

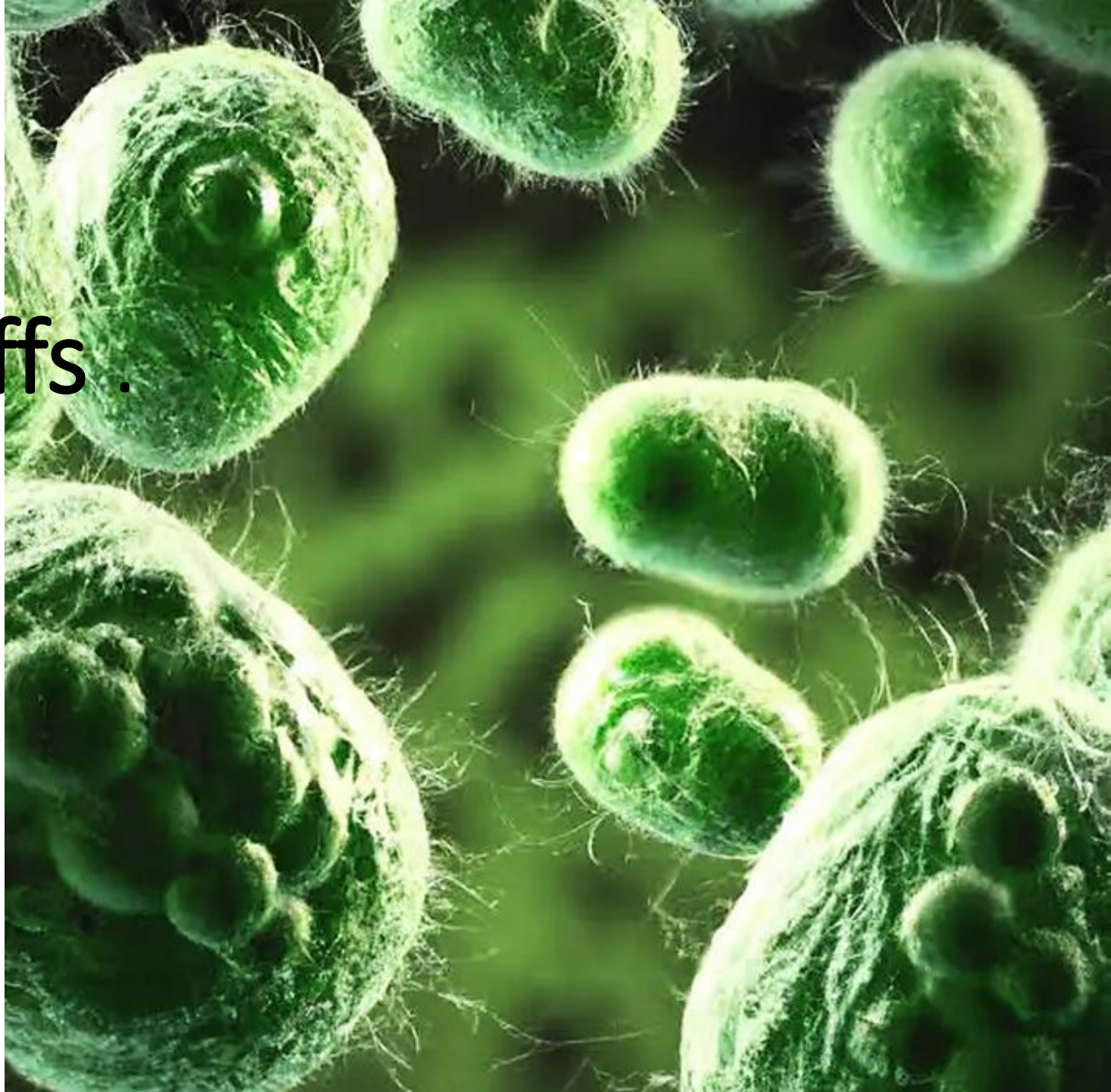
Animal feedingstuffs .

Lesson N°2

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Les organismes cellulaires, se distinguent entre

- procaryotes et eucaryotes.
- Les **procaryotes** sont unicellulaires
- leur matériel génétique n'est pas enfermé dans un noyau.
- se reproduisent par fission binaire
- constituent le premier règne.
- (algues bleu-vert (cyanophycea) et bactéries)



Les eucaryotes

- Lycophytes are a group of primitive, flowerless vascular plants characterized by microphylls (small single-veined leaves) and epidos. They come from a long evolutionary lineage, but many tree species are now extinct, the group being mainly represented by small grasses nowadays.

Caractéristiques principales

- Vascular planted: Unlike mosses, they have roots and sap-conducting tissues.
- Microphylls: They are characterized by small, single-veined leaves, often without a petiole.
- Dichotome branching: The stem divides into two branches of the same or different length.
- Spore Reproduction: Like ferns, they reproduce by spores, not seeds.
- Strobiles: They often produce spikes with sporangia called strobiles.

- Pteridophytes
- Main characteristics: This is a larger group that includes lycophytes, but it is mainly synonymous with ferns and horsetails. They have more elaborate leaves, called macrophylls, which can be very jagged (fronds).
- Examples: Ferns, horsetails (sphenophytes).
- Structure: Fern leaves, fronds, are often curled into a crook when young. Sporangia are usually grouped in sori on fronds or in strobiles.

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- Developing fern leaf



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- Fern plant



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Field horsetail



Horsetail (




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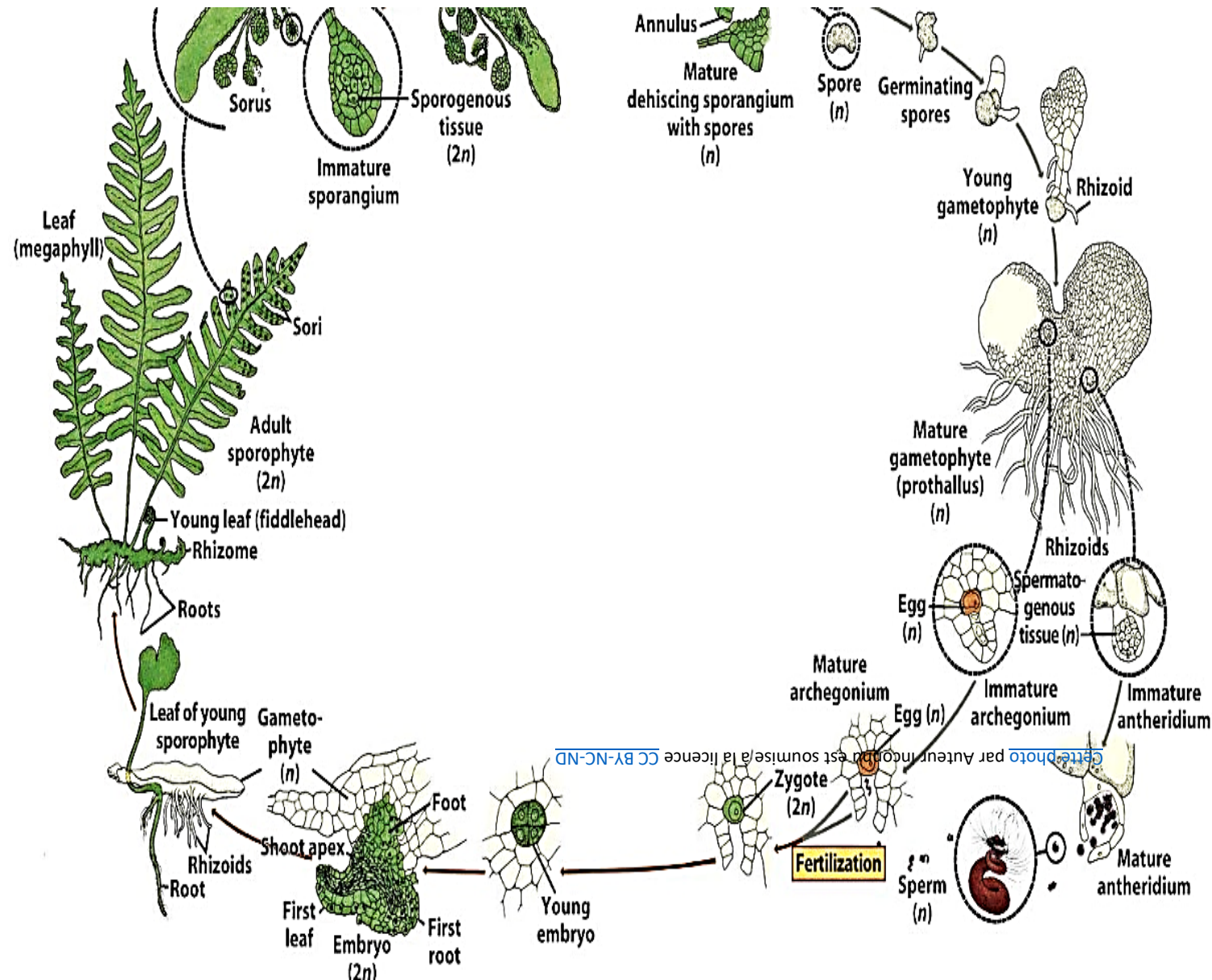
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lycophytesVs Pteridophytes

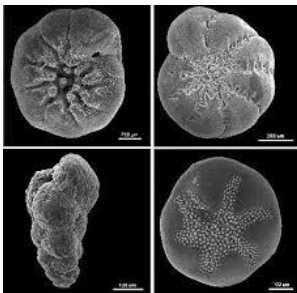
Lycophytes and pteridophytes are groups of vascular plants that reproduce by spores. Although they share this characteristic, their evolutionary relationship and certain morphological traits distinguish them.

Caractéristique 	Lycophytes	Ptéridophytes (fougères et prêles)
Feuilles	Possèdent des microphylls , de petites feuilles avec une seule nervure non ramifiée. Elles sont sessiles et souvent disposées en spirale sur les tiges.	Possèdent des macrophylls (frondes chez les fougères), des feuilles plus grandes avec un réseau de nervures complexe. Certaines espèces, comme les prêles, ont des feuilles réduites.
Racines et tiges	Le système racinaire est adventif (ne provient pas d'une radicule embryonnaire). Les tiges se ramifient de manière dichotomique (en deux).	Possèdent de vraies racines et des tiges (souvent des rhizomes souterrains).
Système vasculaire	Possèdent des tissus vasculaires (xylème et phloème) pour transporter l'eau et les nutriments, bien que leur arrangement soit plus primitif (protostèle).	Possèdent des tissus vasculaires plus développés, comme la siphonostèle.
Diversité	Moins diversifié, avec environ 1 250 espèces vivantes, comprenant les lycopodes, les sélaginelles et les isoètes.	Très diversifié, comprenant les fougères (le groupe le plus grand) et les prêles.

- Life cycle of lycophytes and pteridophytes
- Is characterized by alternating generations, with a dominant sporophyte phase (diploid) and a gametophyte phase (haploid). Reproduction requires the presence of water so that the male gametes (antherozoa) can swim to the female gametes (oospheres).



- All other organisms are called eukaryotes.
- Their genetic material is enclosed in a nucleus,
- they have cellular organelles,
- Cell division occurs by mitosis.
- Eukaryotes can be unicellular or multicellular.
- Single-celled eukaryotes are called protists and form the second kingdom.
- Multicellular eukaryotes are divided into three kingdoms:
- fungi, plants and animals.



PROCARYOTE

EUCARYOTE

BACTERIES

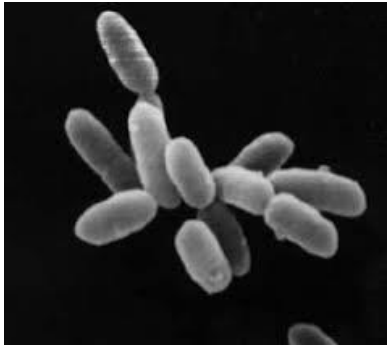
ARCHEES

CHAMPIGNONS

ANIMAUX

PLANTES

PROTISTES (unicellulaire)



RÈGNE VÉGÉTAL

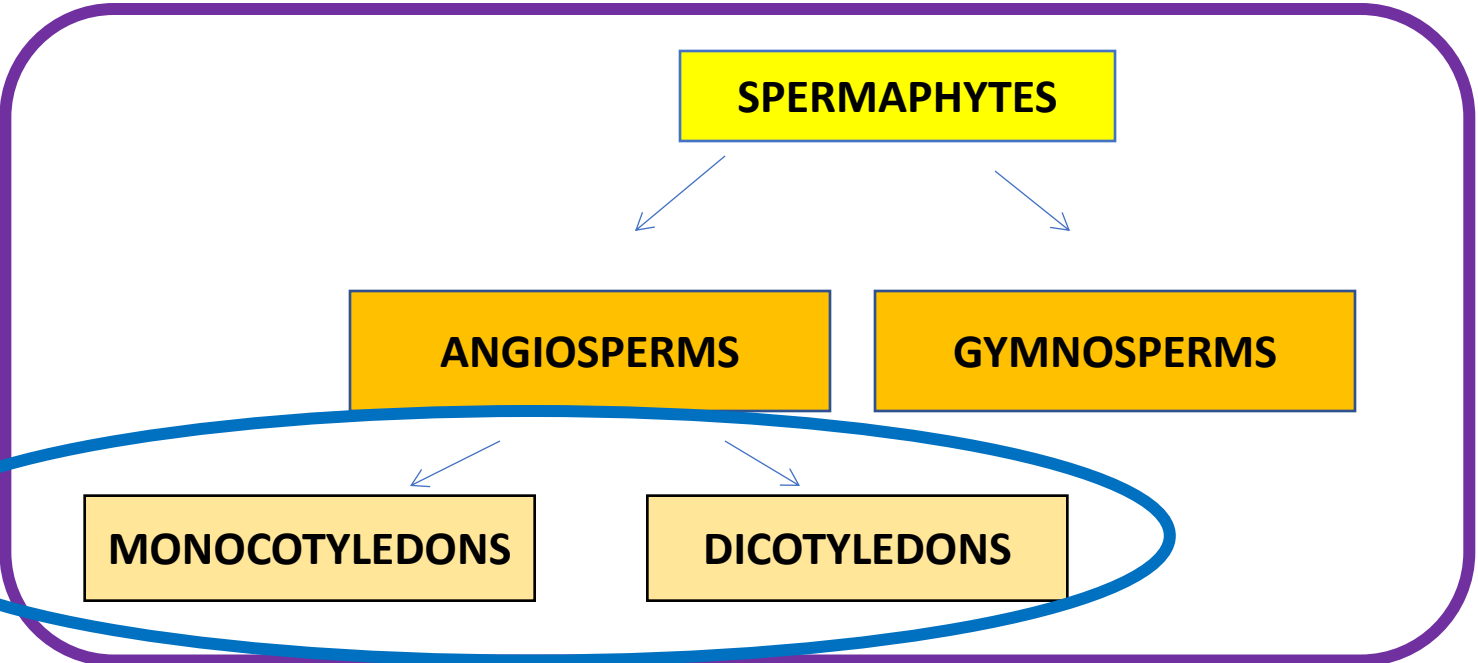
THALLOPHYTES

CORMOPHYTE

- ALGUES
- MYCÈTES
- LICHENS

BRYOPHYTES

PTERIDOPHYTES



C'est ce qui nous intéresse dans l'alimentation du bétail

spermaphytes

Spermatophytes (seed plants) are divided into two subgroups: angiosperms and gymnosperms.

Angiosperms include flowering plants, which are the plants that produce fruit. [fruit =The fruit, in botany, is the plant organ containing one or more seeds. Characteristic of the Angiosperms, it succeeds the flower by transformation of the pistil. The wall of the ovary forms the pericarp of the fruit and the ovule gives the seed].

Angiosperms represent the largest group of terrestrial plant species, they include two main classes:
(dicotyledons) and (monocots).

Angiosperms differ from other plants in the following characteristics:

The condensation of the reproductive organs into a flower,

The presence of an ovary surrounding the eggs, which then develops into a fruit,

Double fertilization of the egg, resulting in the formation of both the embryo and its nutritive tissue, the endosperm (albumen).