

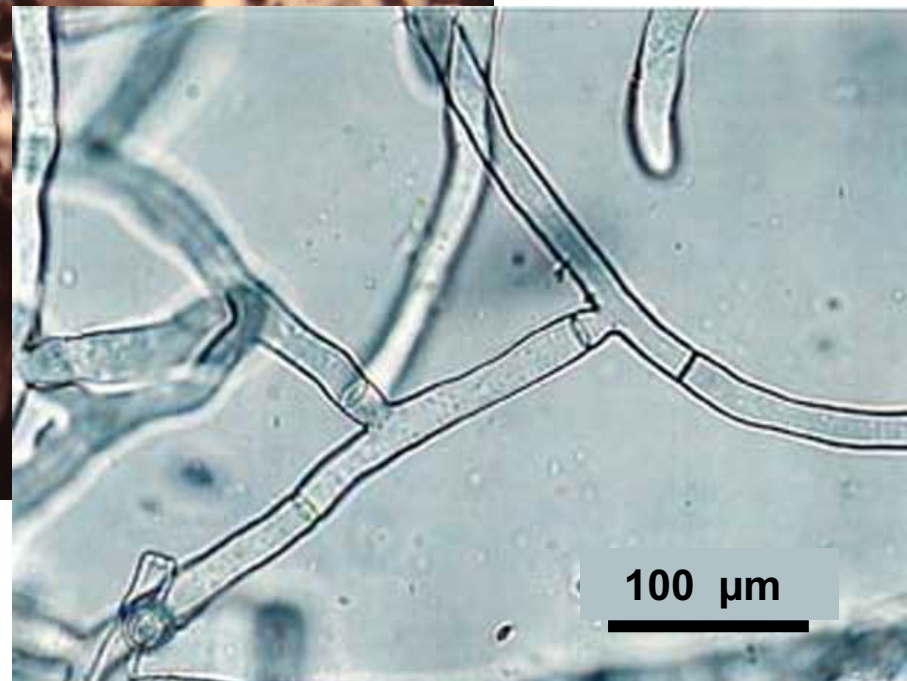
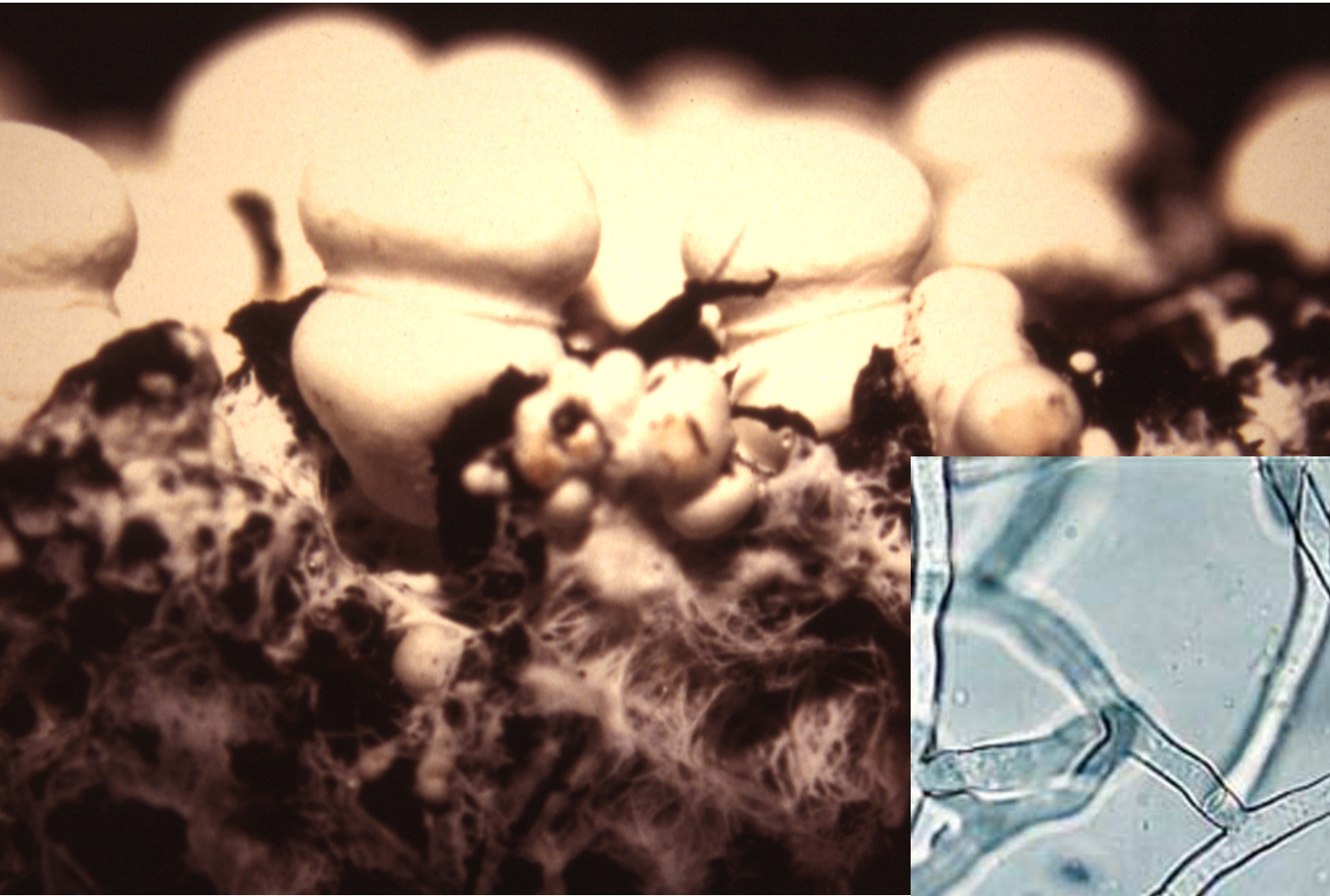
La coopération entre micro-organismes et arbres, une clé de la résilience des forêts

Marc-André SELOSSE

Muséum national d'Histoire naturelle
Universités de Gdansk & Kunming

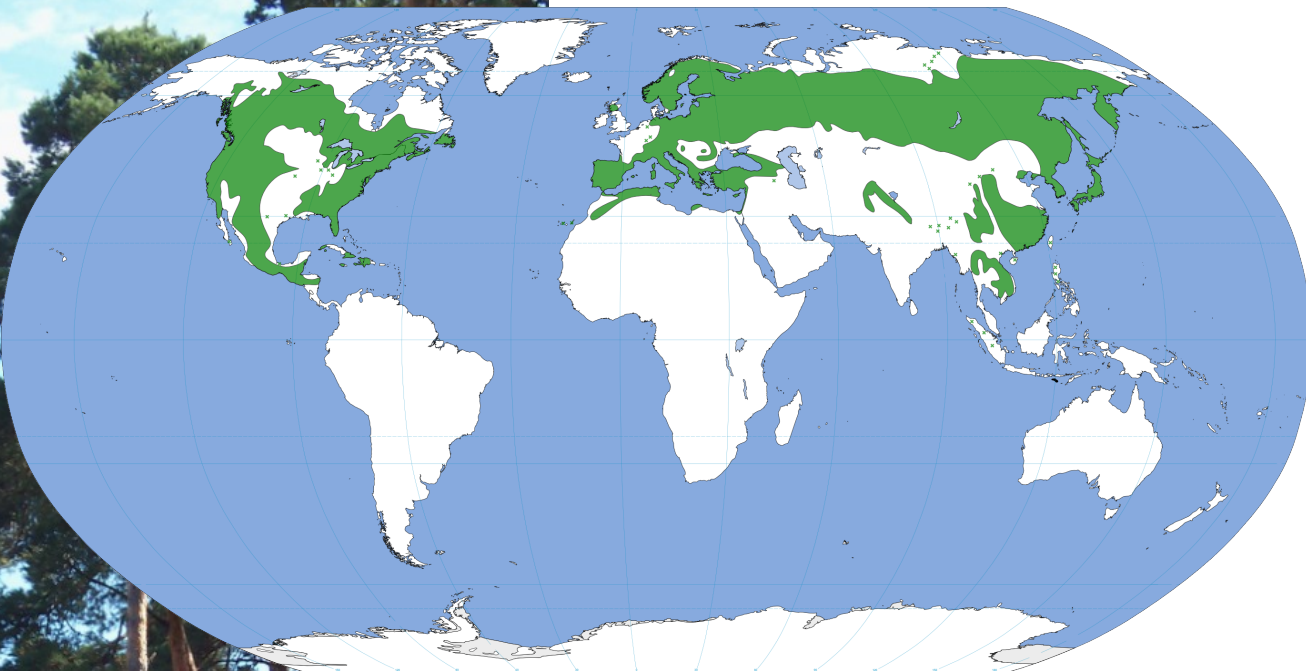




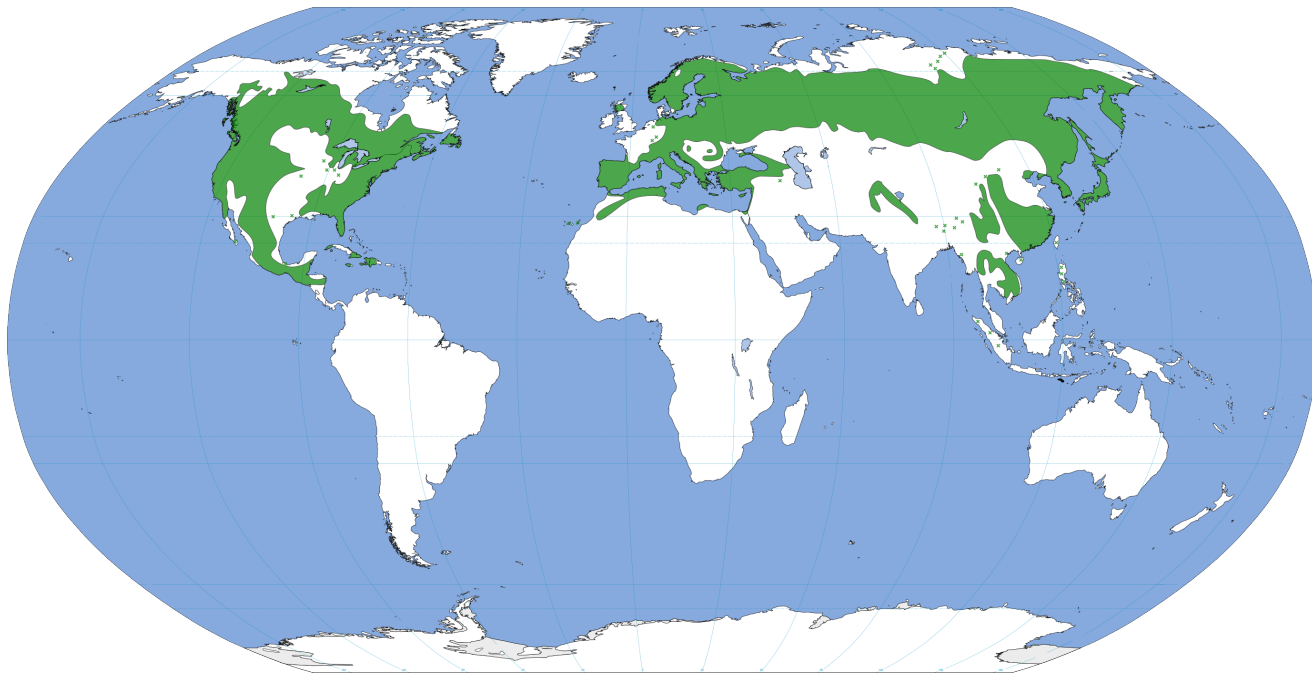


1.

Vital







Frank AB (1892)



2.

Nourricier





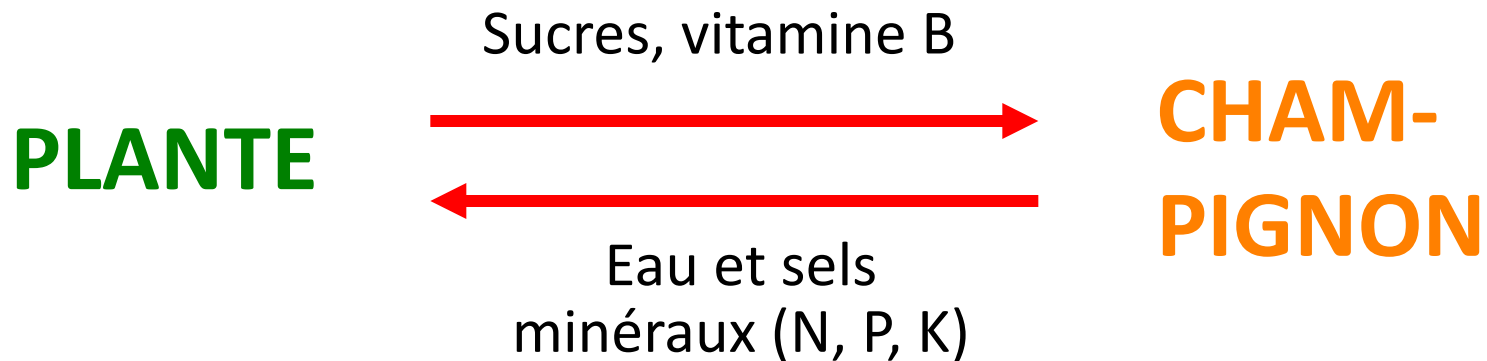


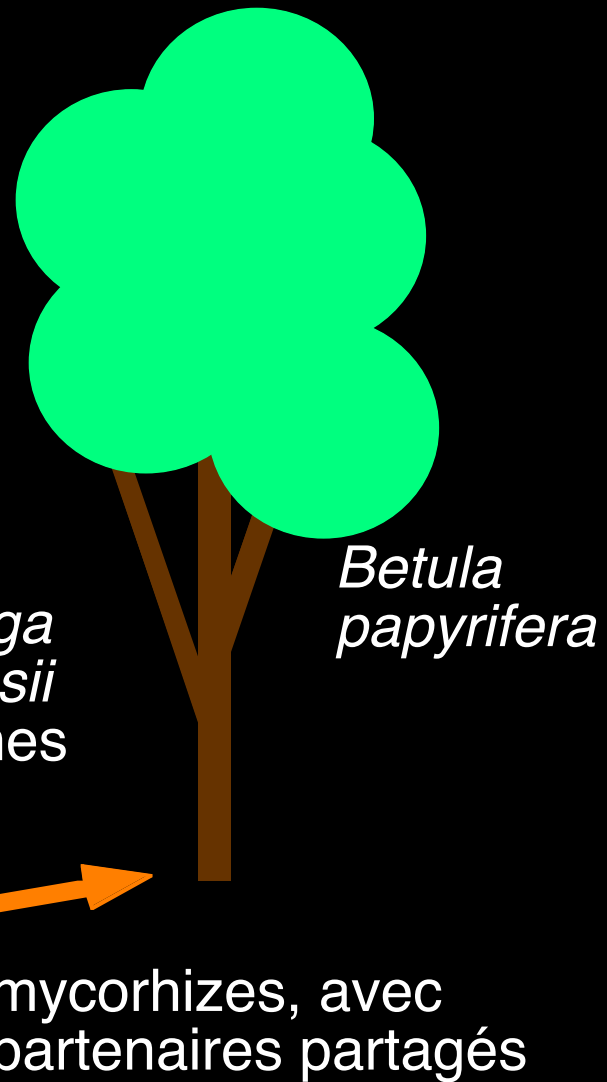
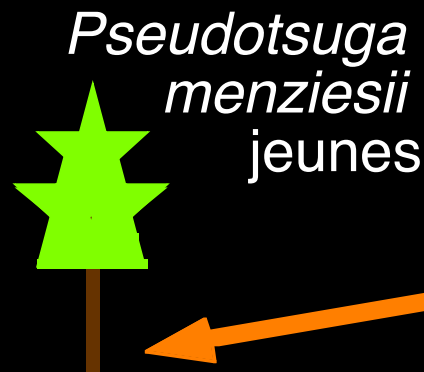
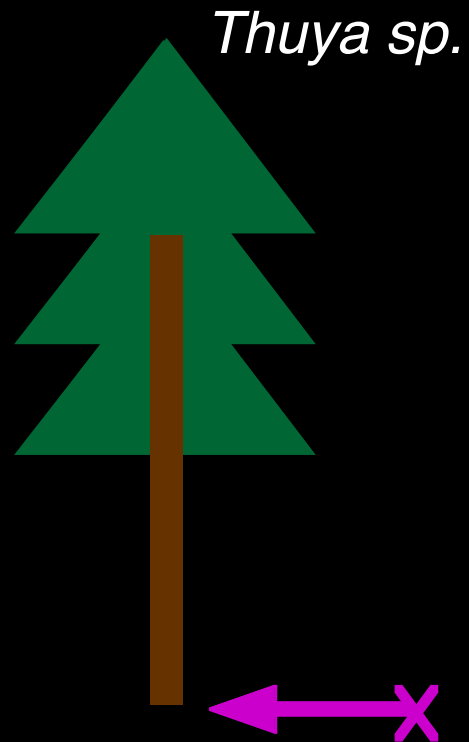
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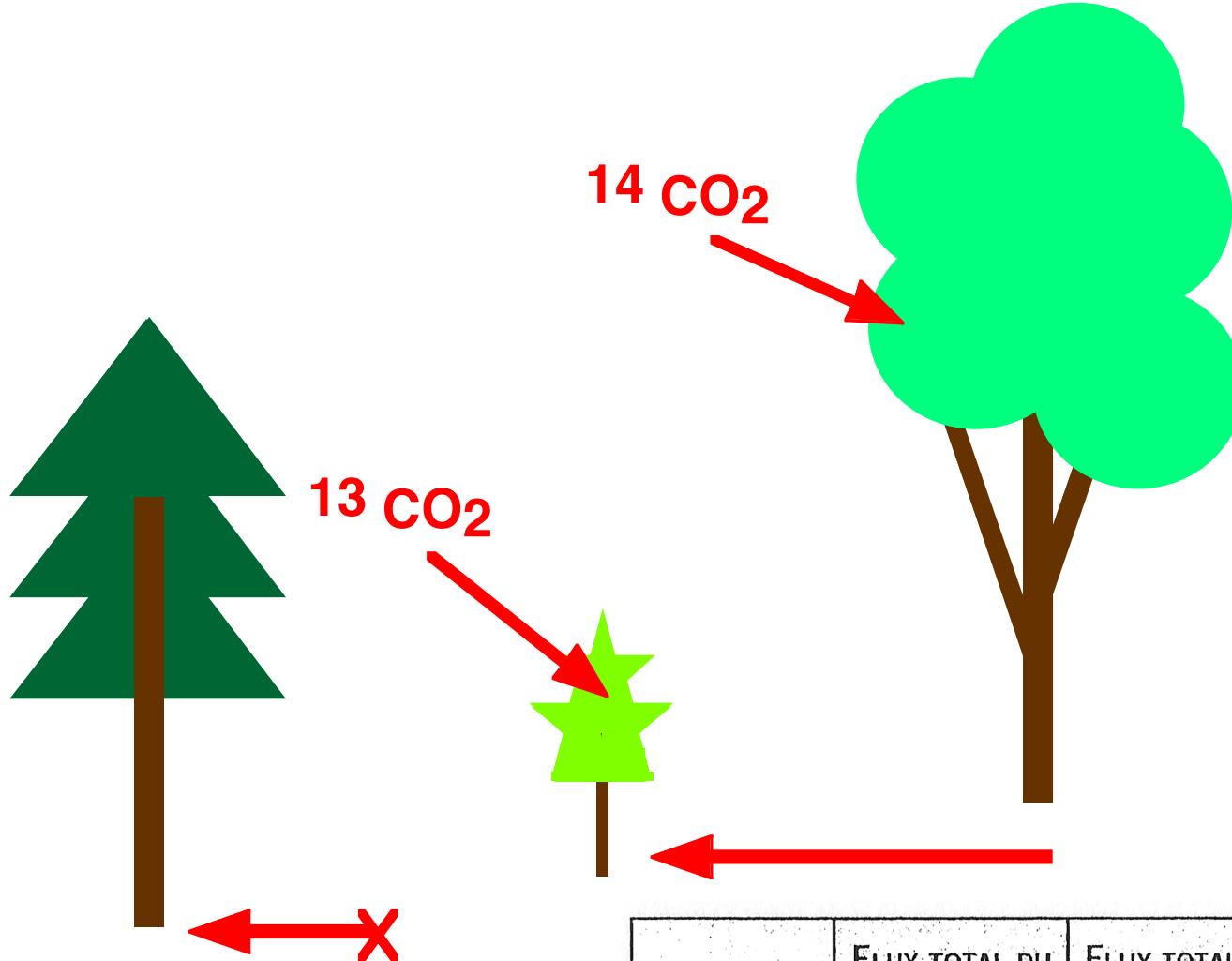
LA MYCORHIZE, UNE SYMBIOSE

Des échanges nutritifs réciproques :





Simard *et al.*, 1997

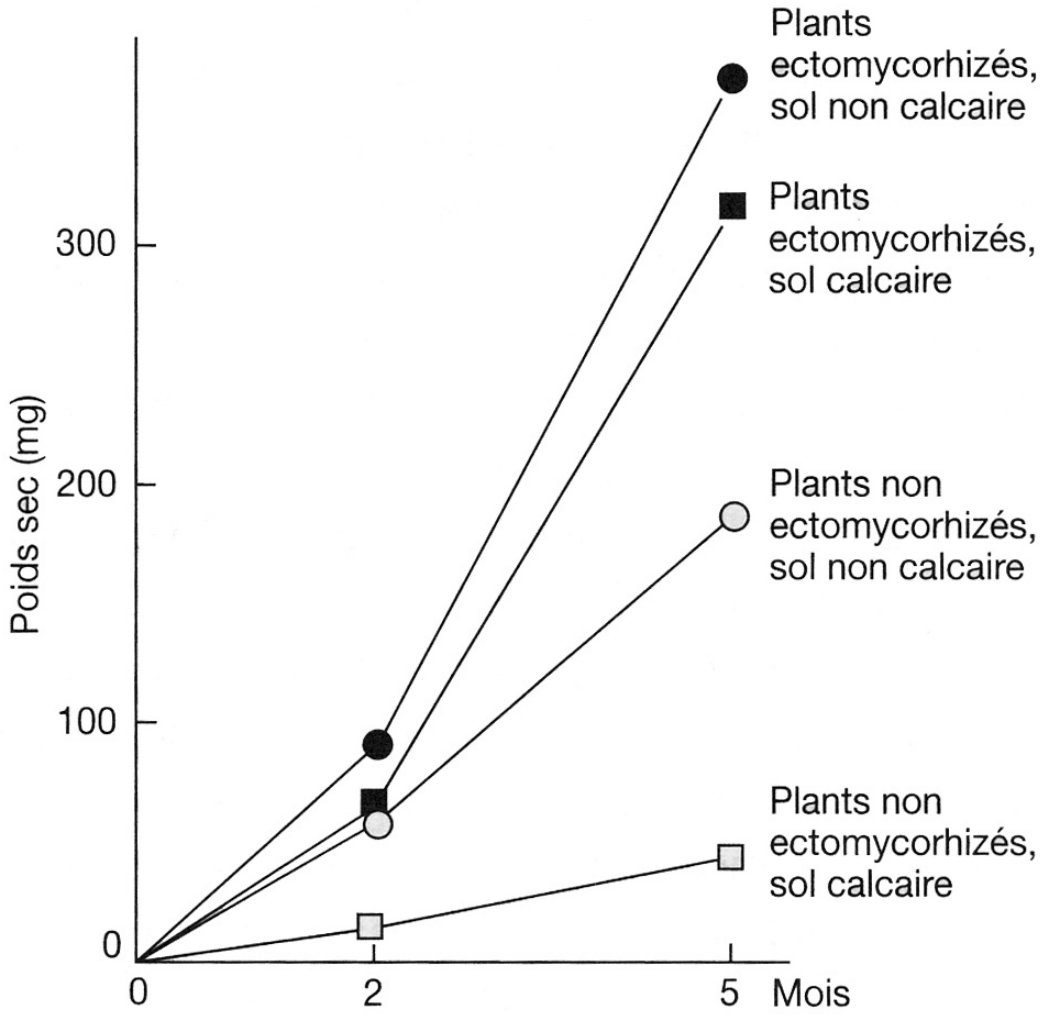


ÉCLAIREMENT DU DOUGLAS	FLUX TOTAL DU BOULEAU VERS LE DOUGLAS	FLUX TOTAL DU DOUGLAS VERS LE BOULEAU	FLUX <u>NET</u> DU BOULEAU VERS LE DOUGLAS
ombre	10,1 %	0,6 %	9,5 %
mi-ombre	4,8 %	0,5 %	4,3 %
lumière	3,3 %	0,5 %	2,7 %

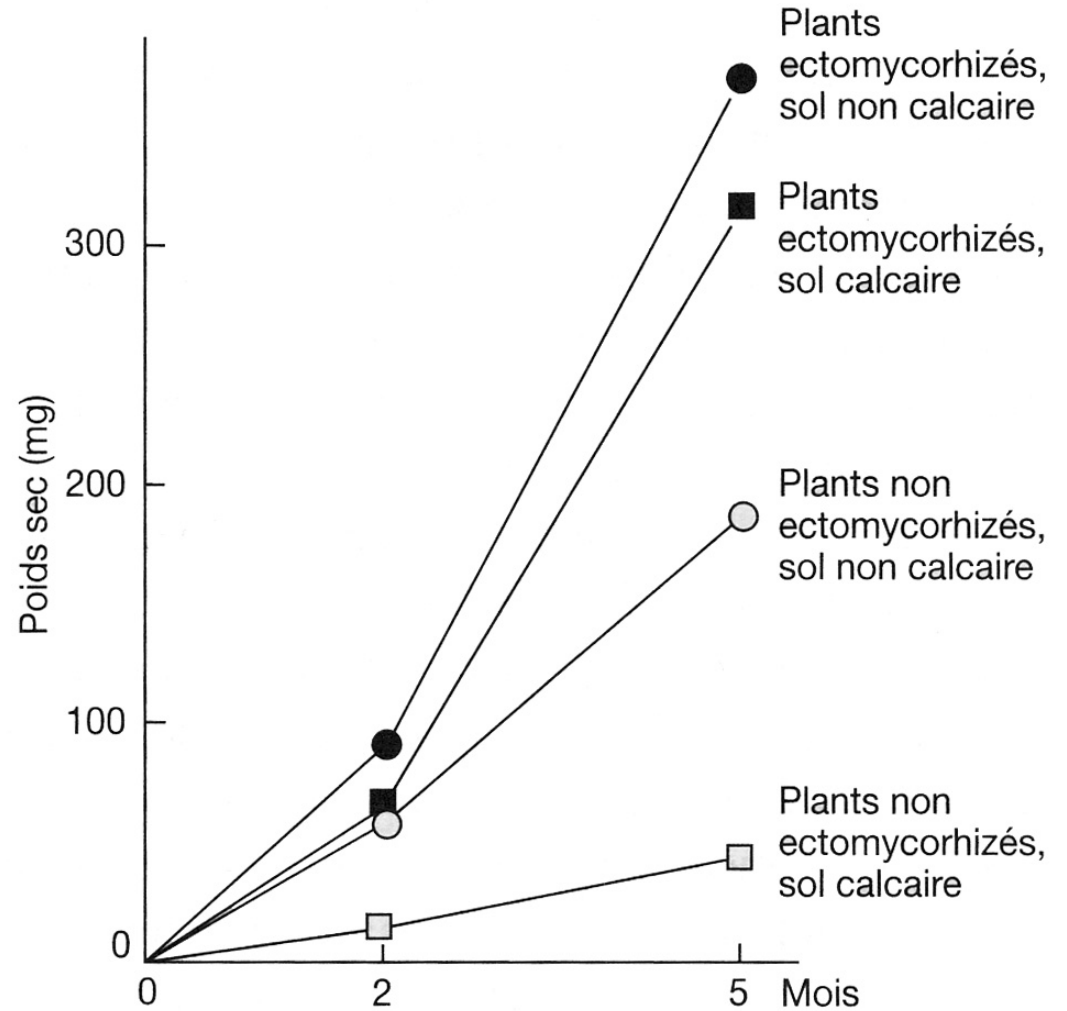
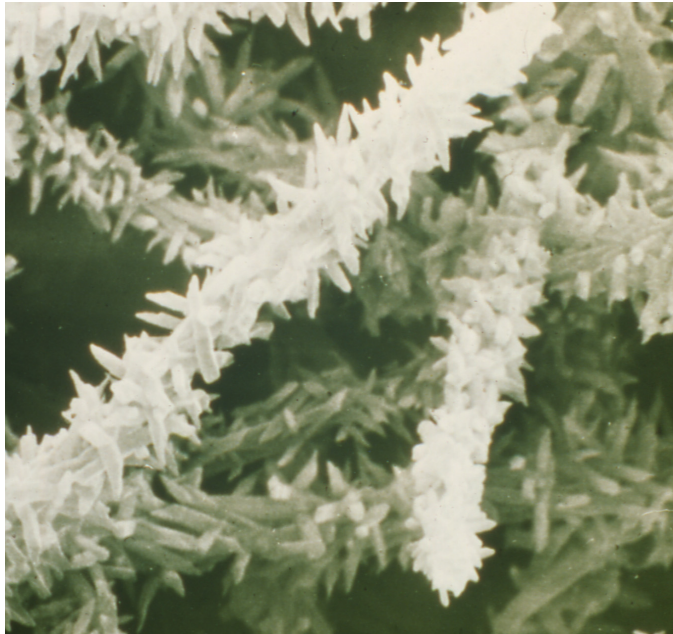
3.

Protecteur

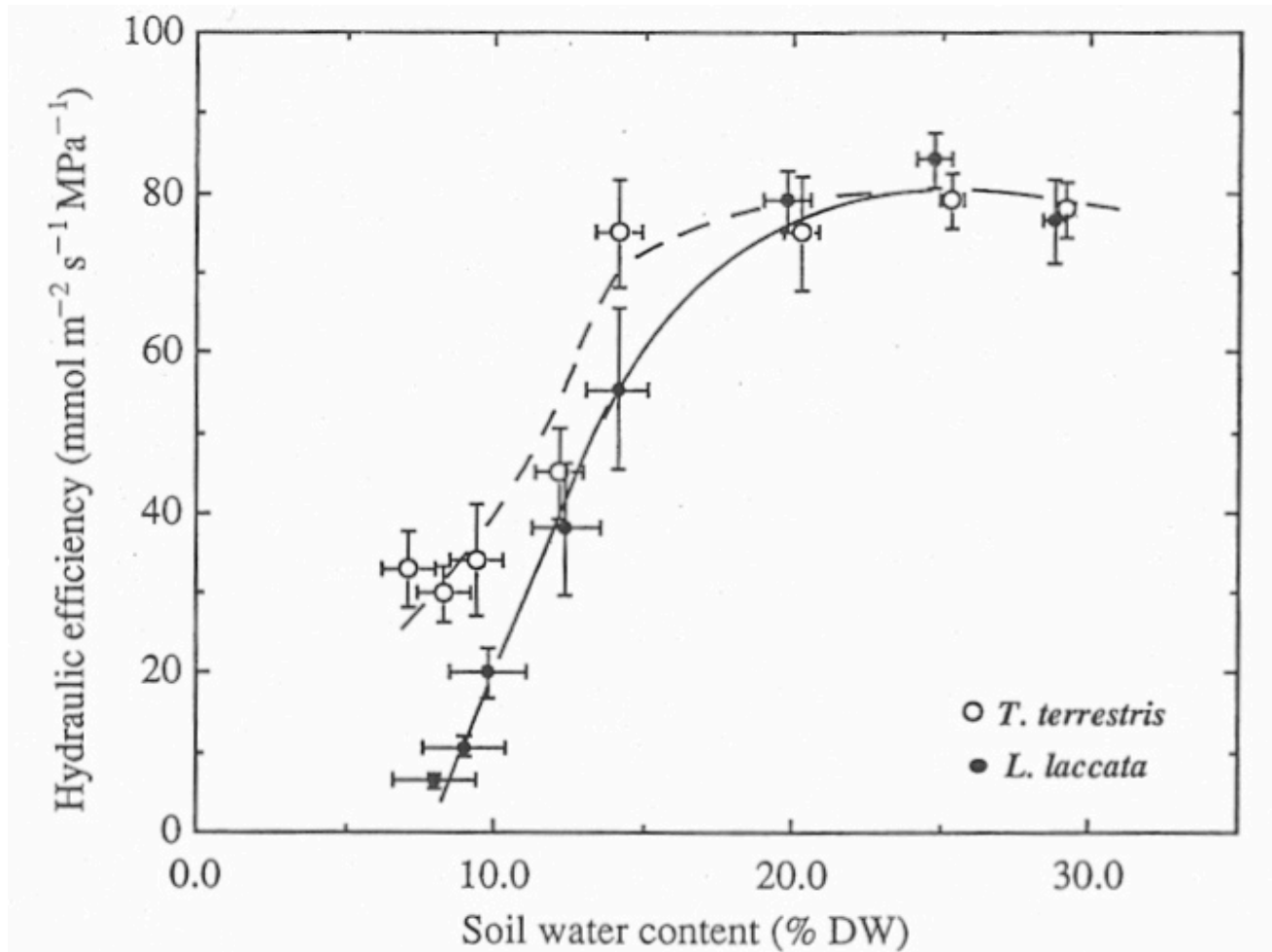
Tolérance au calcaire d'*Eucalyptus globulus*, mycorhizé ou non.



Tolérance au calcaire d'*Eucalyptus globulus*, mycorhizé ou non.

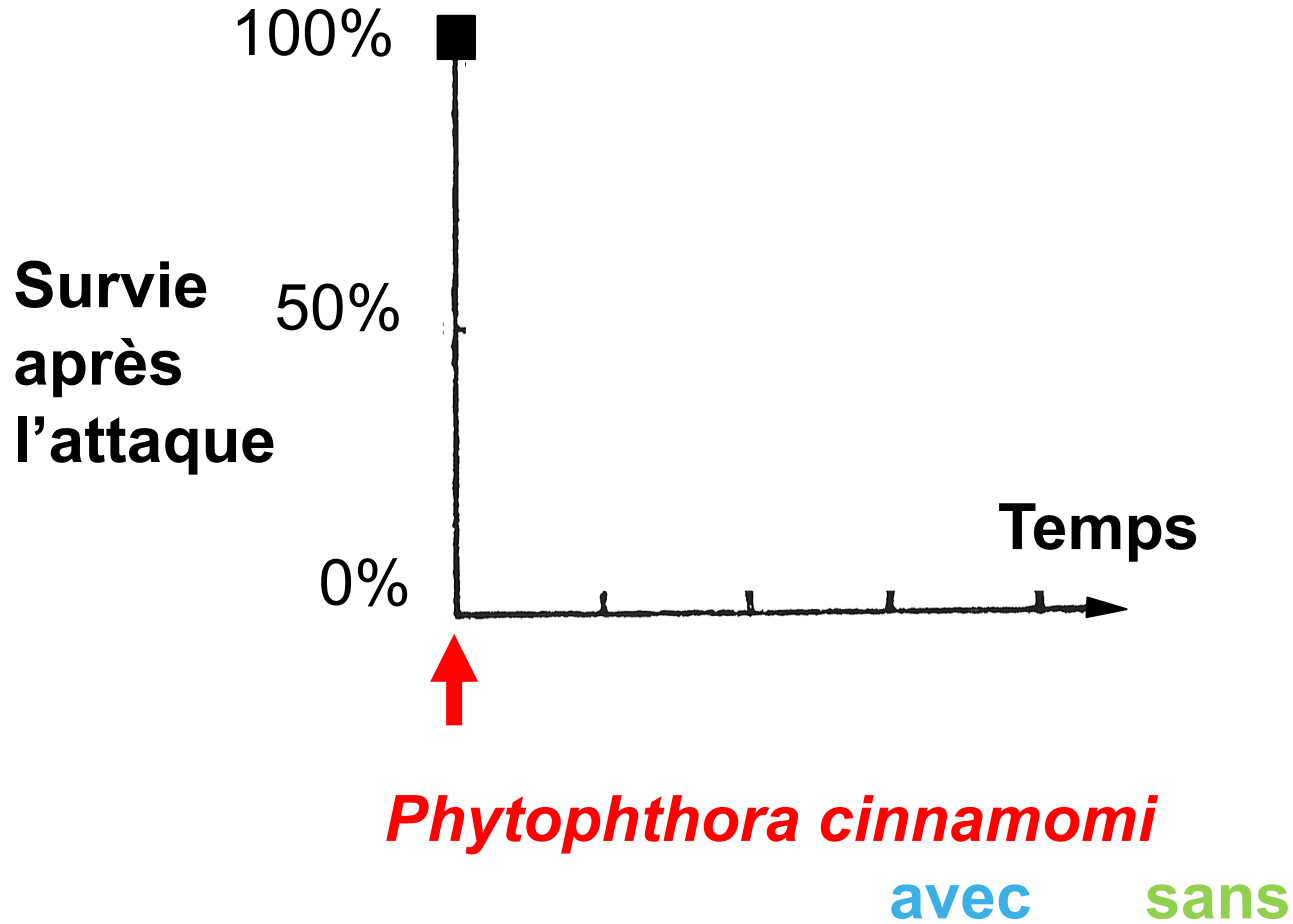


Régulation de la conductance stomatique

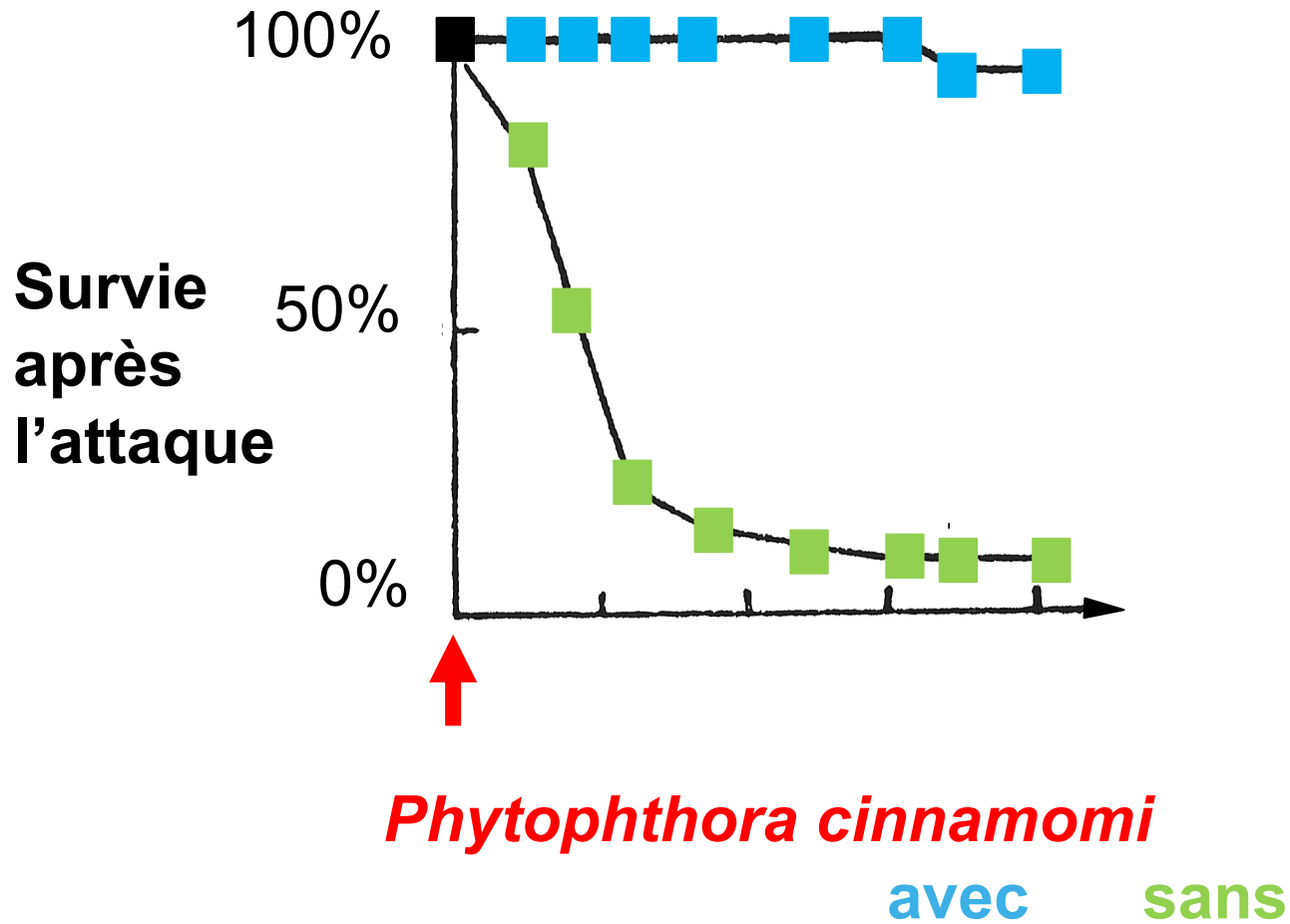


Relationship between hydraulic efficiency and soil water content in the two treatments. Bars denote \pm s.e., $n = 12$.

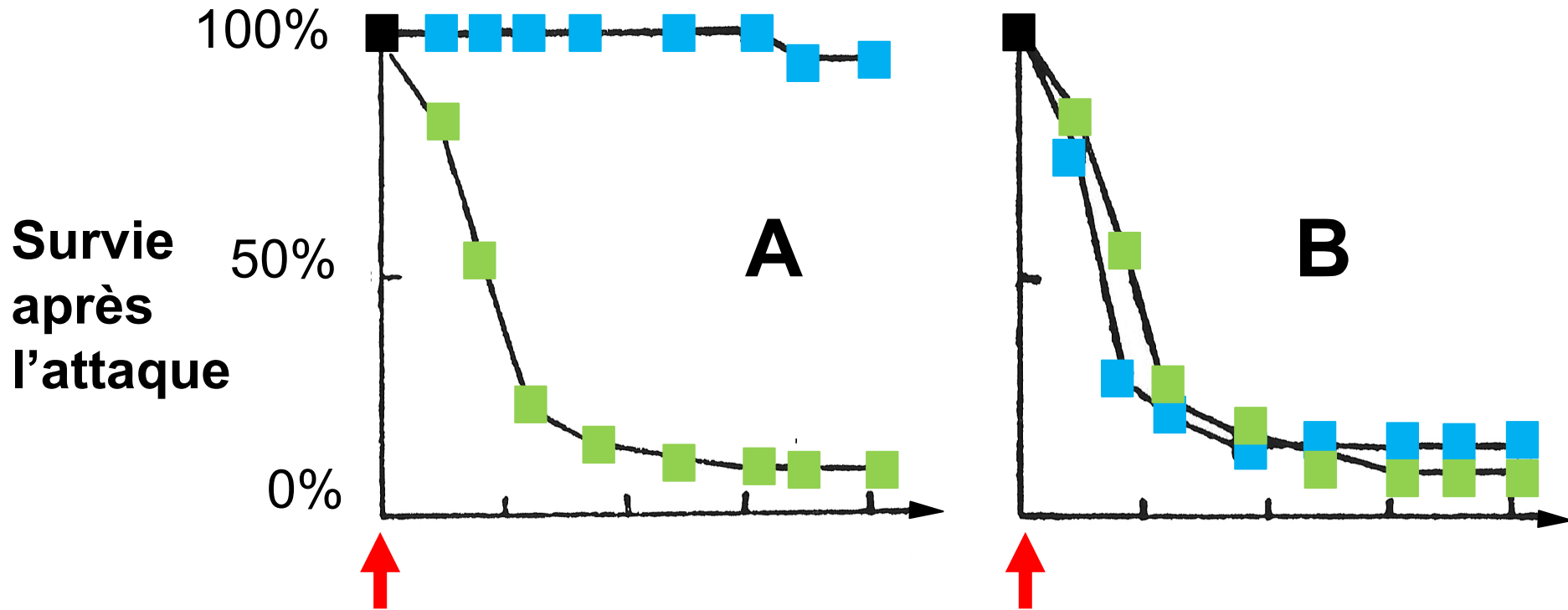
Effet phytosanitaire



Effet phytosanitaire

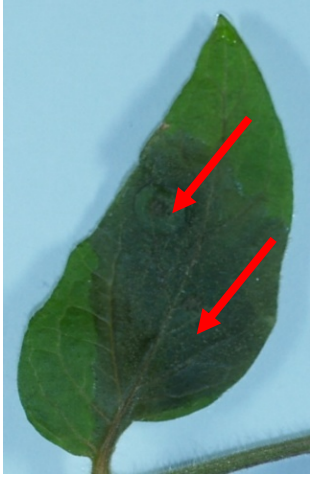


Effet phytosanitaire

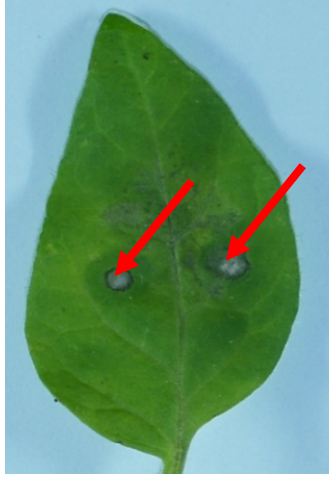


Attaque de *Phytophthora cinnamomi* par inoculation sur *Chamaecyparis lawsoniana* avec ou sans mycorrhiziens ajoutés (A) 6 mois avant ou (B) avec le pathogène.

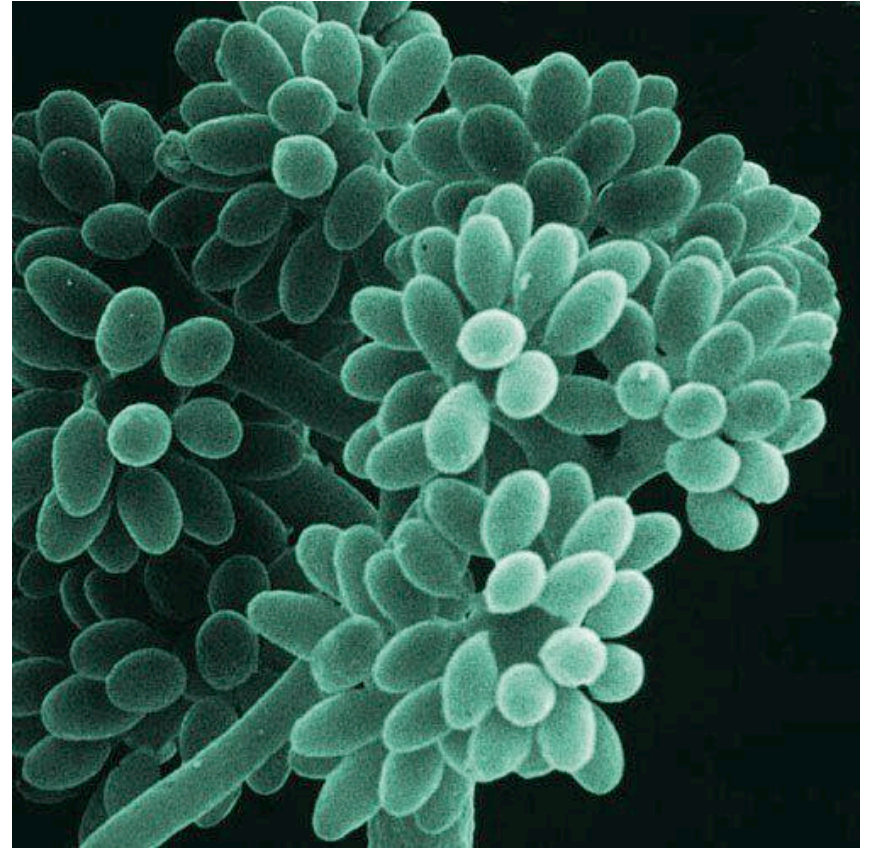
Protection foliaire contre *Botrytis cinerea*



Non
mycorrhizé



Myco-
rhizé



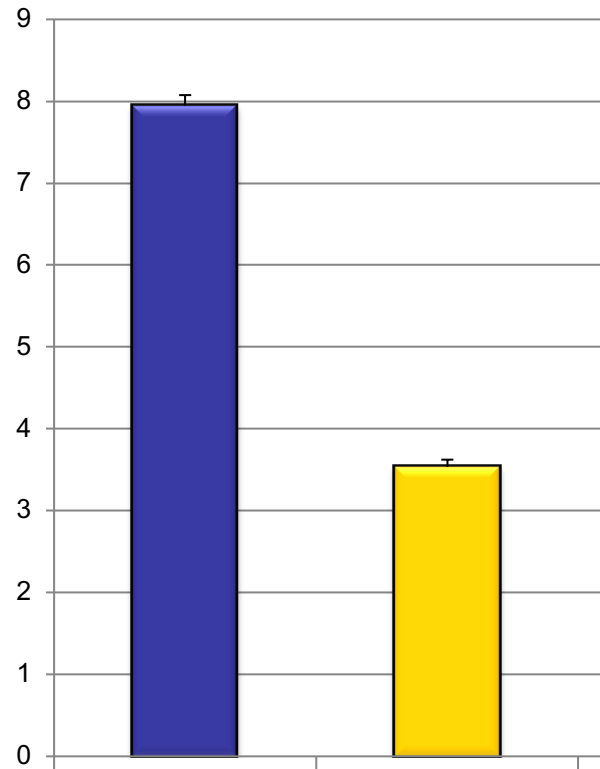
Protection foliaire contre *Botrytis cinerea*



Non
mycorhizé

Myco-
rhizé

Dégâts (% surface feuille morte)



Non
mycorhizé

Mycor-
rhizé

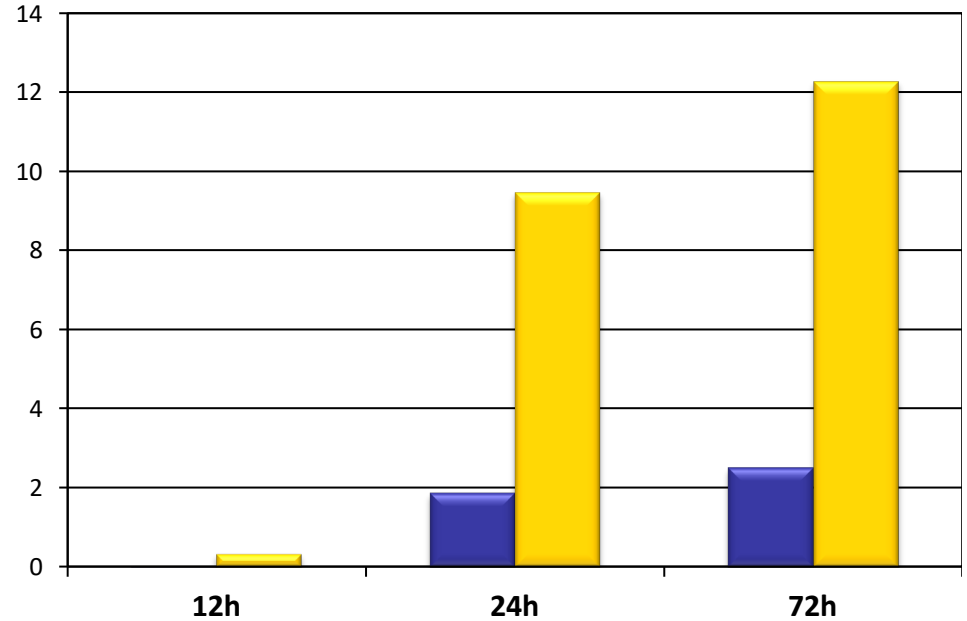
Protection foliaire contre *Botrytis cinerea*



Non
mycorhizé

Myco-
rhizé

Accumulation des
composés de défense

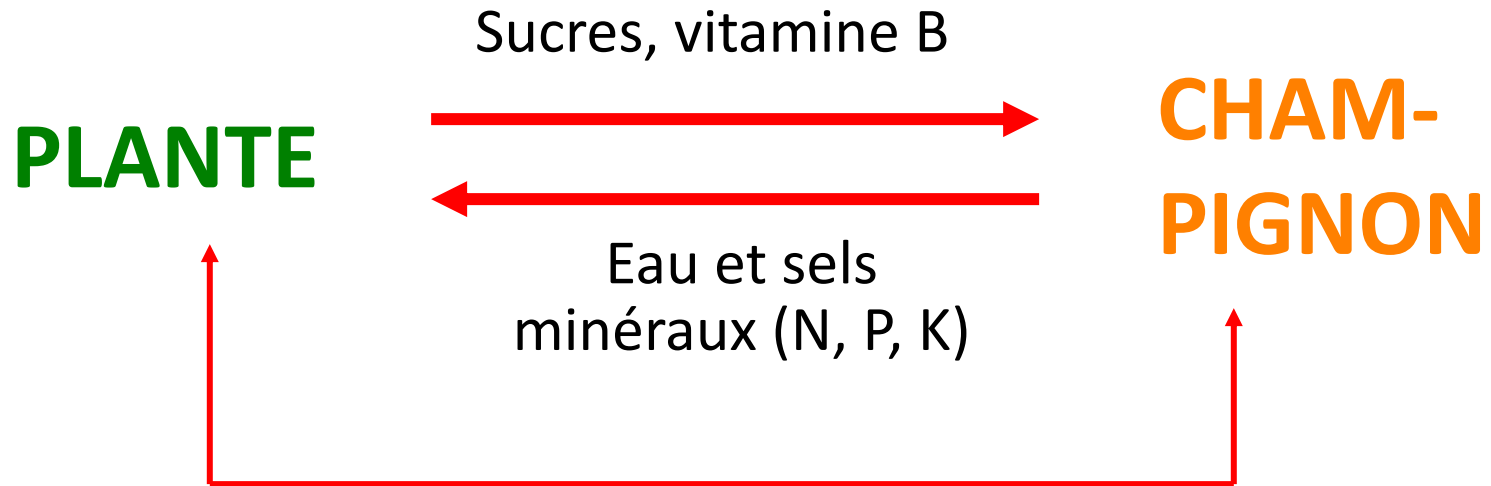


Non
mycorhizé

Mycorhizé

LA MYCORHIZE, UNE SYMBIOSE

Des échanges nutritifs réciproques :



Protection contre les agressions physiques et biologiques

4.

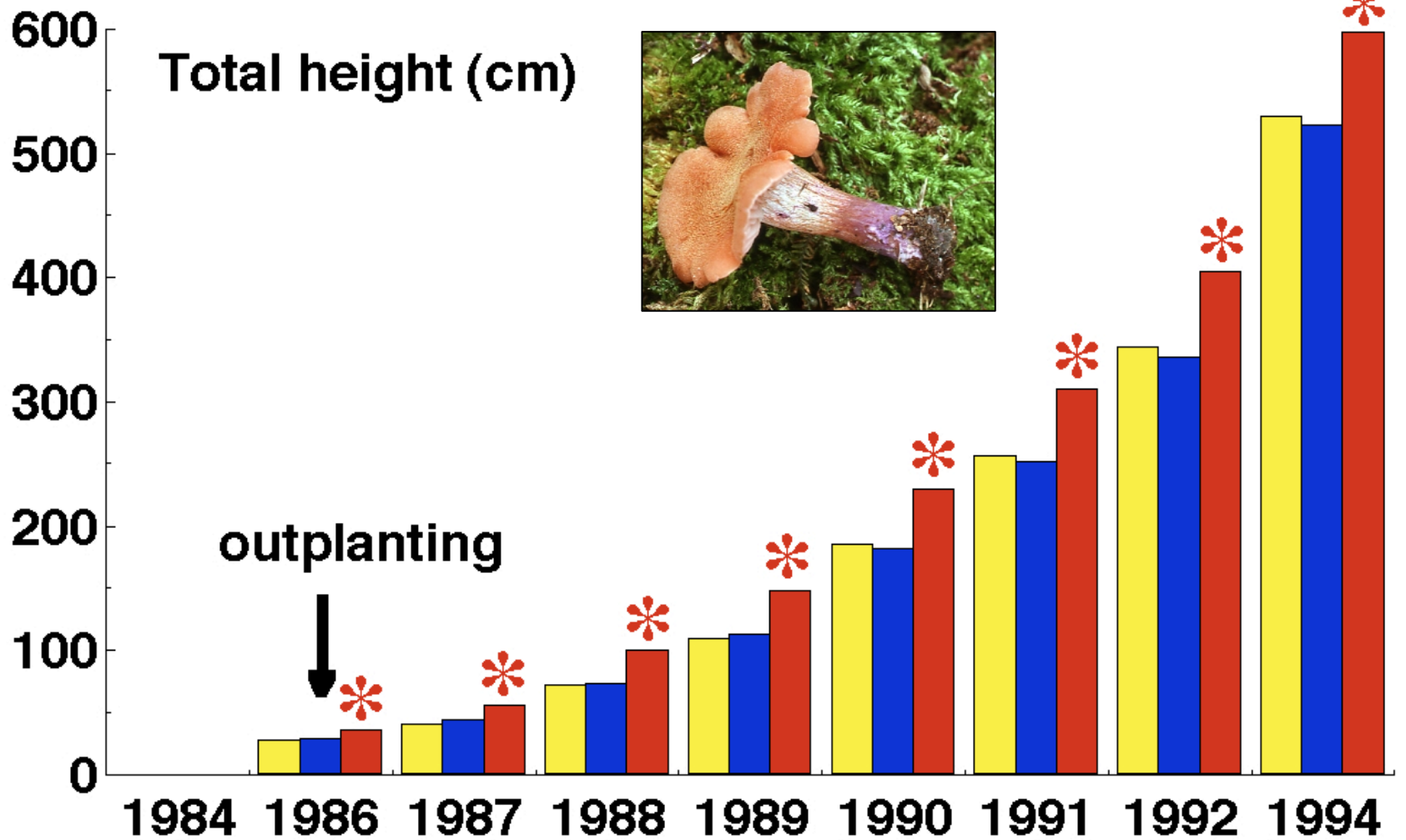
Manipulable





Semis de Douglas 1+1 inoculés
avec *Laccaria bicolor* S238N

Planche témoin 1+1
non inoculés



- Fumigated soil, non inoculated
- Control, naturally inoculated
- Fumigated, inoculated with *L. bic.* S238N



