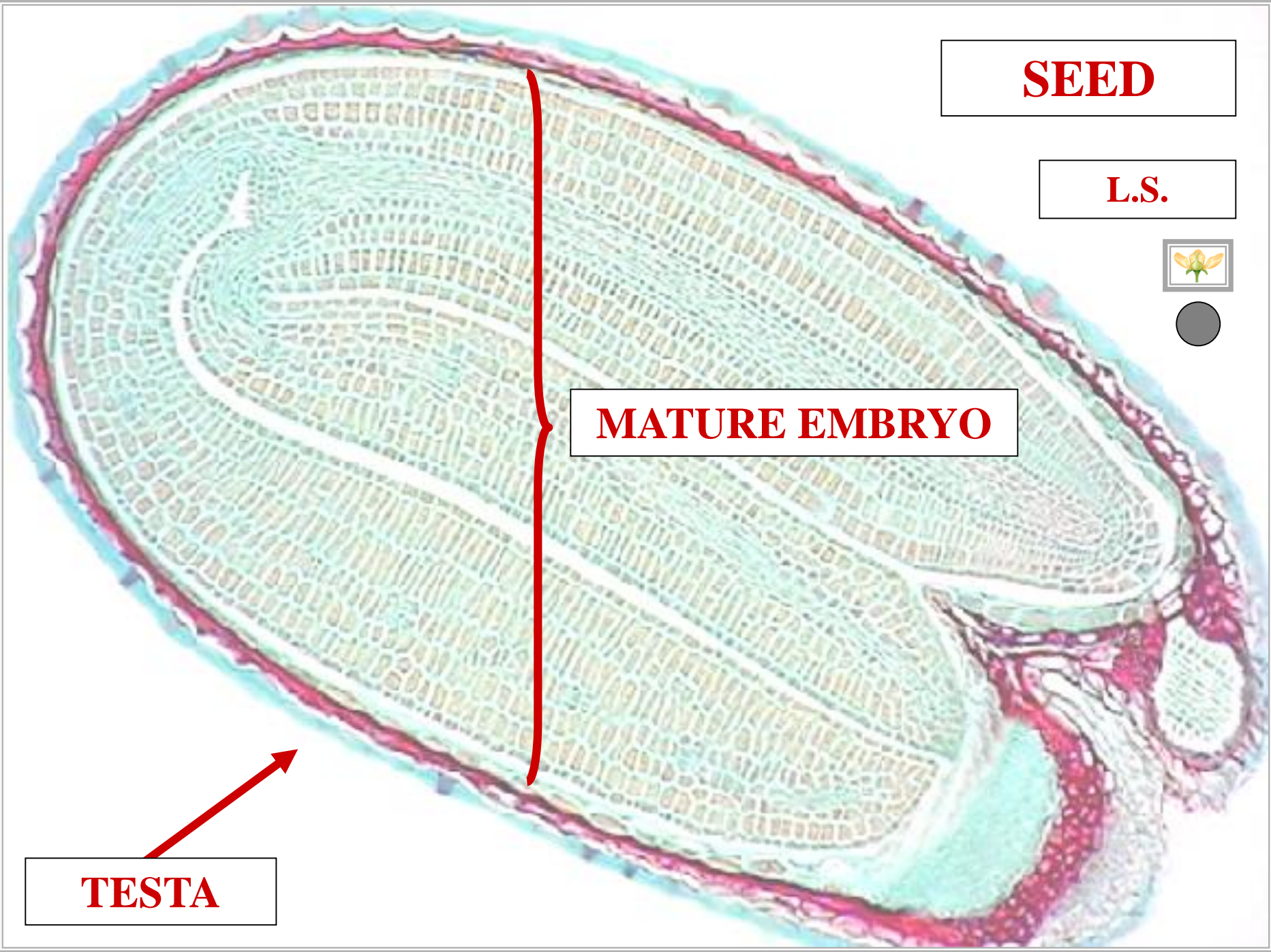
SEED

L.S.



MATURE EMBRYO

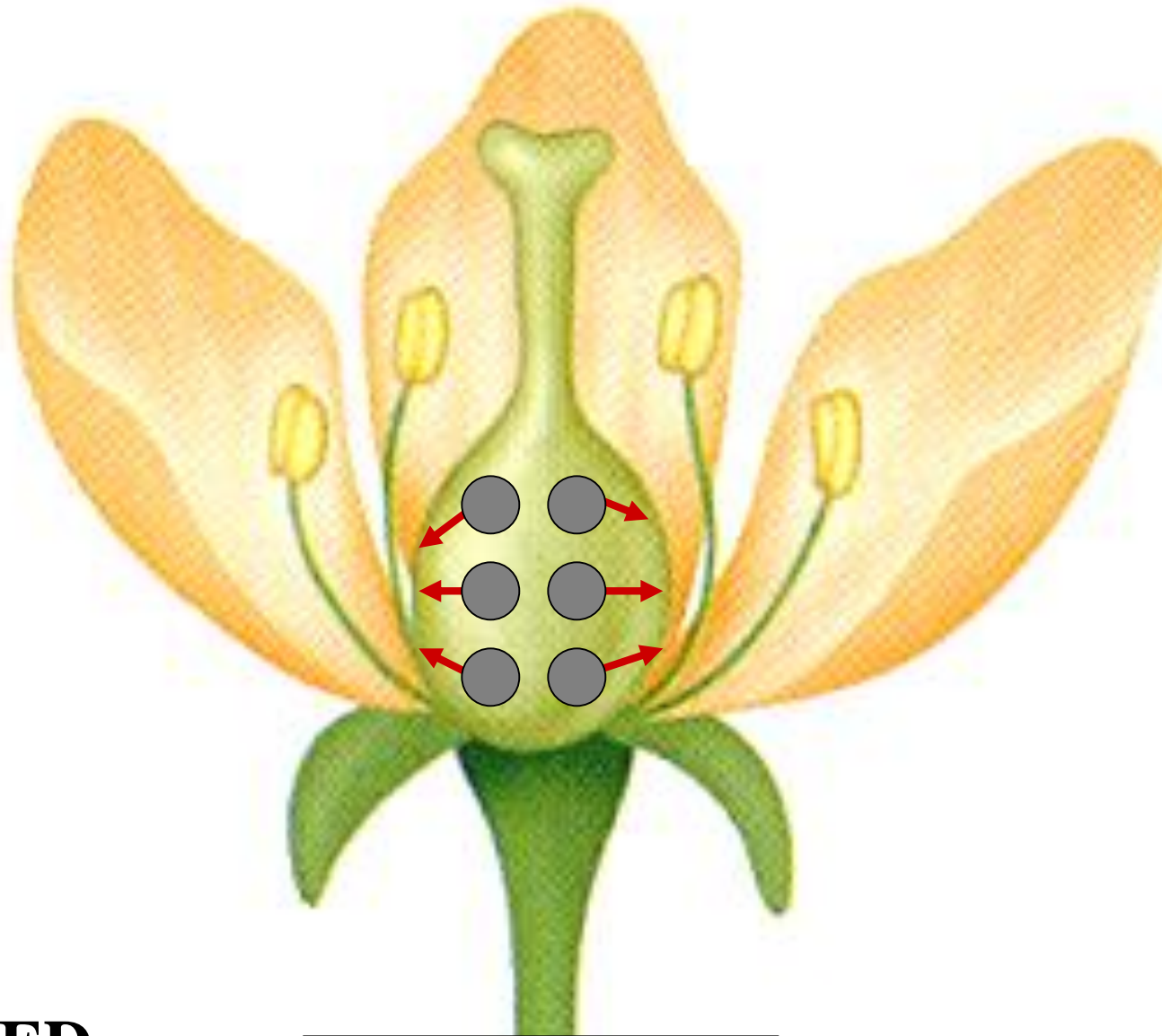
TESTA





● = SEED

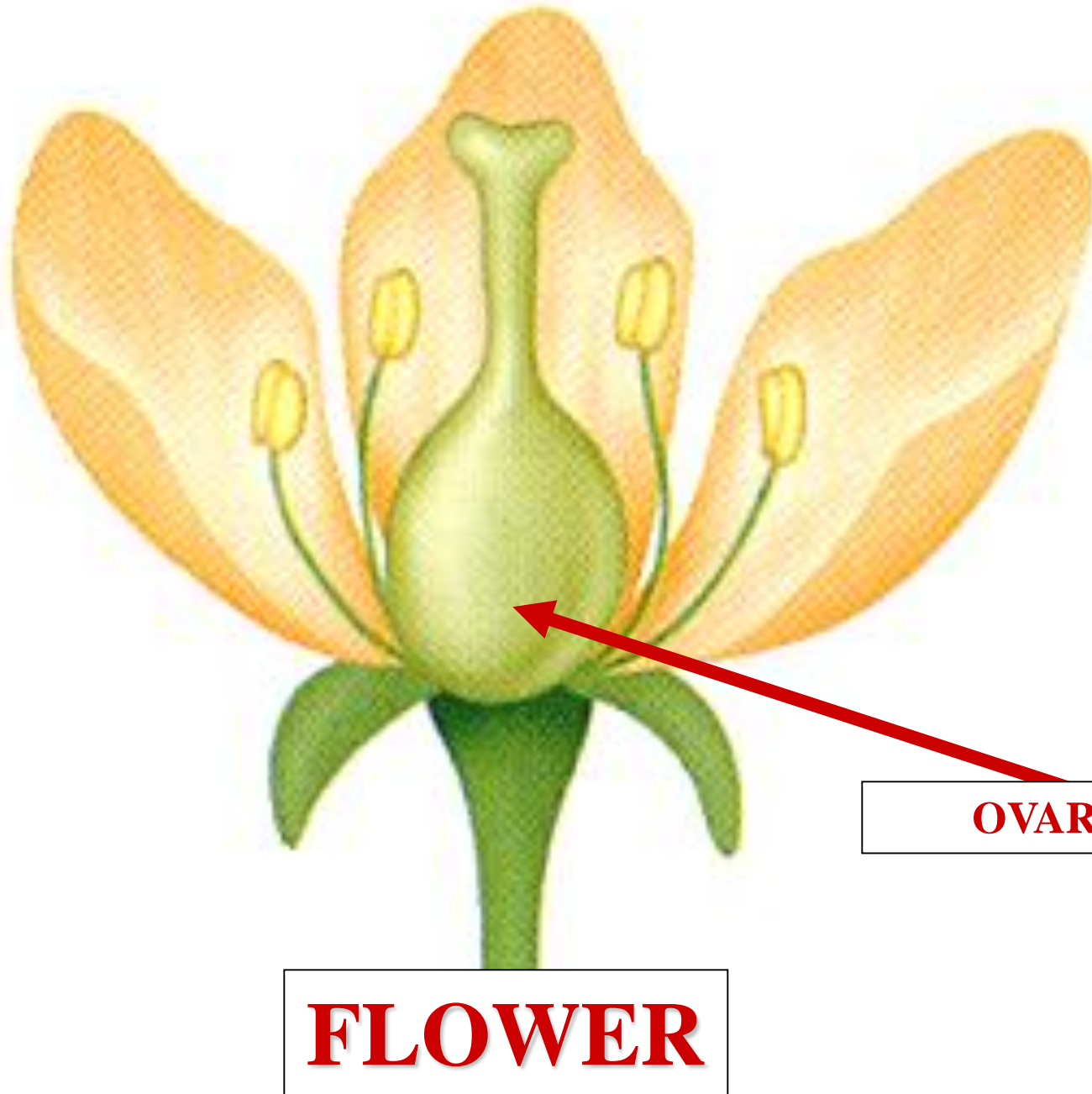
FLOWER



● = SEED

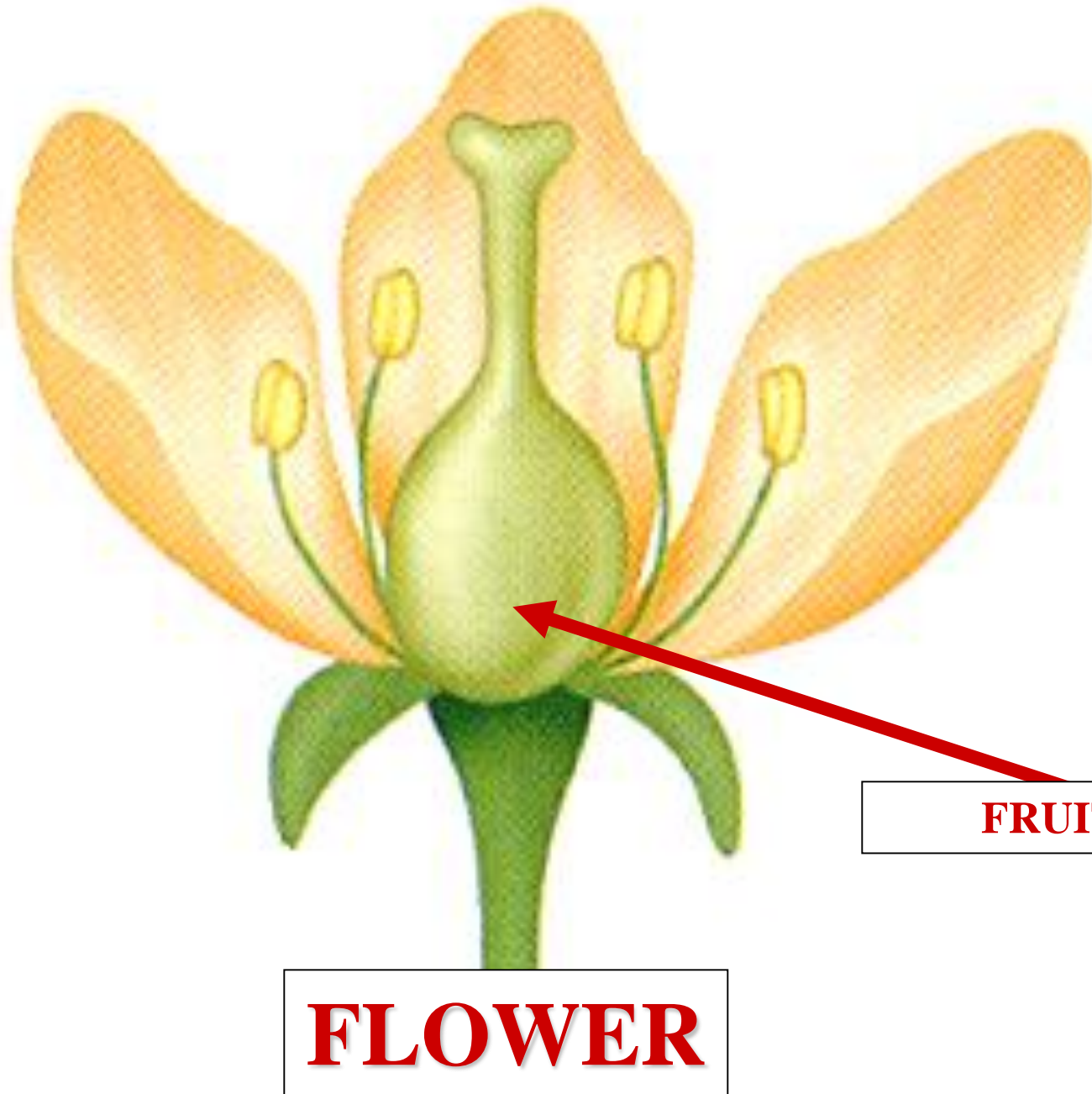
→ = HORMONE

FLOWER



OVARY

FLOWER



FLOWER

FRUIT

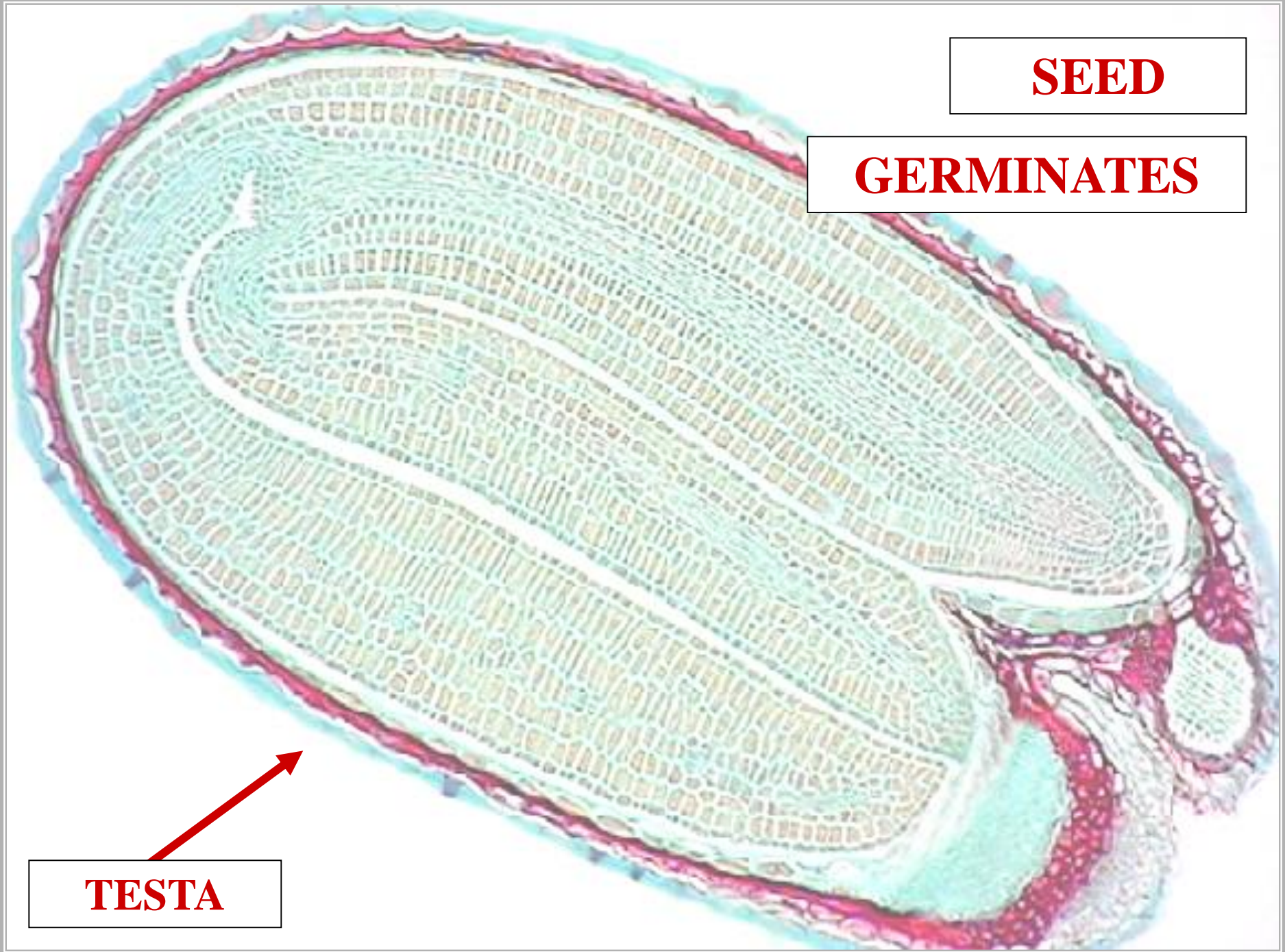


**FRUIT / SEED
DISSEMINATED**

SEED

GERMINATES

TESTA



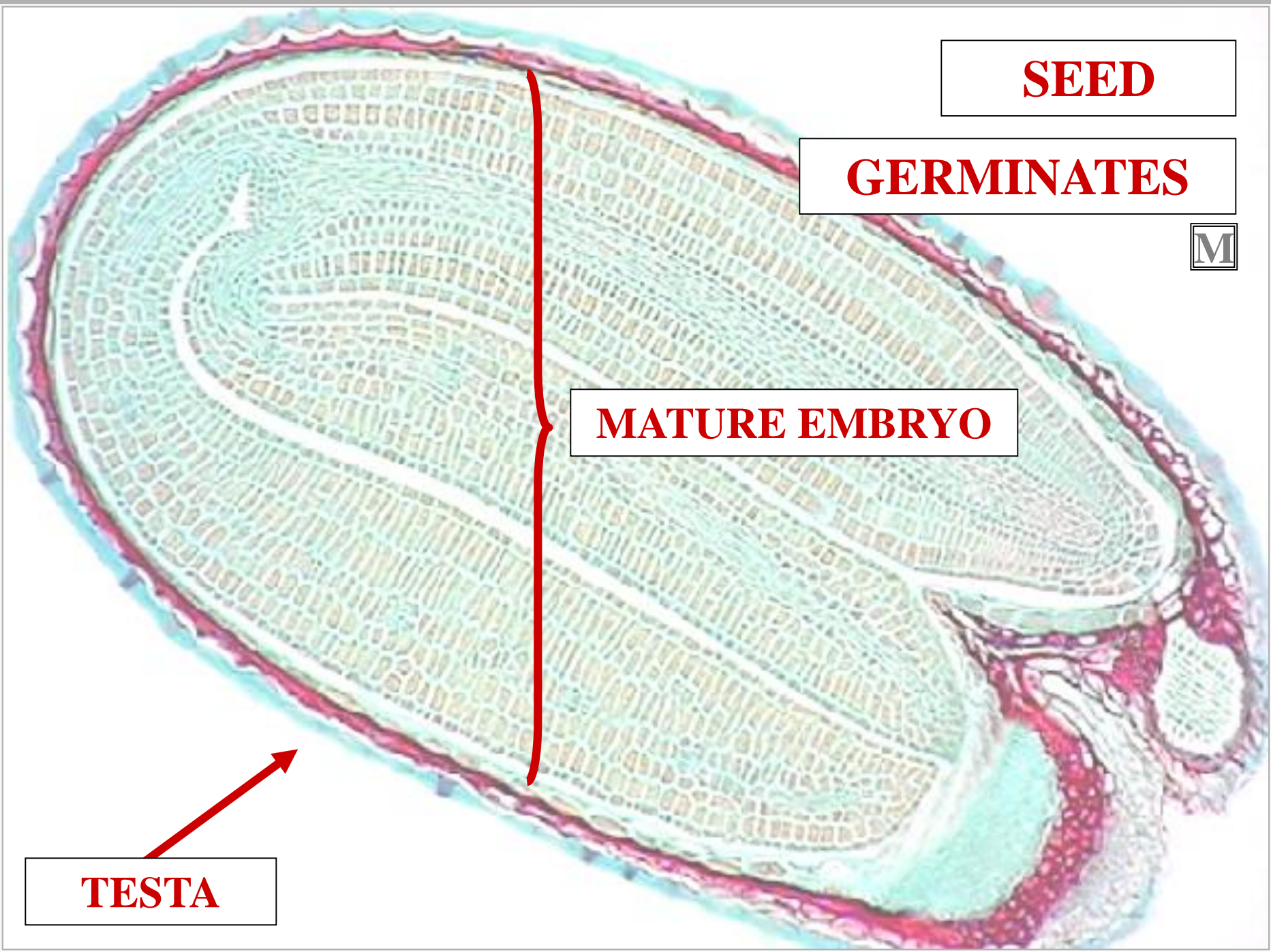
SEED

GERMINATES

M

MATURE EMBRYO

TESTA



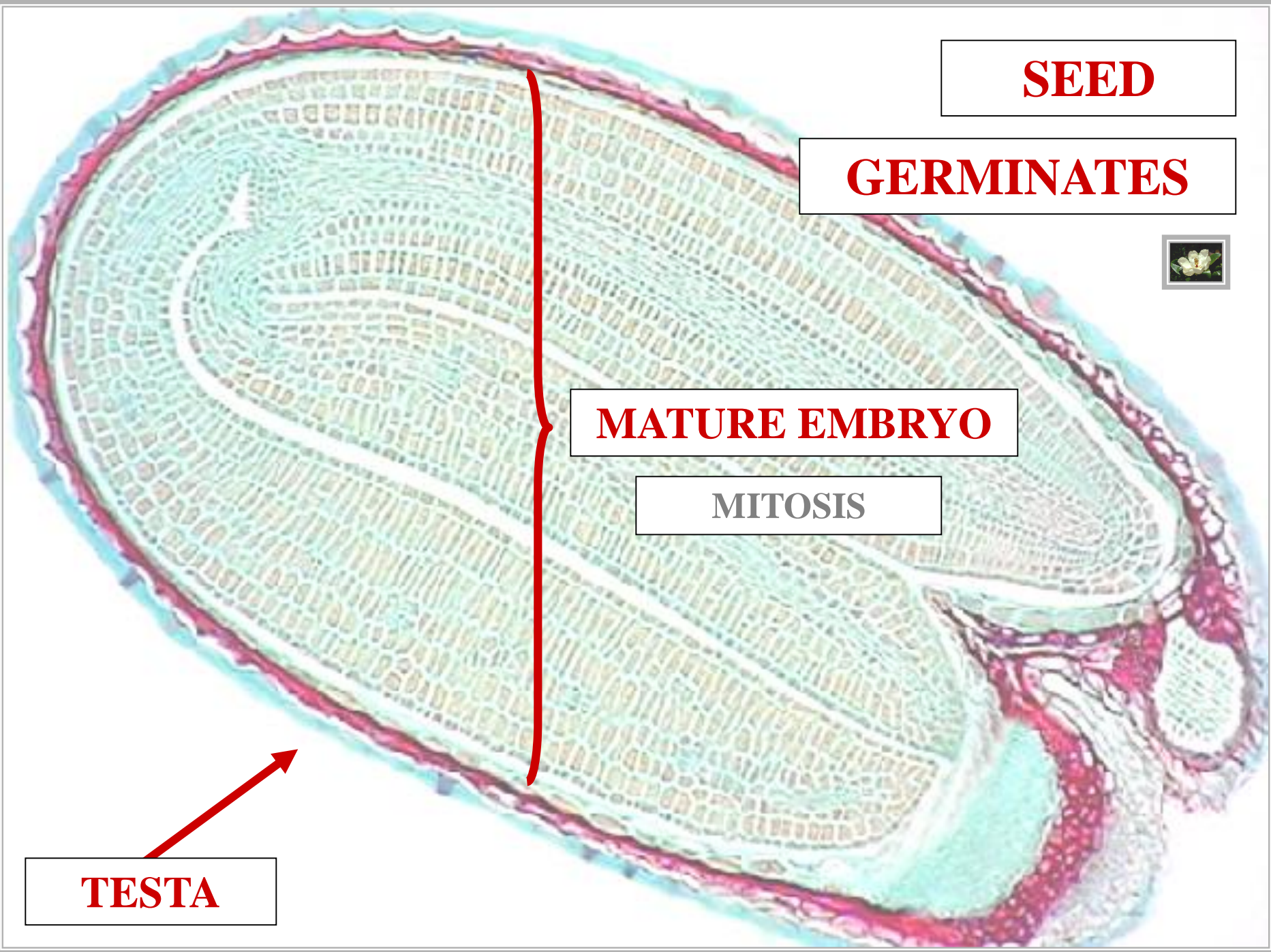
SEED

GERMINATES

MATURE EMBRYO

MITOSIS

TESTA



A close-up photograph of a large, white magnolia flower with a prominent yellow stamen and a red pistil. The flower is surrounded by several large, glossy green leaves. The background is dark and out of focus.

**MATURE
ANGIOSPERM
SPOROPHYTE**



DOUBLE FERTILIZATION



OVULE



EMBRYO SAC

DOUBLE FERTILIZATION



TUBE CELL



POLLEN TUBE



GENERATIVE CELL



SPERM CELL



ENDOSPERM



ZYGOTE

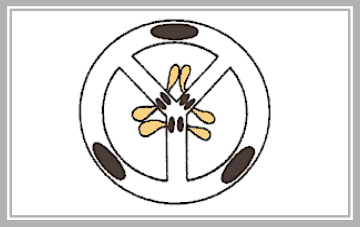
OVULE

L.S.





OVULE



EMBRYO SAC



TUBE CELL



POLLEN TUBE



GENERATIVE CELL



SPERM CELL



ENDOSPERM



ZYGOTE

1ST SPERM

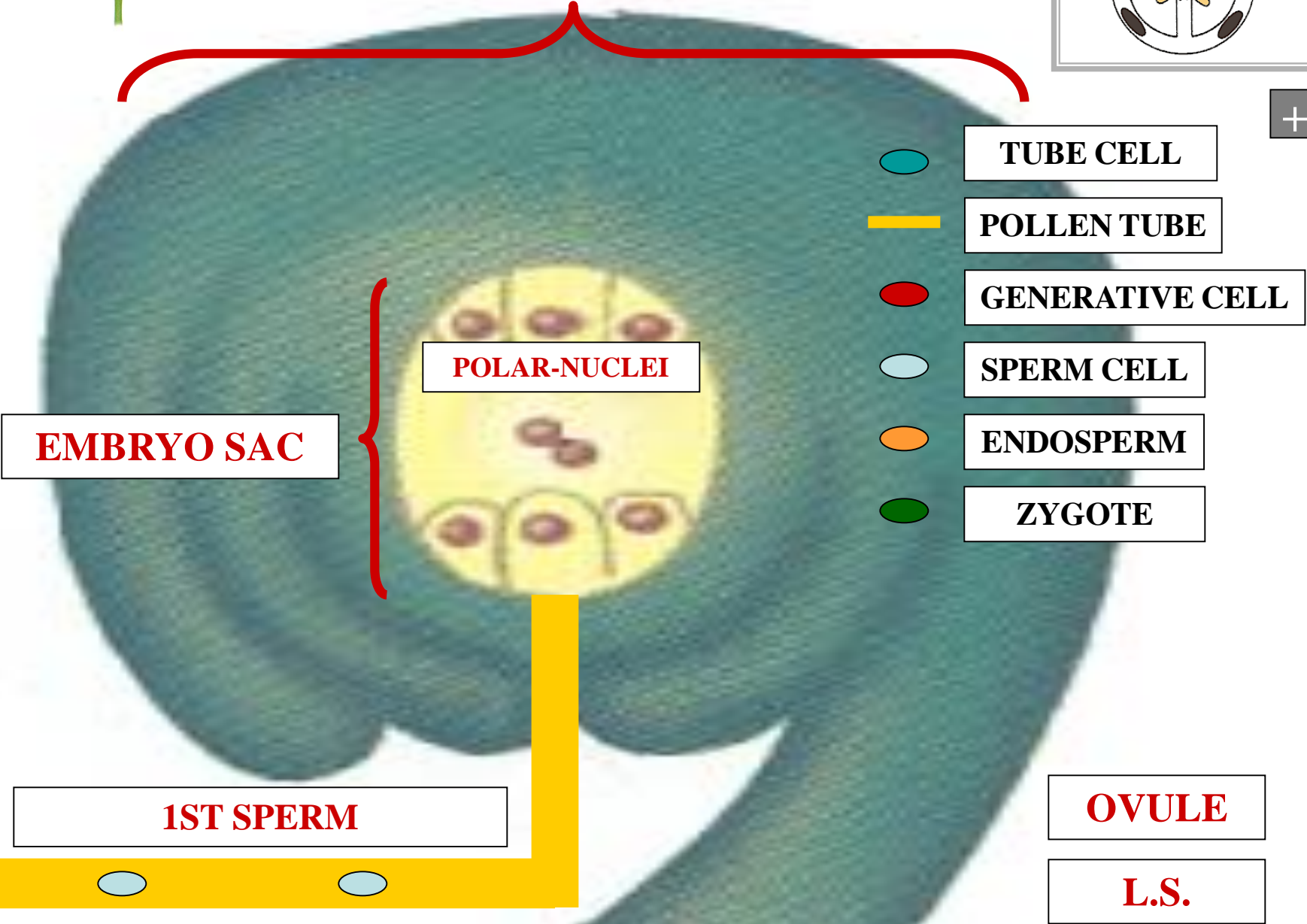
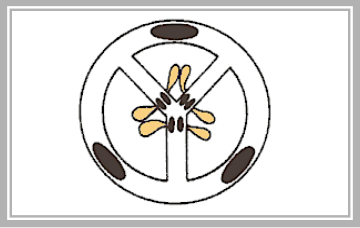


OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

POLAR-NUCLEI

EMBRYO SAC

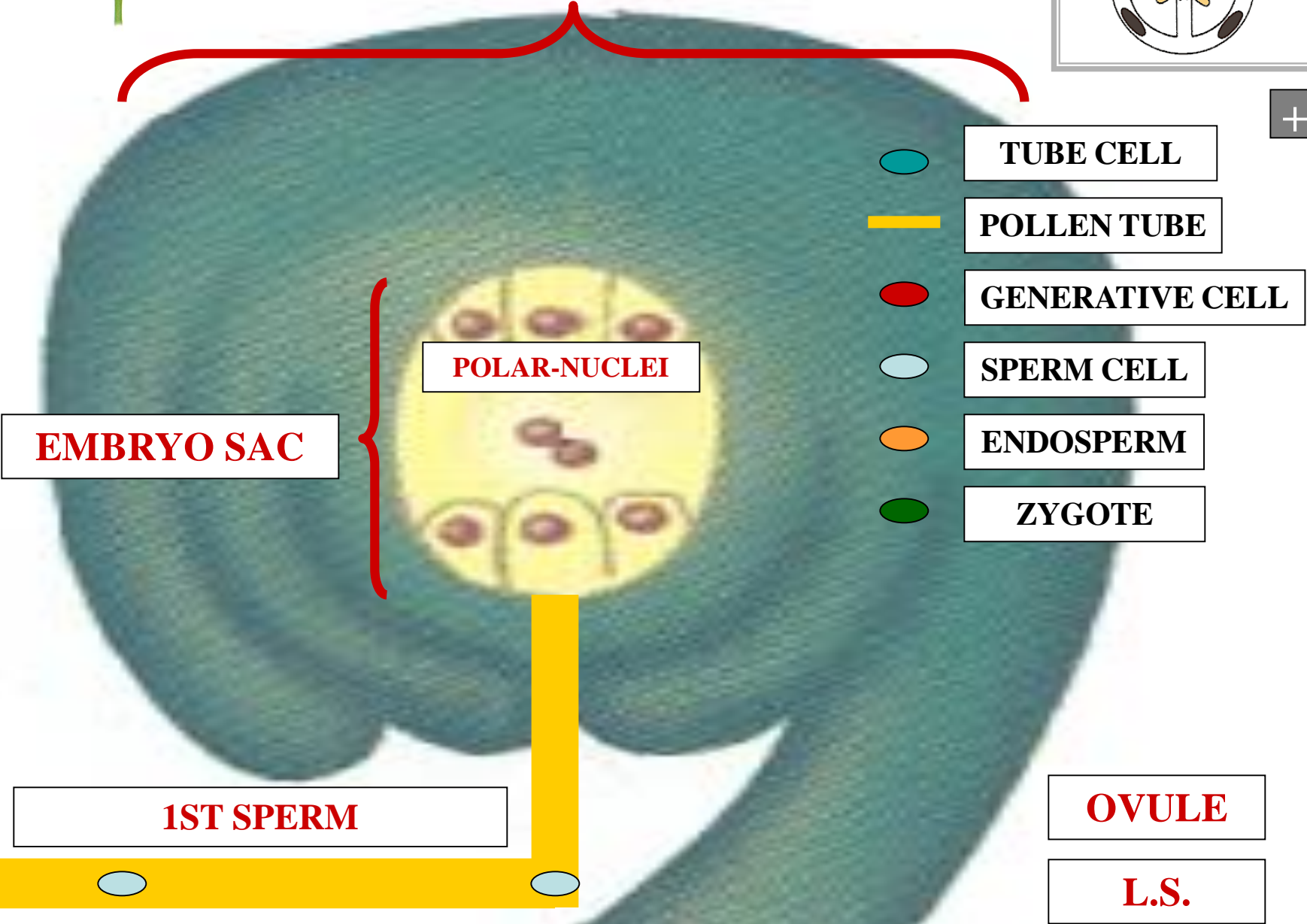
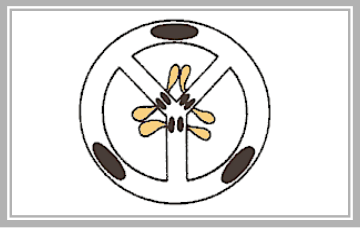
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

POLAR-NUCLEI

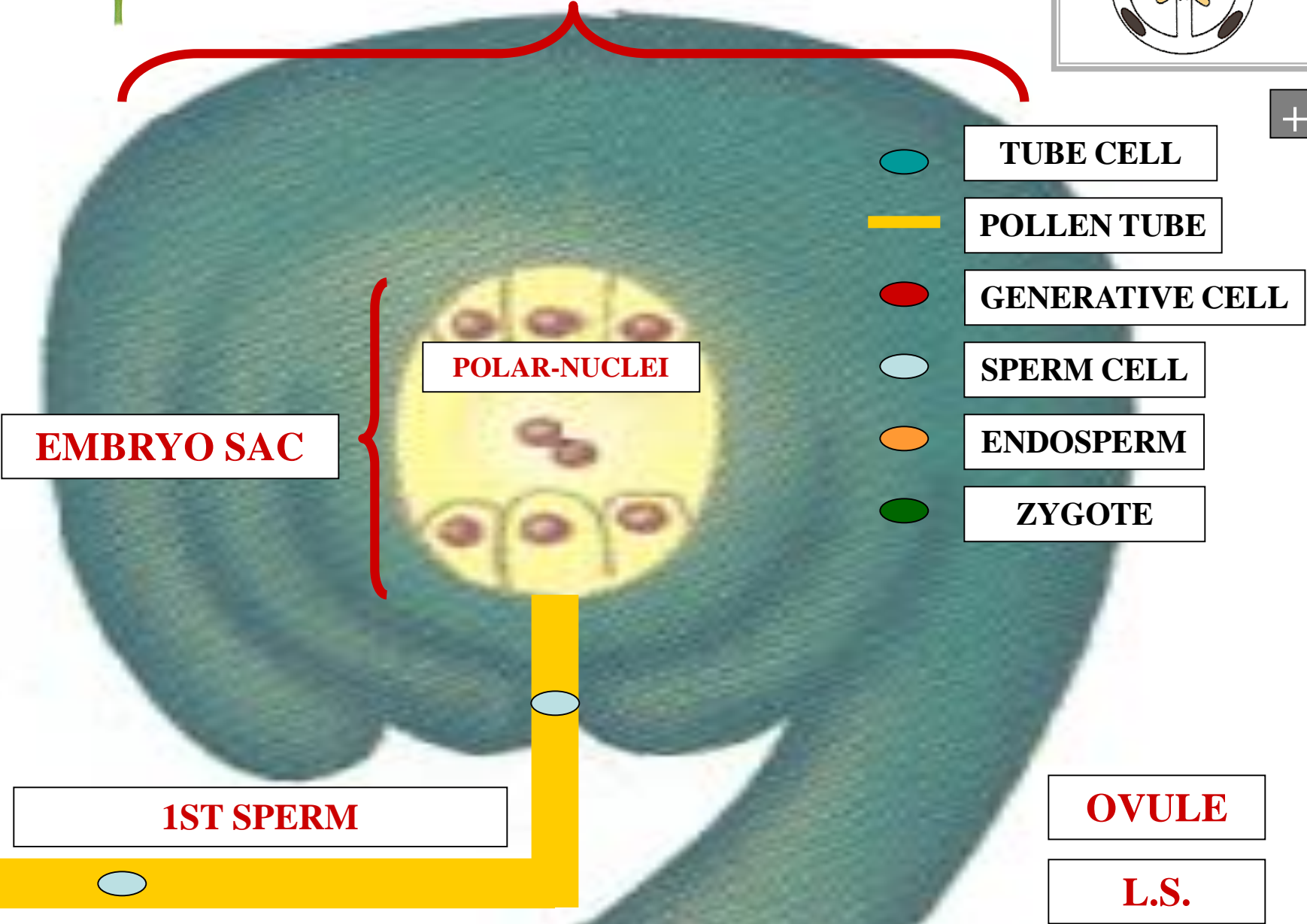
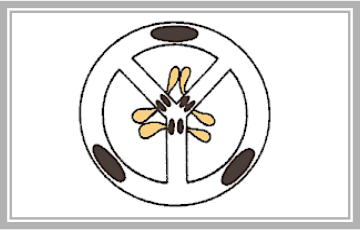
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

POLAR-NUCLEI

1ST SPERM

OVULE

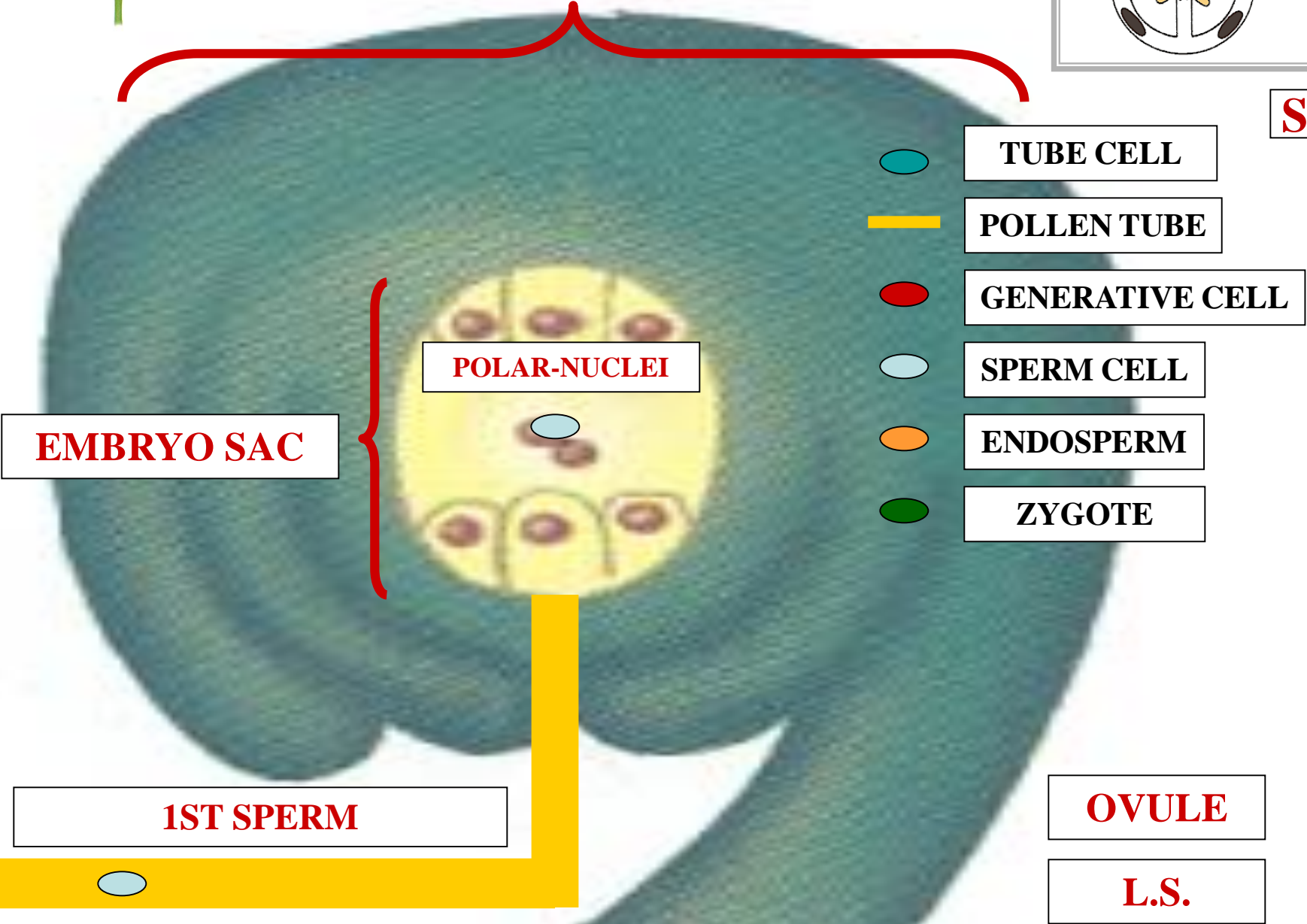
L.S.



OVULE



S



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

POLAR-NUCLEI

EMBRYO SAC

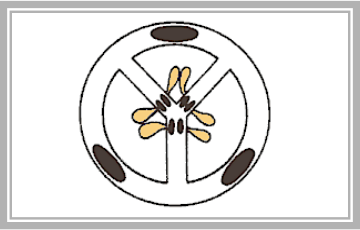
1ST SPERM

OVULE

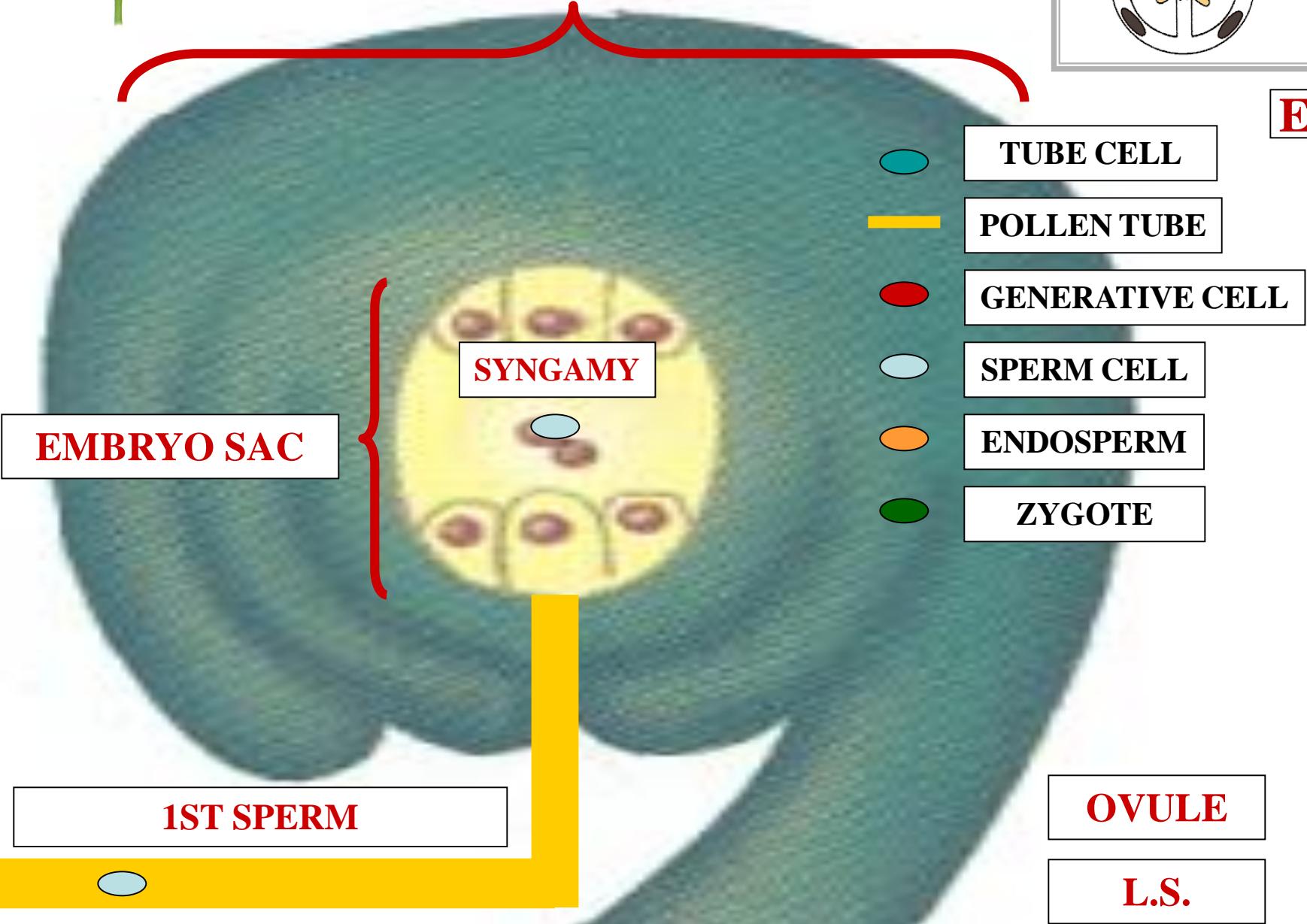
L.S.



OVULE



E



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

SYNGAMY

EMBRYO SAC

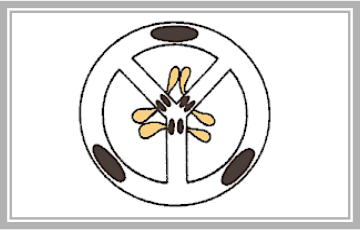
1ST SPERM

OVULE

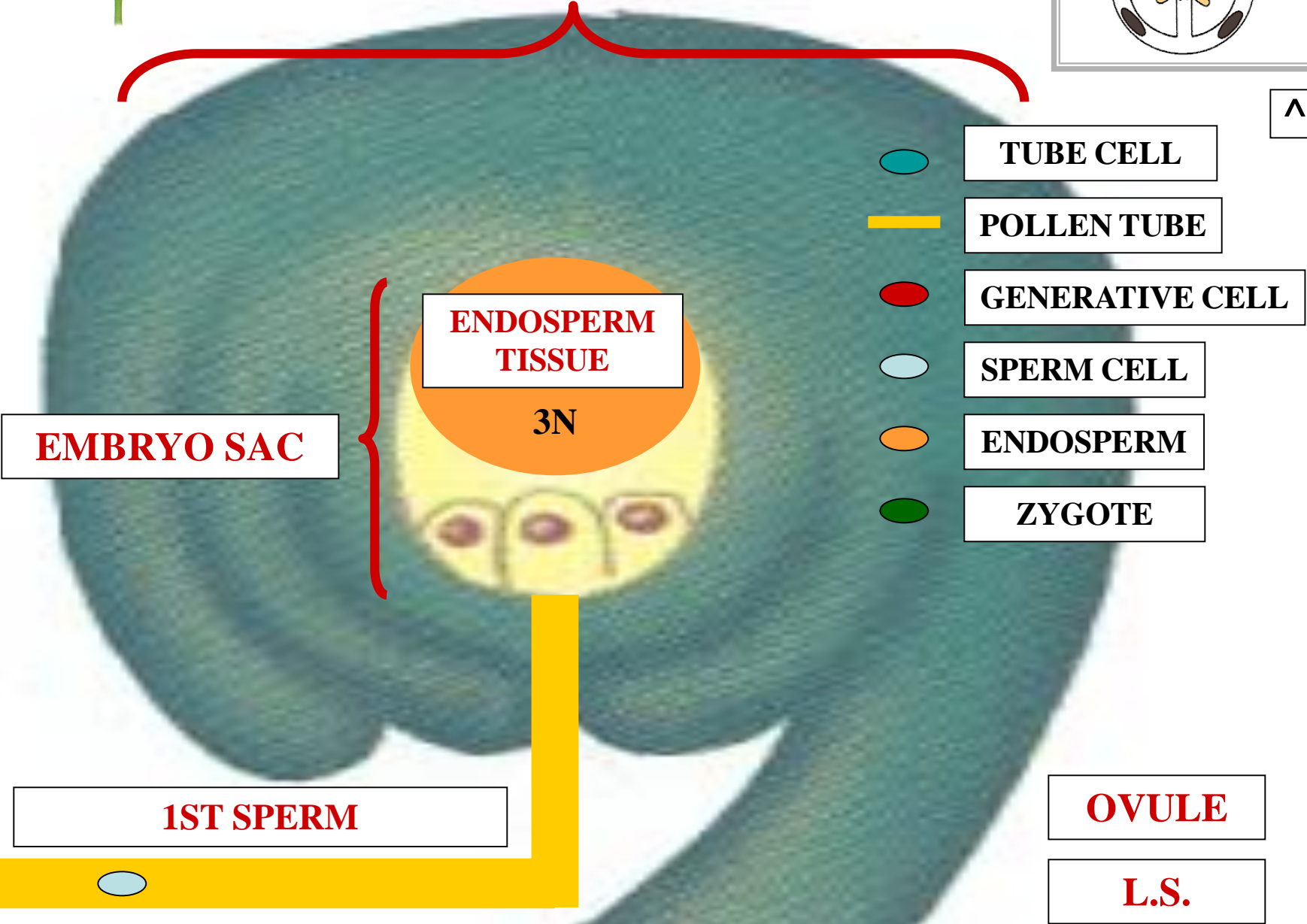
L.S.



OVULE



^



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EMBRYO SAC

1ST SPERM

OVULE

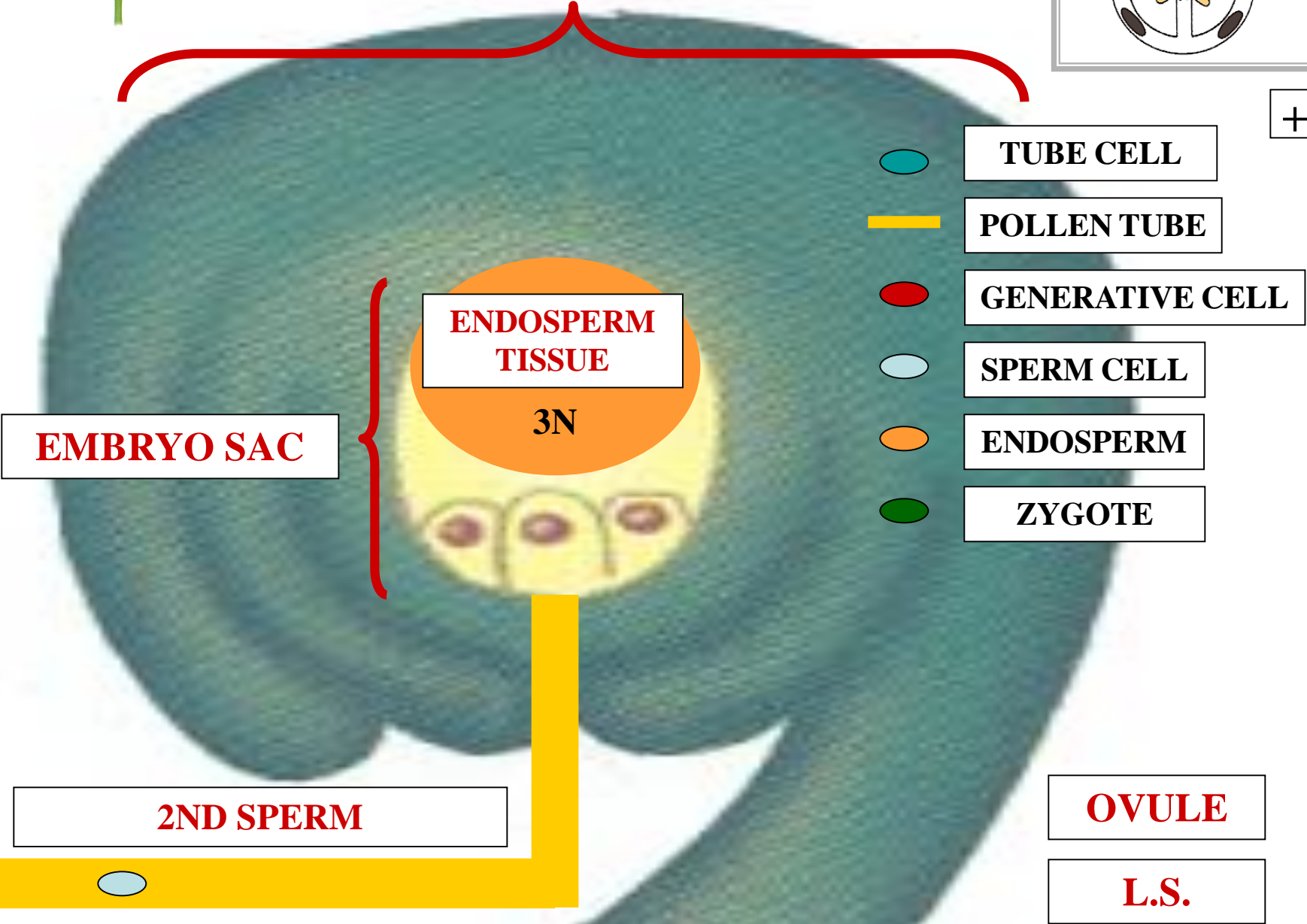
L.S.



OVULE



+



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EMBRYO SAC

2ND SPERM

OVULE

L.S.



OVULE



+



TUBE CELL



POLLEN TUBE



GENERATIVE CELL



SPERM CELL



ENDOSPERM



ZYGOTE

ENDOSPERM TISSUE

3N

EGG

EMBRYO SAC

2ND SPERM

OVULE

L.S.

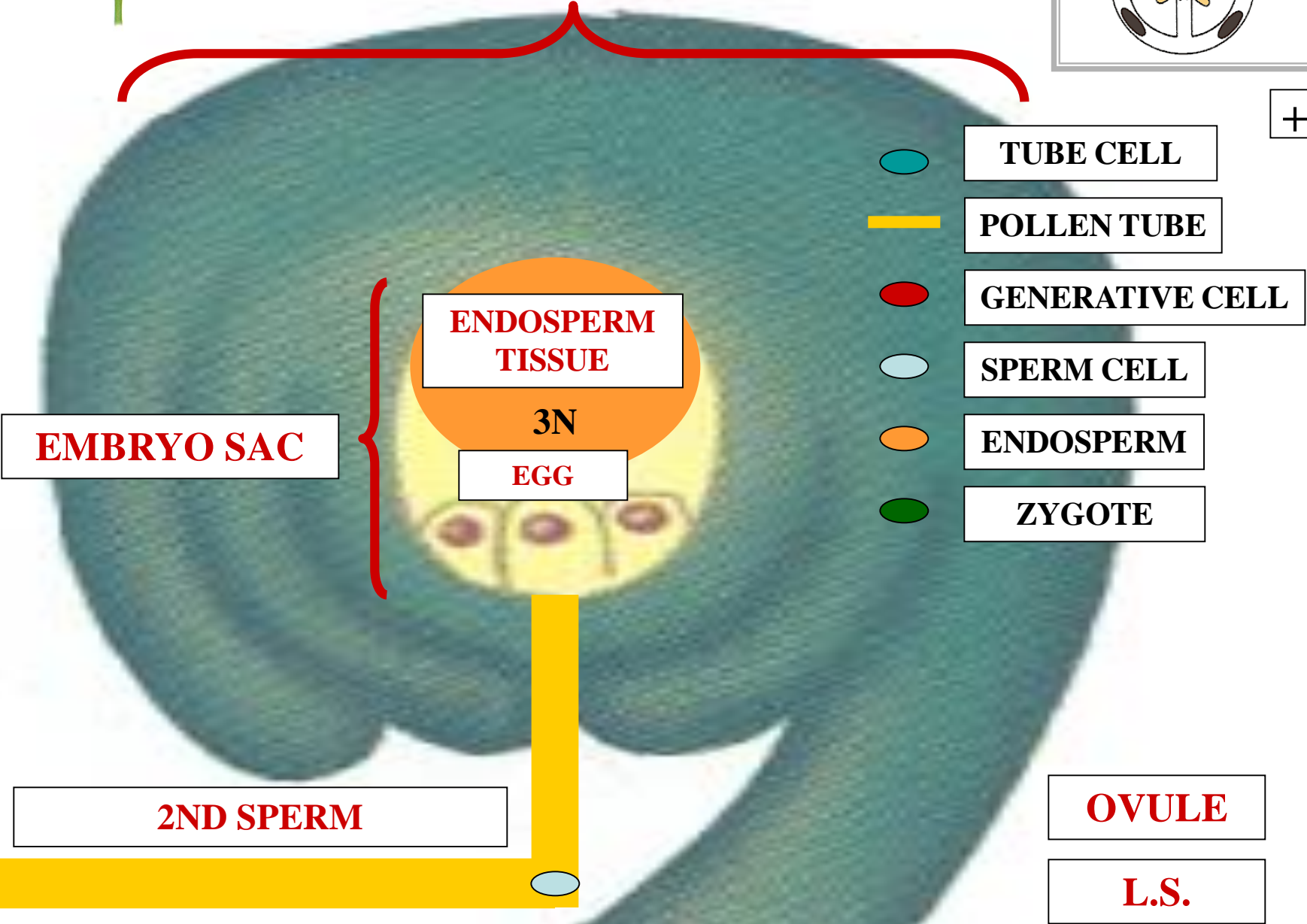




OVULE



+



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

ENDOSPERM TISSUE

3N

EGG

2ND SPERM

OVULE

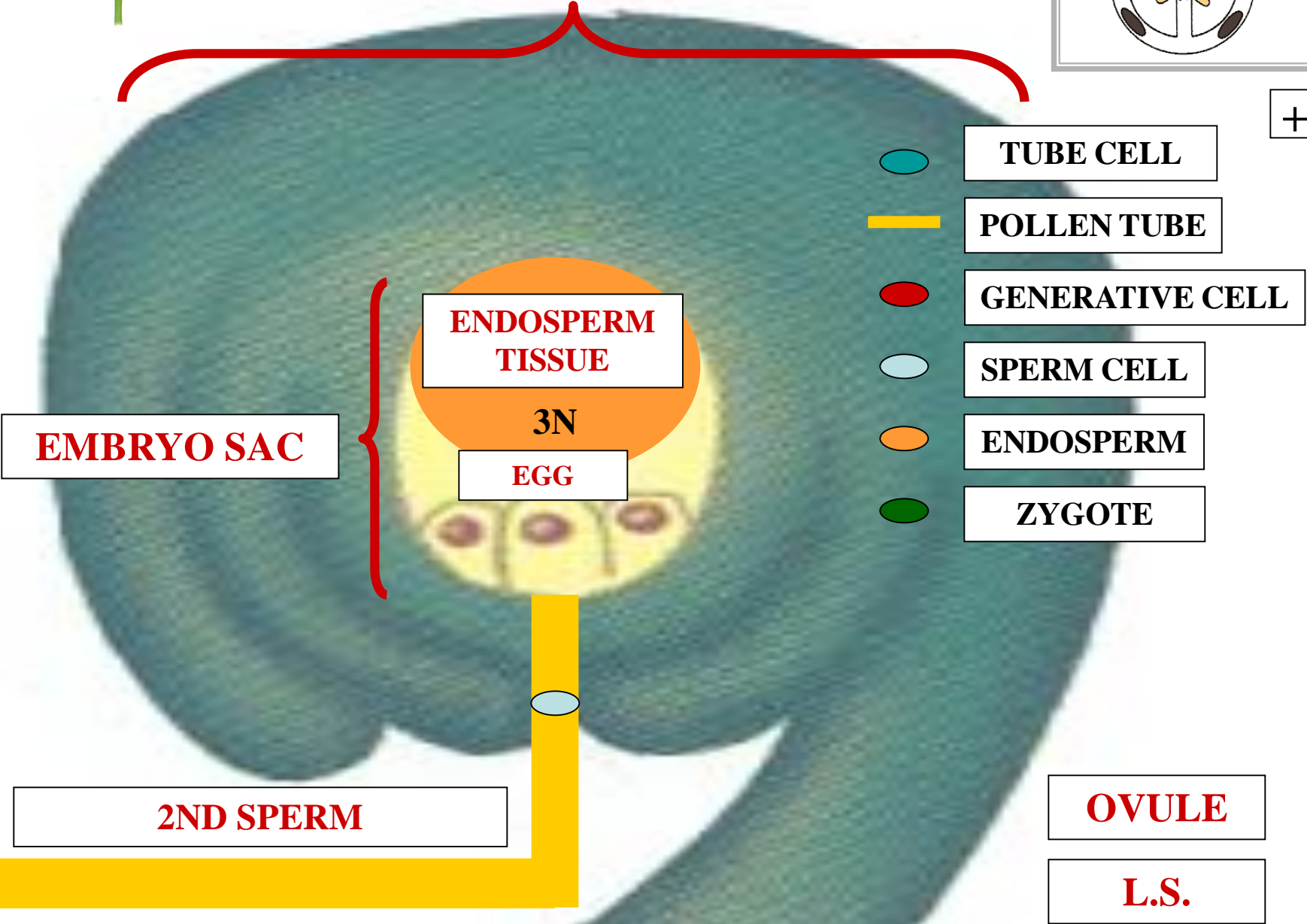
L.S.



OVULE



+



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EGG

EMBRYO SAC

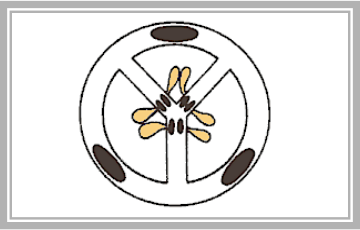
2ND SPERM

OVULE

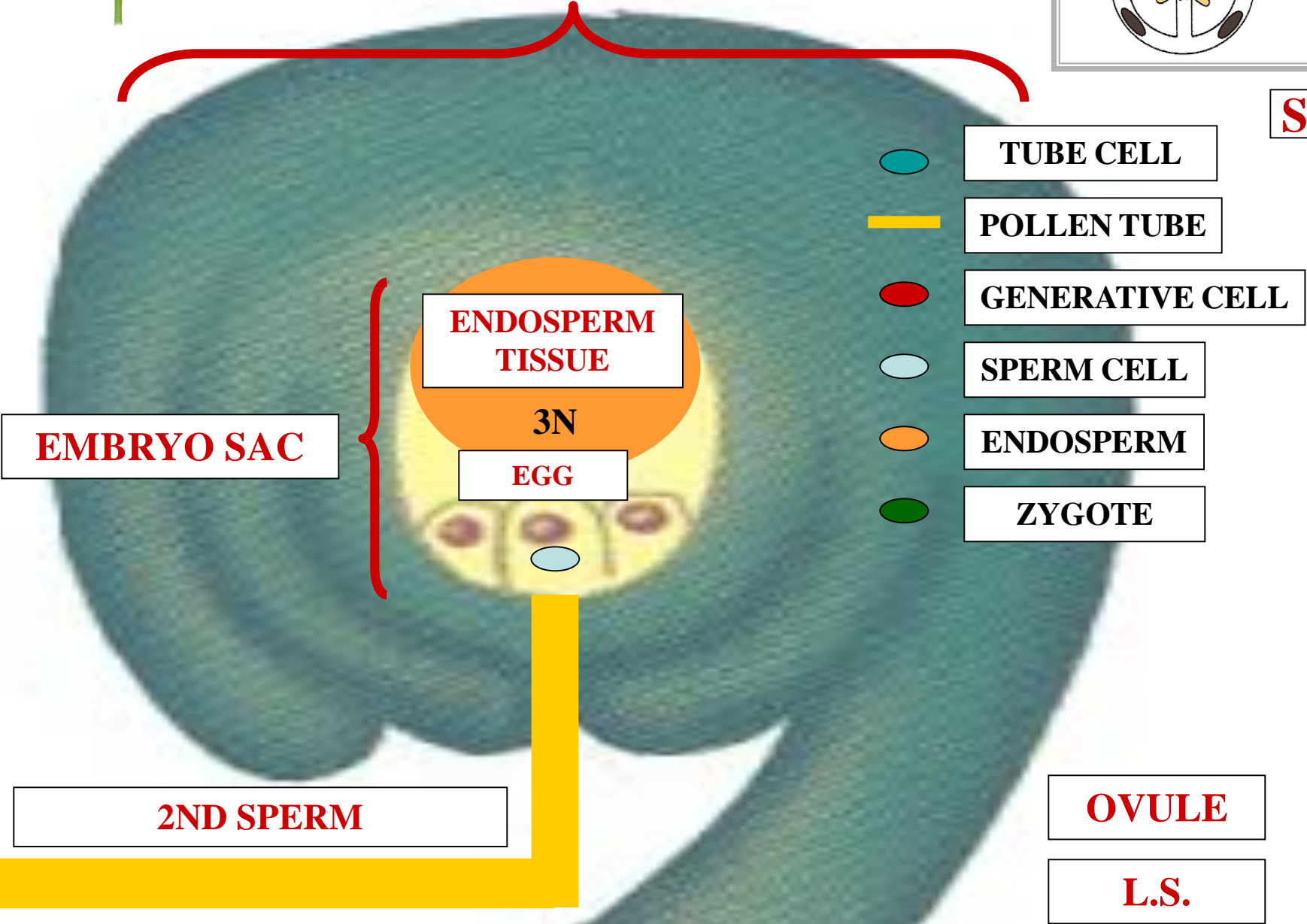
L.S.



OVULE



S



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

ENDOSPERM TISSUE

3N

EGG

2ND SPERM

OVULE

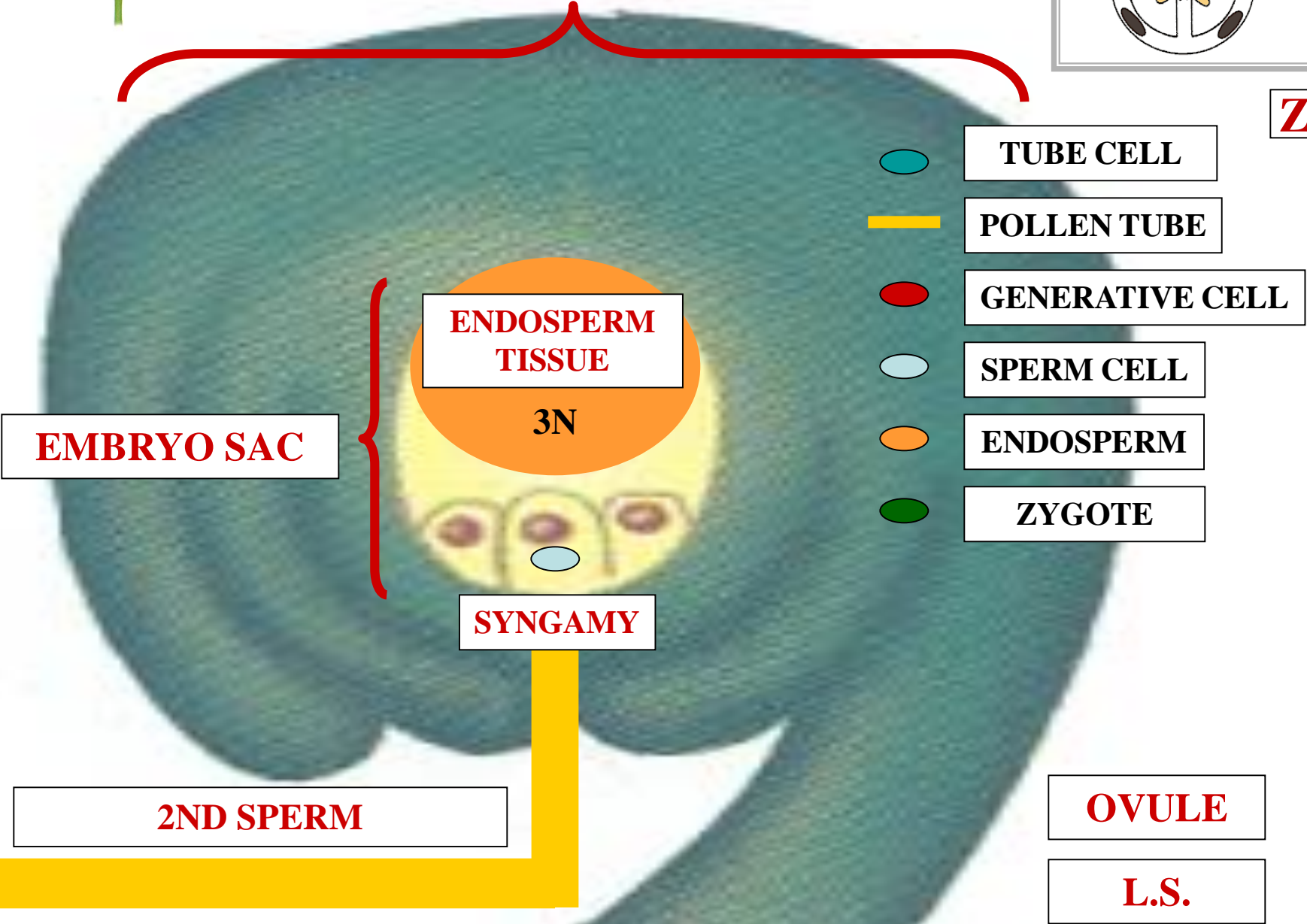
L.S.



OVULE



Z



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EMBRYO SAC

SYNGAMY

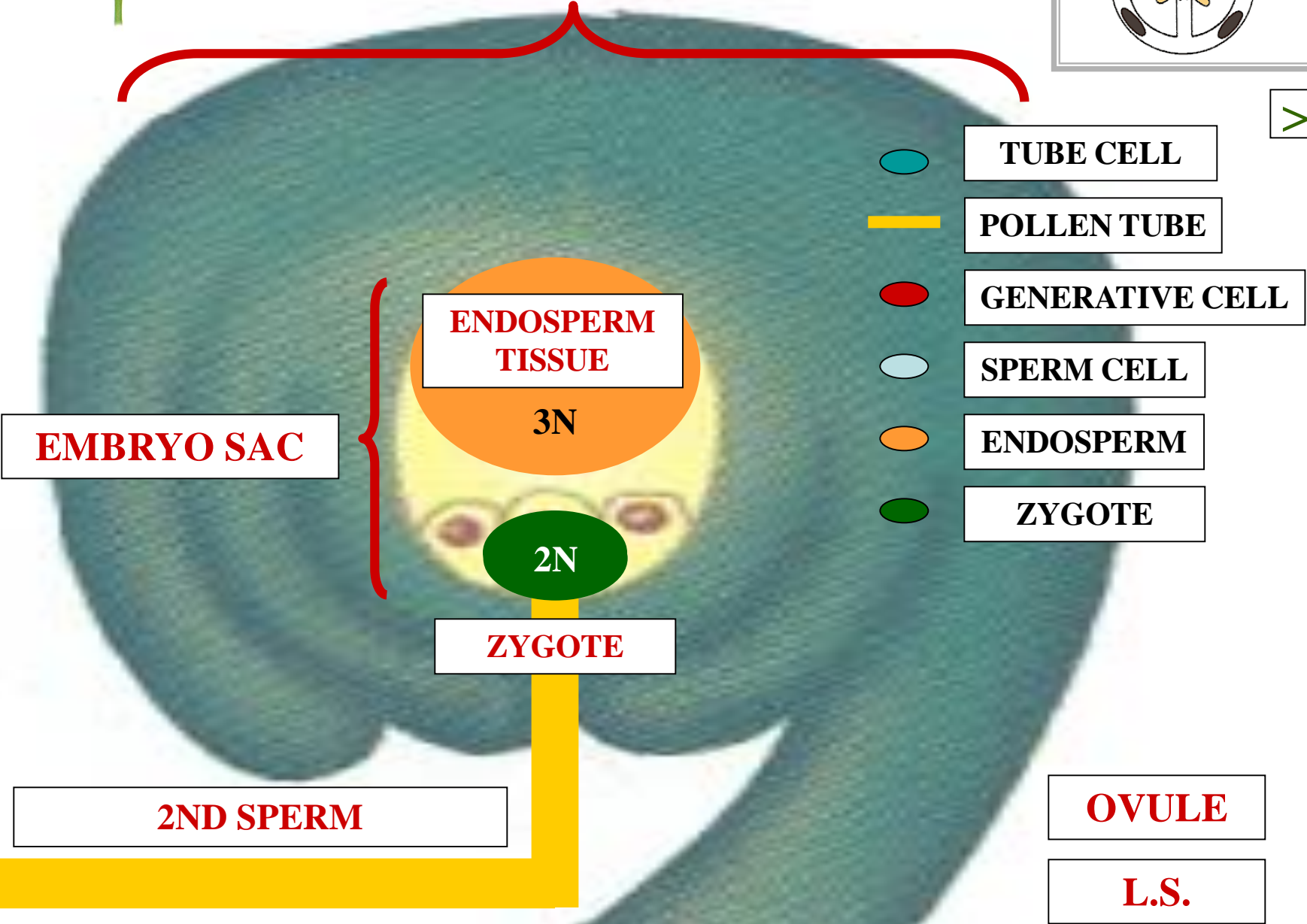
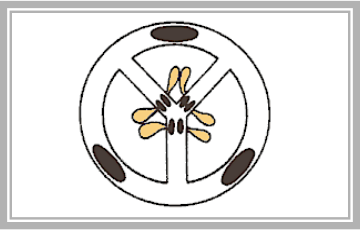
2ND SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

ENDOSPERM TISSUE

3N

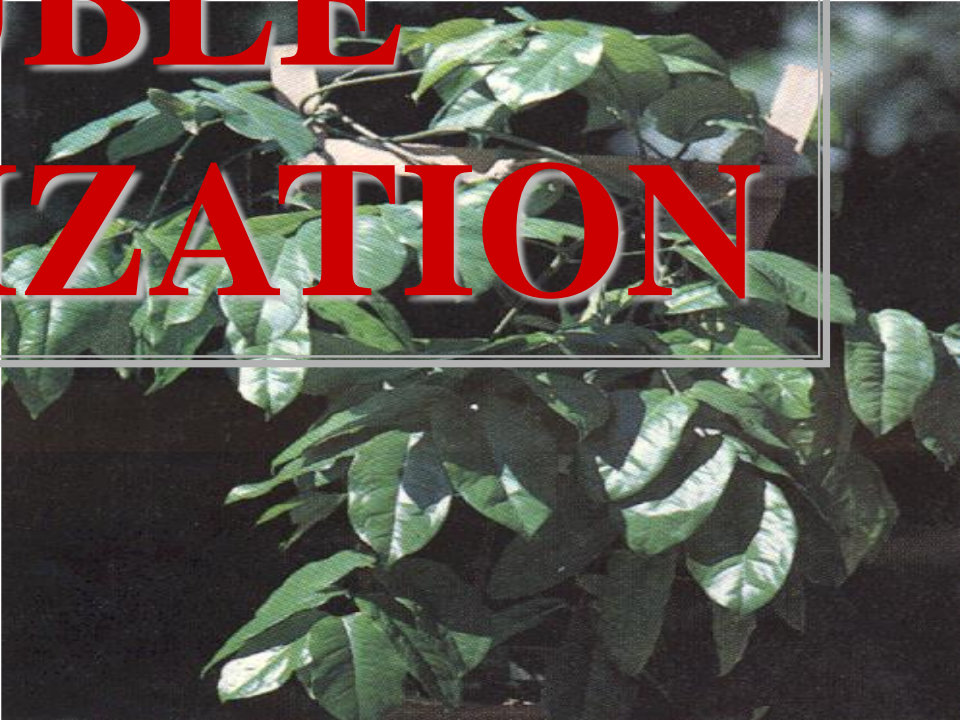
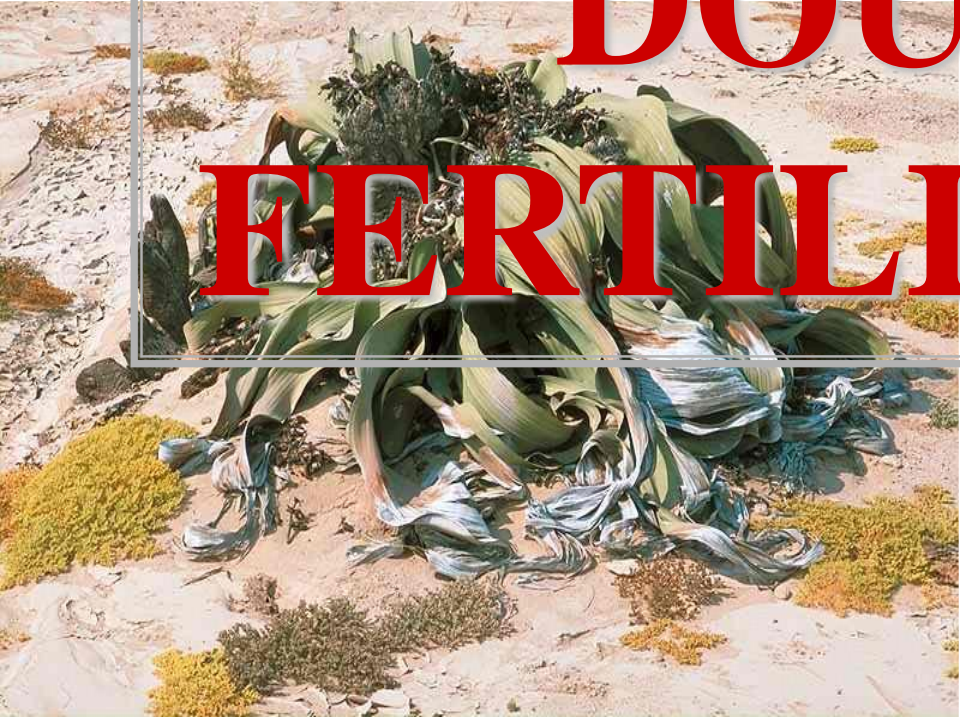
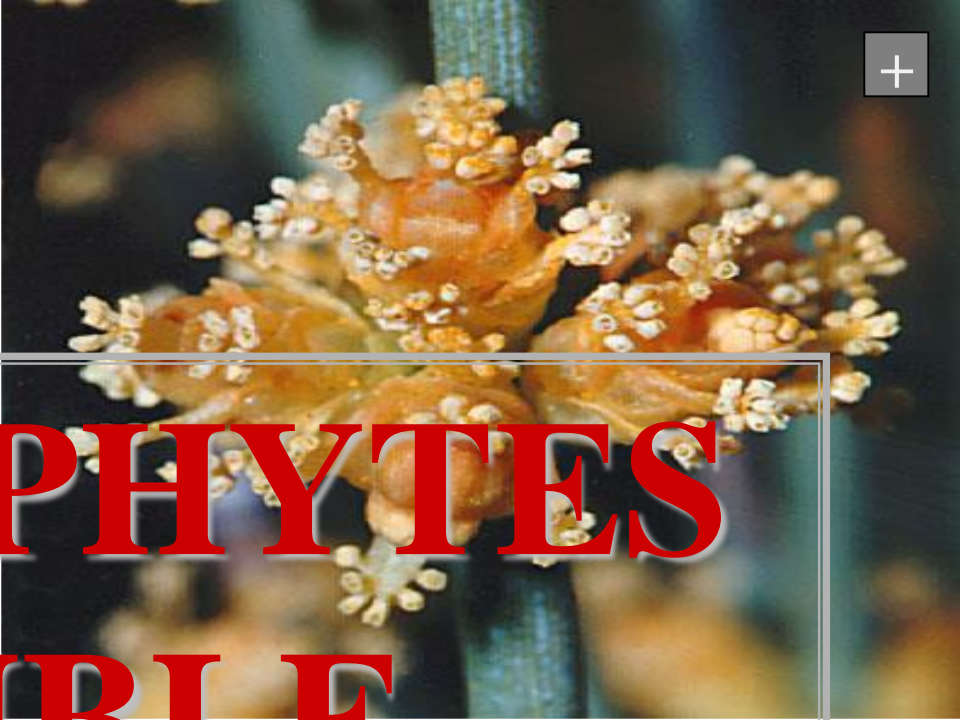
2N

ZYGOTE

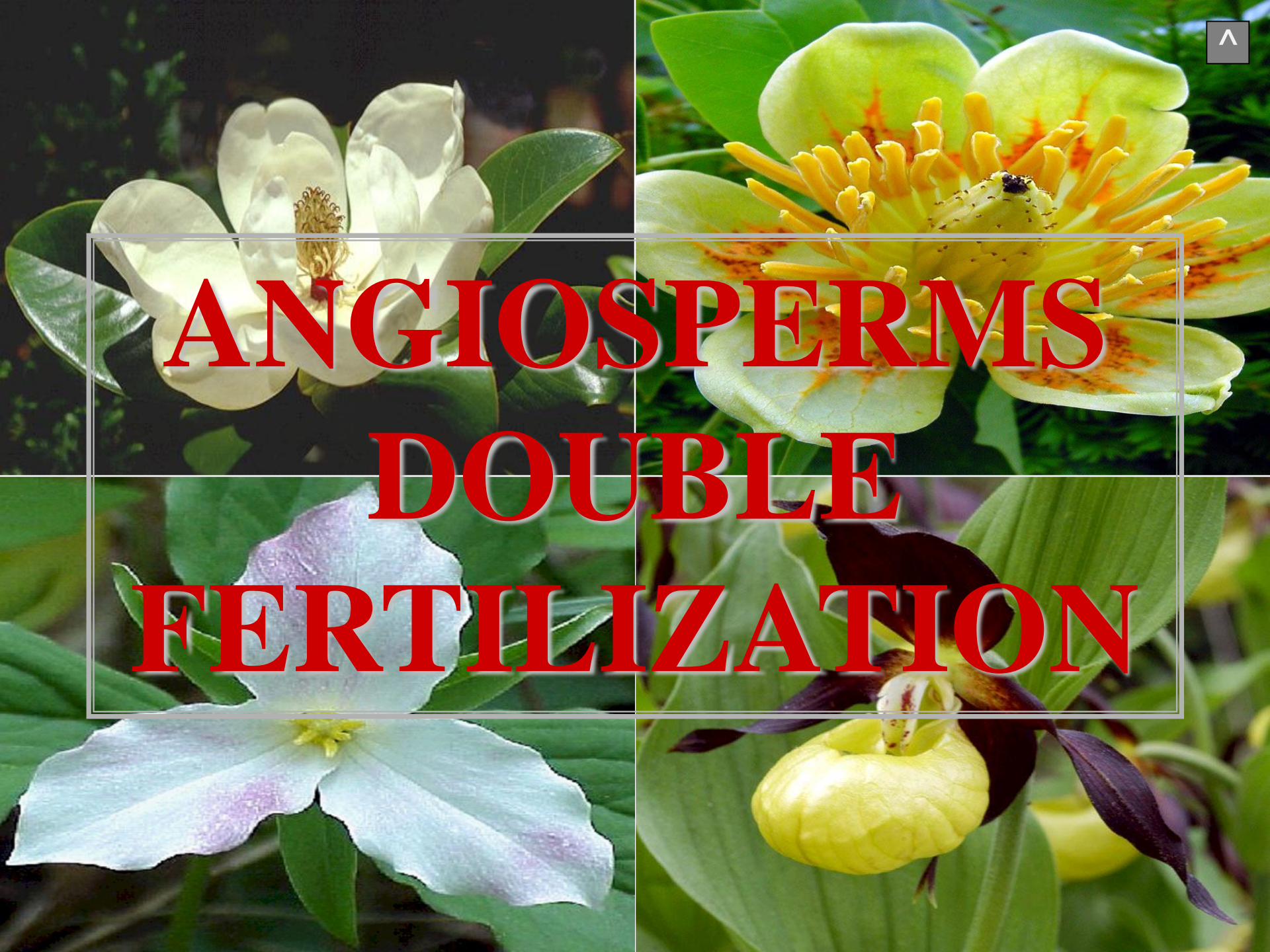
2ND SPERM

OVULE

L.S.



GNETOPHYTES
DOUBLE
FERTILIZATION



**ANGIOSPERMS
DOUBLE
FERTILIZATION**

ANGIOSPERM FRUIT

FRUIT

**ANGIOSPERM
FRUIT**



**MATURE OVARY
WITH SEEDS**

**ANGIOSPERM
FRUIT**

GENERAL FRUIT TYPES

SIMPLE FRUIT



**ANGIOSPERM
SIMPLE FRUIT**

**DERIVED FROM
SINGLE OVARY**

**ANGIOSPERM
SIMPLE FRUIT**



**ANGIOSPERM
SIMPLE FRUIT**

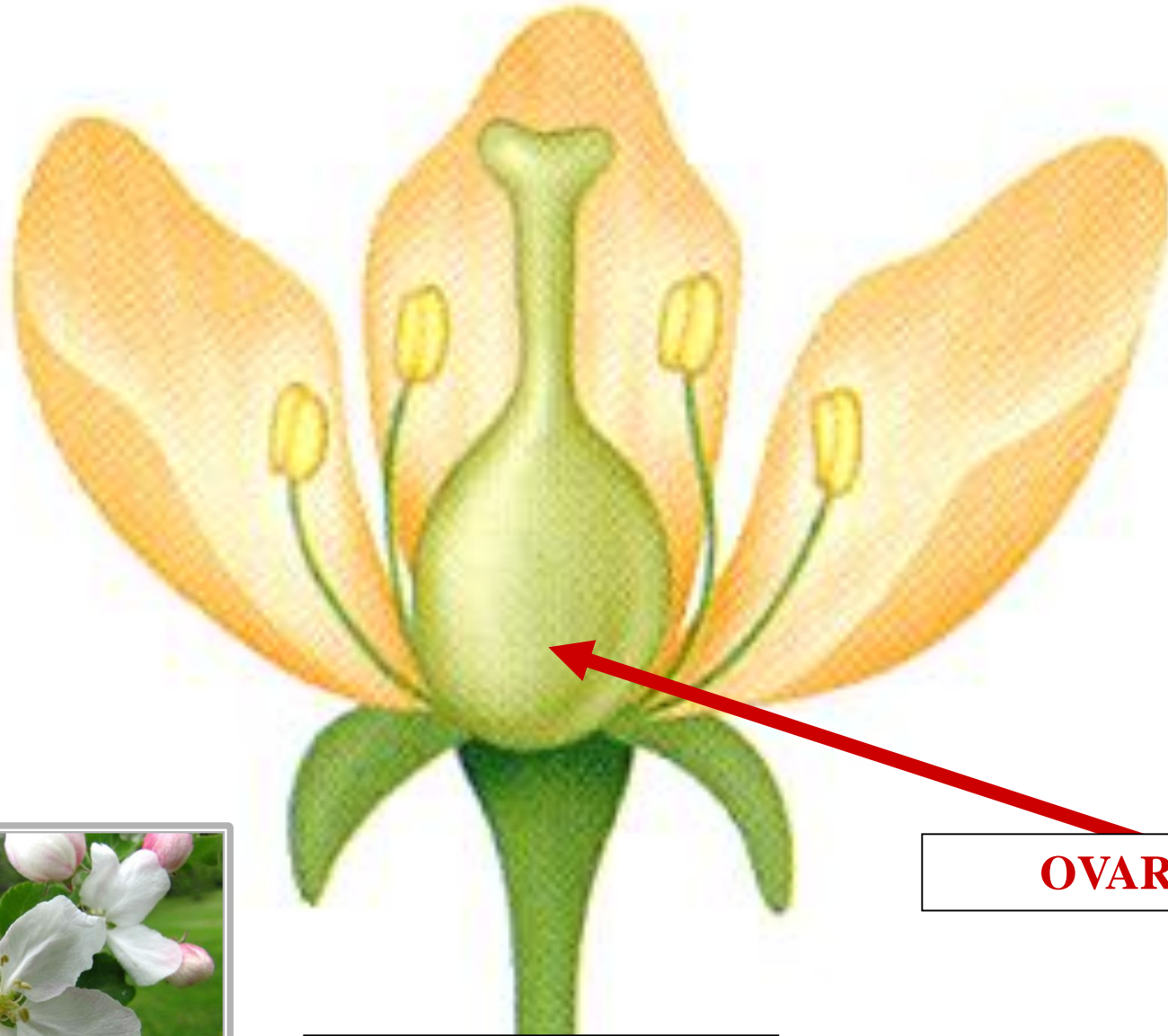
**DERIVED FROM
SINGLE OVARY**

FROM 1 FLOWER

**ANGIOSPERM
SIMPLE FRUIT**



O



OVARY

FLOWER



A



SIMPLE FRUIT

AGGREGATE FRUIT



**ANGIOSPERM
AGGREGATE FRUIT**

**DERIVED FROM
SEVERAL
UNFUSED OVARIES**

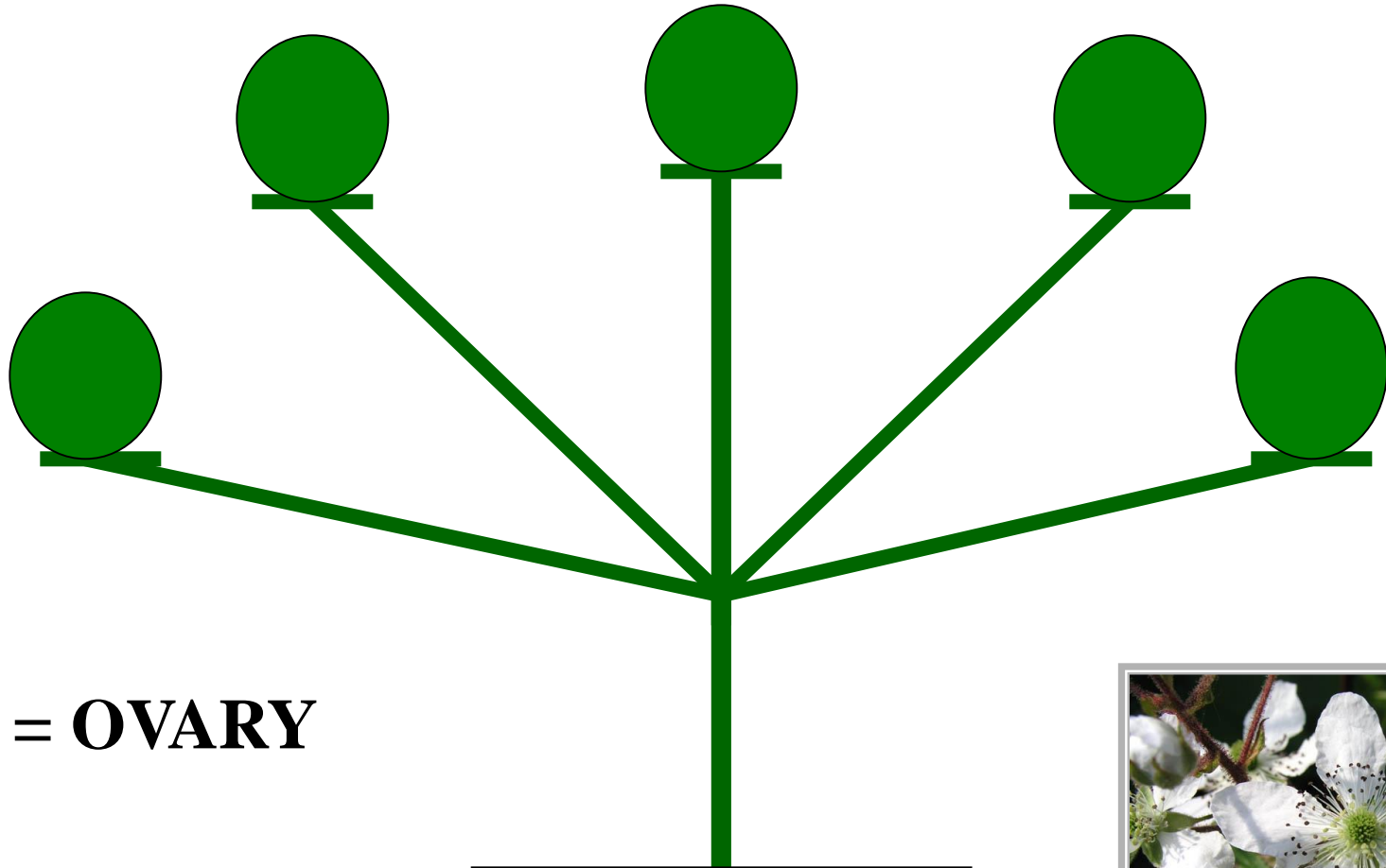
**ANGIOSPERM
AGGREGATE FRUIT**

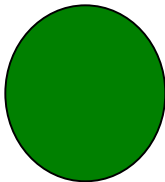


ANGIOSPERM
AGGREGATE FRUIT
DERIVED FROM
SEVERAL
UNFUSED OVARIES

FROM 1 FLOWER
ANGIOSPERM
AGGREGATE FRUIT

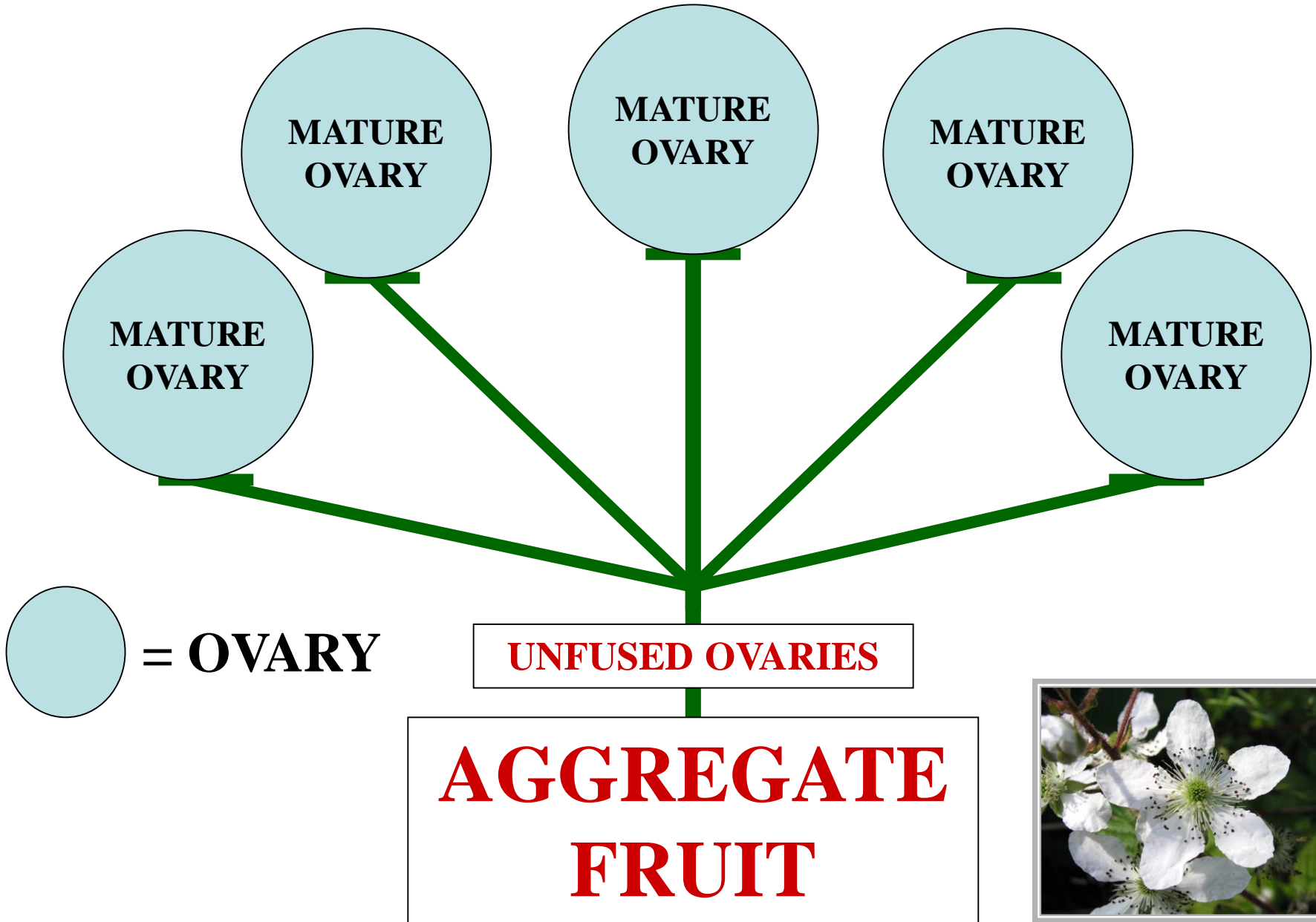




 = **OVARY**

FLOWER







AGGREGATE FRUIT



MULTIPLE FRUIT



**ANGIOSPERM
MULTIPLE FRUIT**

**DERIVED FROM
SEVERAL
FUSED OVARIES**

**ANGIOSPERM
MULTIPLE FRUIT**

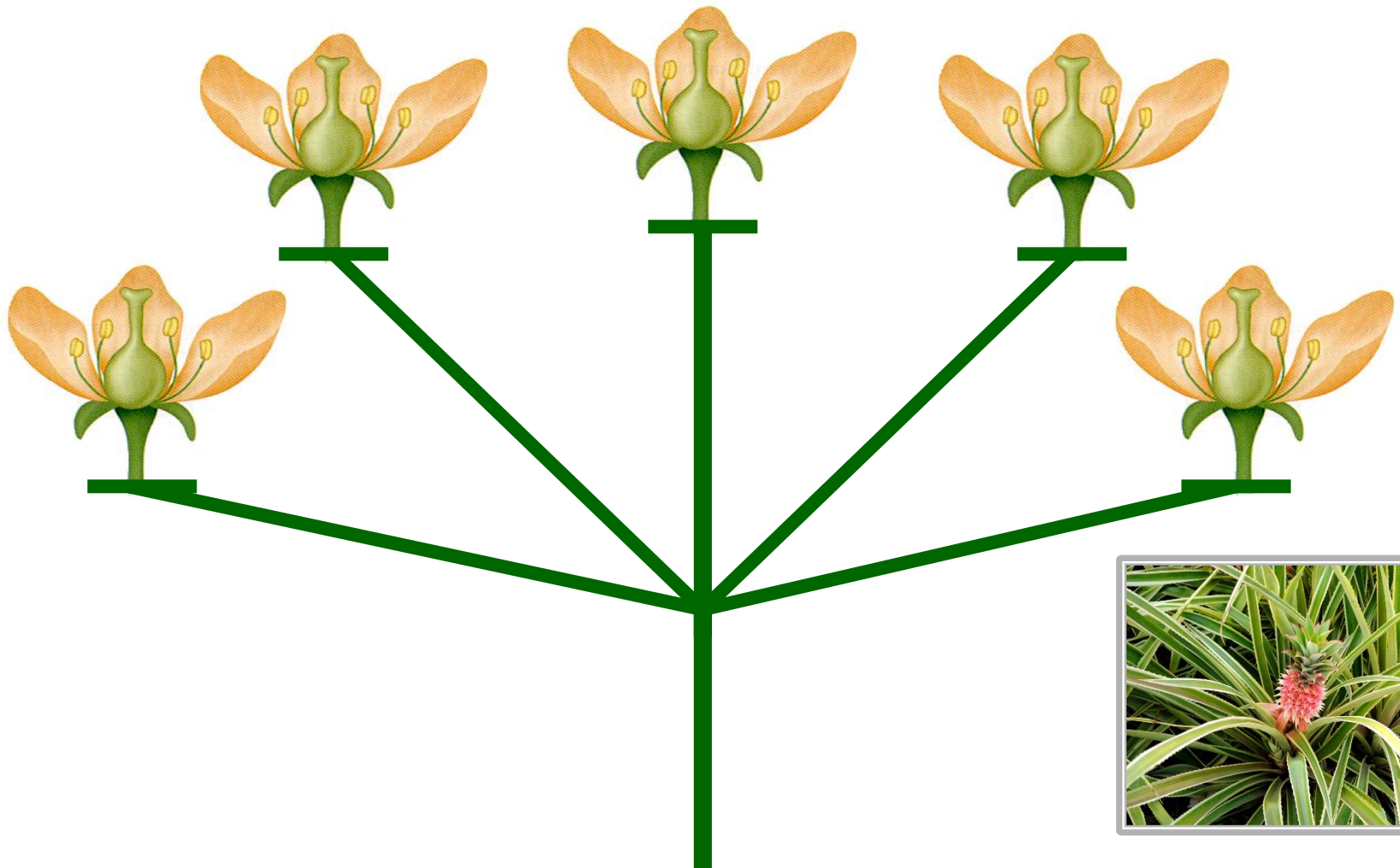


ANGIOSPERM
MULTIPLE FRUIT
DERIVED FROM
SEVERAL
FUSED OVARIES

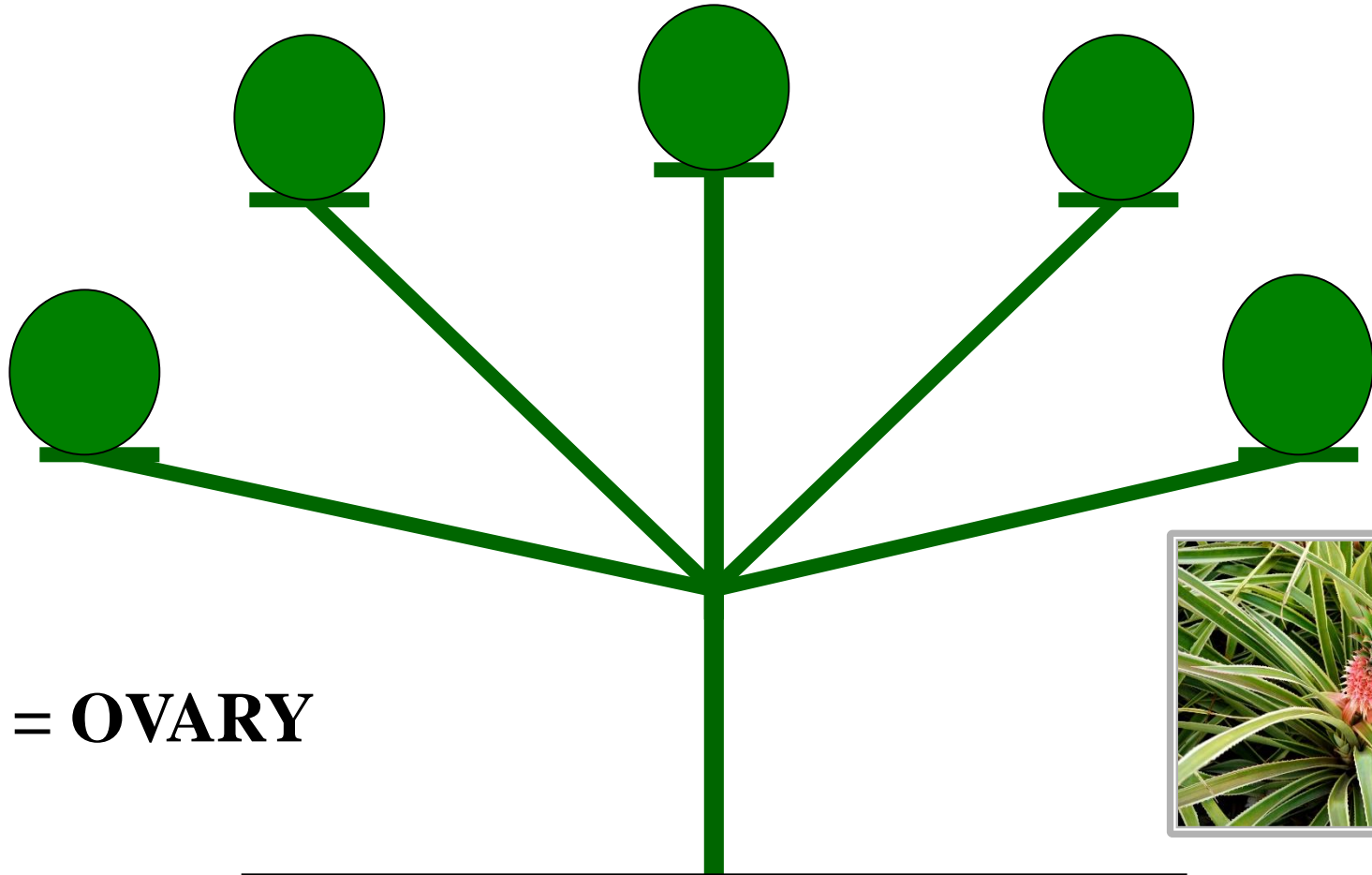
FROM MANY FLOWERS

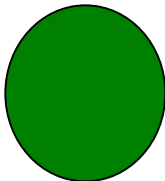
ANGIOSPERM
MULTIPLE FRUIT





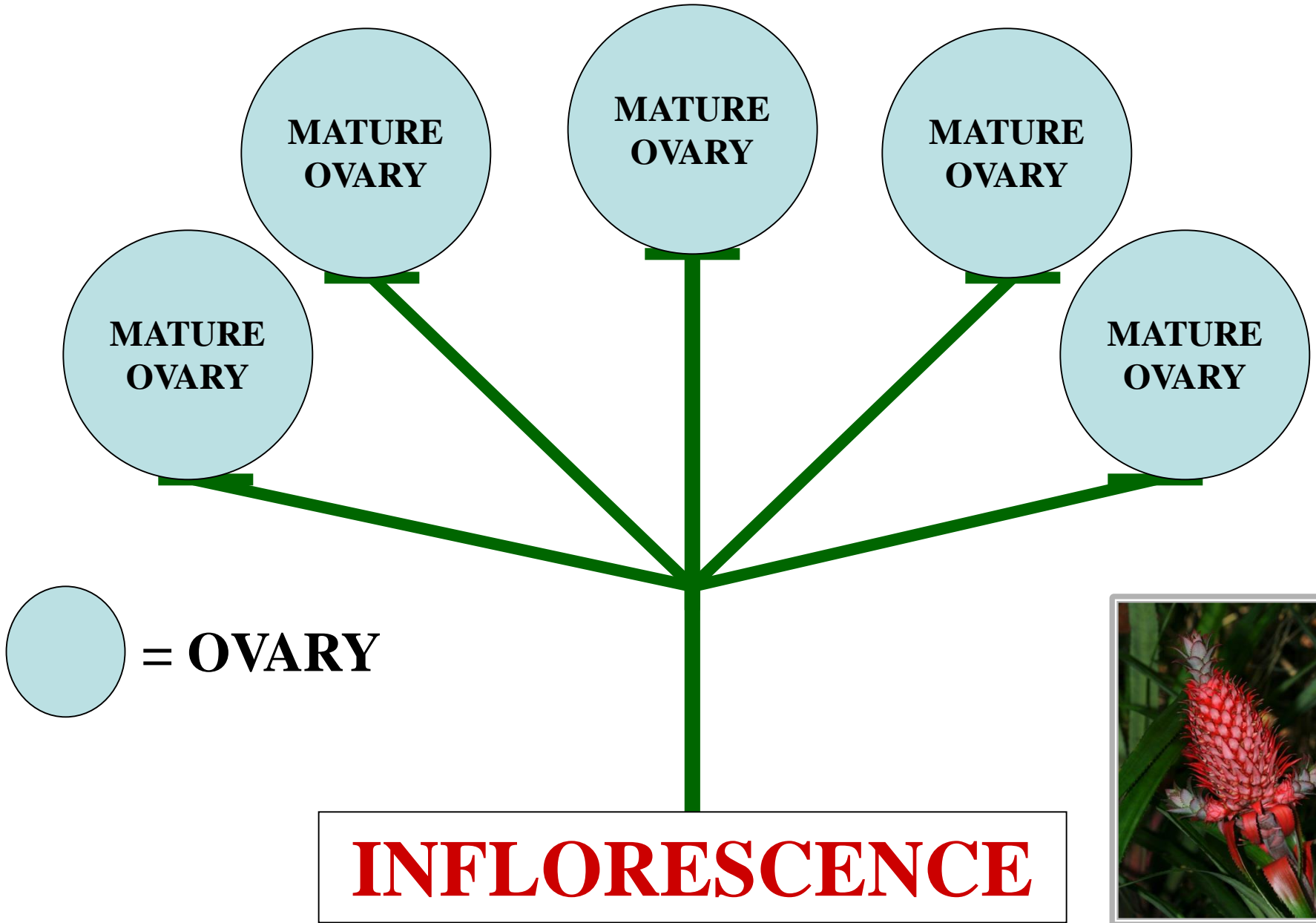
INFLORESCENCE

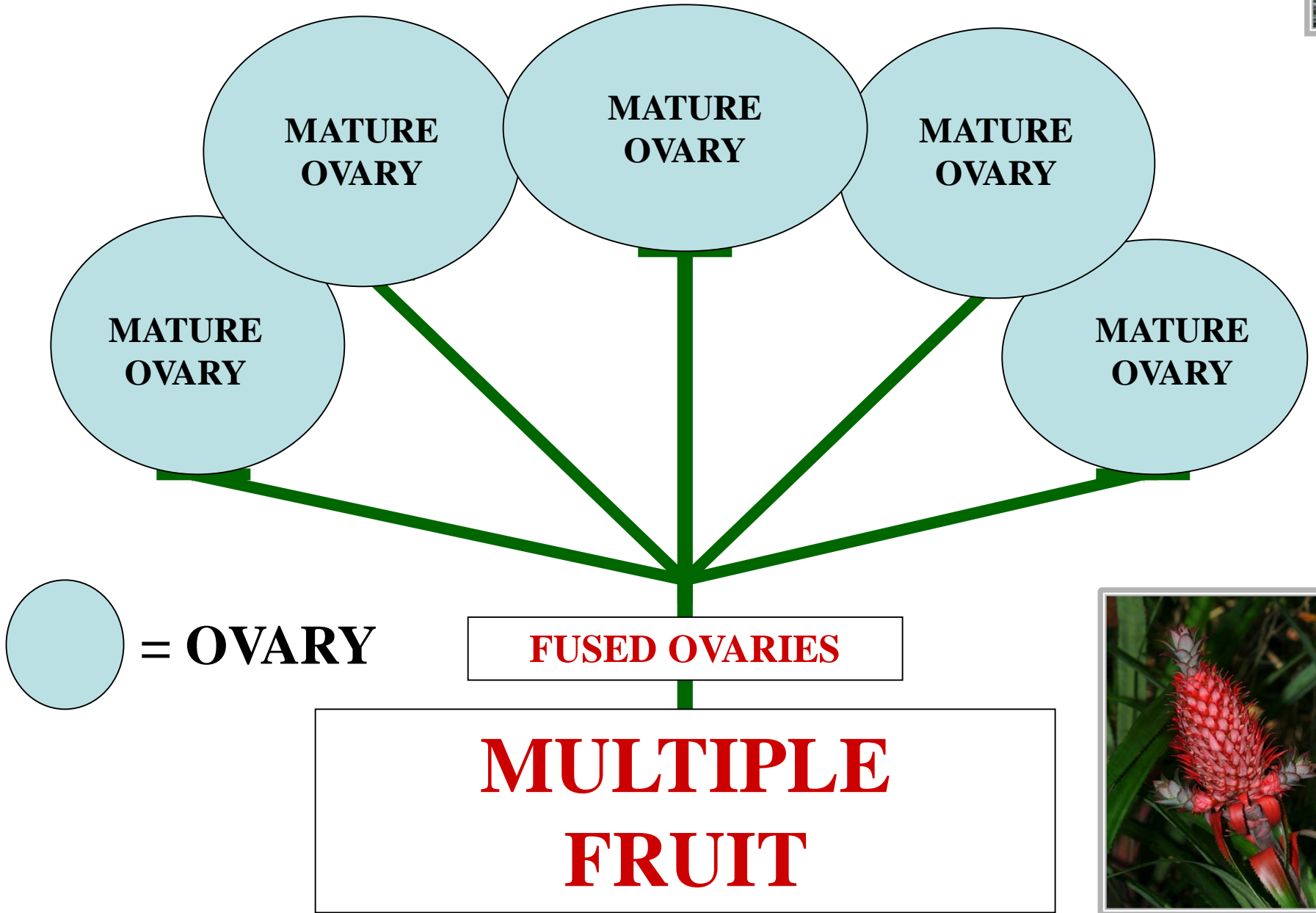


 = **OVARY**

INFLORESCENCE









MULTIPLE FRUIT



FRUIT ANATOMY

PERICARP

PERICARP

**ANGIOSPERM
FRUIT PERICARP**

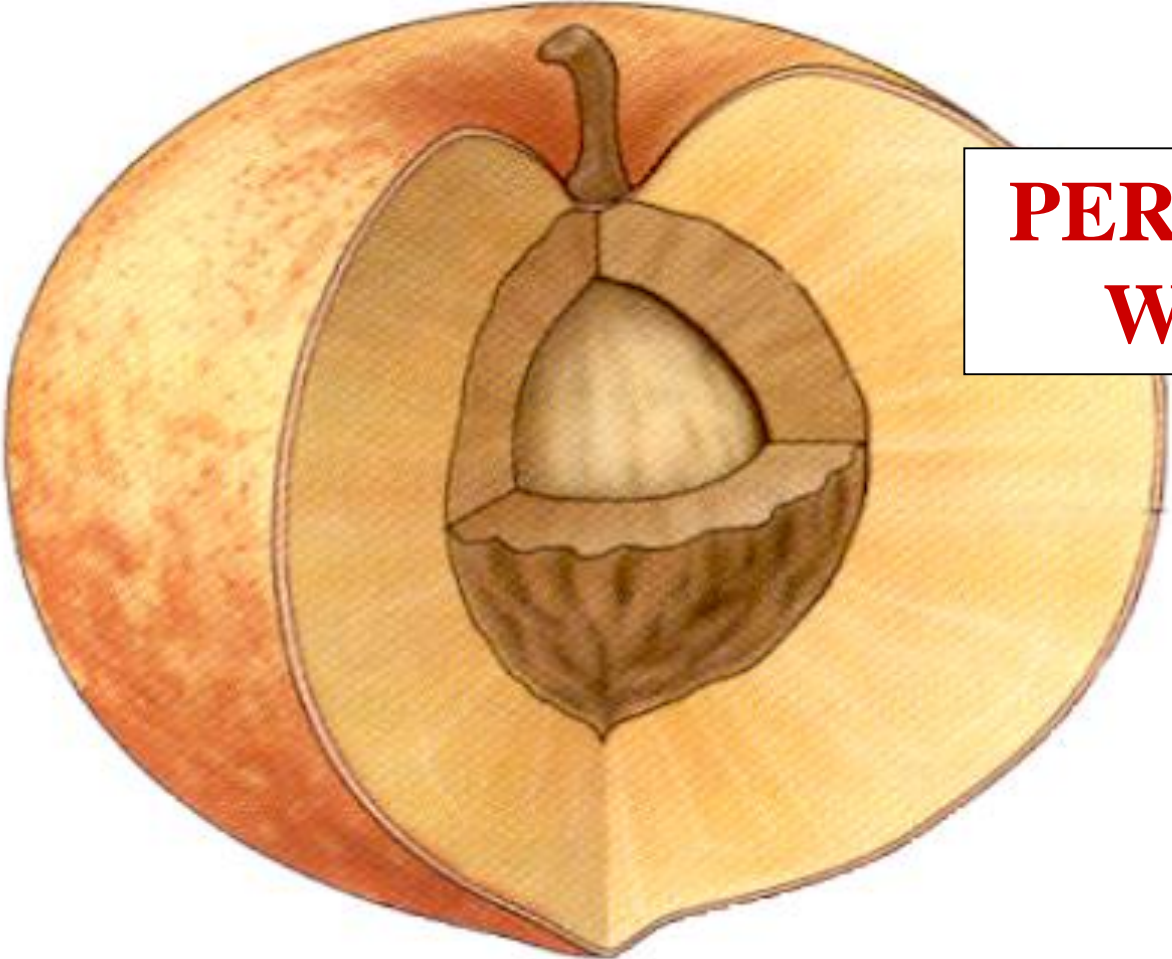


**MATURE
OVARY WALL**

**ANGIOSPERM
FRUIT PERICARP**



ANGIOSPERM FRUIT



**PERICARP
WALL**

ANGIOSPERM FRUIT

PERICARP LAYERS

EXOCARP

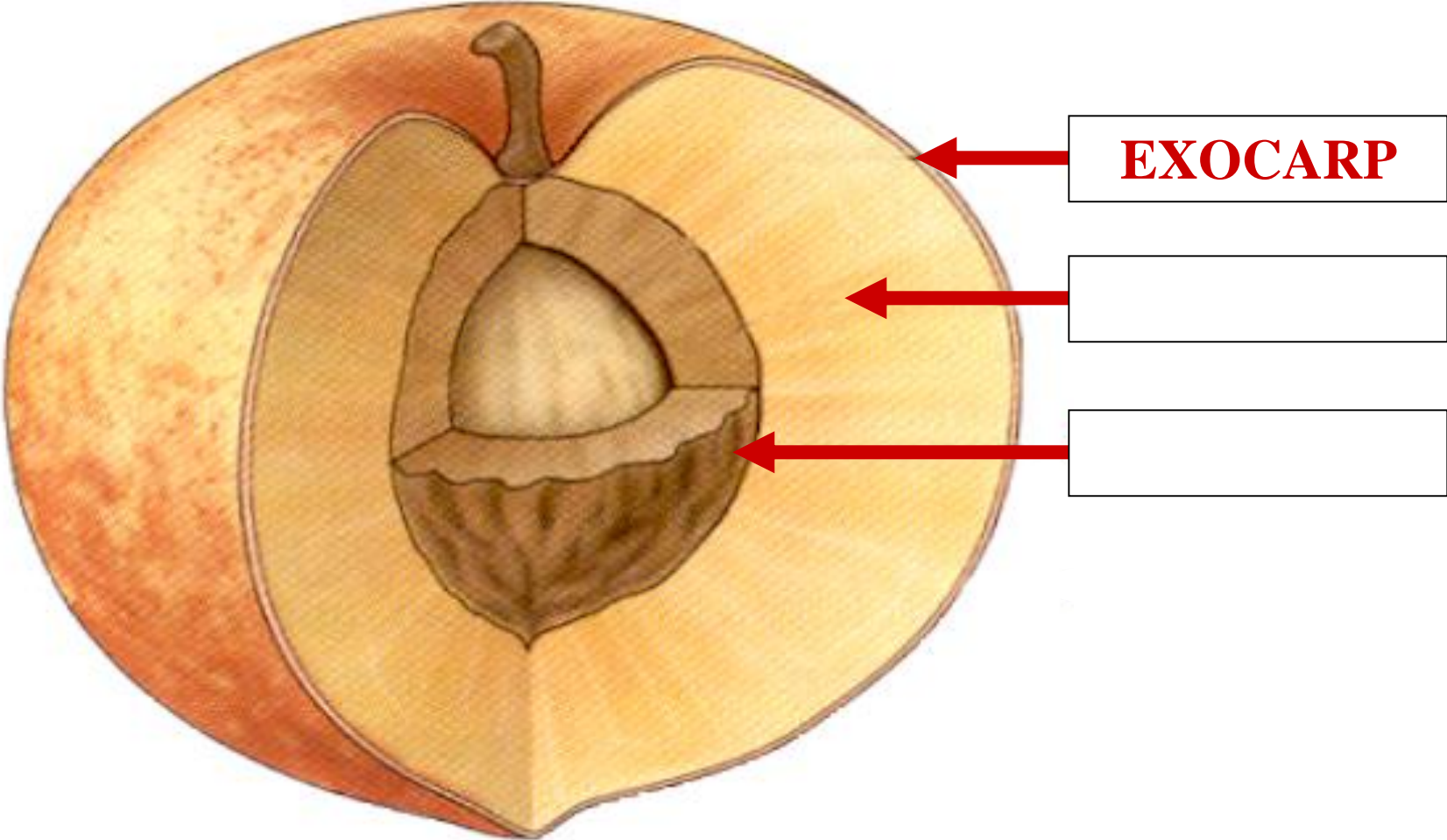
**ANGIOSPERM
PERICARP EXOCARP**



**OUTER
PERICARP LAYER**

**ANGIOSPERM
PERICARP EXOCARP**

ANGIOSPERM FRUIT



EXOCARP

PERICARP

MESOCARP

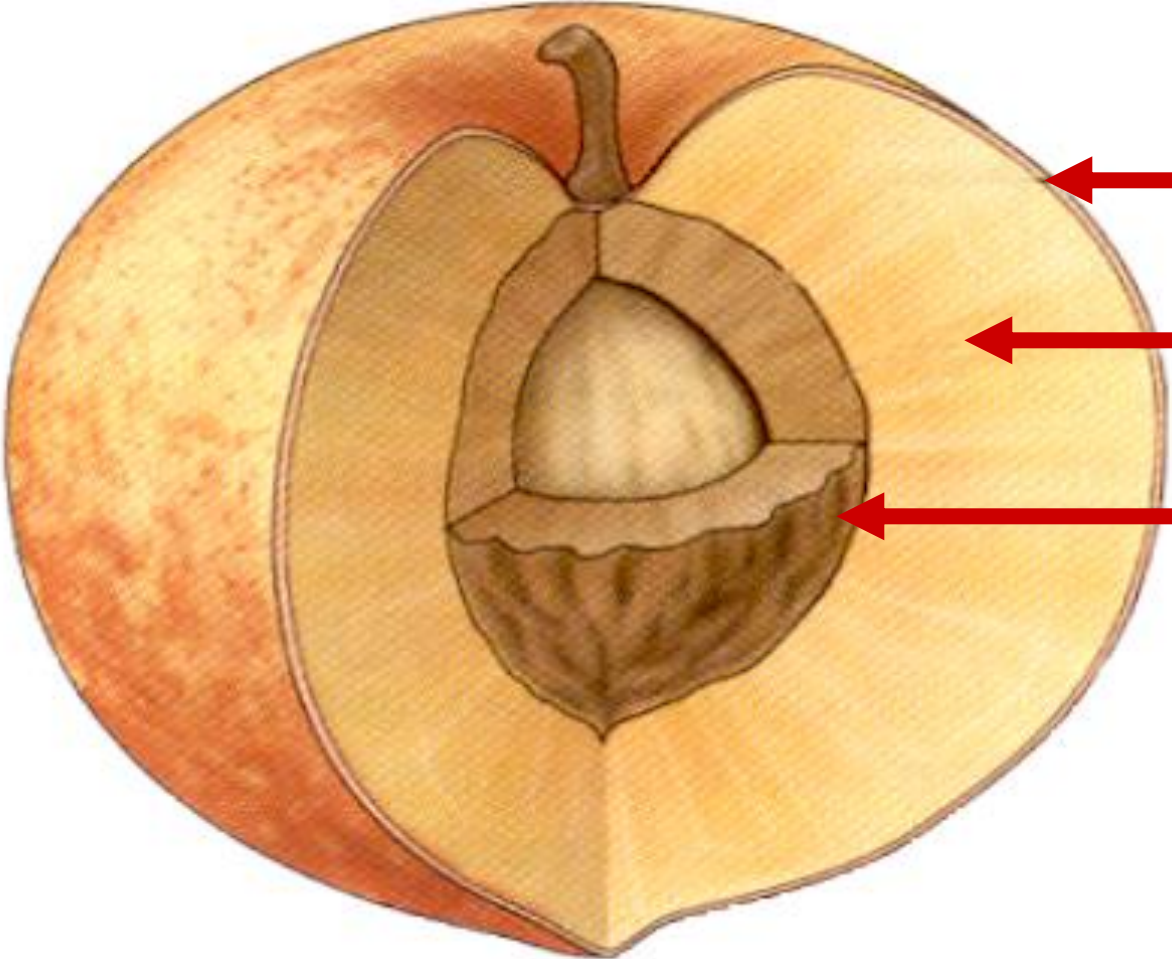
**ANGIOSPERM
PERICARP MESOCARP**



**MIDDLE
PERICARP LAYER**

**ANGIOSPERM
PERICARP MESOCARP**

ANGIOSPERM FRUIT



EXOCARP

MESOCARP

PERICARP

ENDOCARP

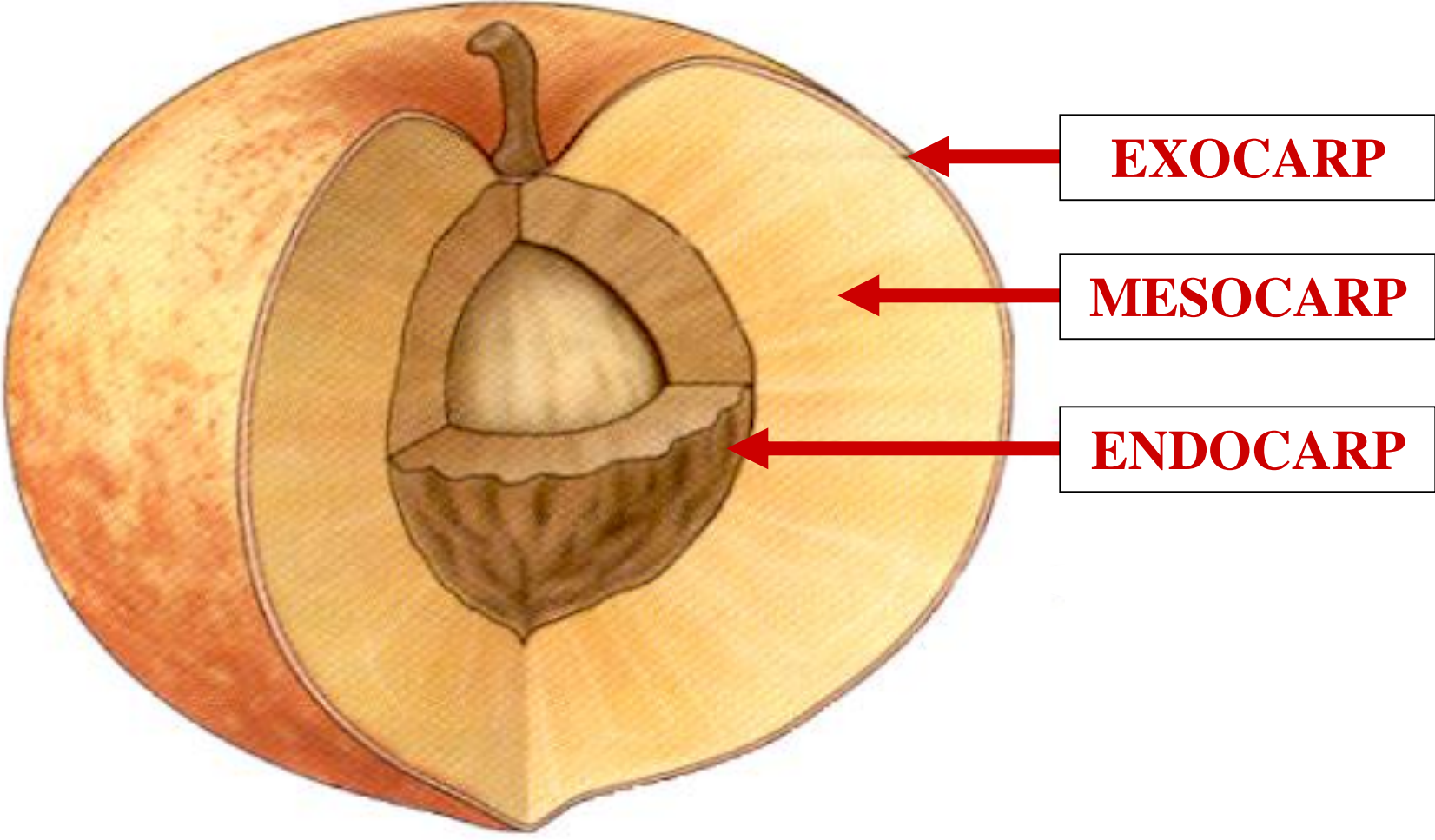
**ANGIOSPERM
PERICARP ENDOCARP**



**INNER
PERICARP LAYER**

**ANGIOSPERM
PERICARP ENDOCARP**

ANGIOSPERM FRUIT



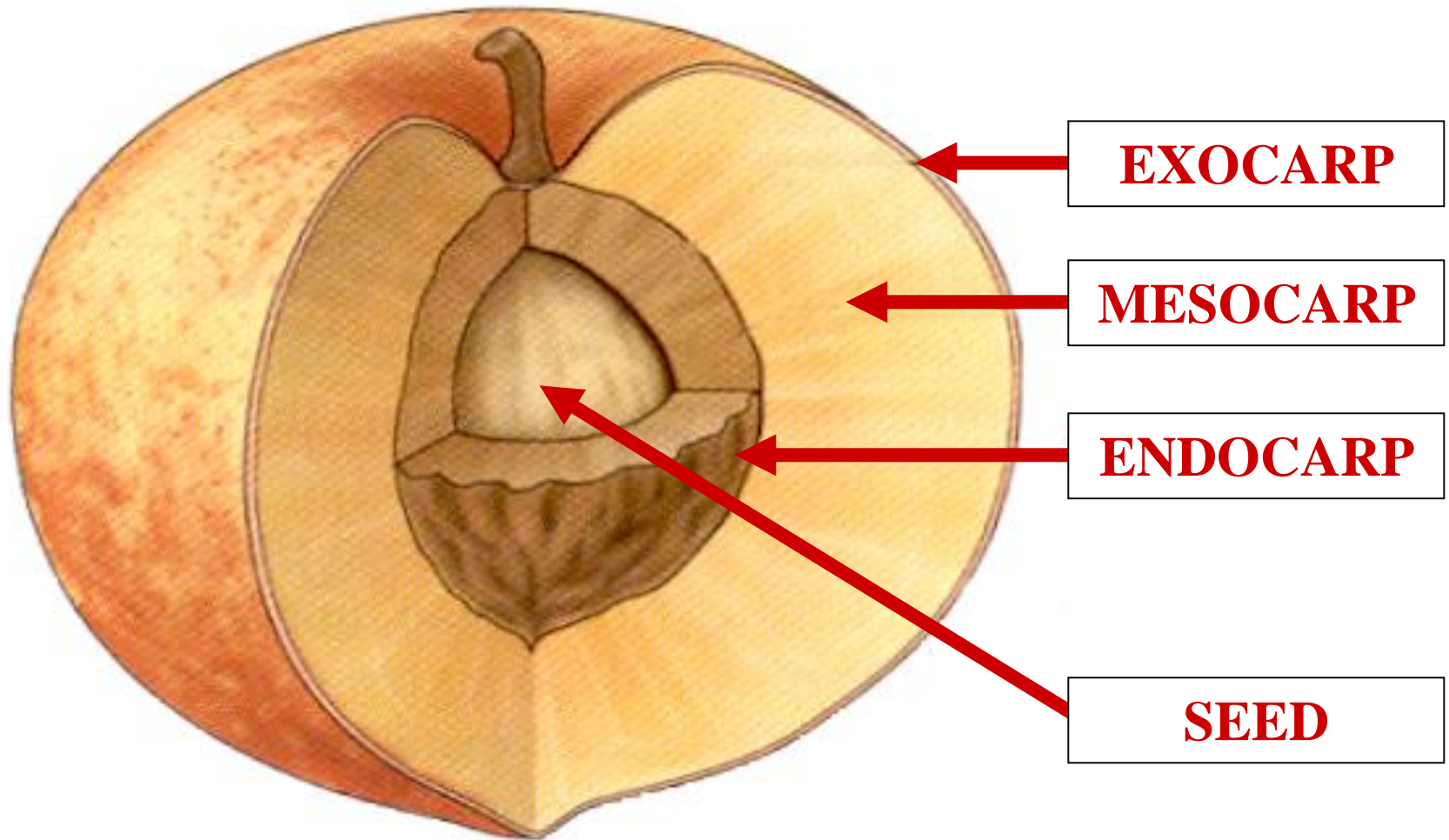
EXOCARP

MESOCARP

ENDOCARP

PERICARP

ANGIOSPERM FRUIT



EXOCARP

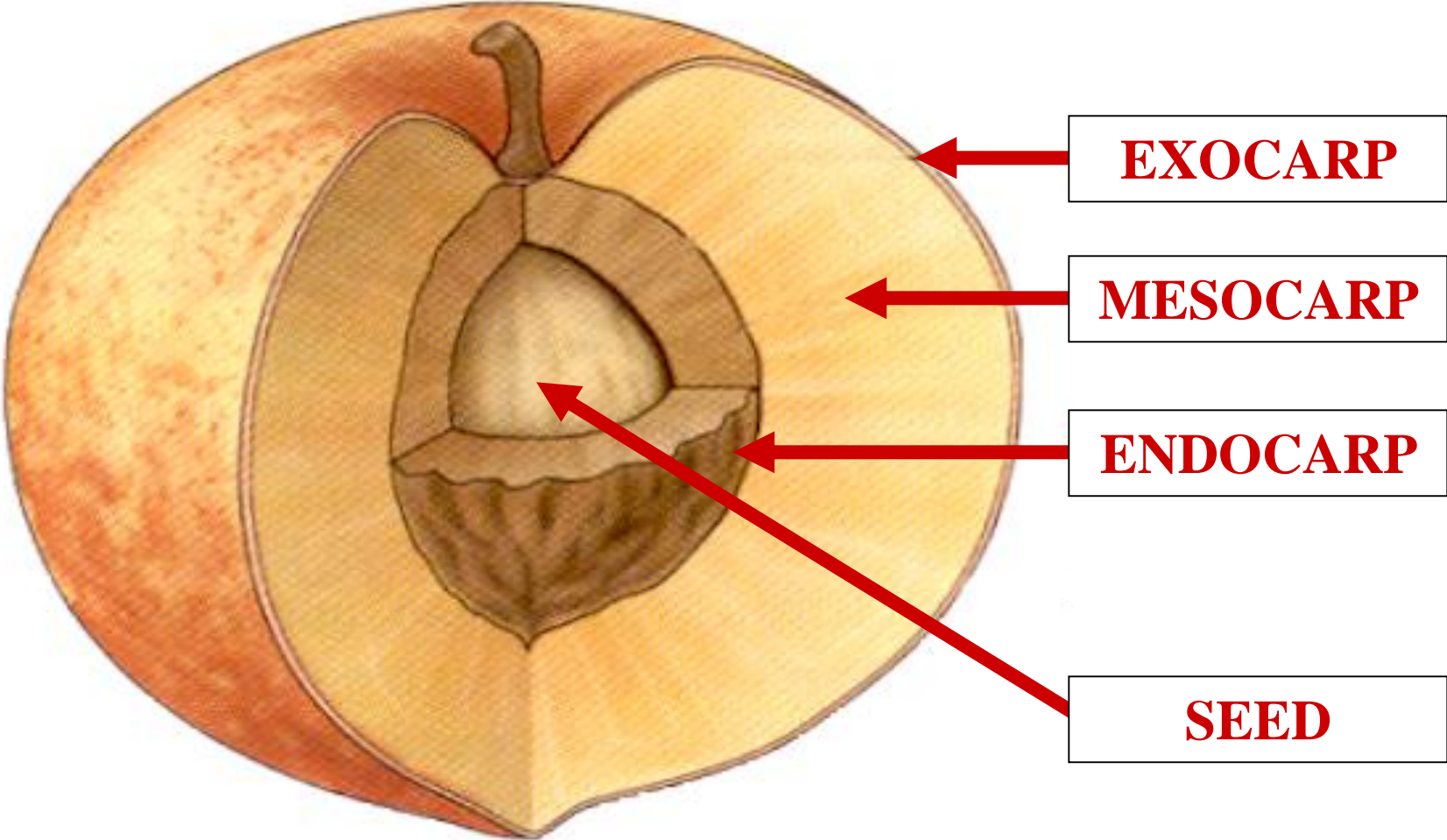
MESOCARP

ENDOCARP

SEED

PERICARP

ANGIOSPERM FRUIT



**PERICARP LAYERS
NOT ALWAYS DISCERNIBLE**



SEED



SEED MORPHOLOGY

SEED

T



TESTA

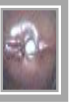
ANGIOSPERM SEED MORPHOLOGY



MATURE
INTEGUMENT

ANGIOSPERM
SEED MORPHOLOGY

SEED



TESTA





TESTA



SEED

R

RAPHÉ

ANGIOSPERM SEED MORPHOLOGY



TESTA RIDGE

ANGIOSPERM SEED MORPHOLOGY



TESTA



SEED

H

RAPHE

RAPHE

HILUM SCAR

**ANGIOSPERM
SEED MORPHOLOGY**



HILUM SCAR

=

FUNICULUS SCAR

**ANGIOSPERM
SEED MORPHOLOGY**