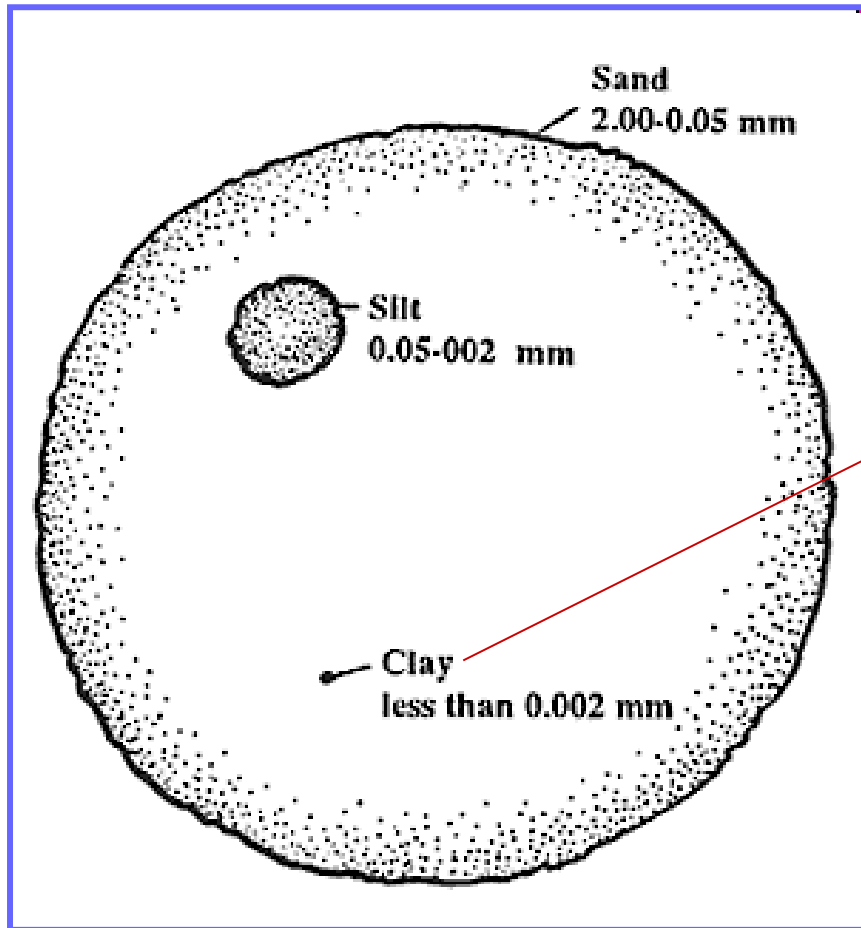


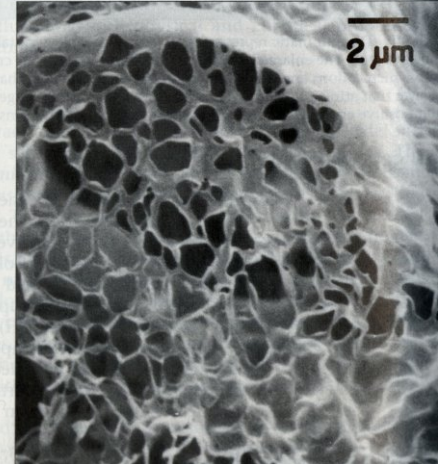
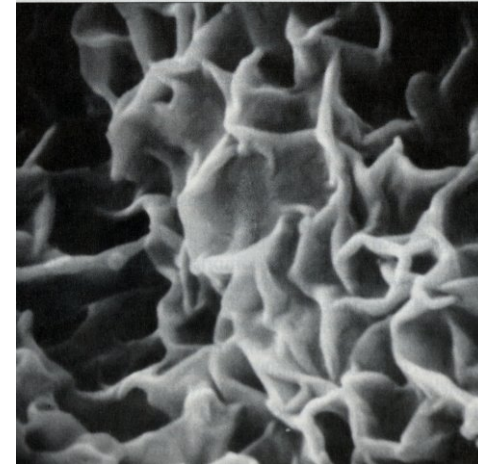
El ambiente físico del suelo (continuación)



(a)



(b)



Distribución tamaño de partículas (textura)

Soil texture: Sand

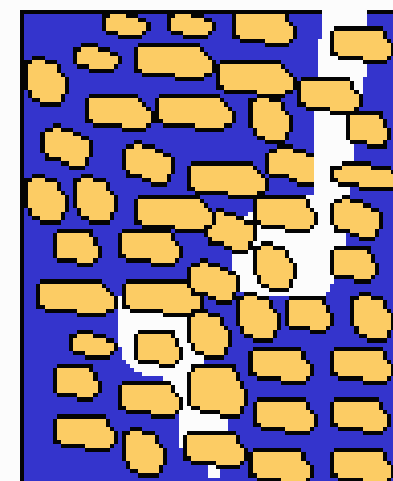
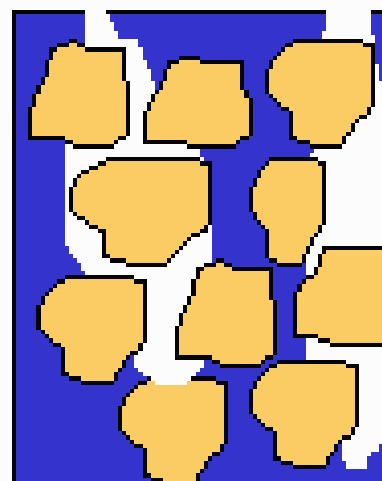
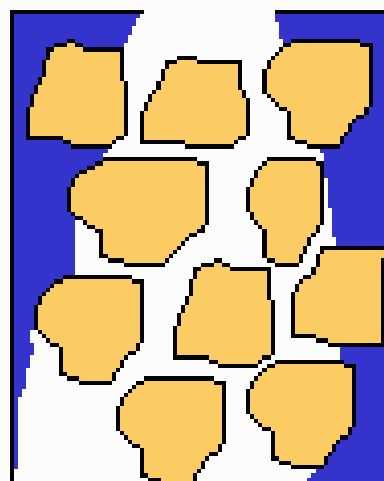
Silt

Clay

Size [mm]: 0.05 - 2

0.002 - 0.05

≤ 0.002



Macropores

+++

++

(+)

Medium-sized p.

++

++

++

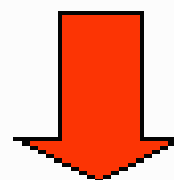
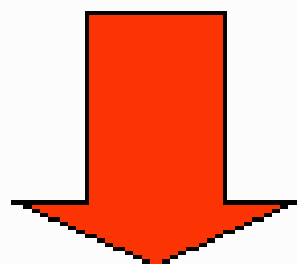
Micropores

(+)

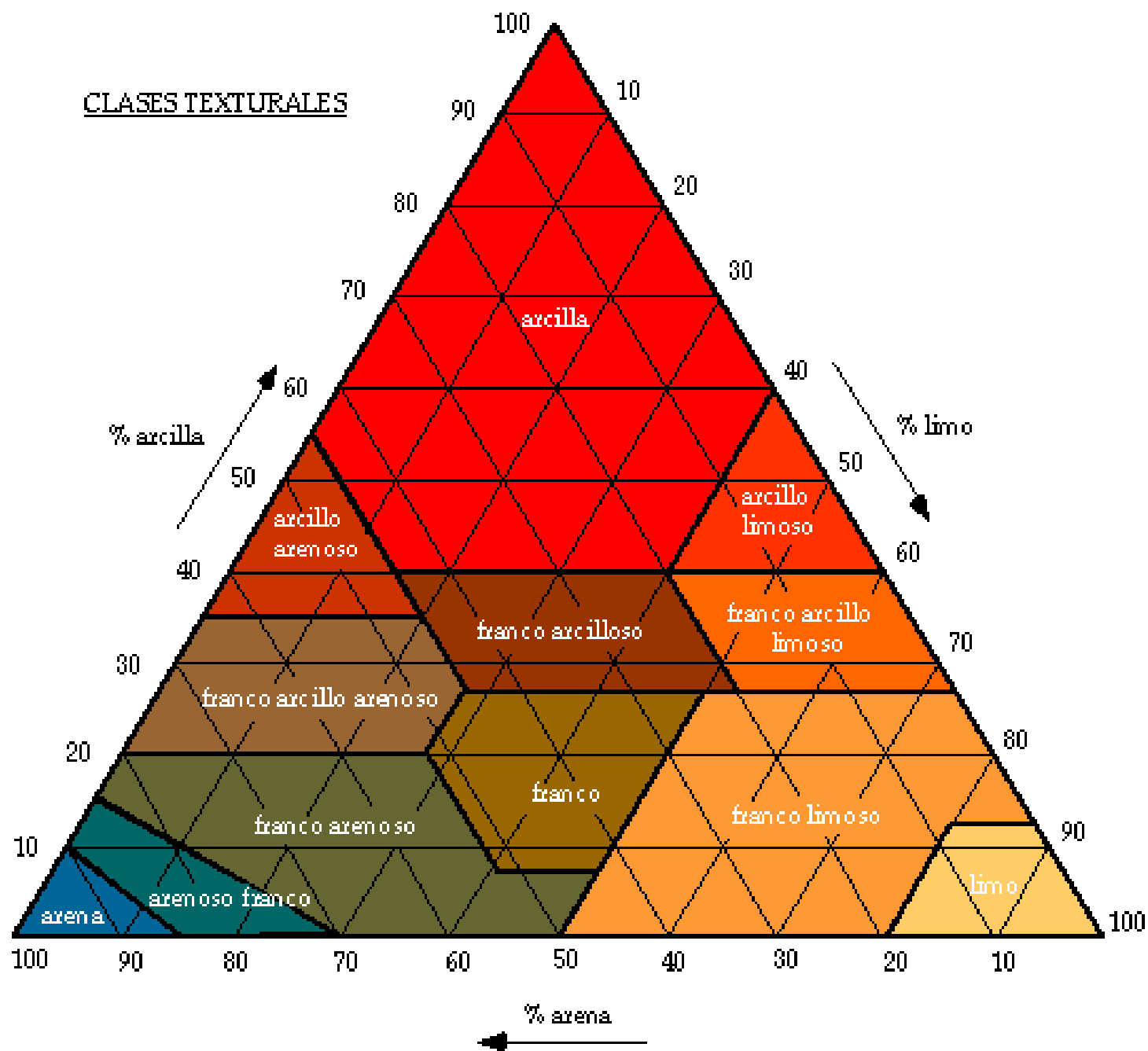
++

+++

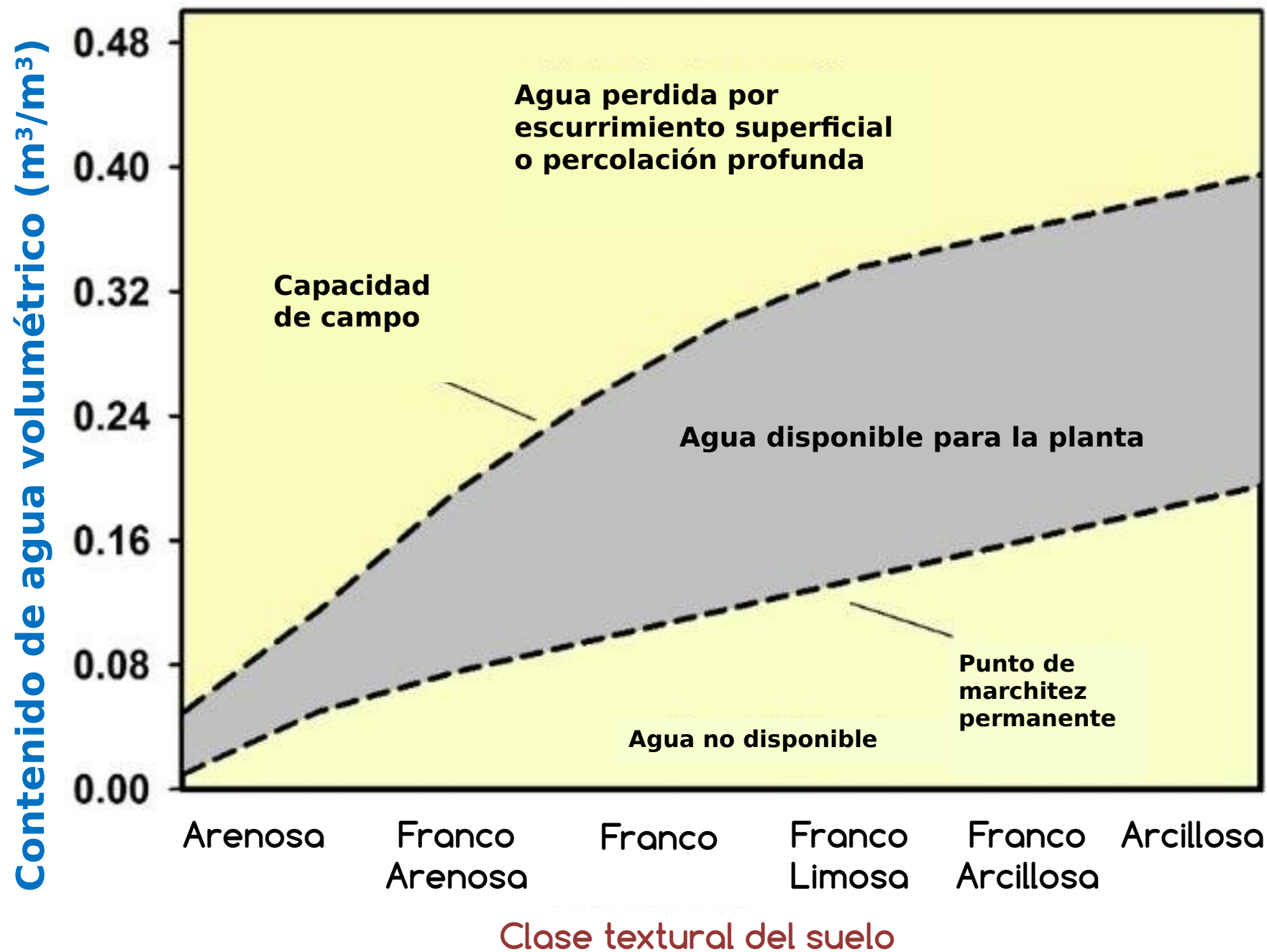
Percolation:



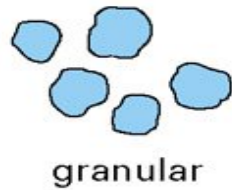
Leaching:



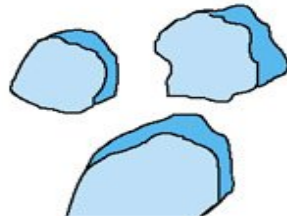
Las clases texturales



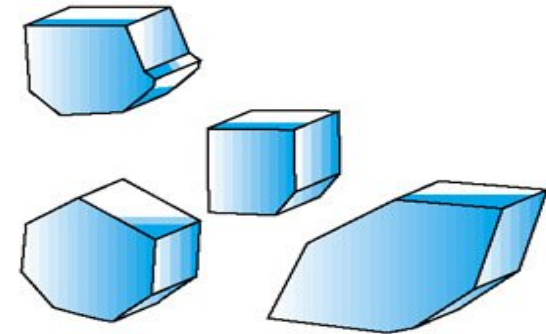
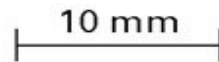
Estructura: Forma en como se combinan las partículas minerales en agregados naturales



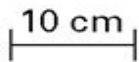
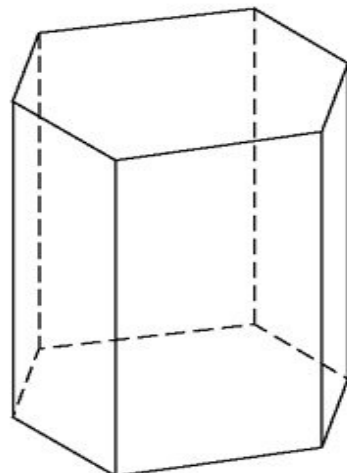
granular



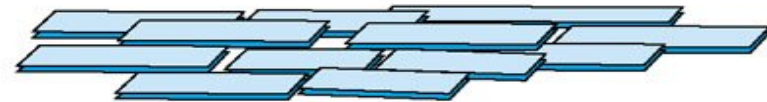
Bloques subangulares



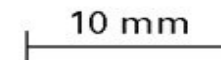
Bloques angulares



Prismática



Laminar



Spheroidal

Characteristic of A horizons. Subject to wide and rapid changes. Closely related to soil organic matter.

Granular
(porous)



Crumb
(very porous)



Platelike

Common in E horizons, may occur in any part of the profile. Often inherited from parent material of soil, or caused by compaction.



Blocklike

Common in B horizons, particularly in humid regions. May occur in A horizons.

Angular blocky



Subangular blocky



Prismlike

Usually found in B horizons. Most common in soils of arid and semiarid regions.

Columnar
(rounded tops)

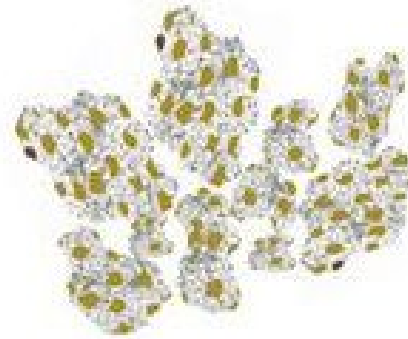


Prismatic
(flat, angular tops)

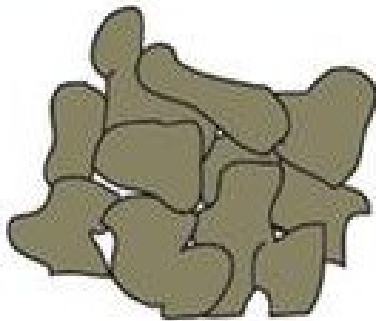




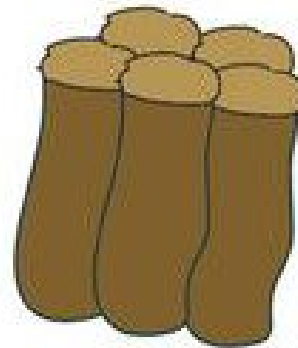
Granular (high permeability)



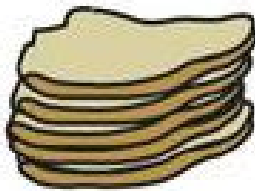
Aggregated (high permeability)



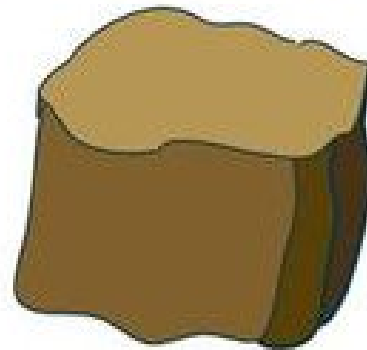
Blocky (moderate permeability)



Columnar/prismatic (moderate permeability)



Platey (low permeability)



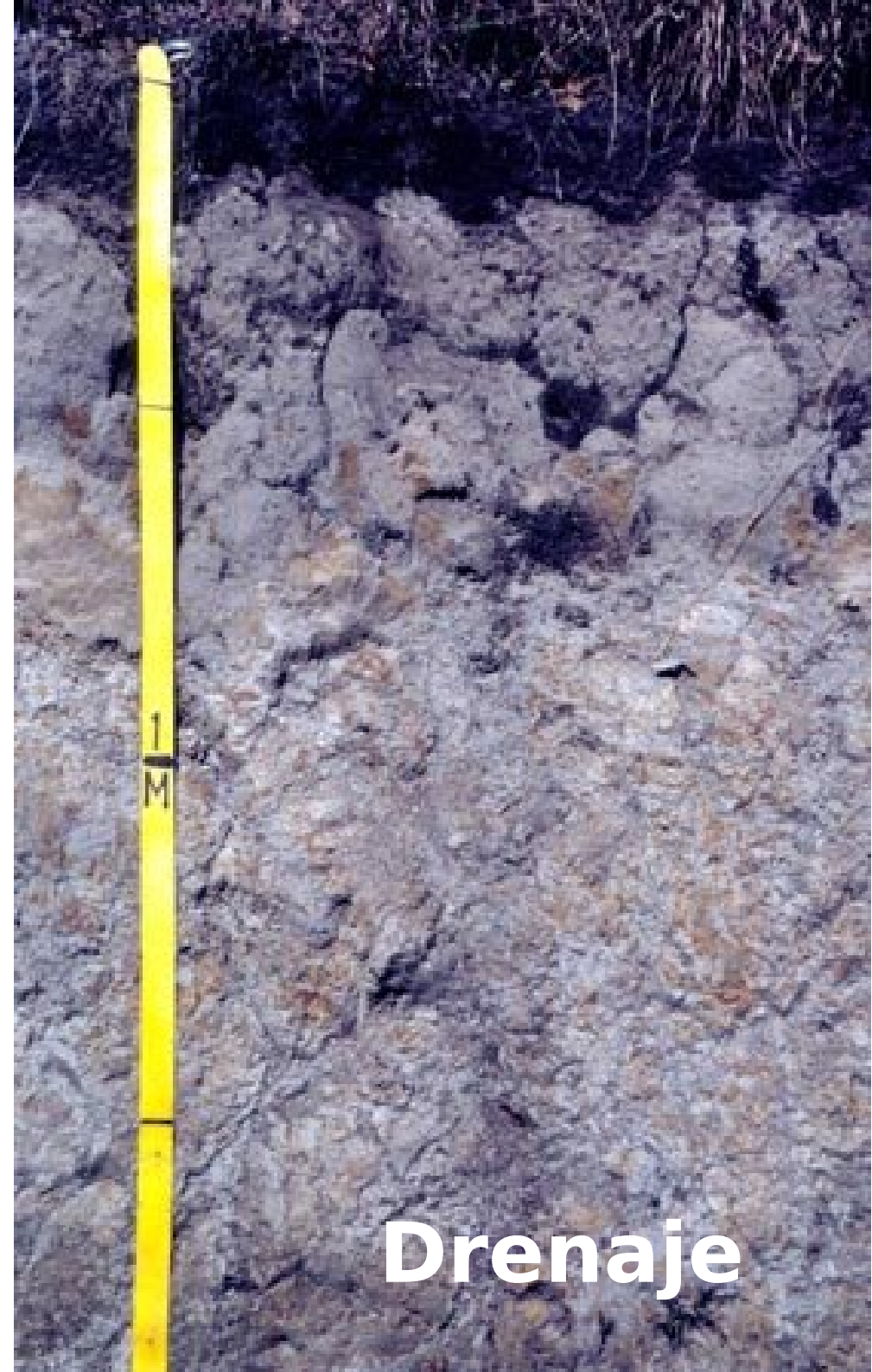
Massive (low permeability)

Relevancia de la estructura del suelo:

- Movimiento y capacidad de retención de agua del suelo
- Reacciones químicas ocurren en las superficies
- Cargas eléctricas asociadas con la superficie
- Resistencia a la destrucción (erosión)

Color:





Drenaje



Densidad aparente y real

Distribución tamaño de poros 0-3 cm de profundidad

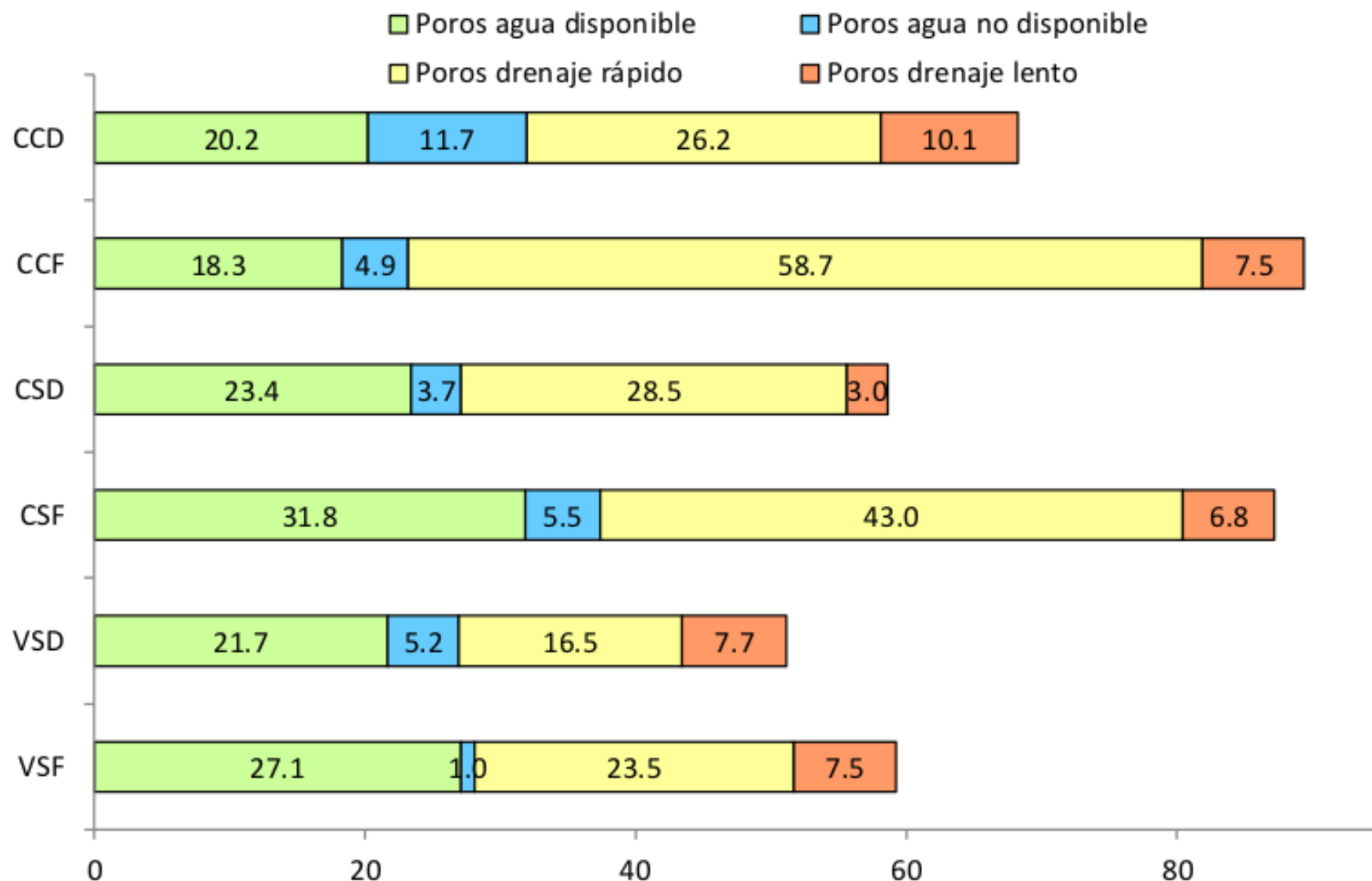


Figura 8. Distribución del tamaño de poros, para los sitios con y sin alteración en los Parques Nacionales Conguillío y Villarrica en zona de acampar y senderos.

Zona de acampar Los Ñirres

Zona de sendero Las Araucarias

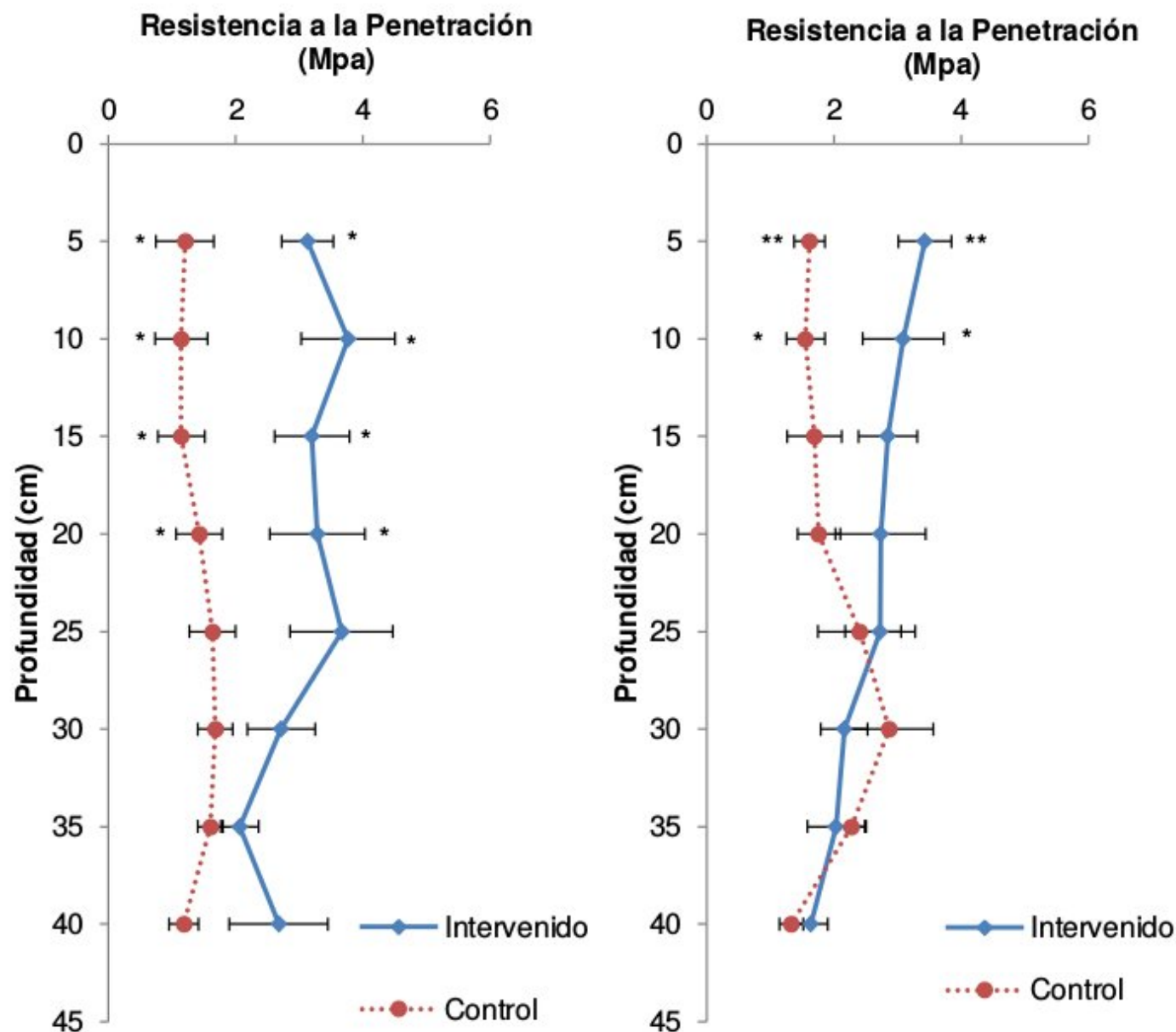
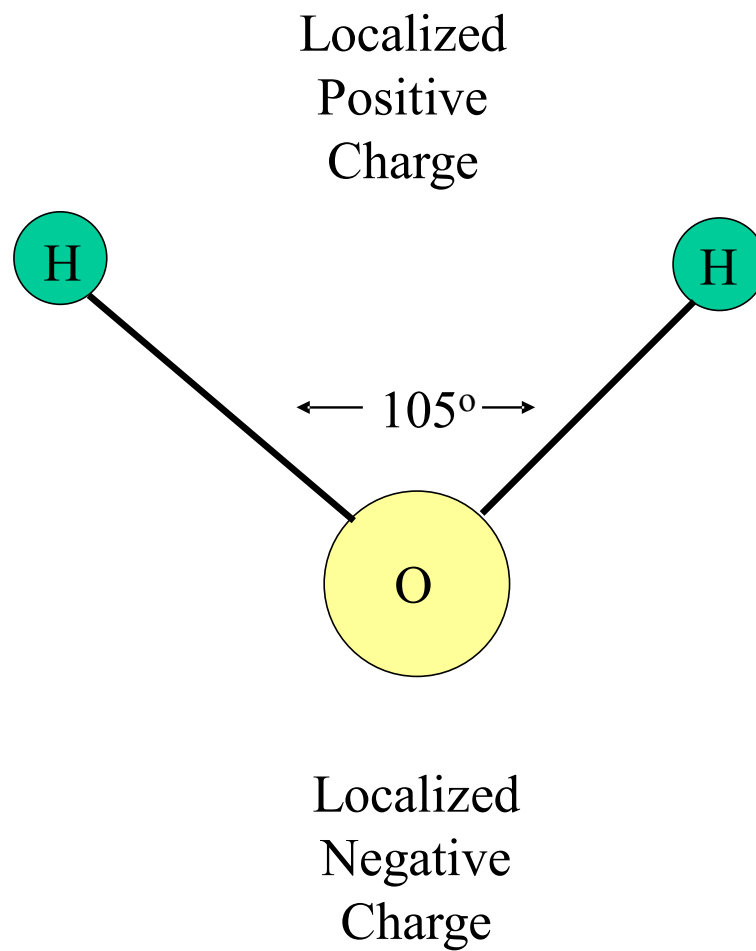


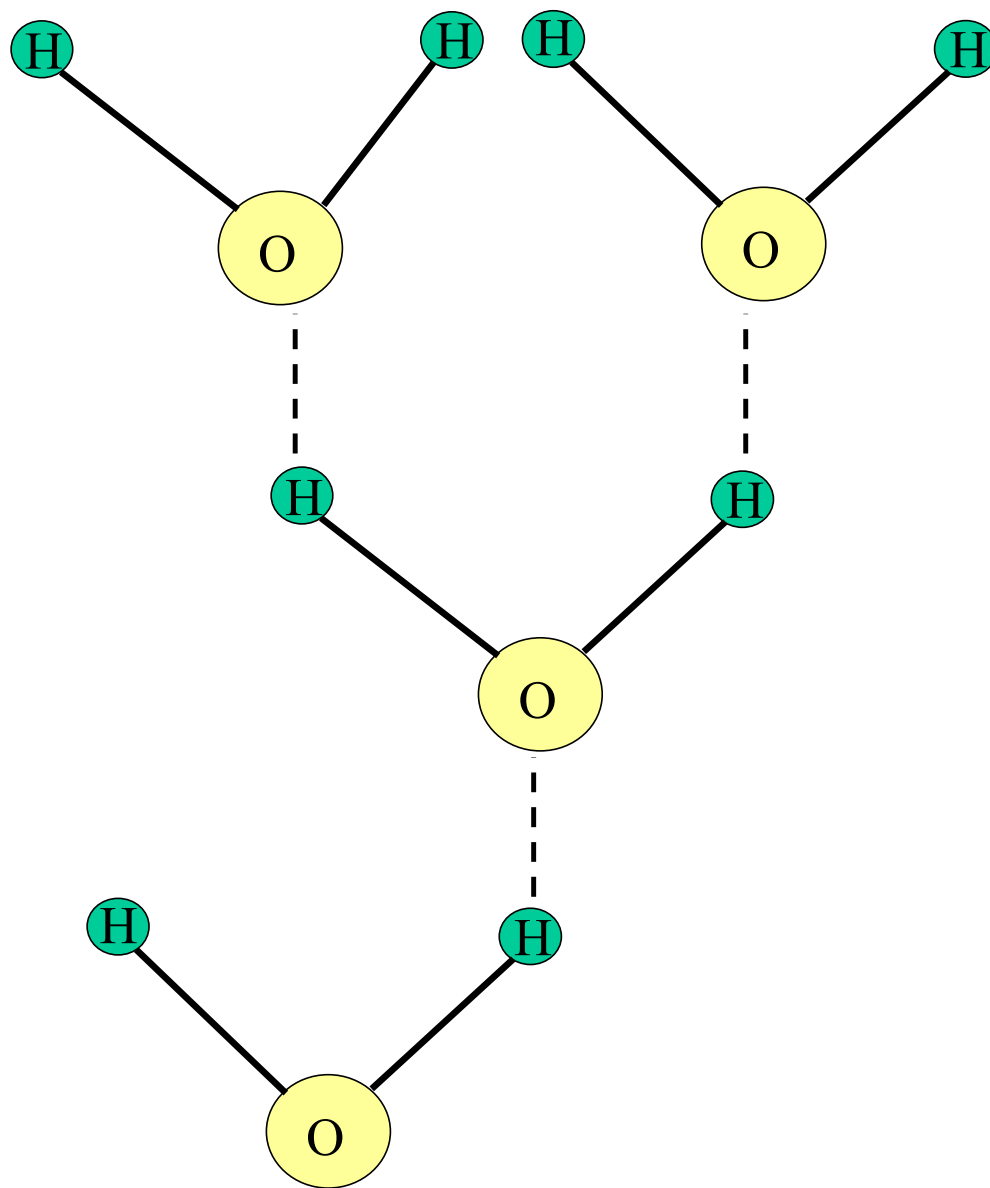
Figura 6. Valores de RP hasta los 40 cm de profundidad en intervalos de 5 cm en las dos áreas de estudio del Parque Nacional Conguillío. (*) Valor de significancia 0,05, (**) Valor de significancia 0,01.

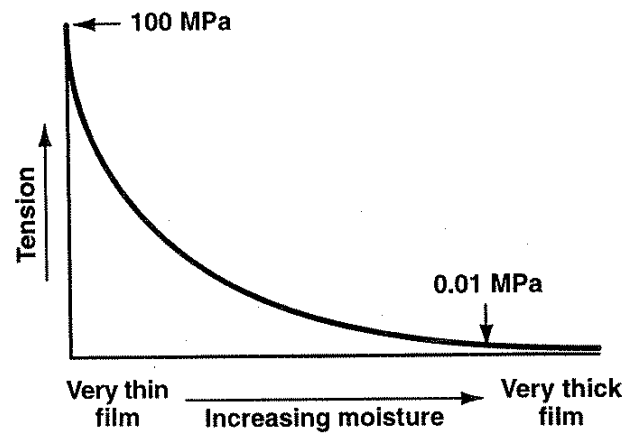
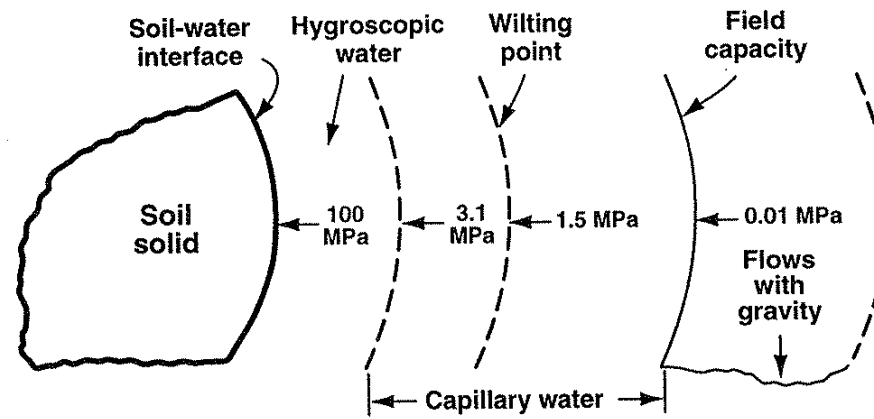
El agua en el suelo

Physical Properties of Water

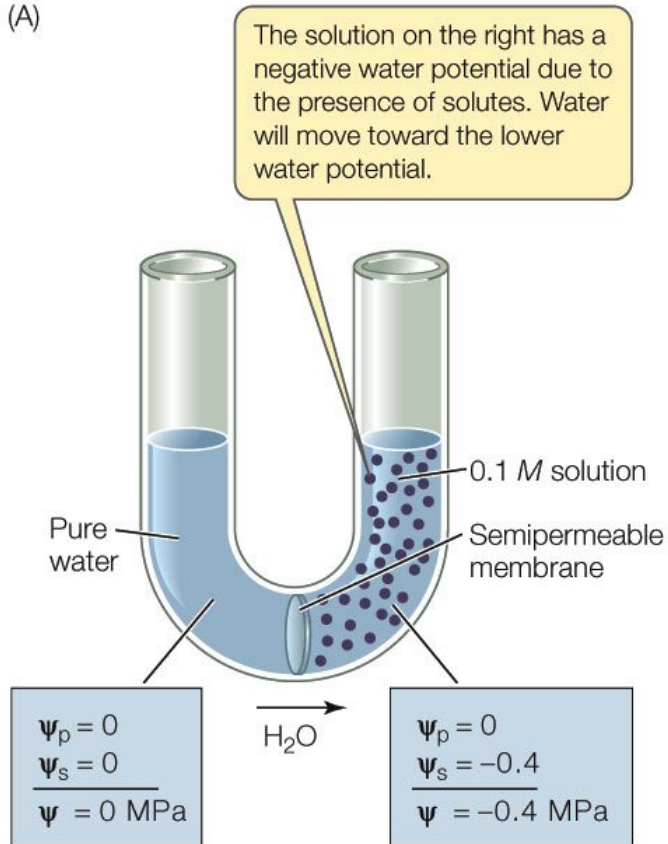


Hydrogen Bonding

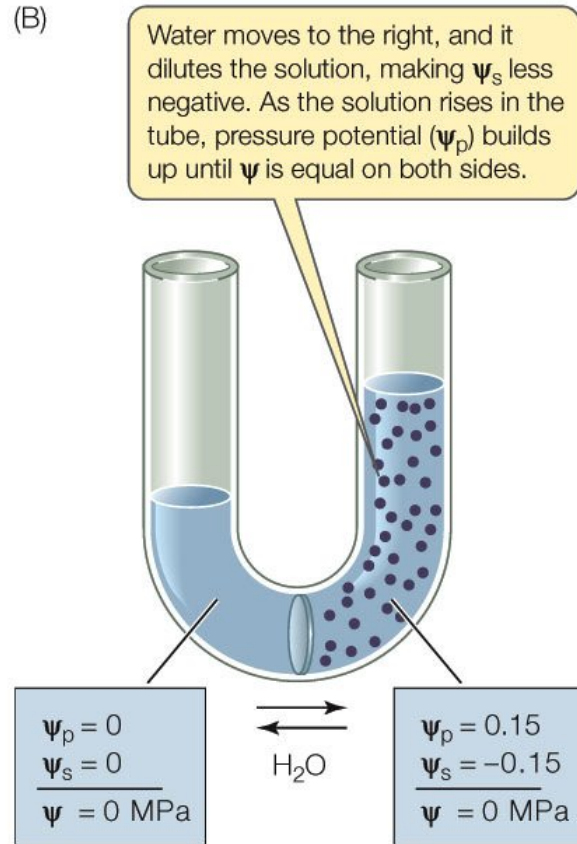




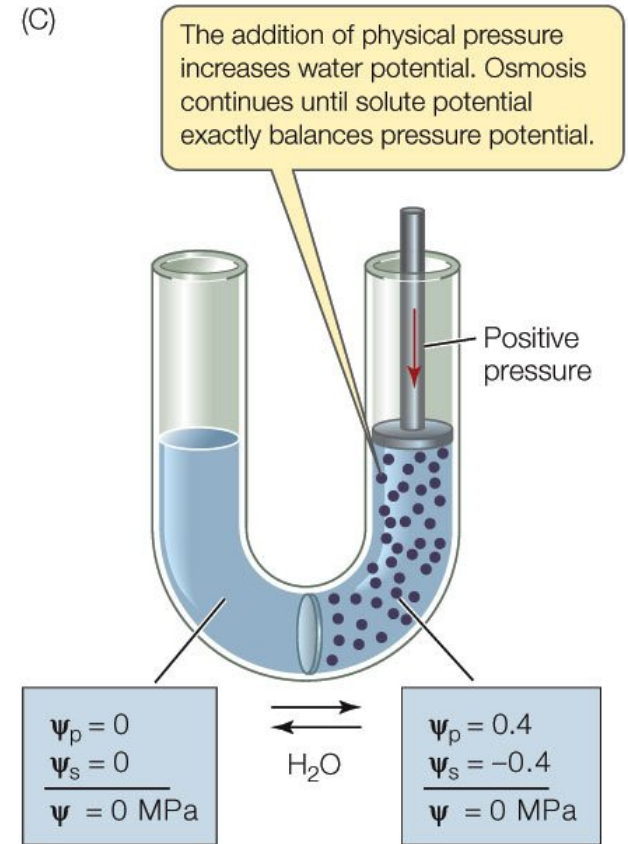
(A)



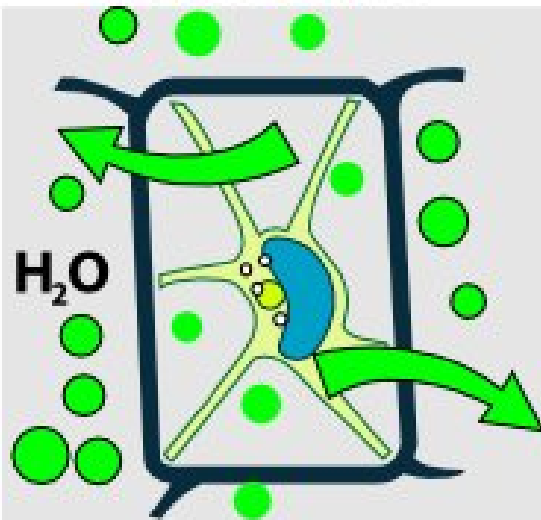
(B)



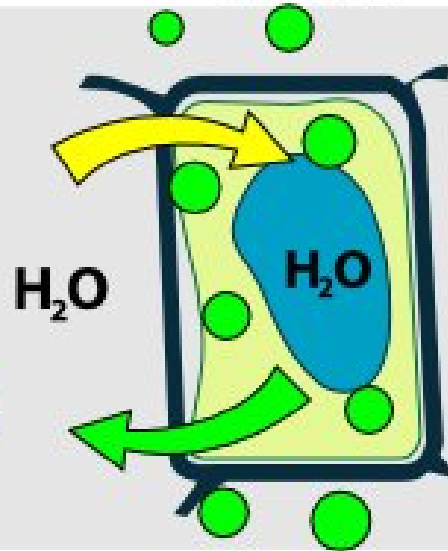
(C)



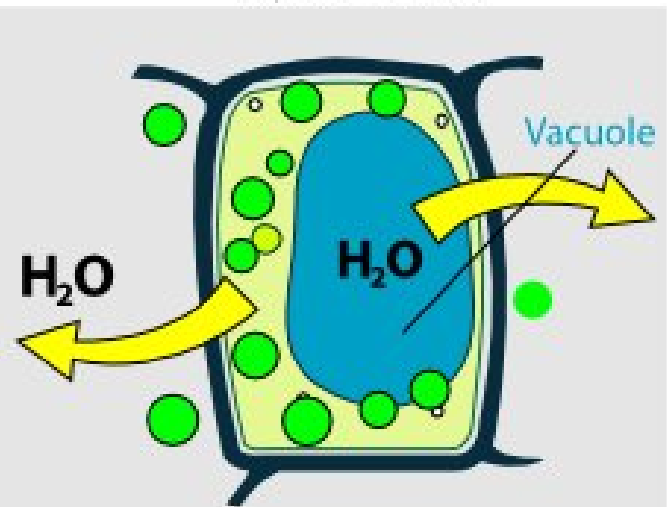
Hypertonic



Isotonic

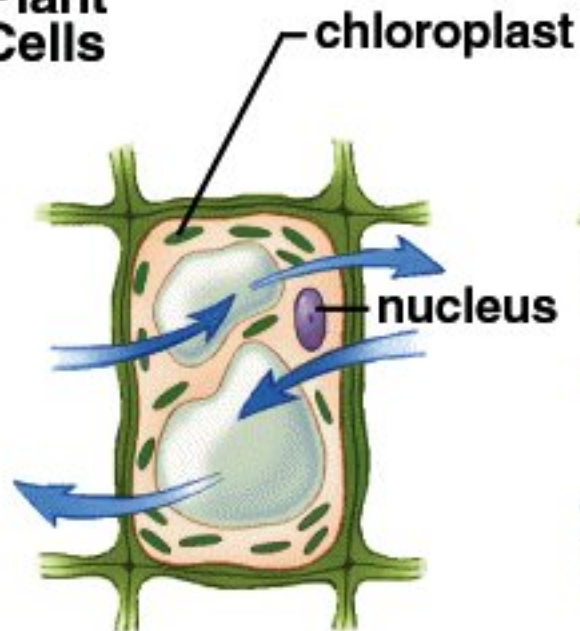


Hypotonic

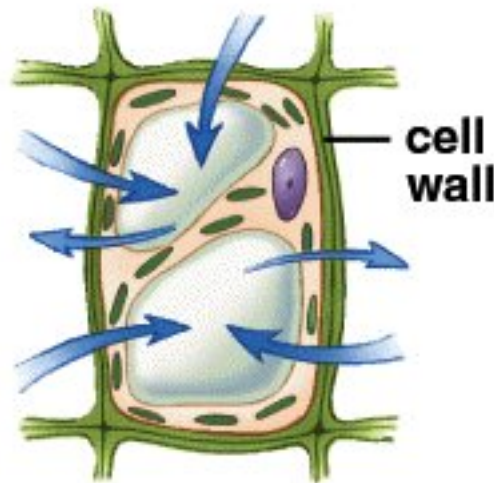


Osmosis in plant cell

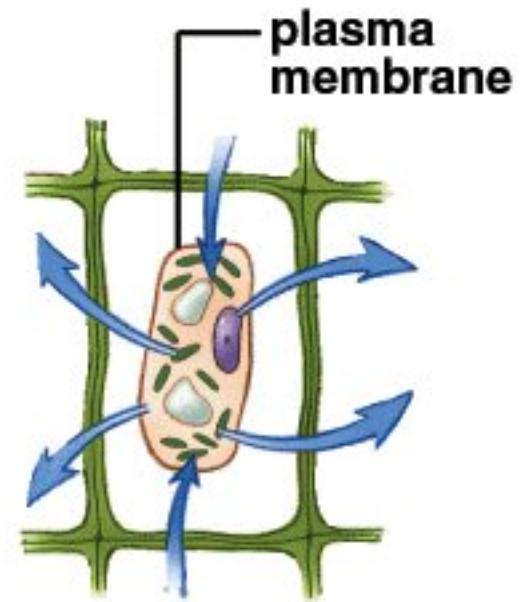
Plant Cells



Under isotonic conditions, there is no net movement of water.



In a hypotonic environment, vacuoles fill with water, turgor pressure develops, and chloroplasts are seen next to the cell wall.



In a hypertonic environment, vacuoles lose water, the cytoplasm shrinks (plasmolysis), and chloroplasts are seen in the center of the cell.

