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THE NEXT ANSWER

Protection des jeunes plants: évolution technologique des manchons de protection en agroforesterie

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Libramont - 29 Juillet 2013

Contenu

- Contraintes de L'AF
- Evolution des technologies
- Applications

Contraintes de L'AF

- Etablir des arbres dans différentes milieux: culture, élevages, haies, etc...
- Synergie avec l'agriculture
- Favoriser la croissance juvénile
- Former des arbres adaptés au contexte particulier de l'AF
- Socio- Economique

Protections

Repérage

Courtoisie INRA, Agroforesterie – Des Arbres et des Cultures, Christian Dupraz et Fabien Liagre
Editions France Agricole, 2008

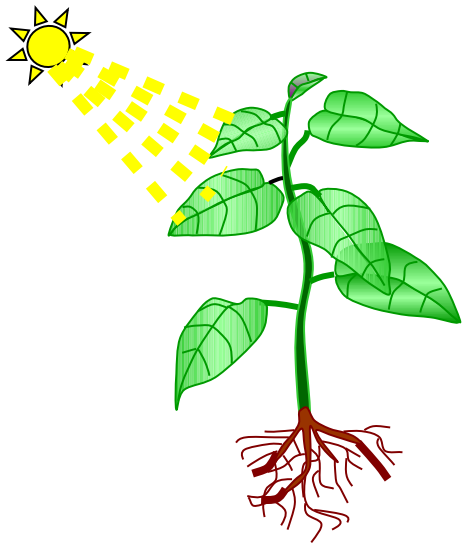
Etablissement & Survie

Croissance juvenile accélérée

Evolution des technologies

- Photosynthèse
- Photomorphogénèse
- Réponse dynamique

Courtoisie INRA, Agroforesterie – Des Arbres et des Cultures, Christian Dupraz et Fabien Liagre
Editions France Agricole, 2008

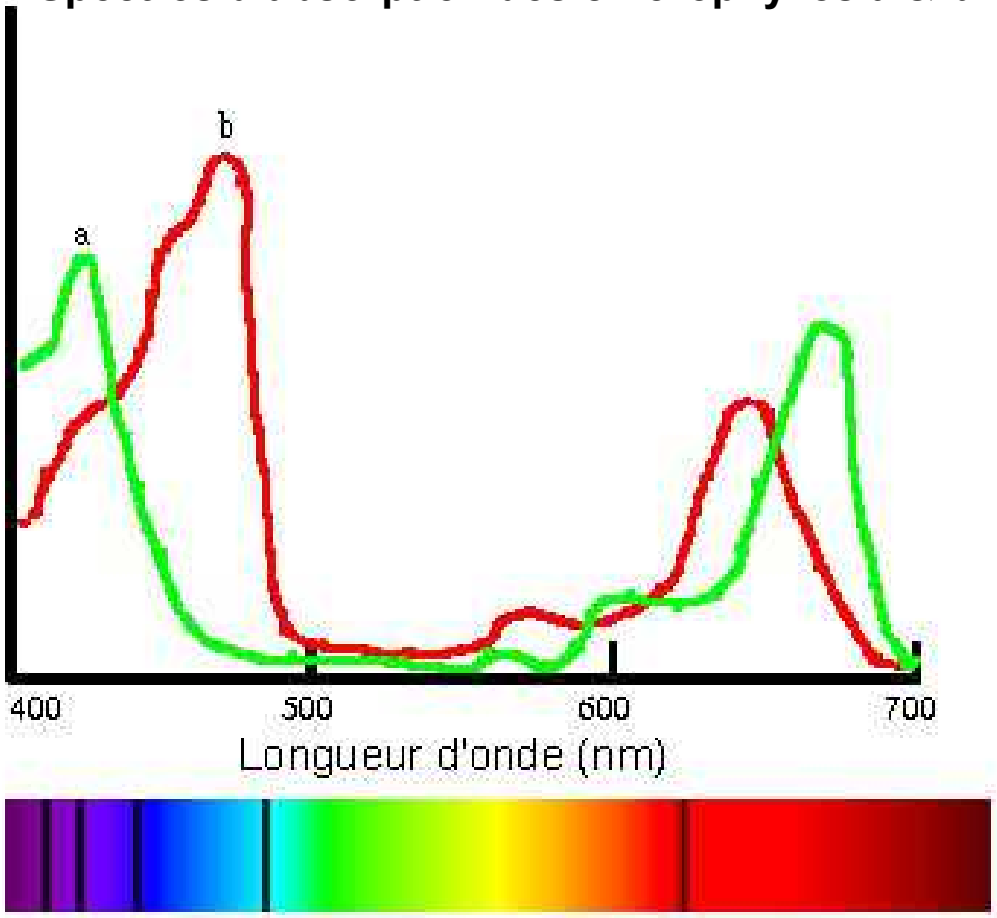


Photosynthèse

$$CO_2 + H_2O \xrightarrow[T]{h\nu} (CH_2O)_n + O_2$$

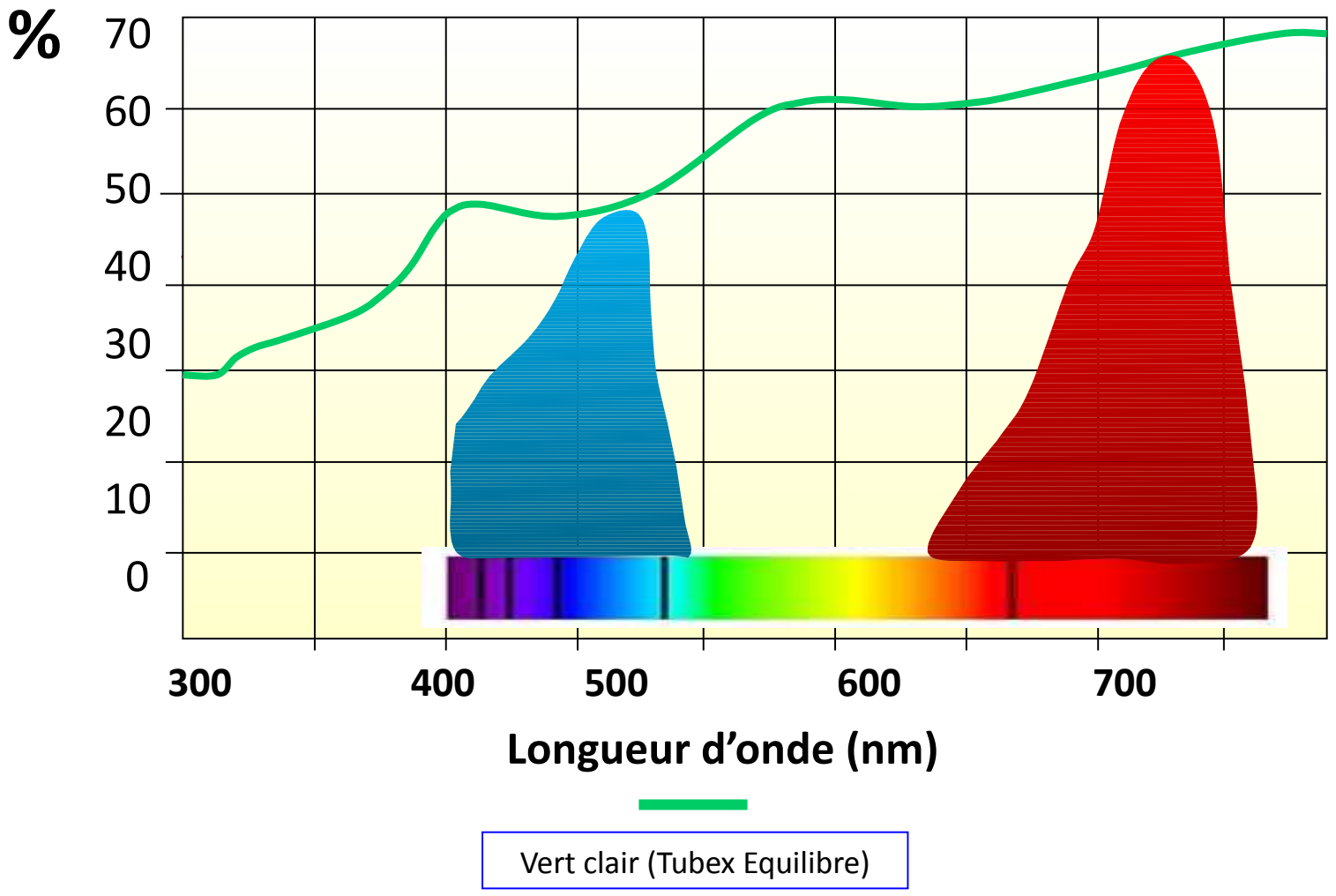
Photosynthèse

Spectres d'absorption des chlorophylles a & b

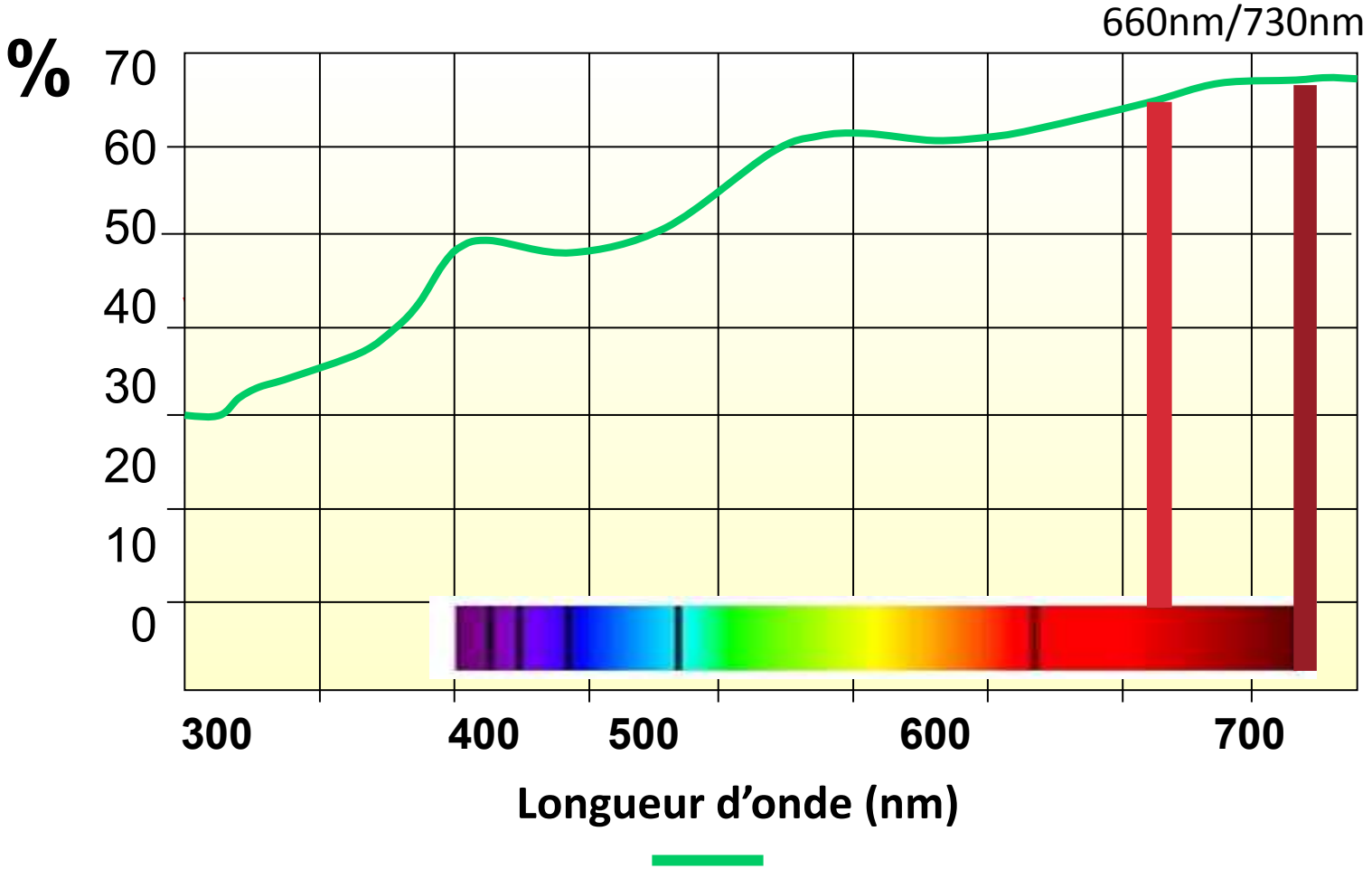


Spectre de la lumière visible

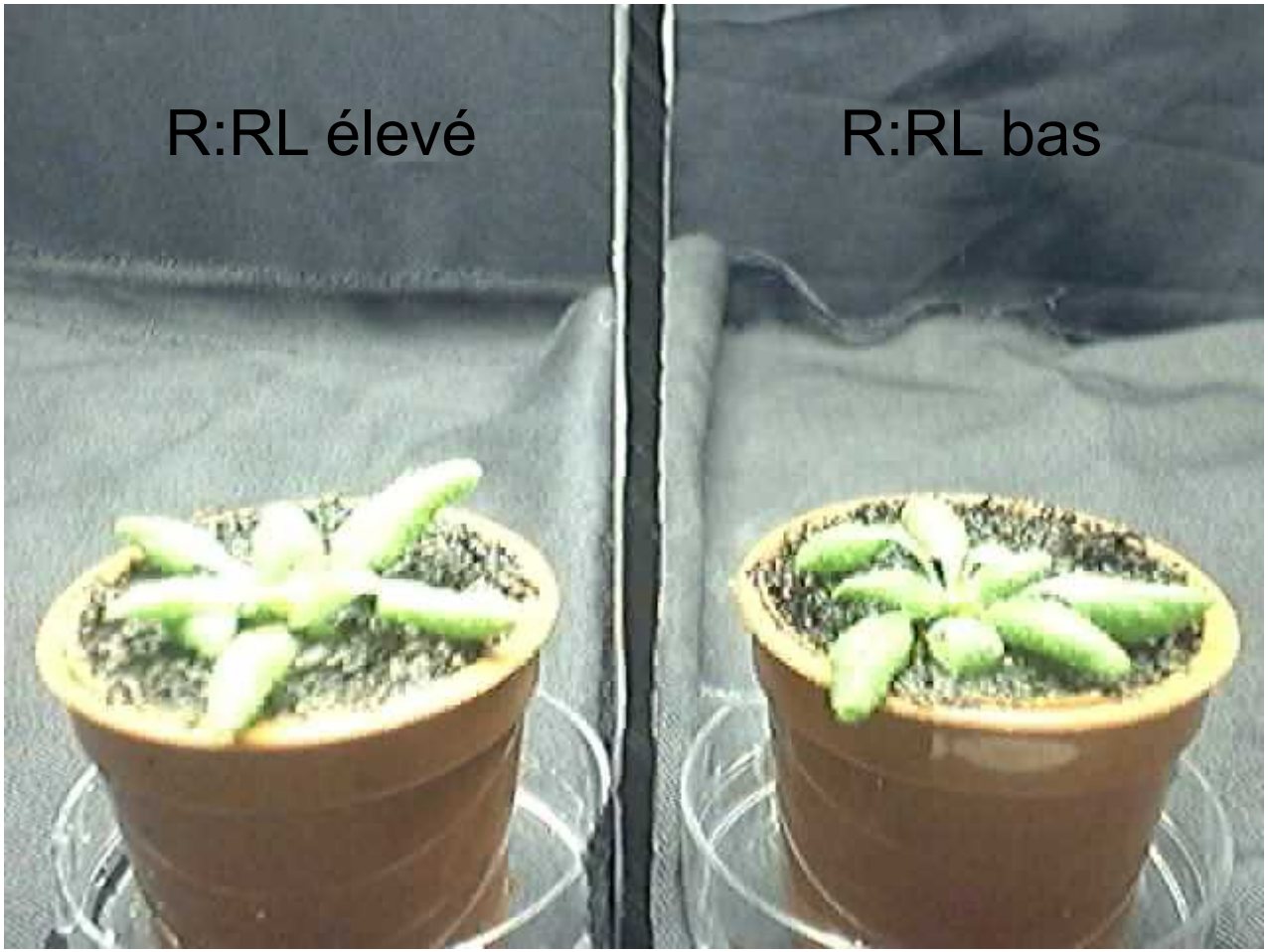
Photosynthèse



Photomorphogénèse



Photomorphogénèse

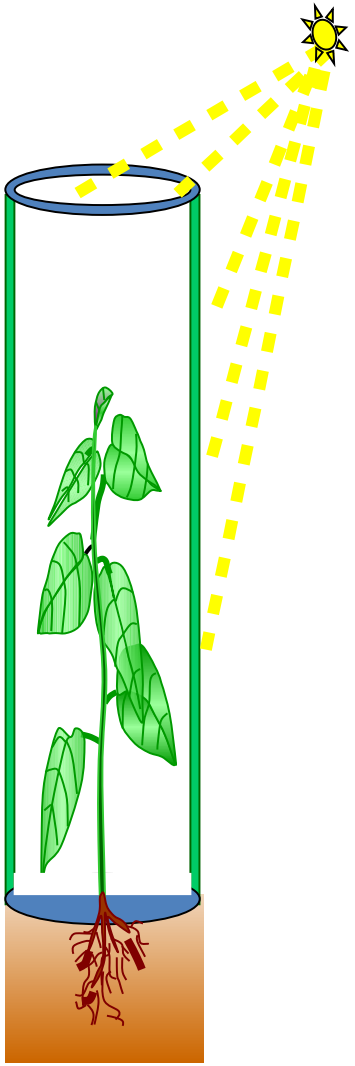


Arabidopsis Thaliana

Courtesy of Dr Kerry Franklin, University of Bristol

Sans Ventilation

Standard



Tint > Text

Insolation

Isolation

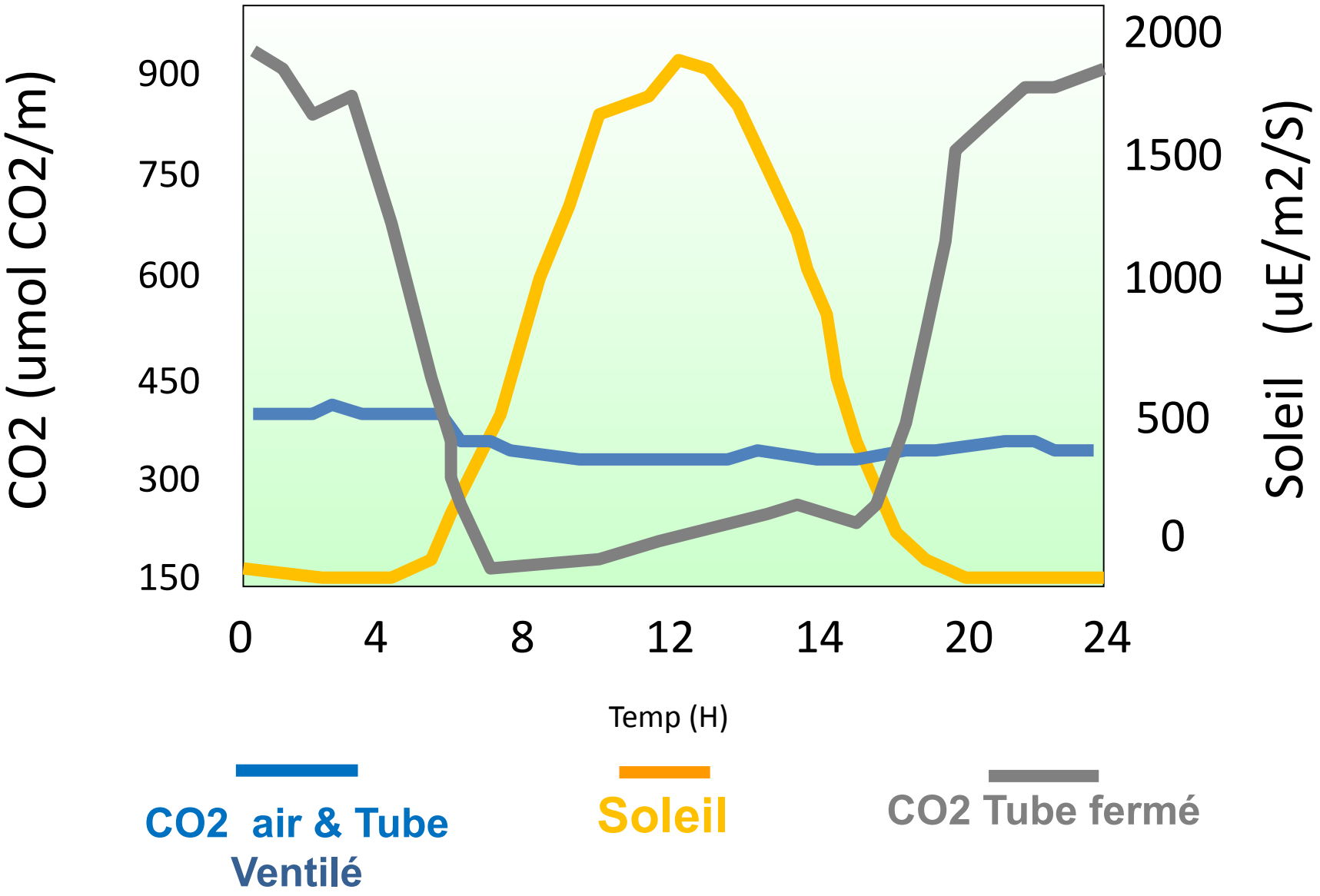
Pas de convection

HRint > HRext

Le DTV* decroit lorsque l'humidité s'élève dans le tube dû à la transpiration

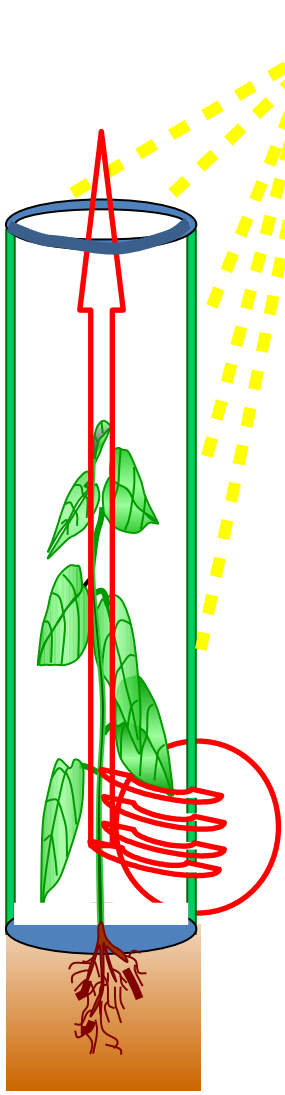
Jour d'été

CO2 et Soleil



Ventilation

Ventilé



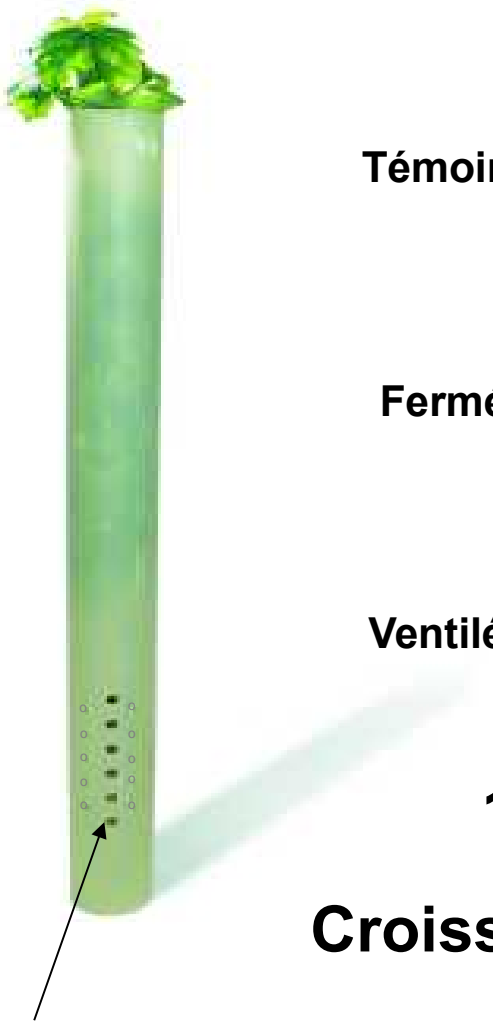
Tint = Text

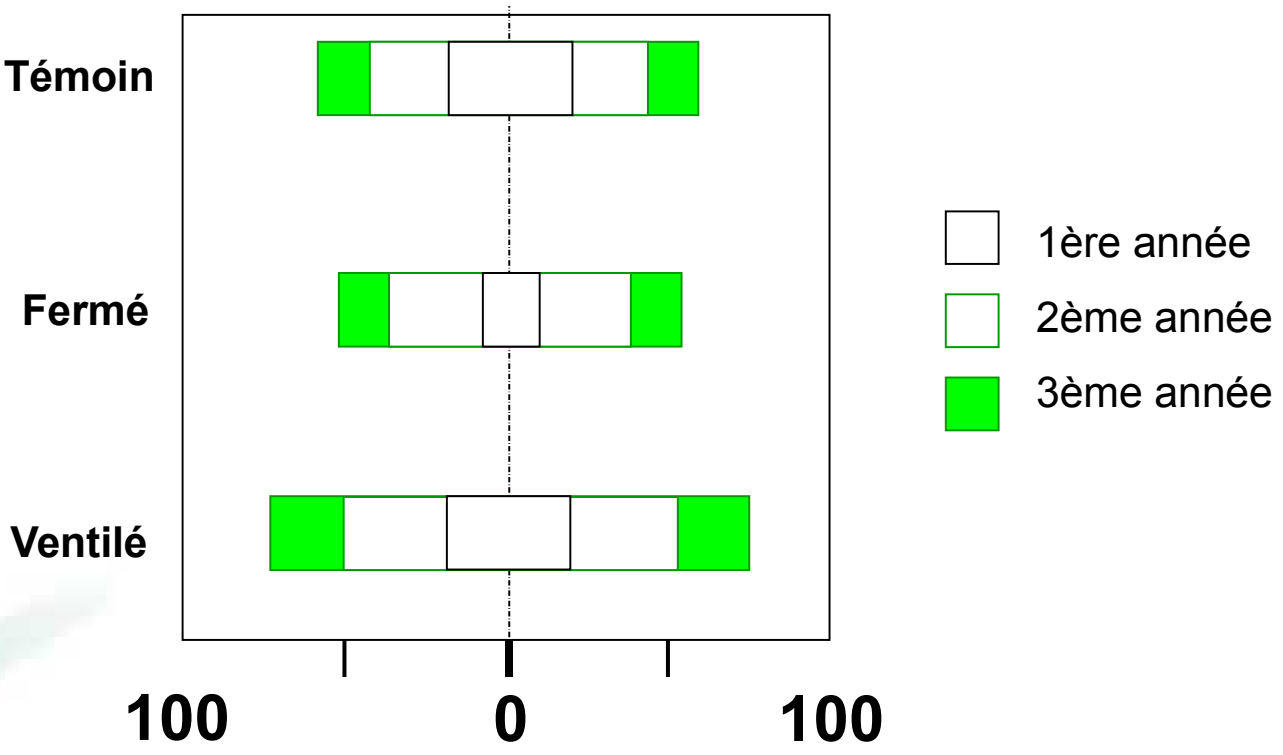
Convection

HRint = HRext

Equilibre en humidité

Croissance de la tige





Croissance en diamètre (1/10 mm)

Noyer - Montoidre (Allier)

Agroforesterie

- Croissance axillaires minimisées
- Pas besoin d'opérations de taille de formation des arbres

Le développement des branches basses induit:

1. Ombrage sur les cultures
2. Complication dans l'utilisation des engins agricoles
3. Besoin d'expertise des ouvriers
4. Coût de la main d'œuvre

Courtoisie INRA, Agroforesterie – Des Arbres et des Cultures, Christian Dupraz et Fabien Liagre
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Agroforesterie en zone aride

Arganier

Evolution

Les demandes du marché

Un manchon protecteur qui:

Fonctionne

Disparait

Offre Valeur

Concept

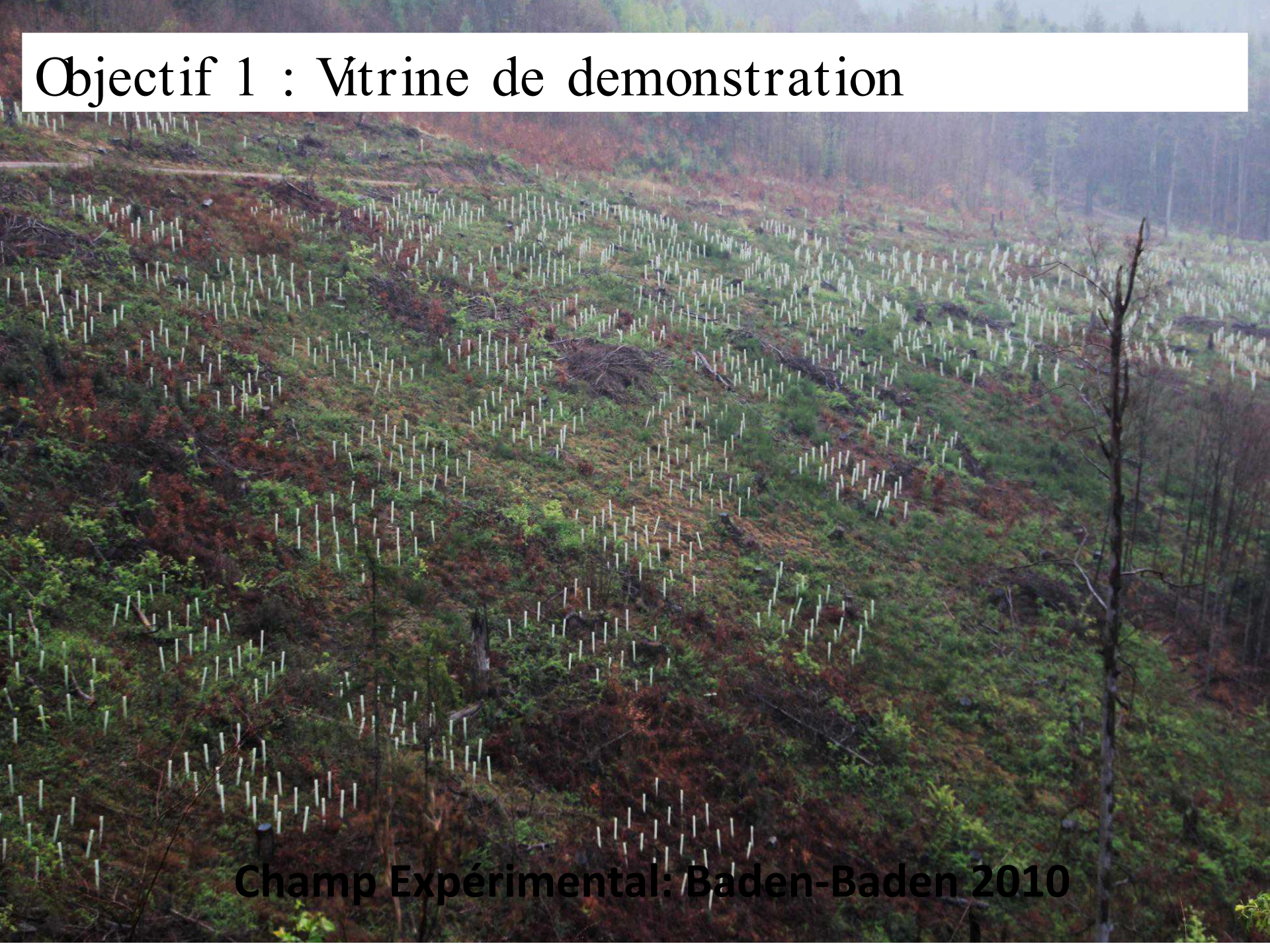
PP

Prodeg

Bio polymère

OxoBio-Bio

Objectif 1 : Vitrine de demonstration



Objectif 2:

Merci !

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