



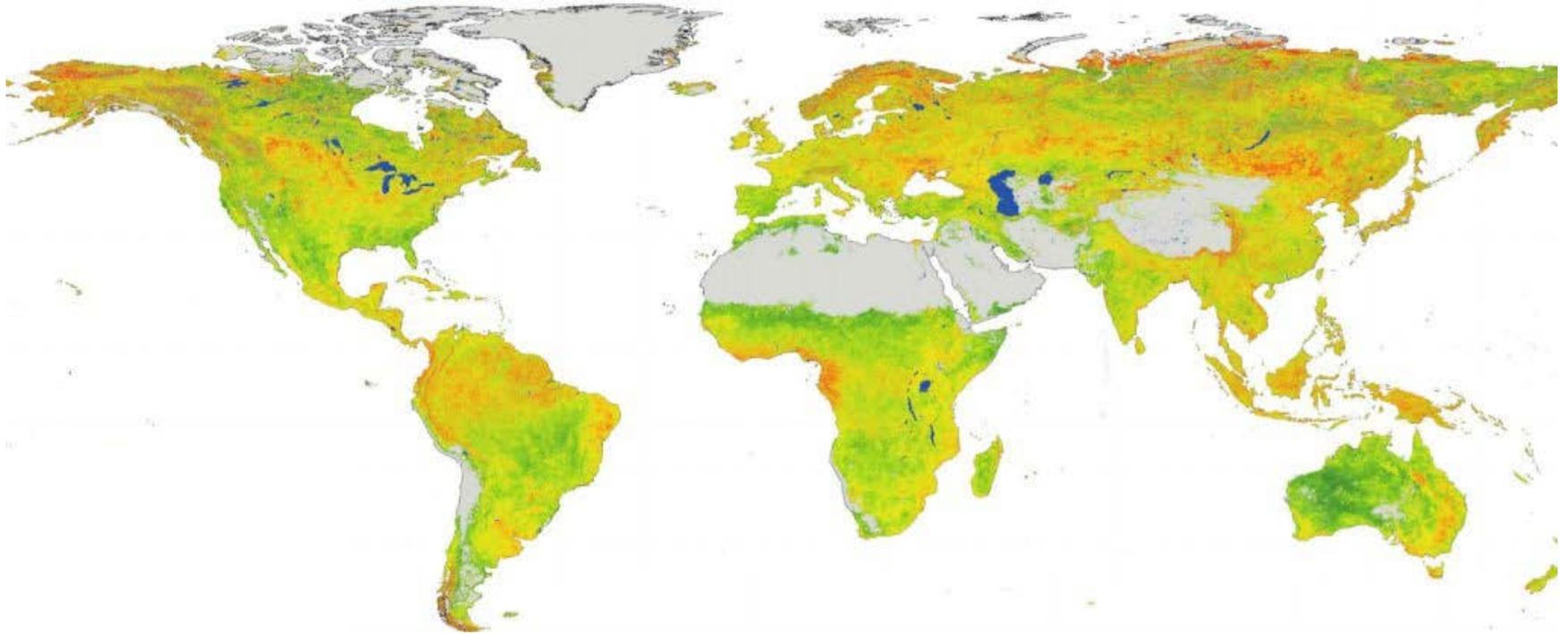
CONGRÈS **2016** | 15-16 SEPTEMBRE

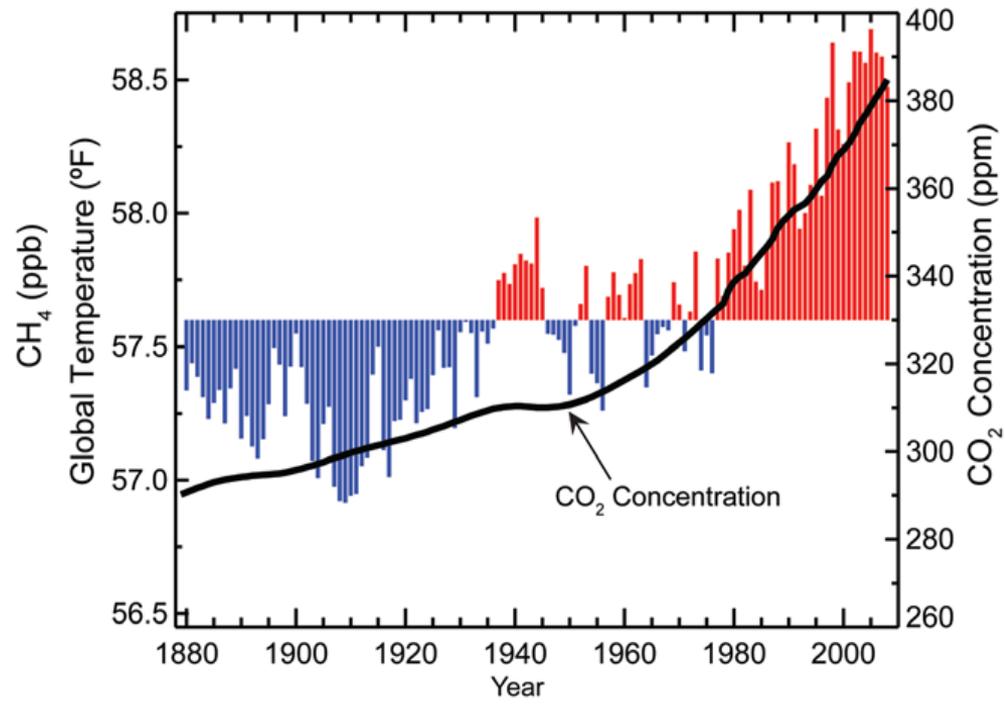
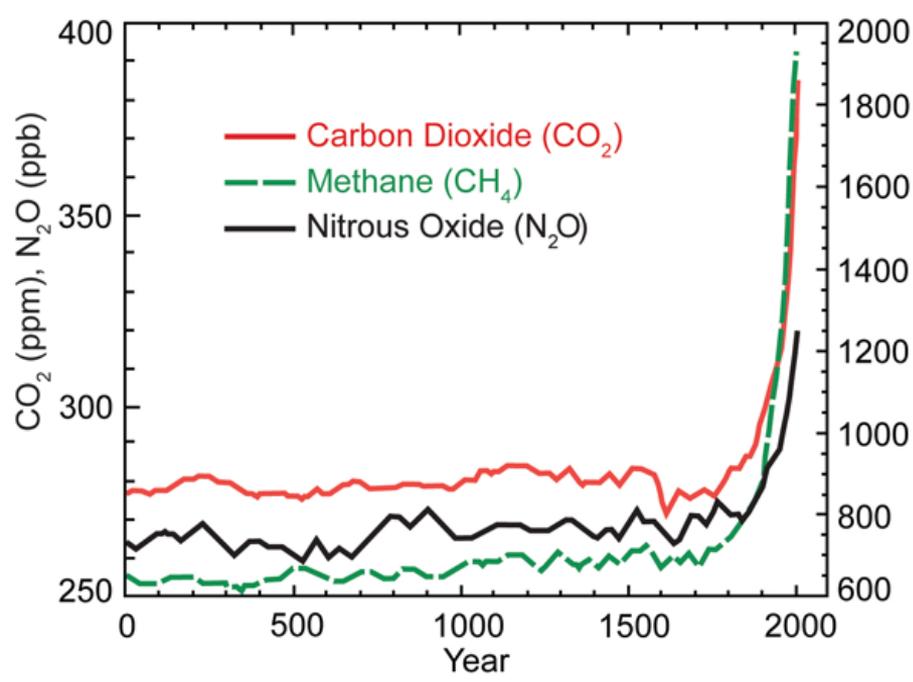


François Tardif, Professeur  
University of Guelph  
Bloc E

**Lutte aux mauvaises herbes: effet des changements climatiques**

# Lutte aux mauvaises herbes: effet <sup>potentiel</sup> des changements climatiques

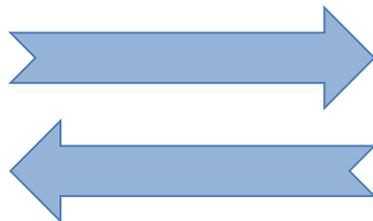


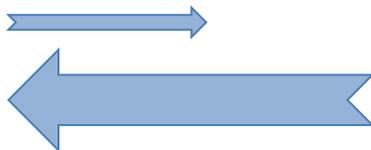


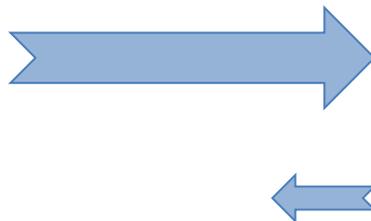


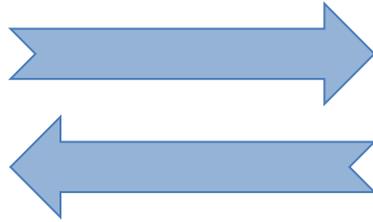


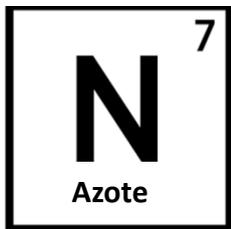
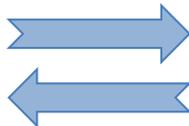


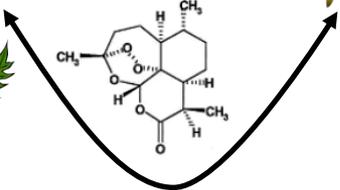
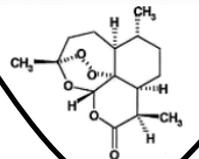


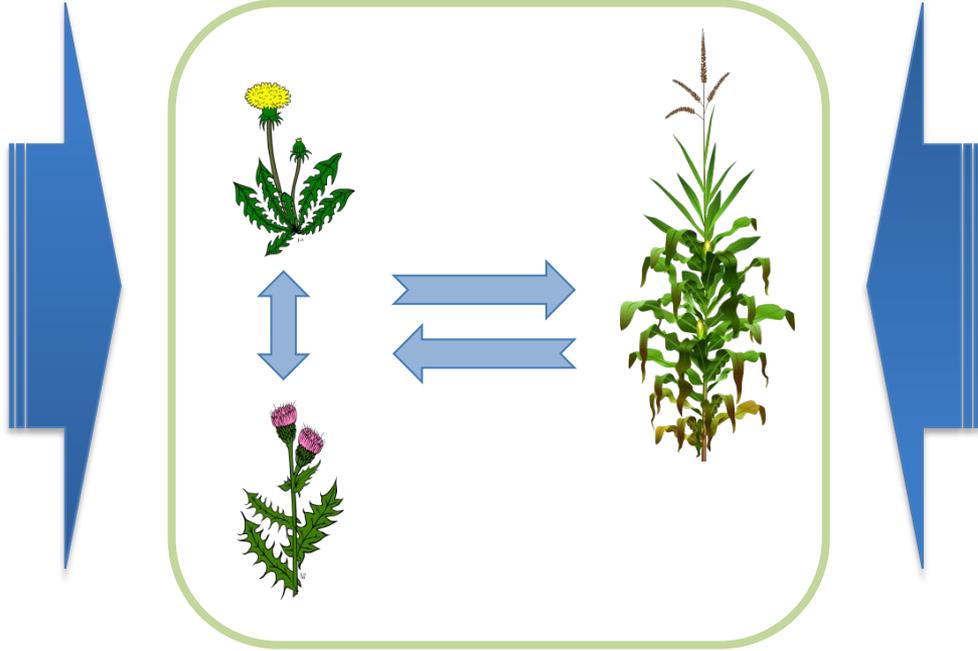


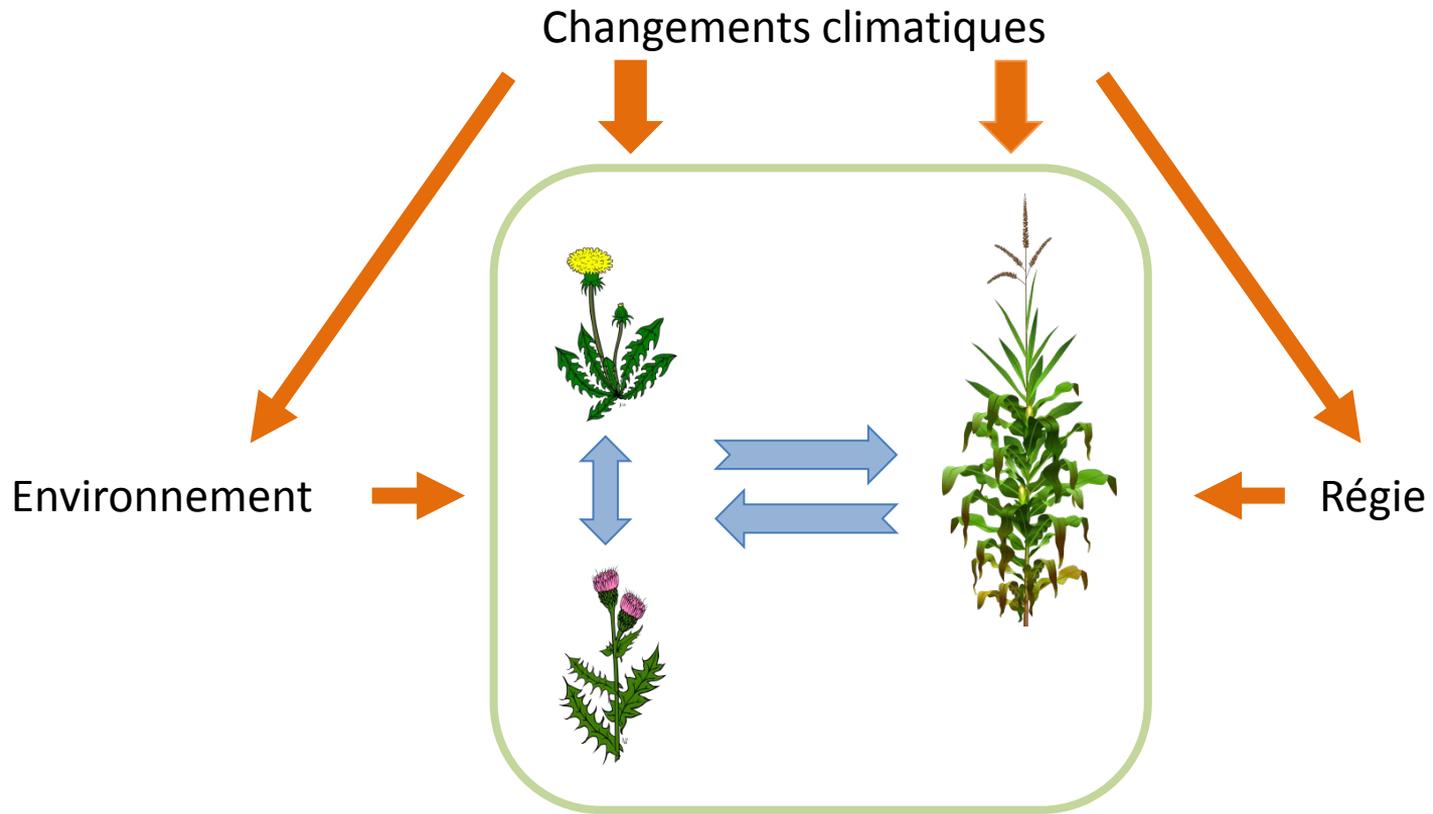
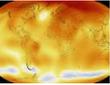


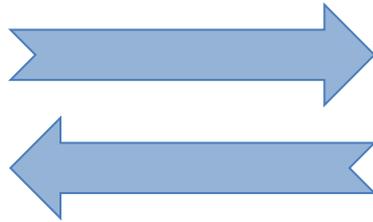
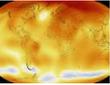


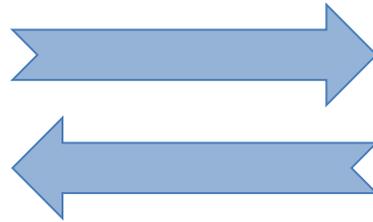
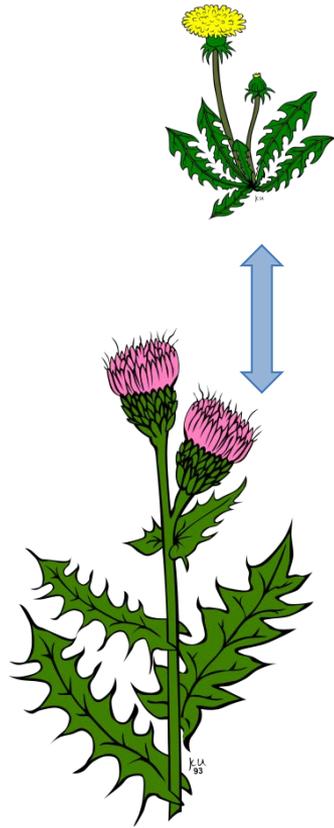
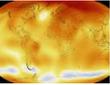


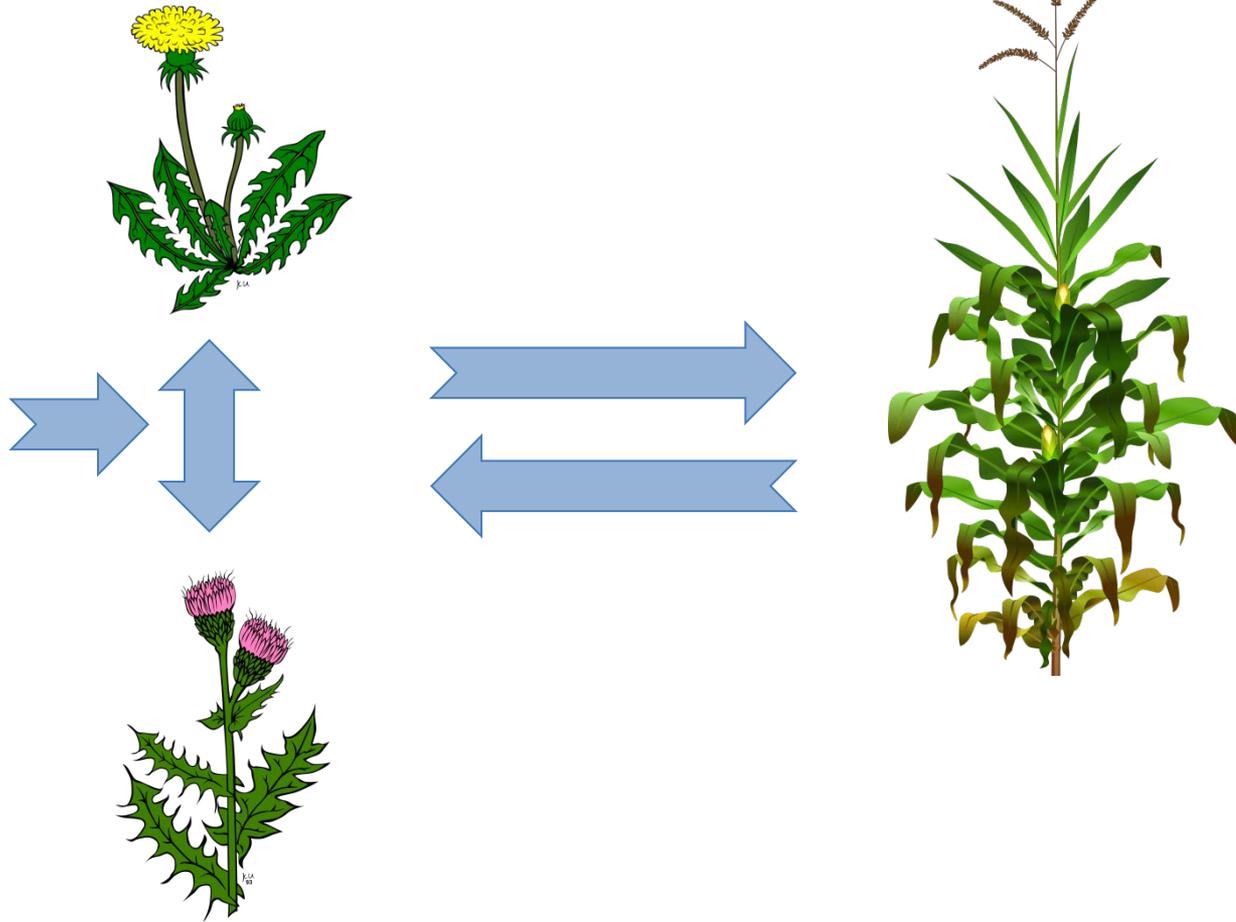
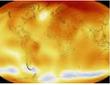


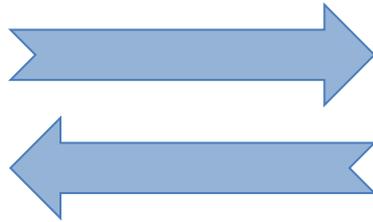
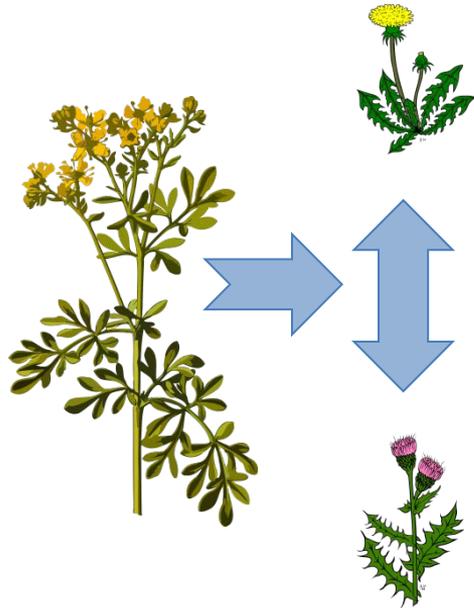
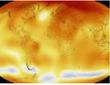












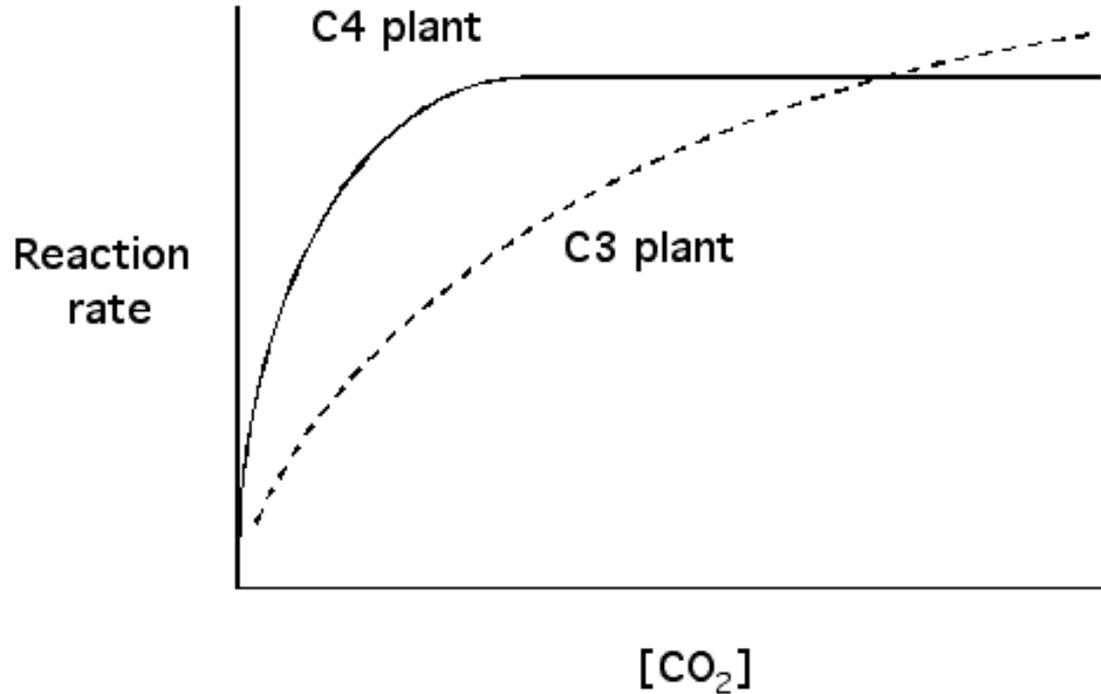
# Effets des changements climatiques

- Augmentation CO<sub>2</sub>
- Augmentation température
- Fluctuation des précipitations

# Effets directs sur la mauvaise herbe

- Compétitivité
- Capacité reproductrice
- Réponse aux mesures de régie

# Effets sur la compétitivité





VS





VS



# Résultats de 15 études



8



7



# ↑CO<sub>2</sub> change la compétitivité



*S.incrassata*

*Setaria incrassata*



*Astrebla squarrosa*

*Parthenium hysterophorus*



-32 %

-23 %

+8 %

+38 %

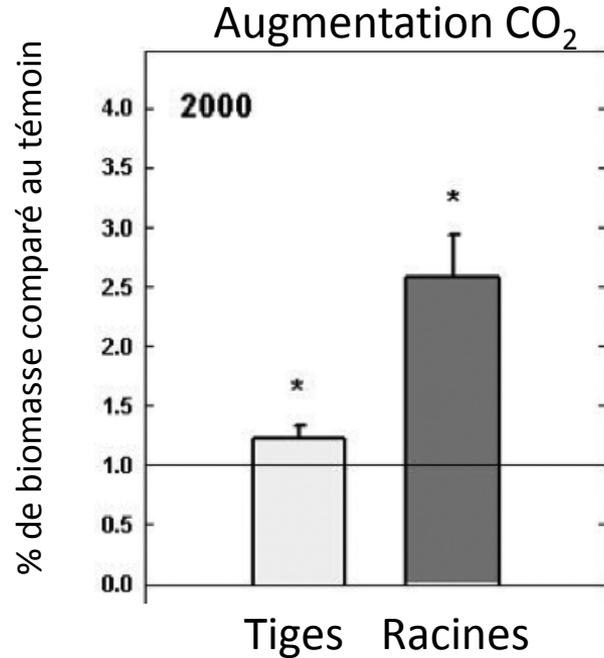


*Bothriochloa decipiens*

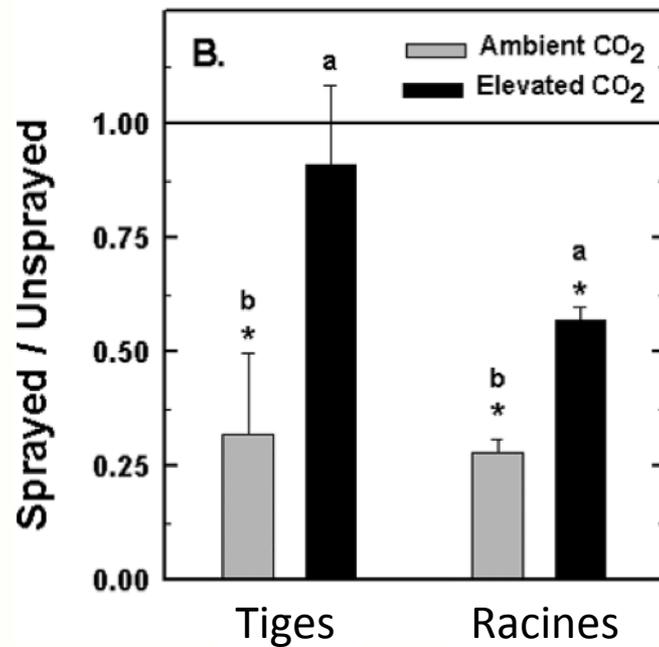


*Clitoria ternatea*

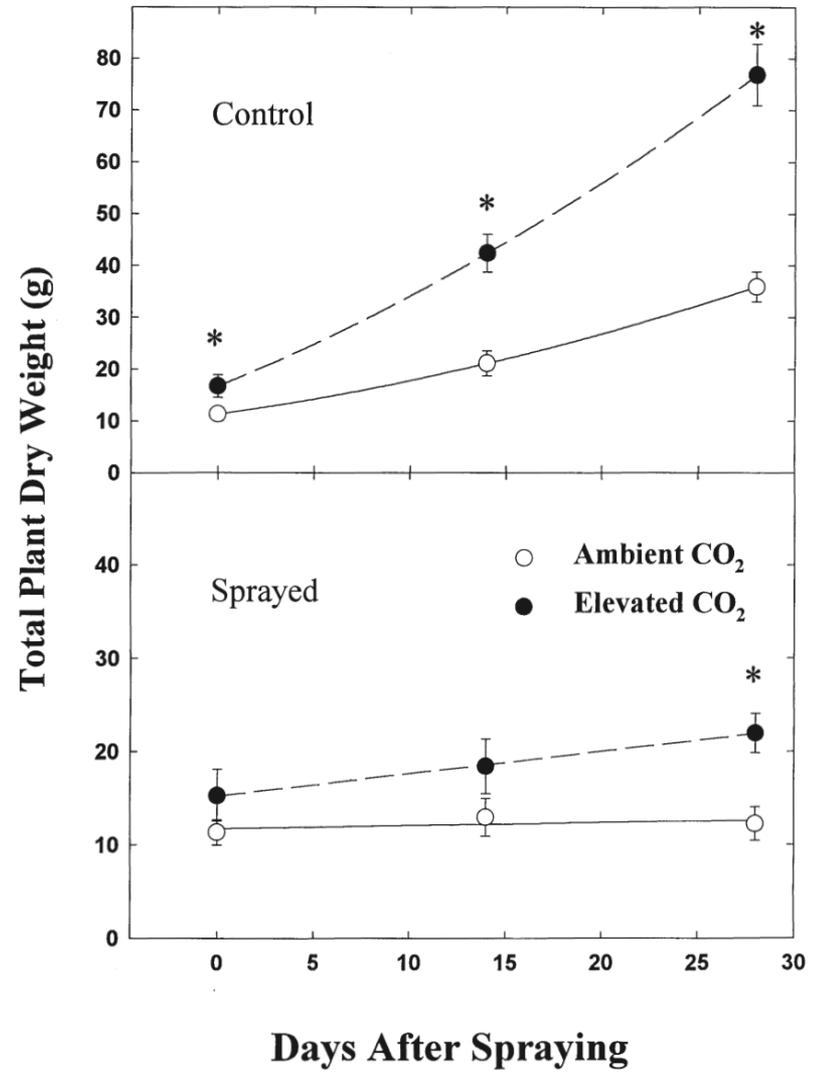
# Le CO<sub>2</sub> altère la distribution de la biomasse



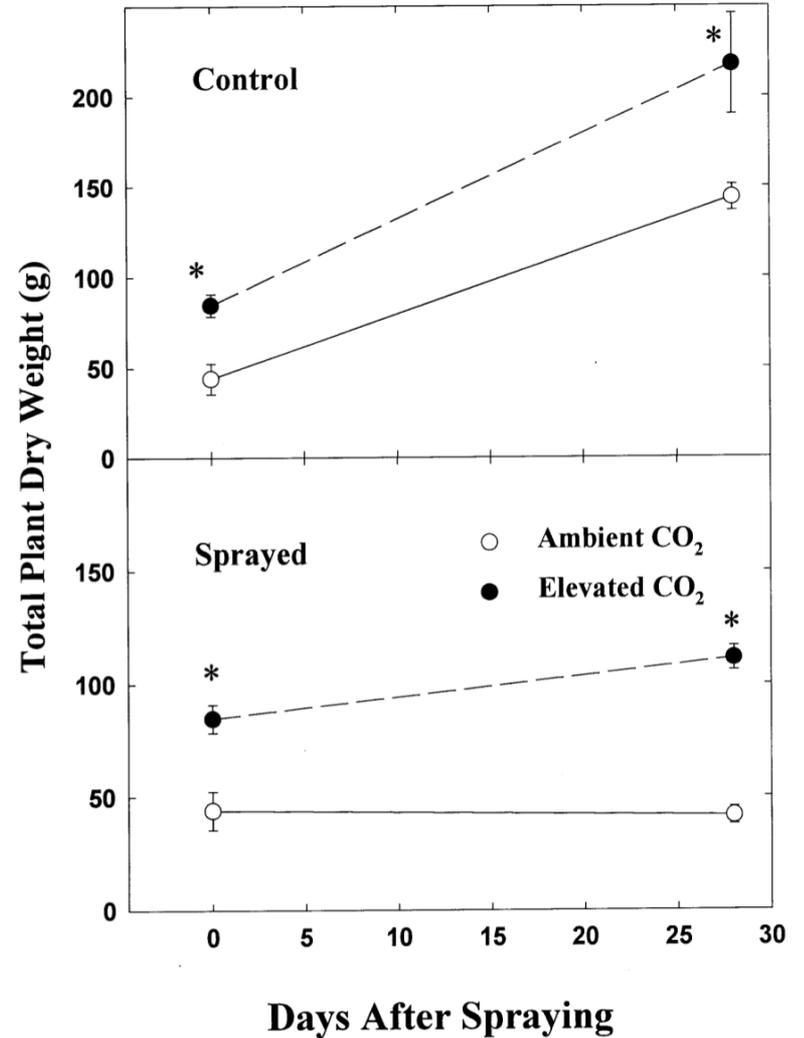
# Le CO<sub>2</sub> affecte l'efficacité du glyphosate



L'augmentation du CO<sub>2</sub> diminue l'efficacité du glyphosate



L'augmentation du CO<sub>2</sub> diminue l'efficacité du glyphosate



# Augmentation CO<sub>2</sub> et phénologie

- *Cyanus segetum*
- Semences 1992 vs 2010
  - Floraison plus hâtive
  - Inflorescence plus large



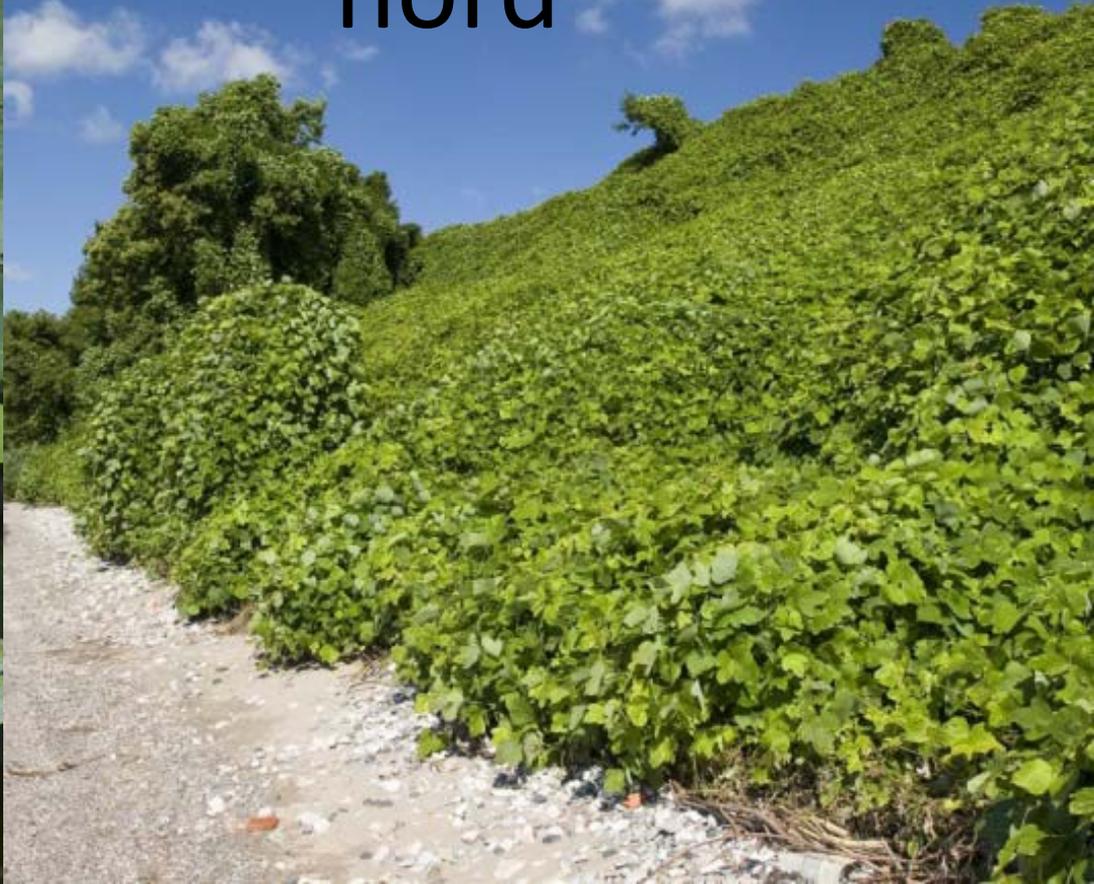
# Phénologie de l'abutilon

- Autrefois: saison trop courte pour maturation
- Maintenant: saison assez longue

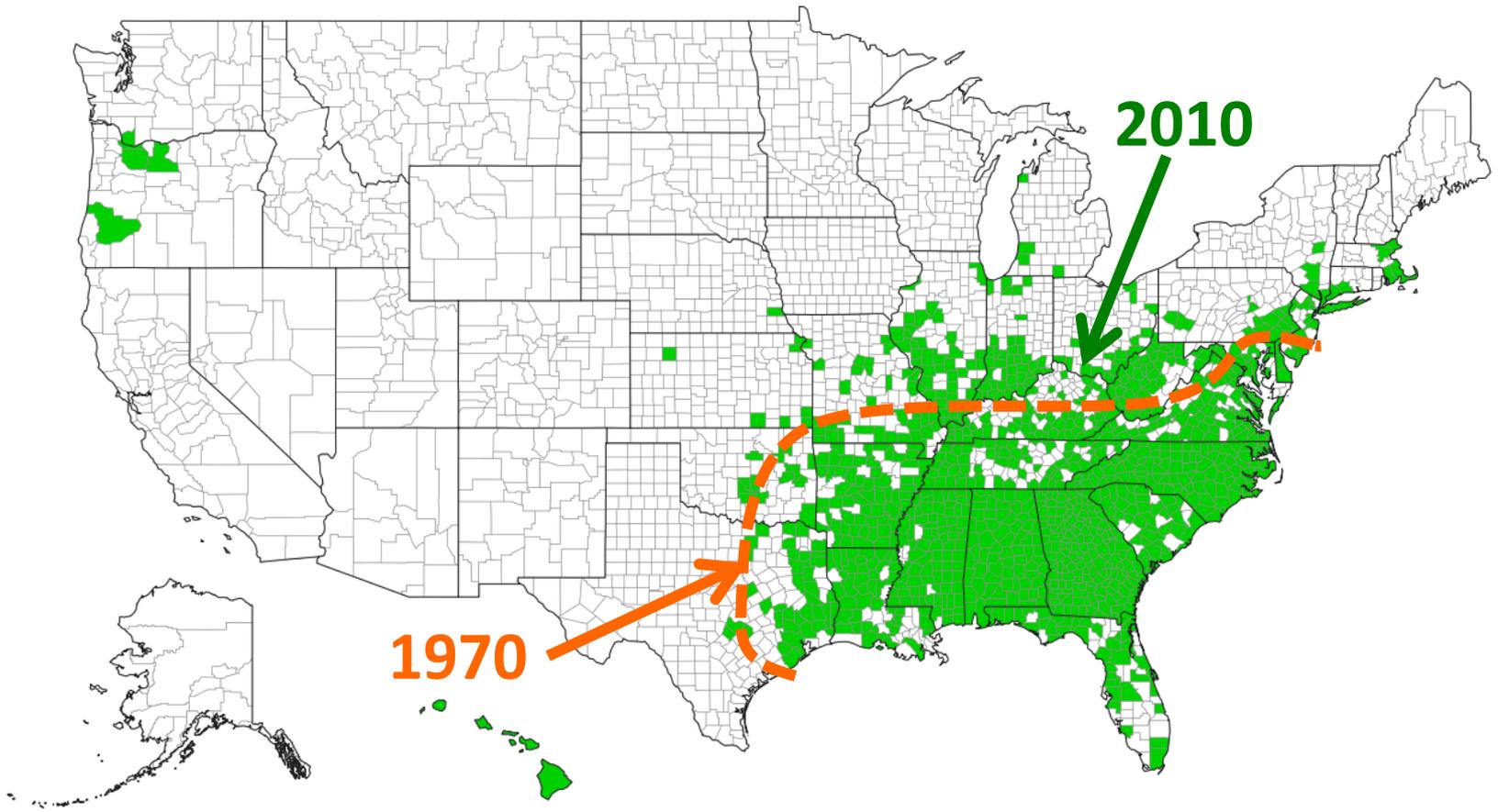
Invasion vers le nord de l'Europe



Expansion vers le  
nord







1970

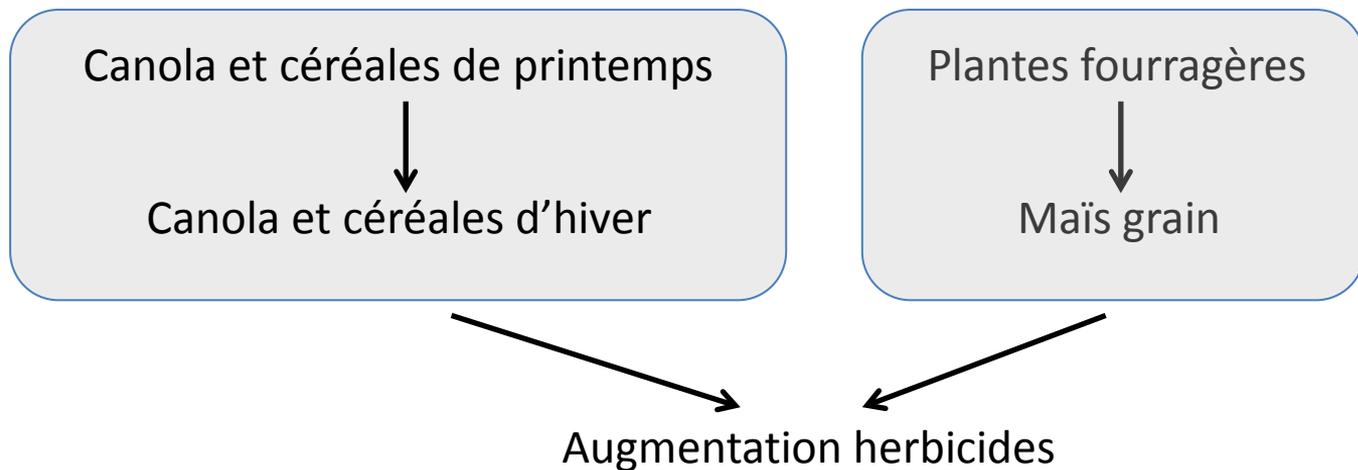
2010

**Legend**  
□ No Data  
■ Species Reported

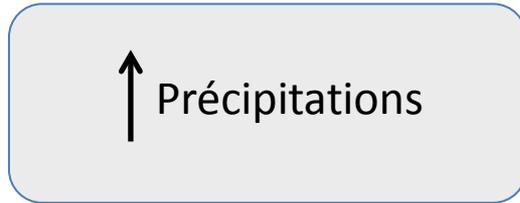
# Effets indirect- Utilisation du territoire



Changements climatiques vont changer le type de culture



# Différents facteurs



# Mauvaises herbes et santé

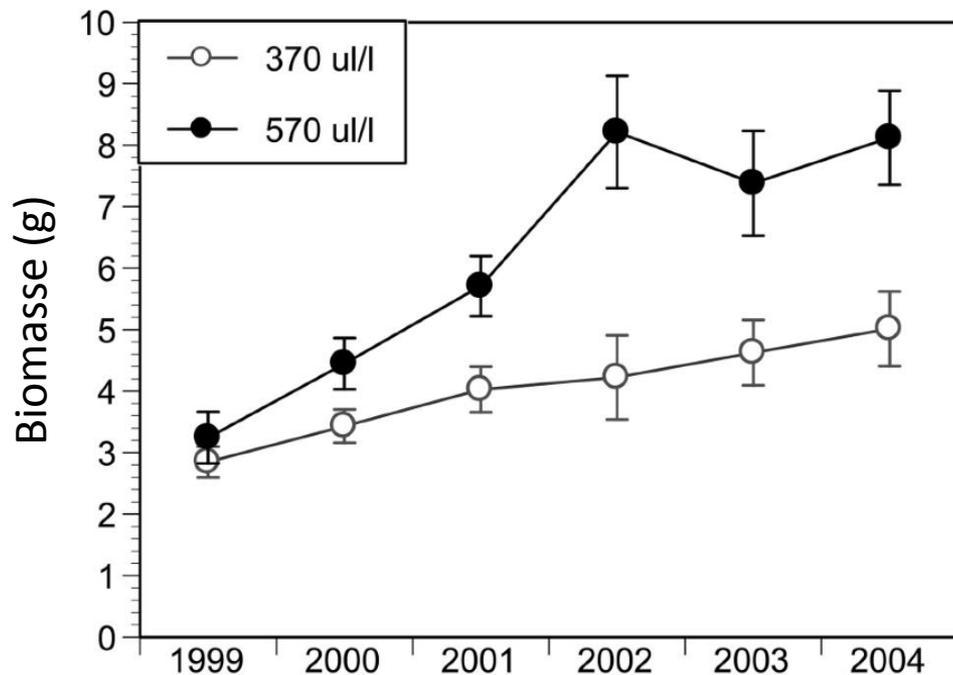


Herbe à puce



Petite herbe à poux

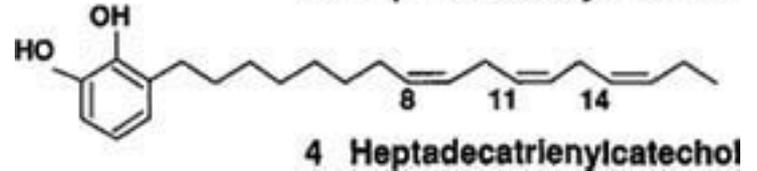
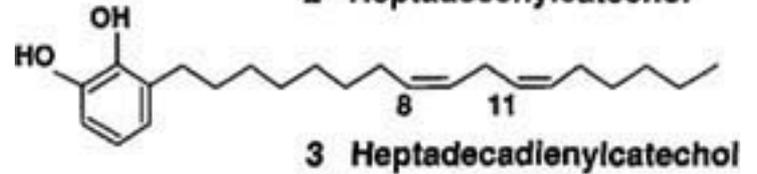
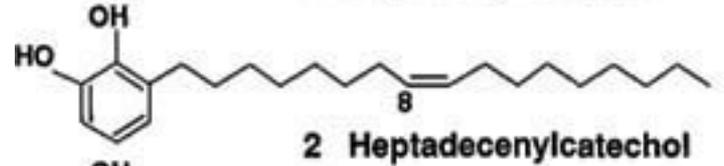
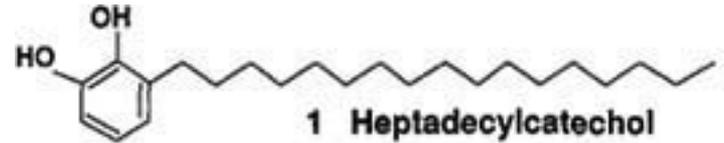
# CO<sub>2</sub> et herbe à puce



# Urushiol

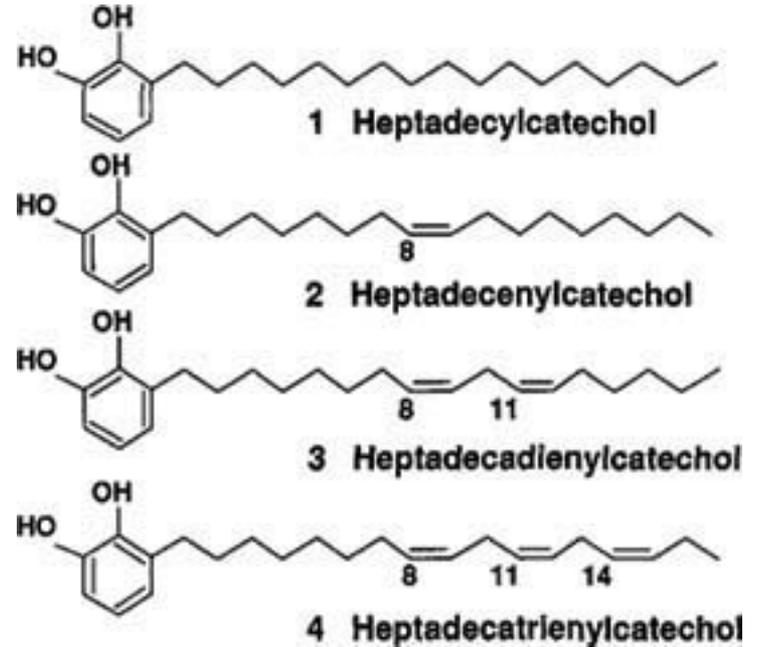
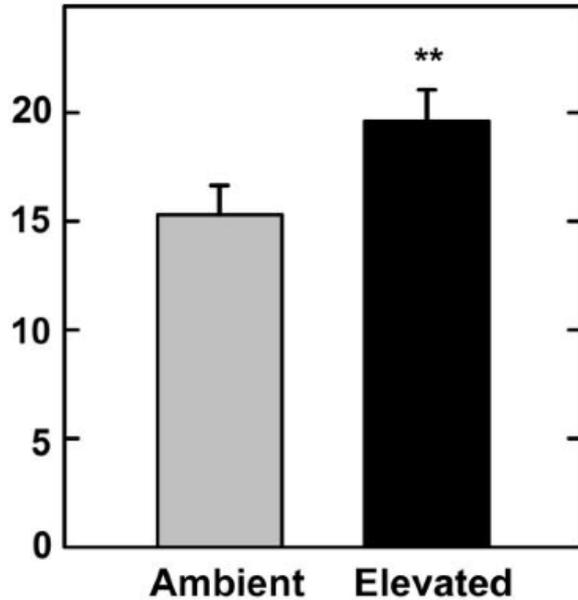
Moins toxique

Plus toxique

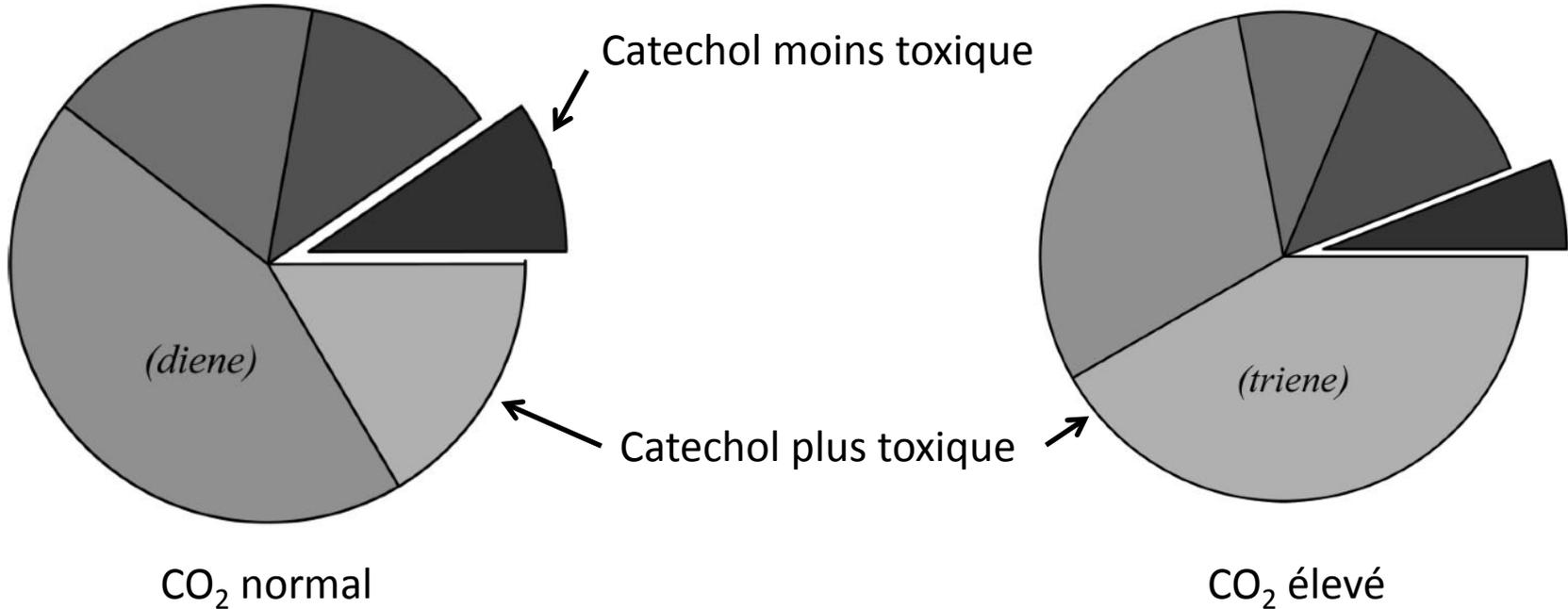


# Augmentation toxicité

Catechols insaturés : saturés



# Augmentation toxicité

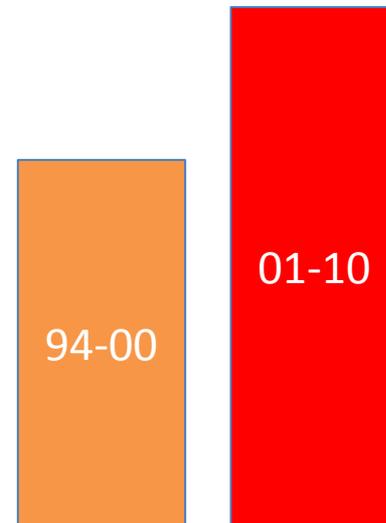
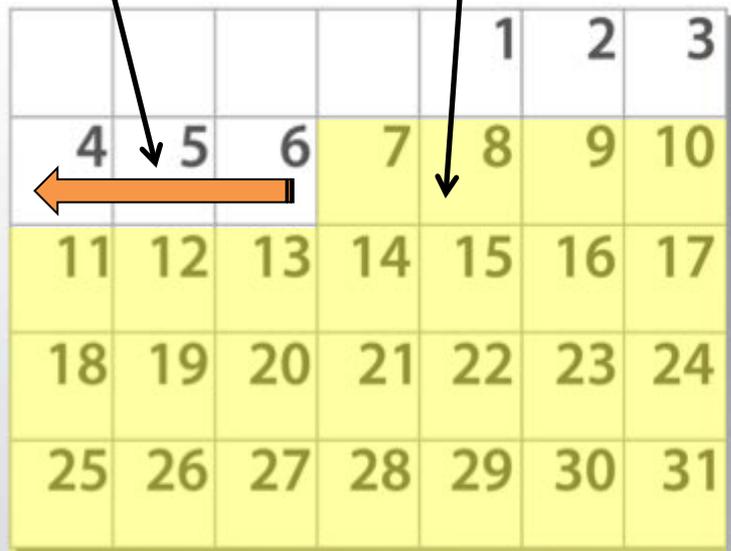


# Élongation de la production de pollen



2001-2010

1994-2000



Intensité

# Conclusion

- Différents effets peuvent s'annuler
- Flore adventice a une réaction complexe
- L'amélioration des cultivars pourrait compenser

# Merci!