

La cendre de bois diminue les émissions de gaz à effet de serre par le sol des érablières

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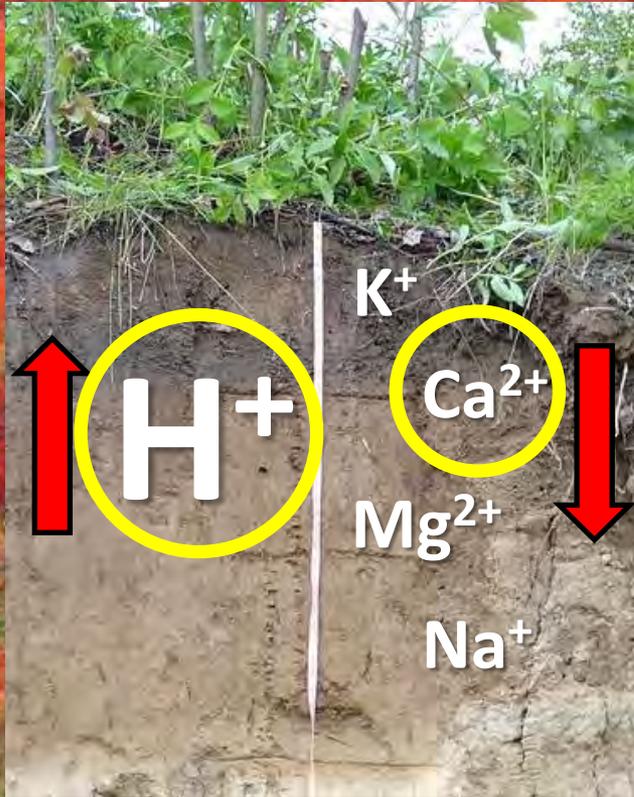


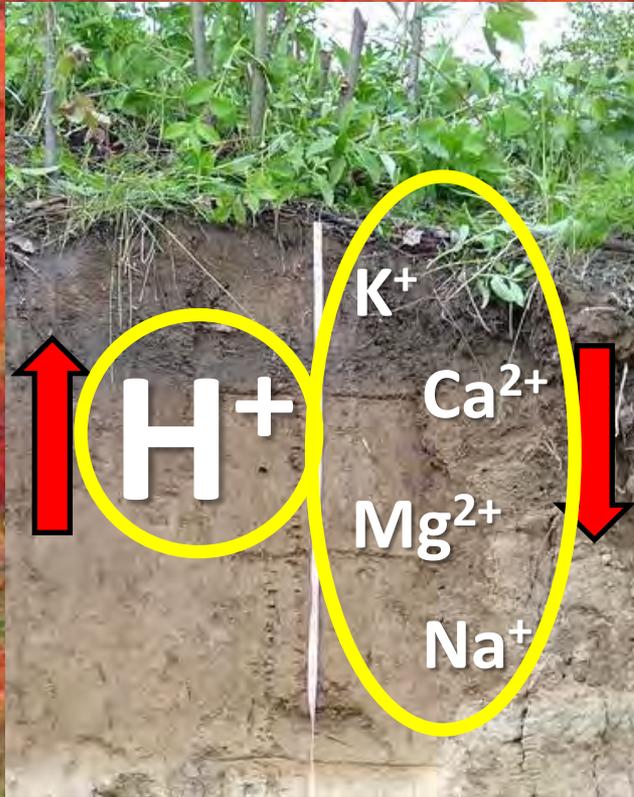
Institut des Sciences
de la Forêt tempérée



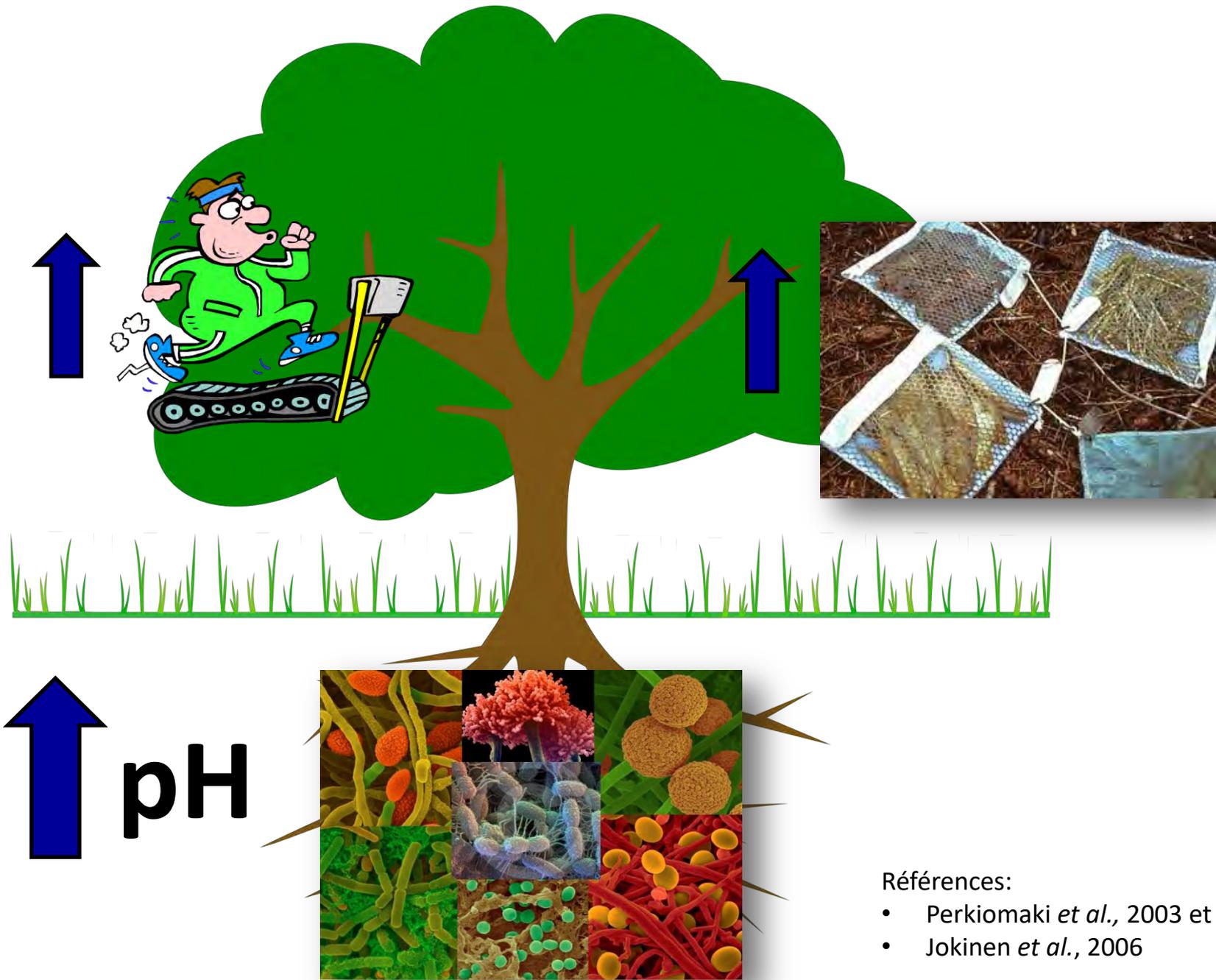
Modélisation de la
Complexité de la
Forêt





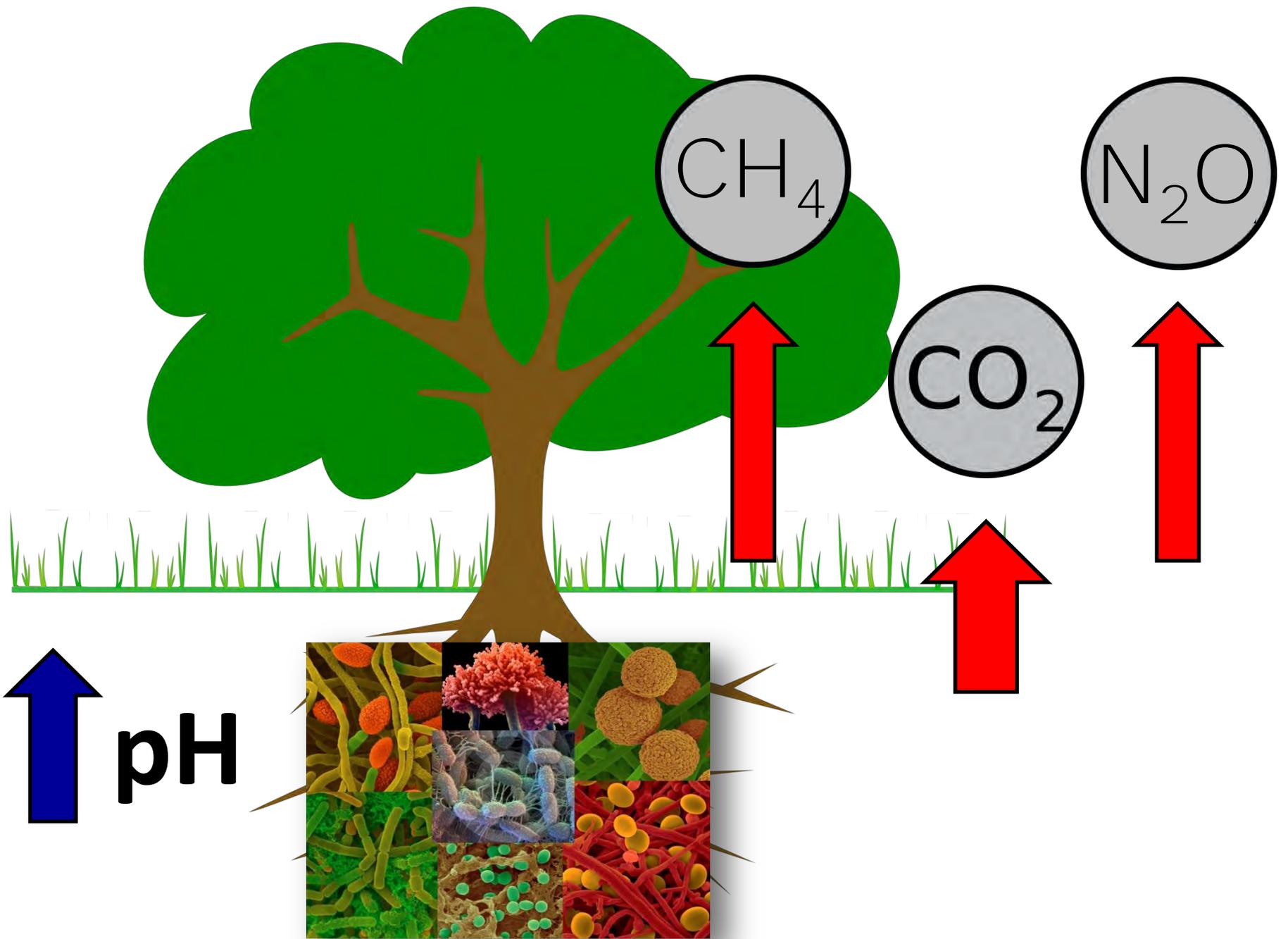


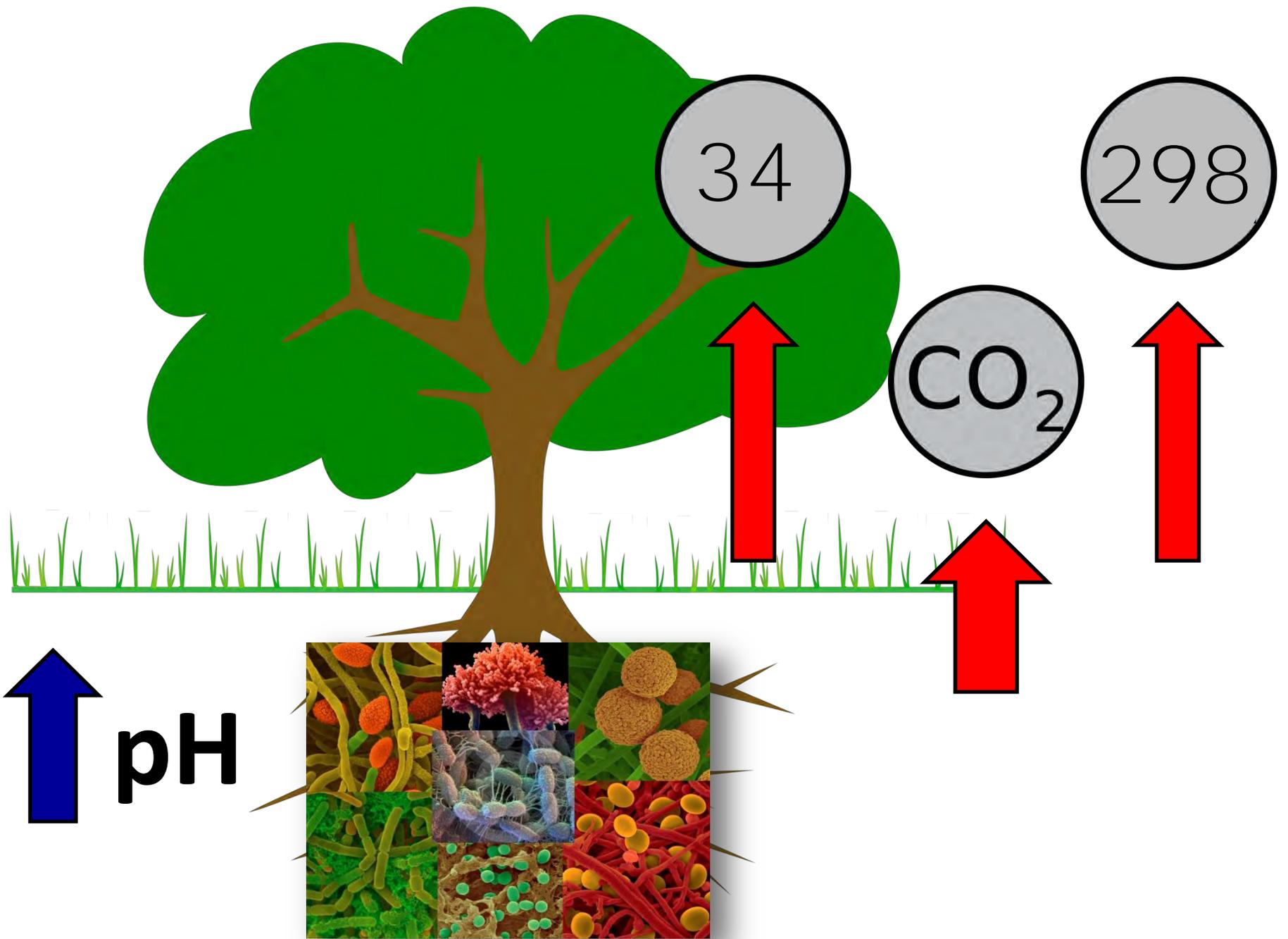




Références:

- Perkiomaki *et al.*, 2003 et 2004
- Jokinen *et al.*, 2006

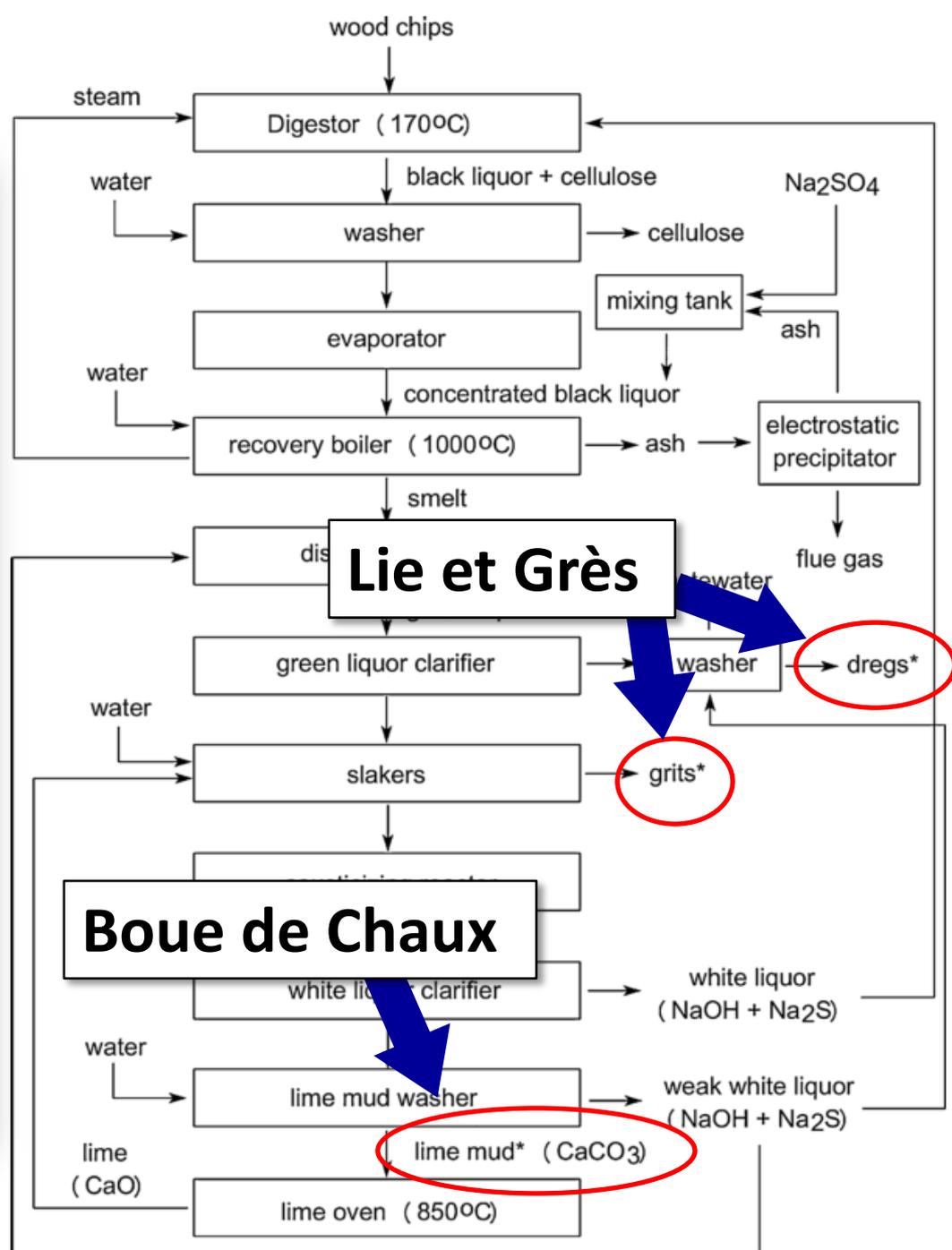






**Mesurer les émissions de gaz à effet de serre
par les sols des érablières suite à
l'application de cendres**



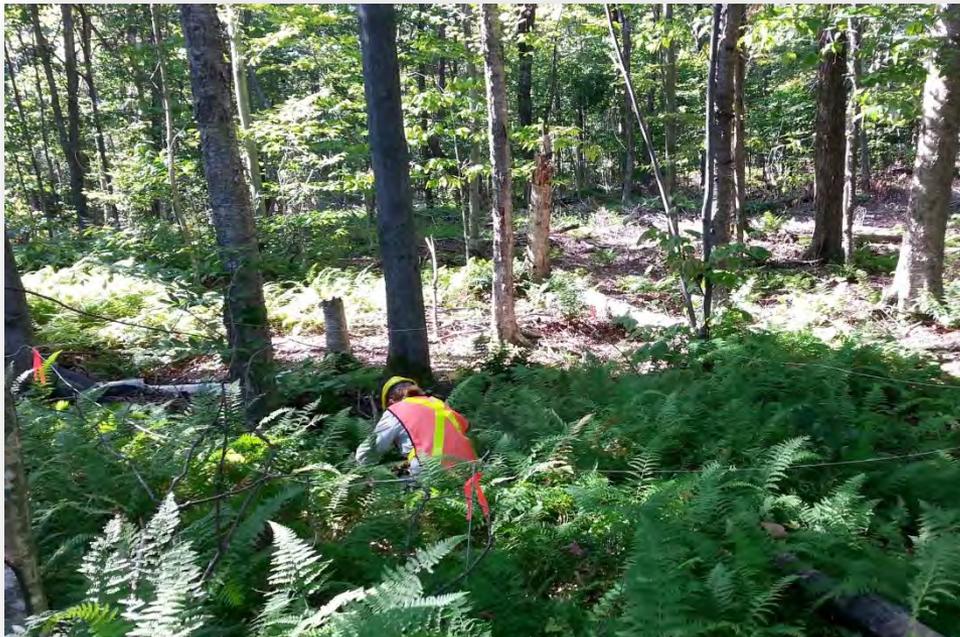




Domtar

Méthode

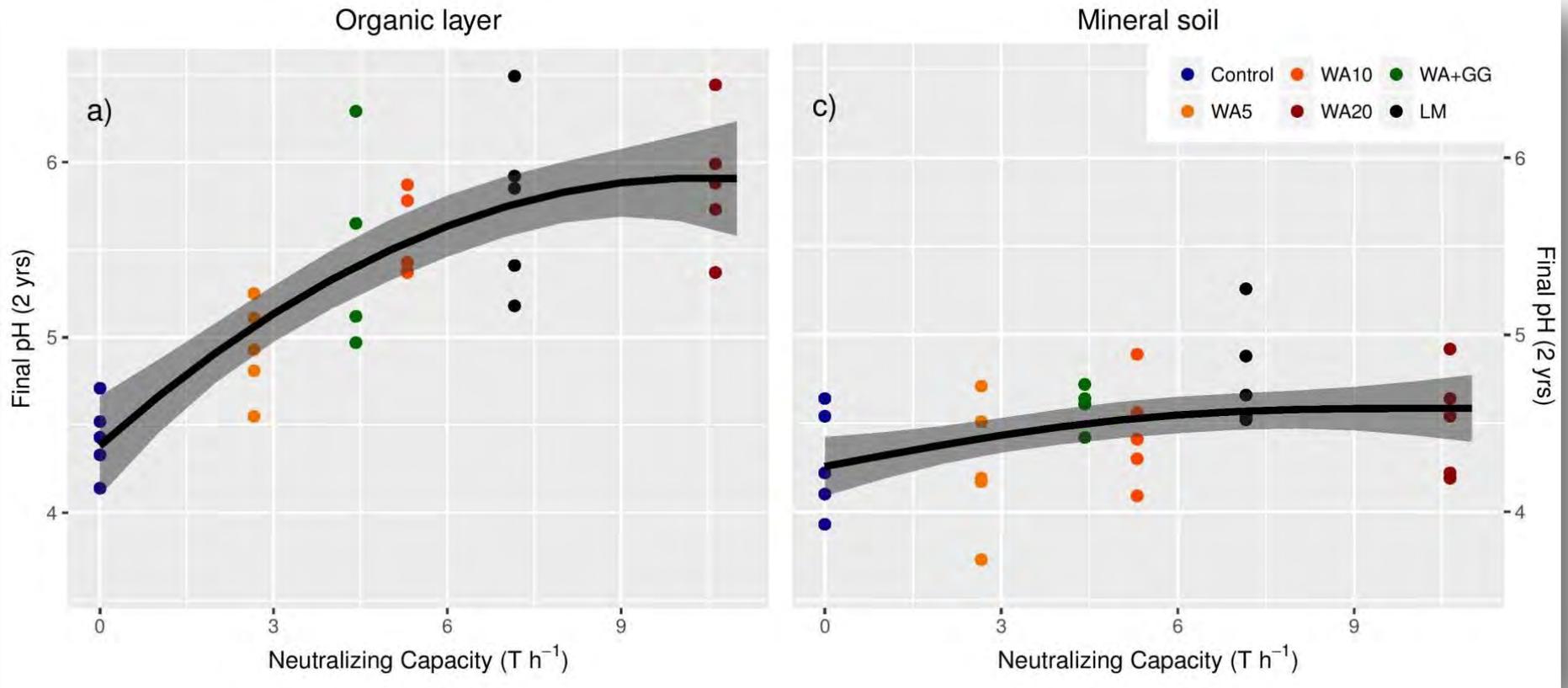
- 6 érablières X 6 traitements
- Cendres: 5, 10 et 20 T/ha
- Boue de chaux: 7 T/ha
- Lie et Grès: 7.5 T/ha
- Un contrôle



Méthode

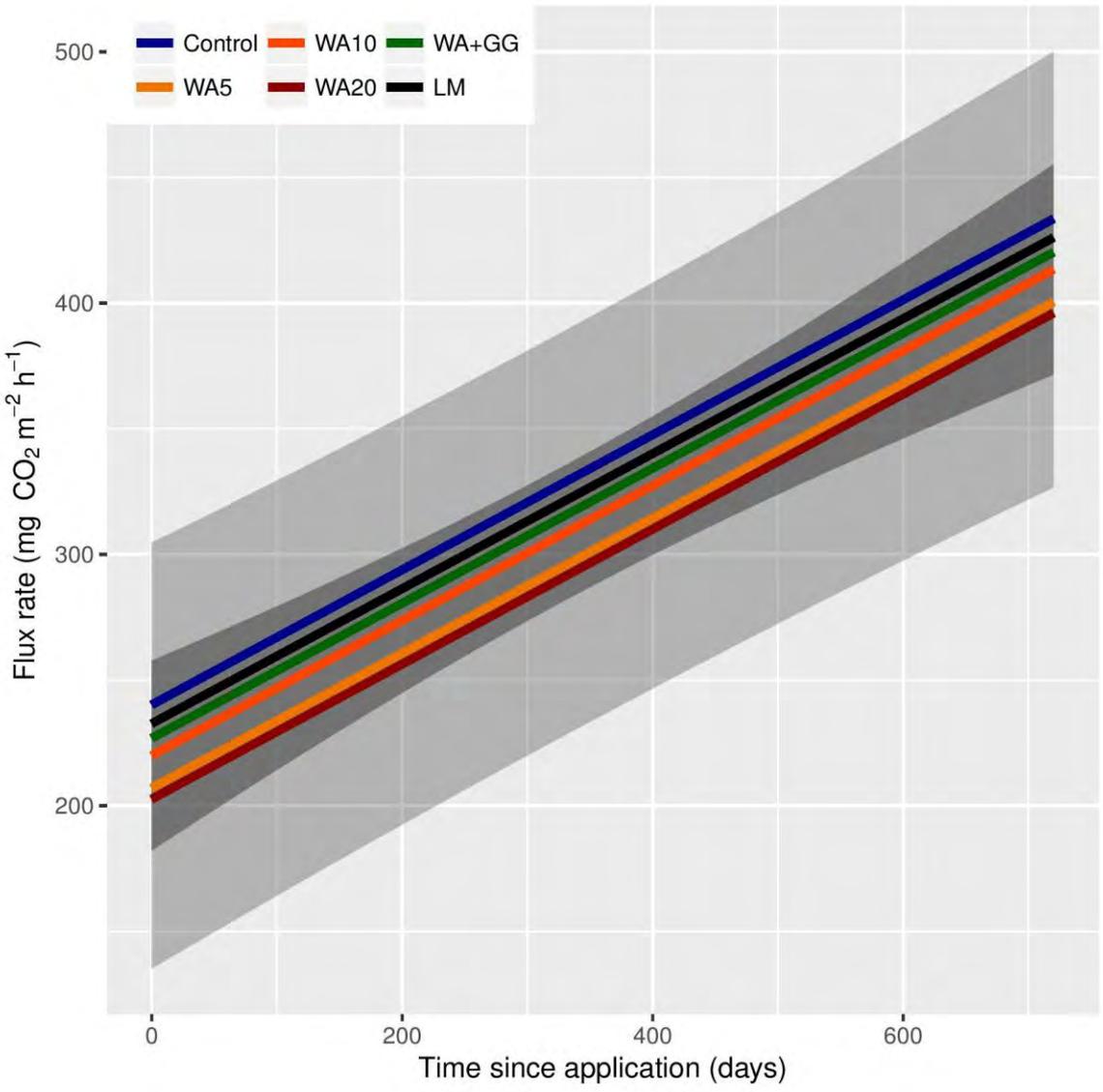


Résultats



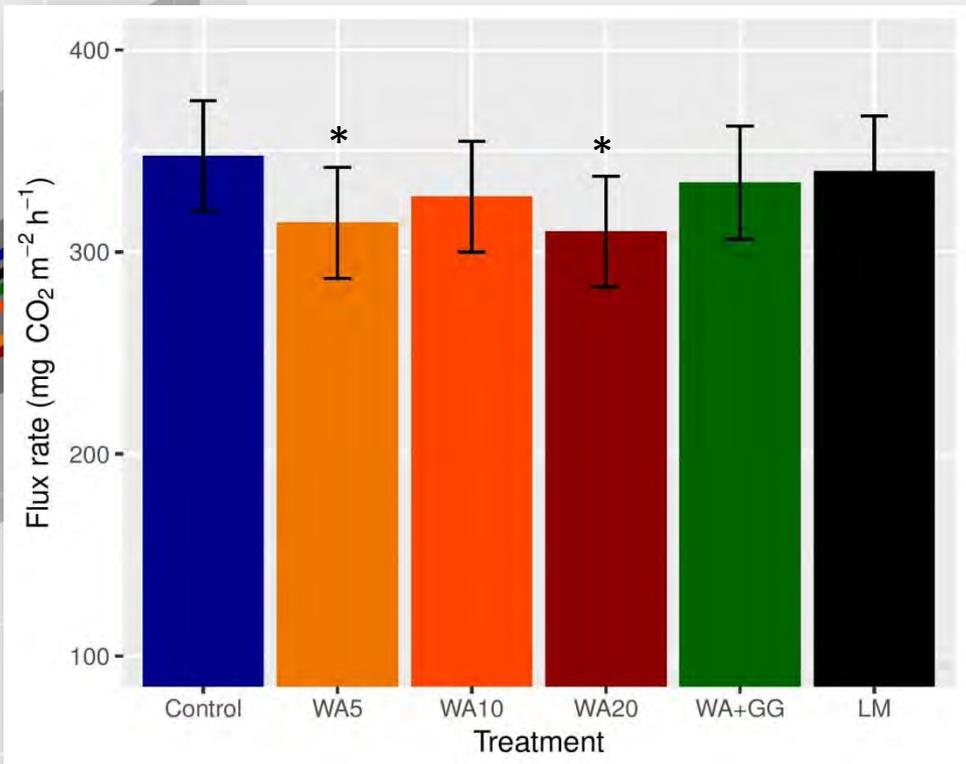
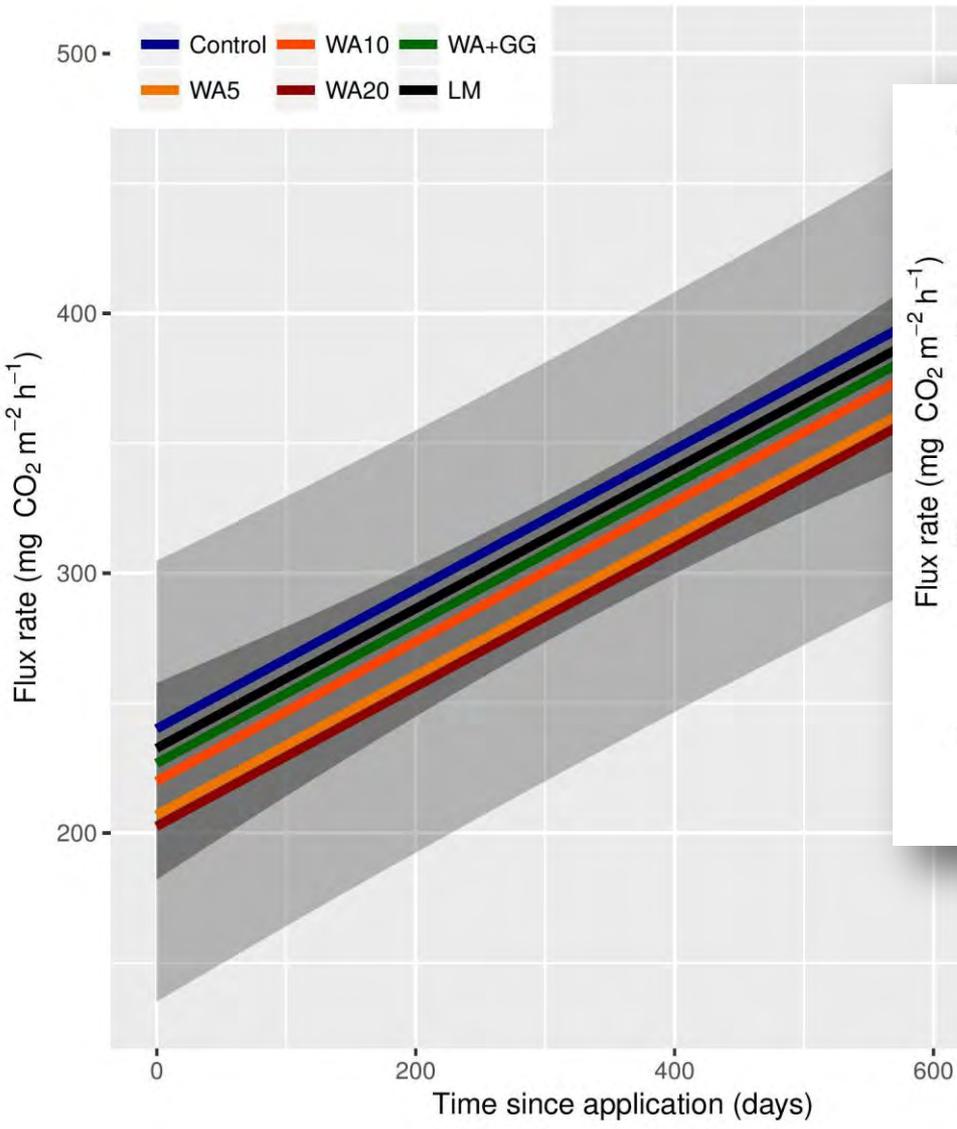
CO₂

Résultats



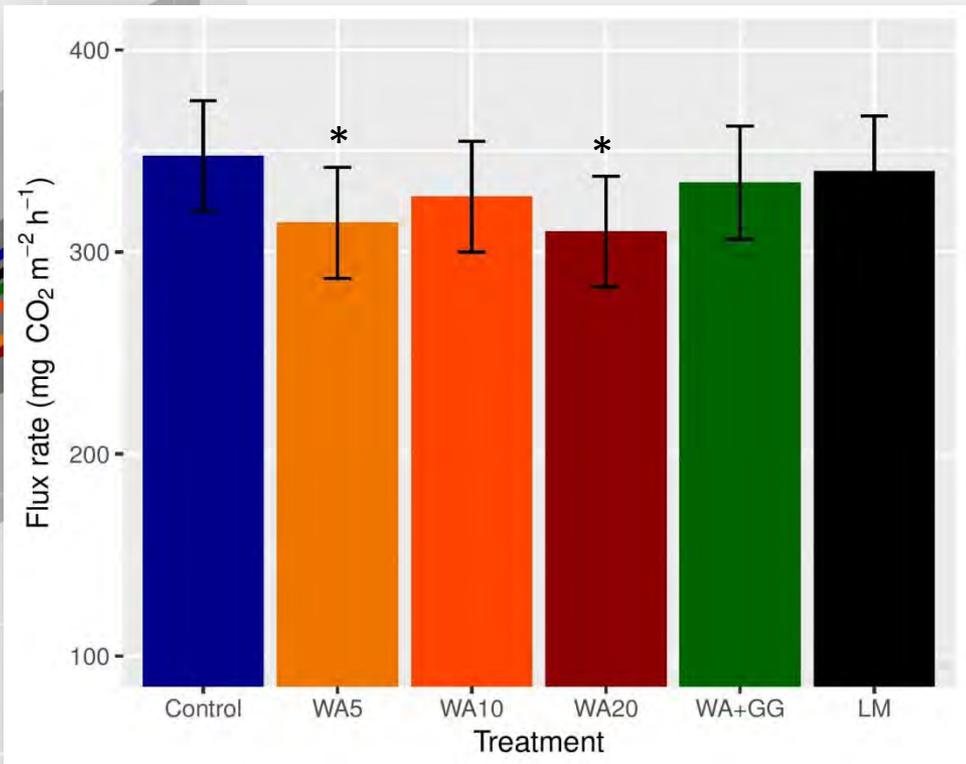
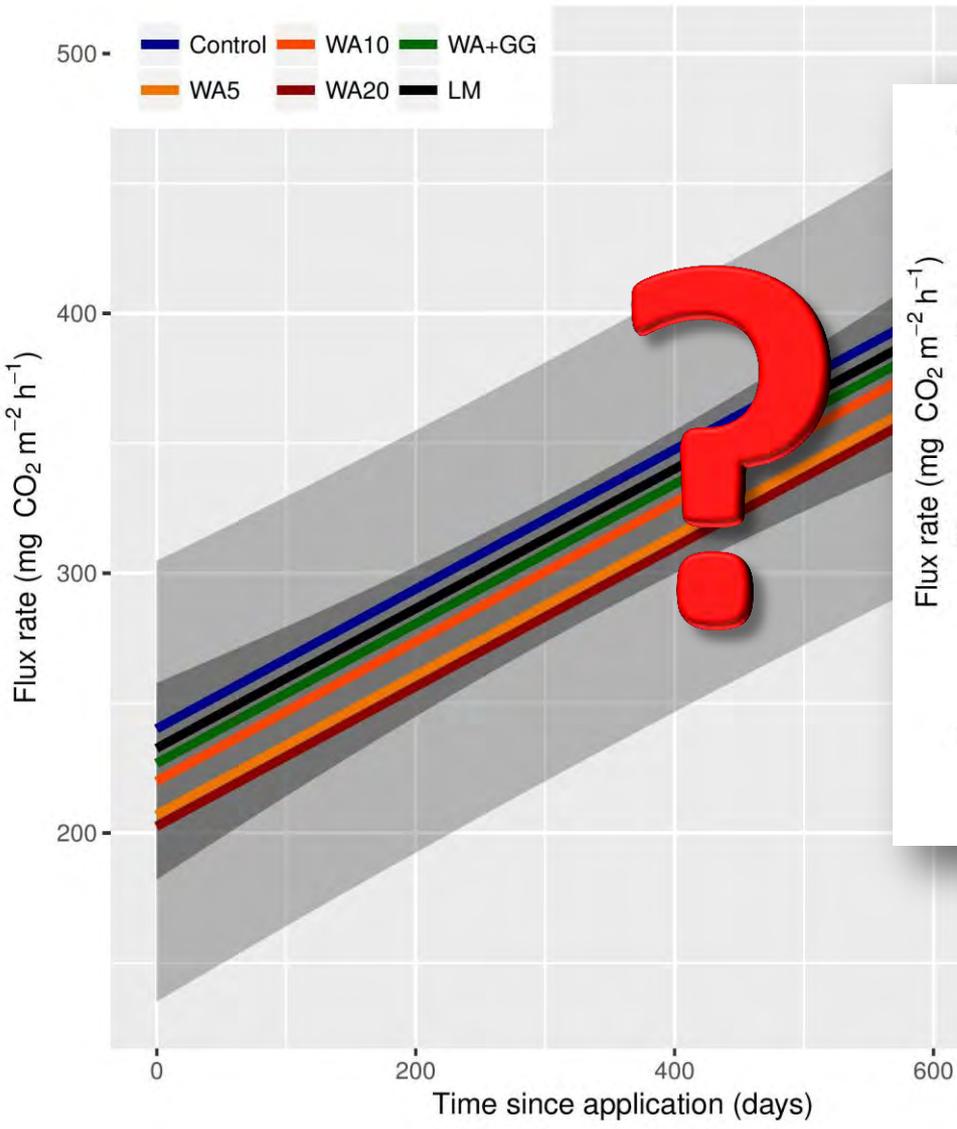
CO₂

Résultats



CO₂

Résultats



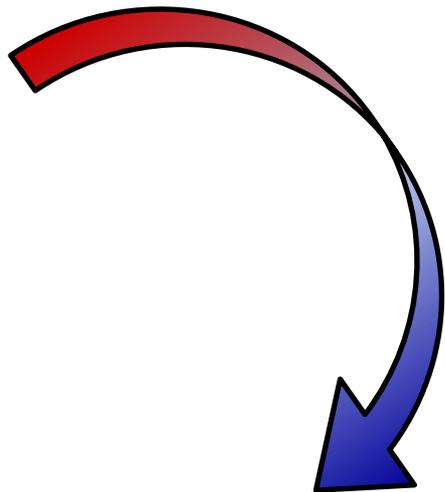


Résultats



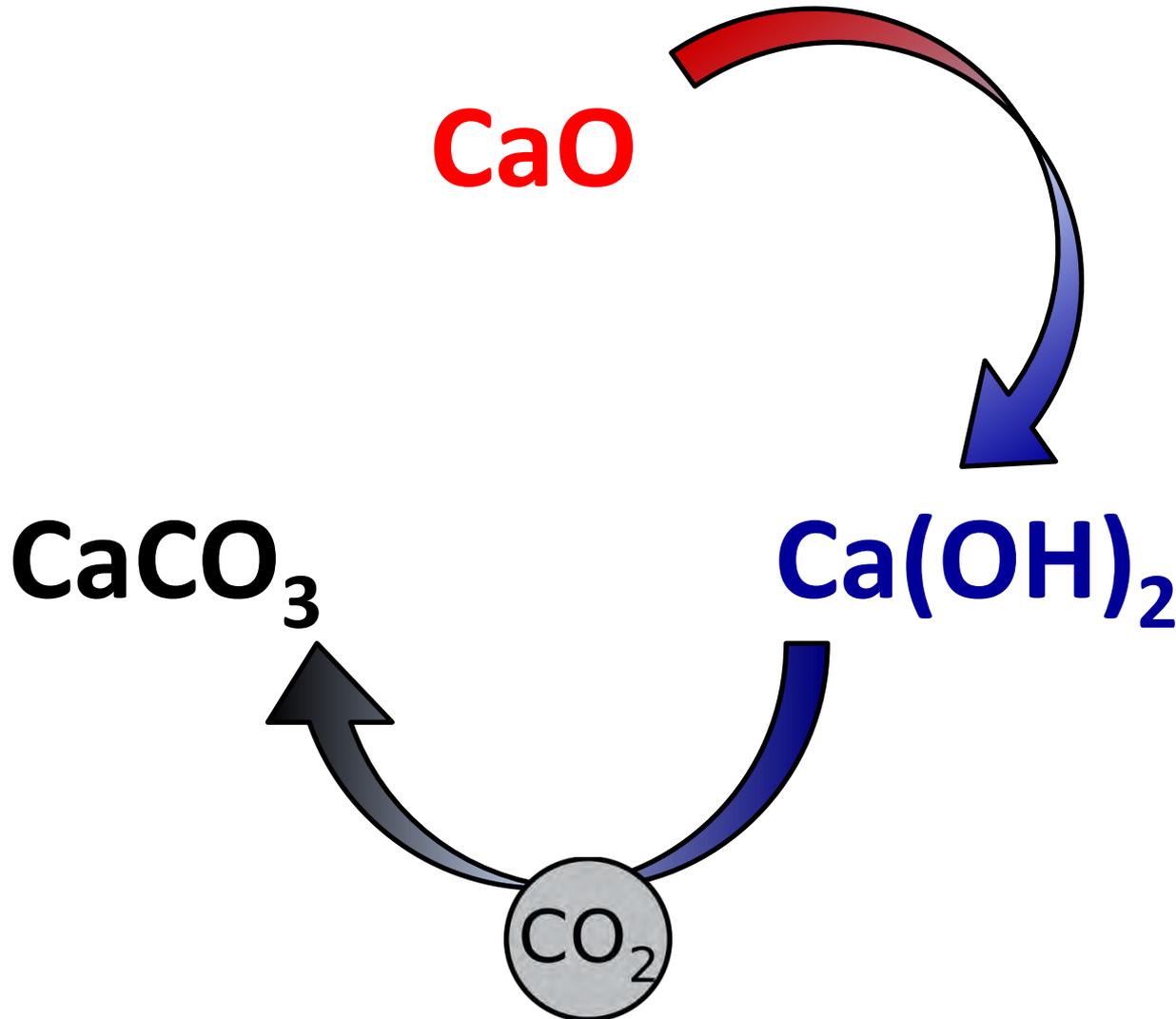


Résultats



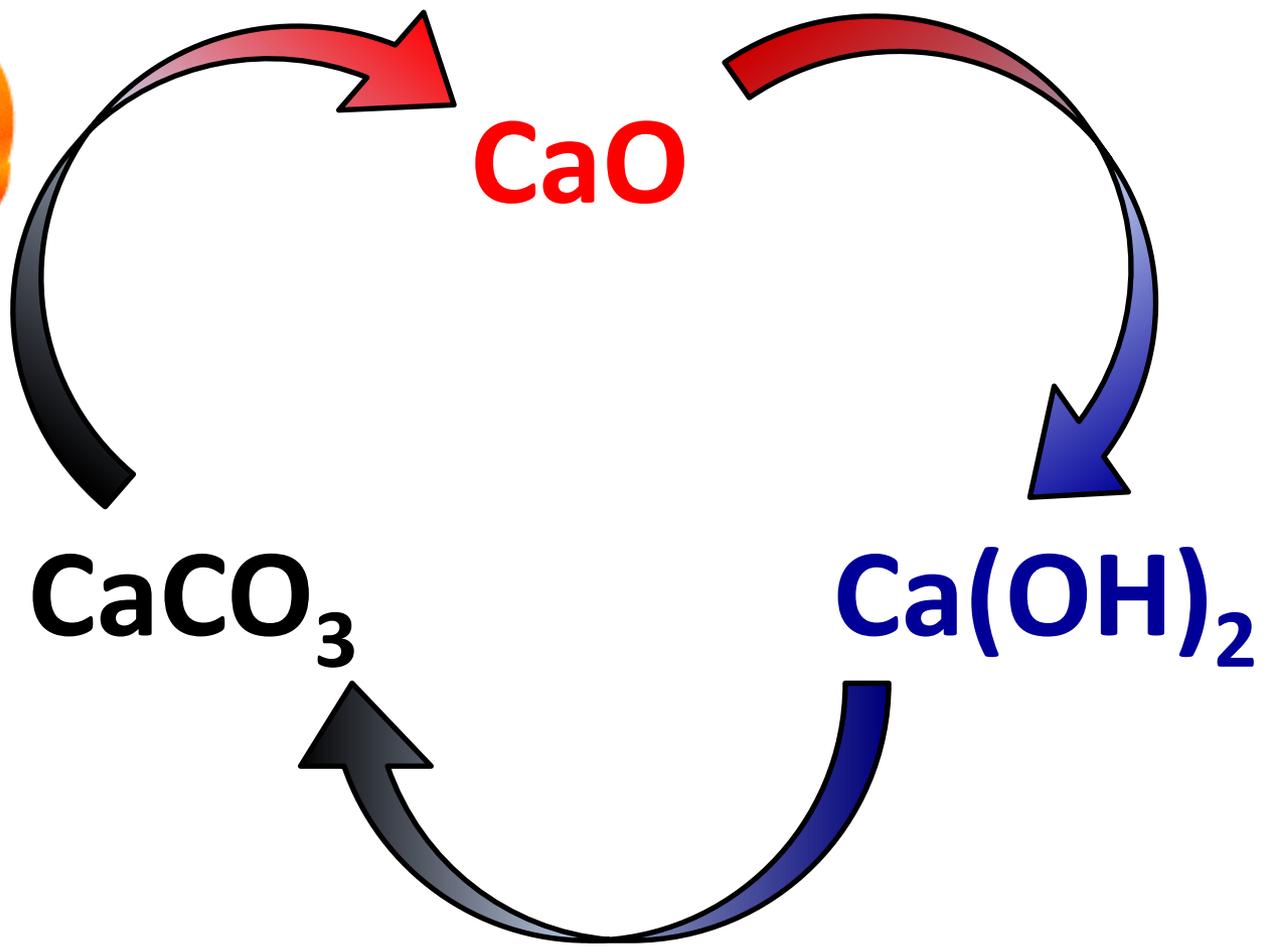


Résultats



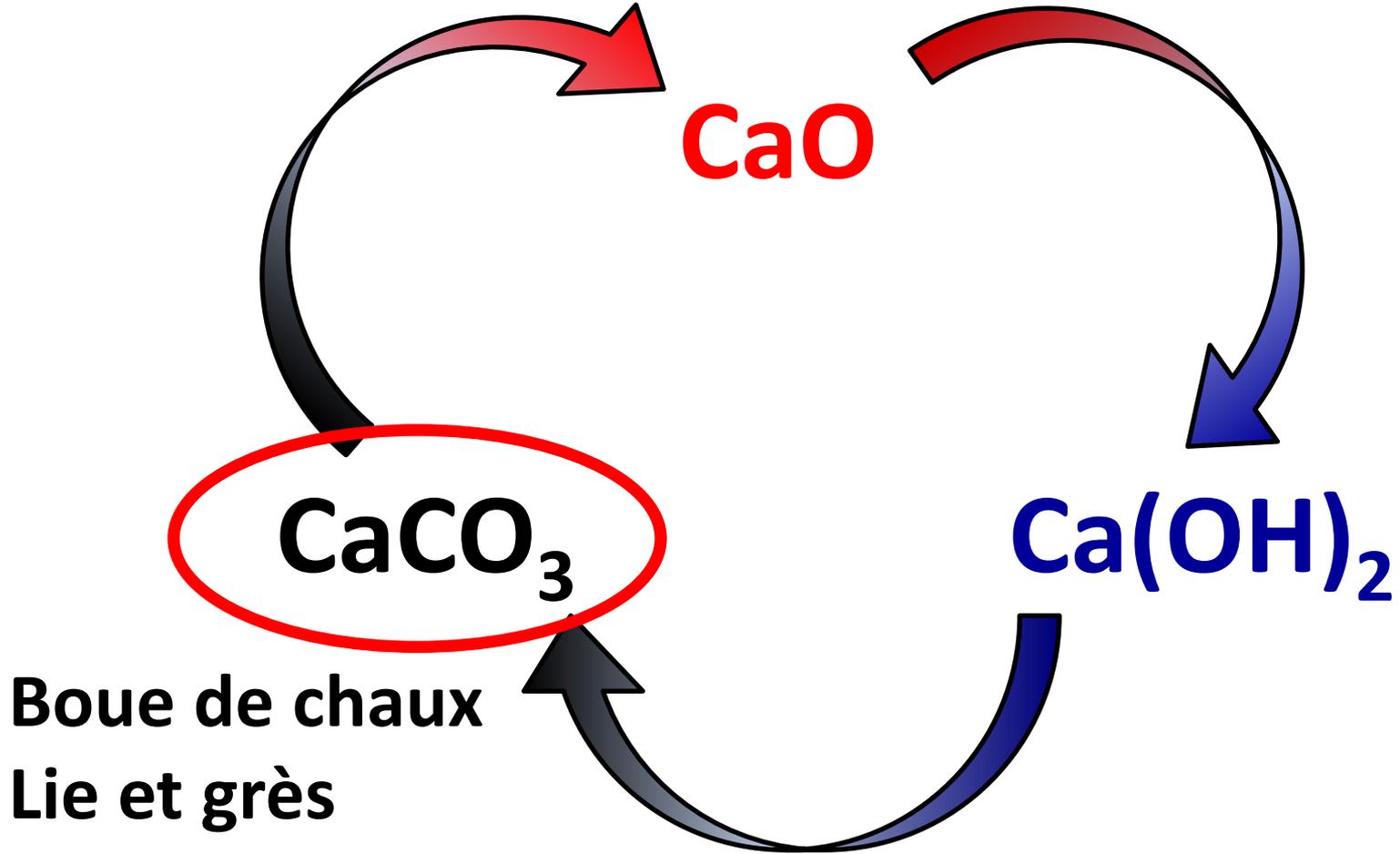
CO₂

Résultats



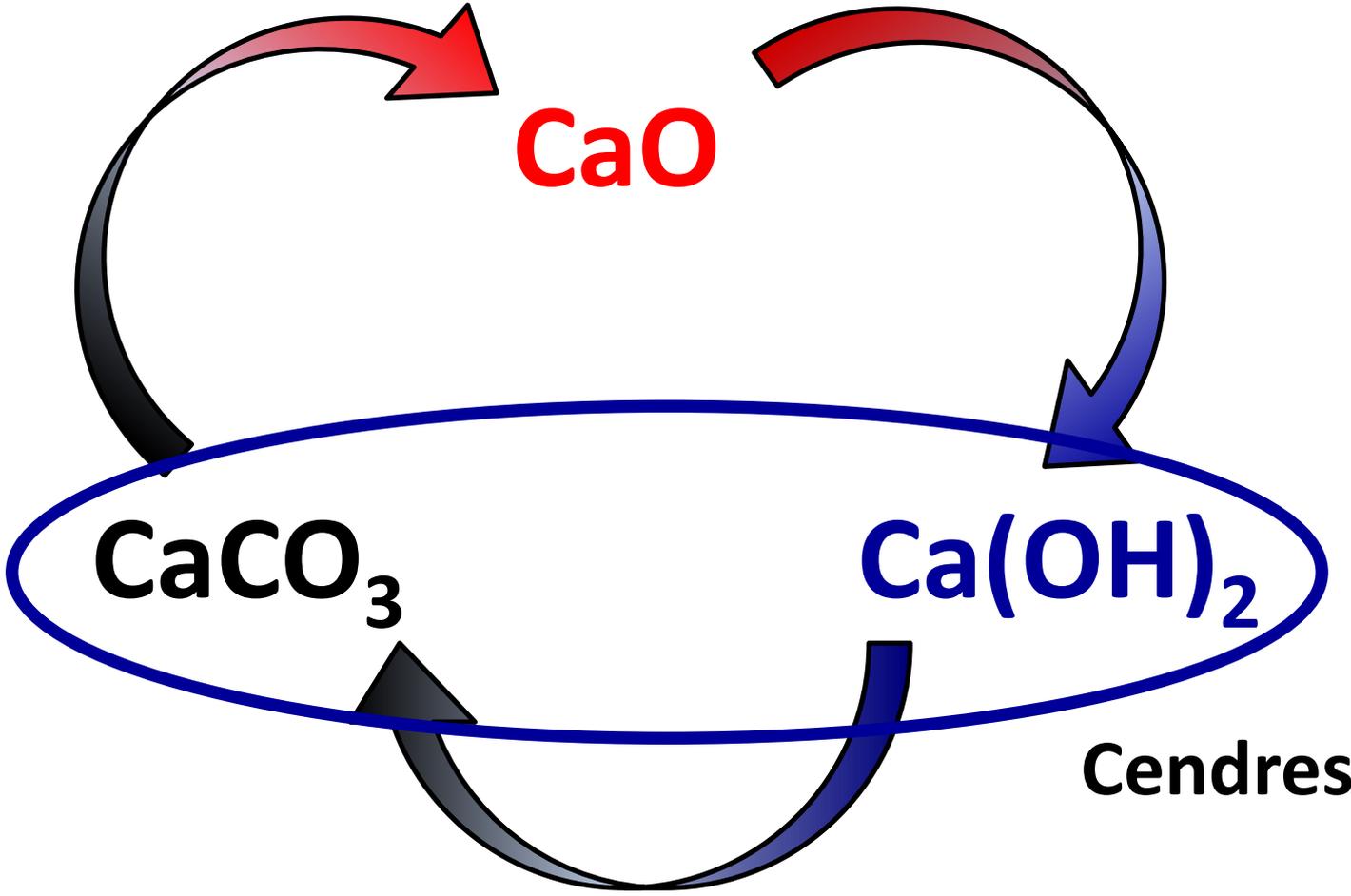


Résultats



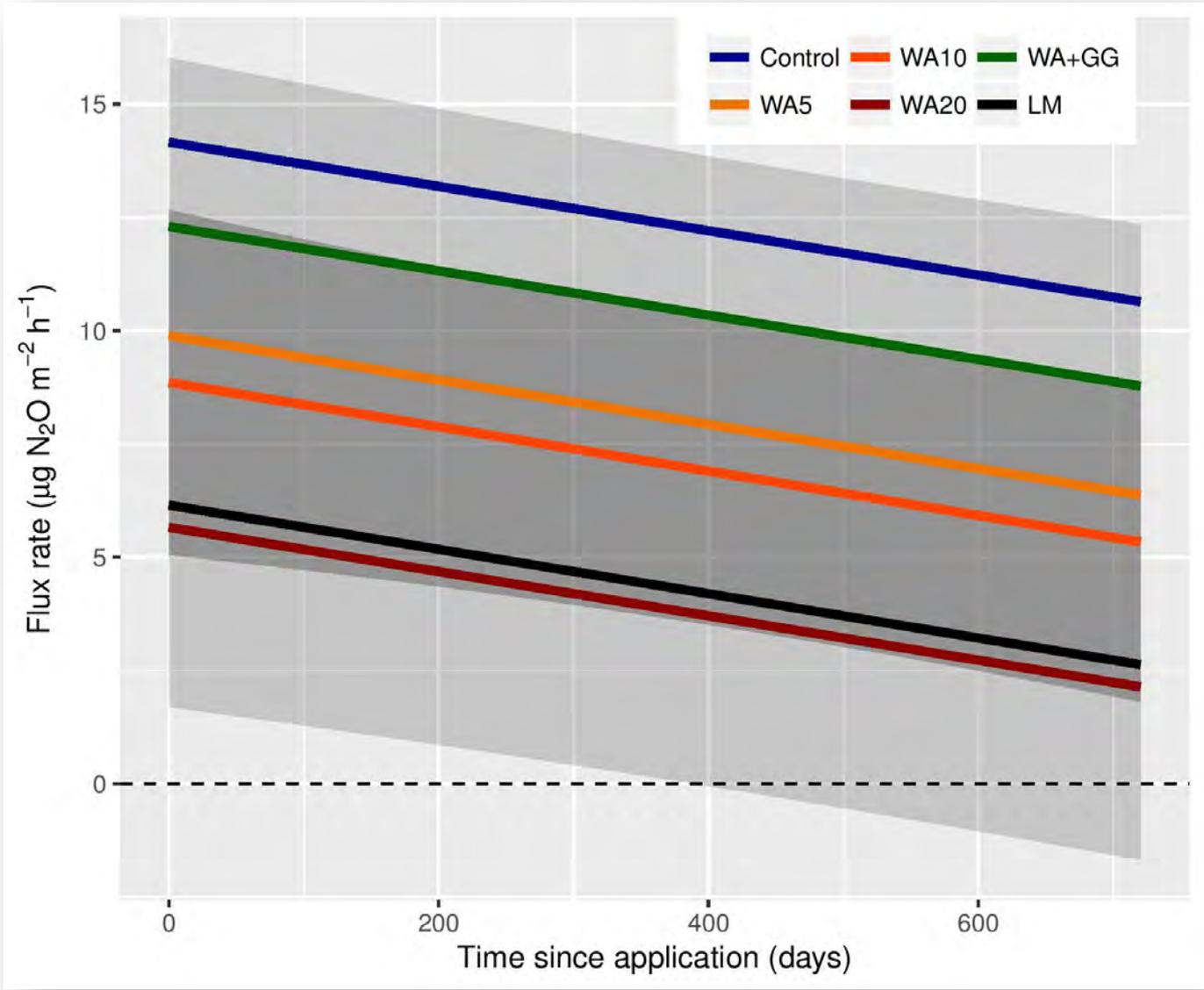
CO₂

Résultats



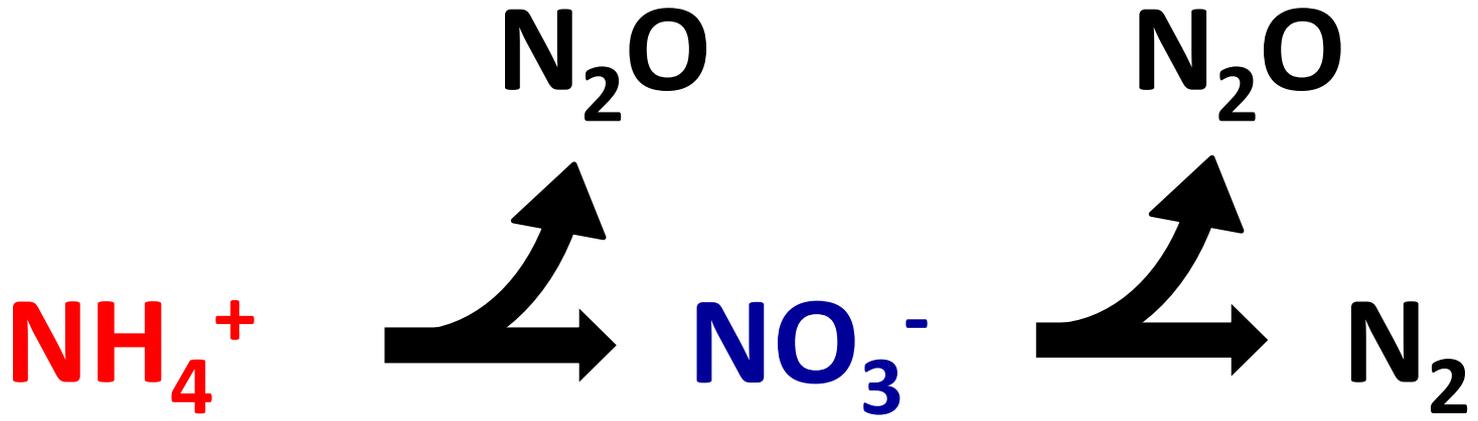


Résultats



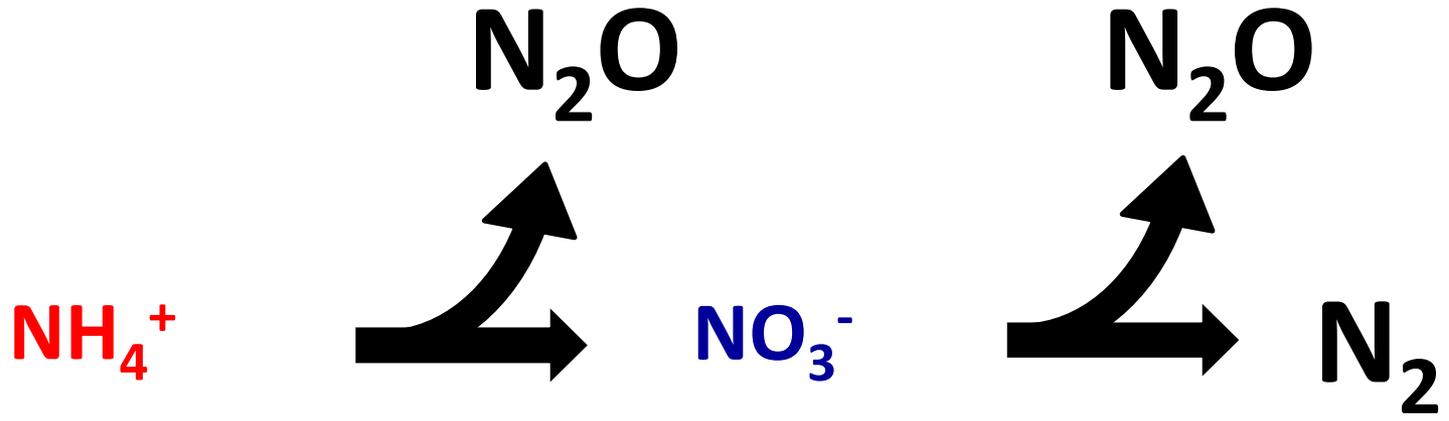


Résultats



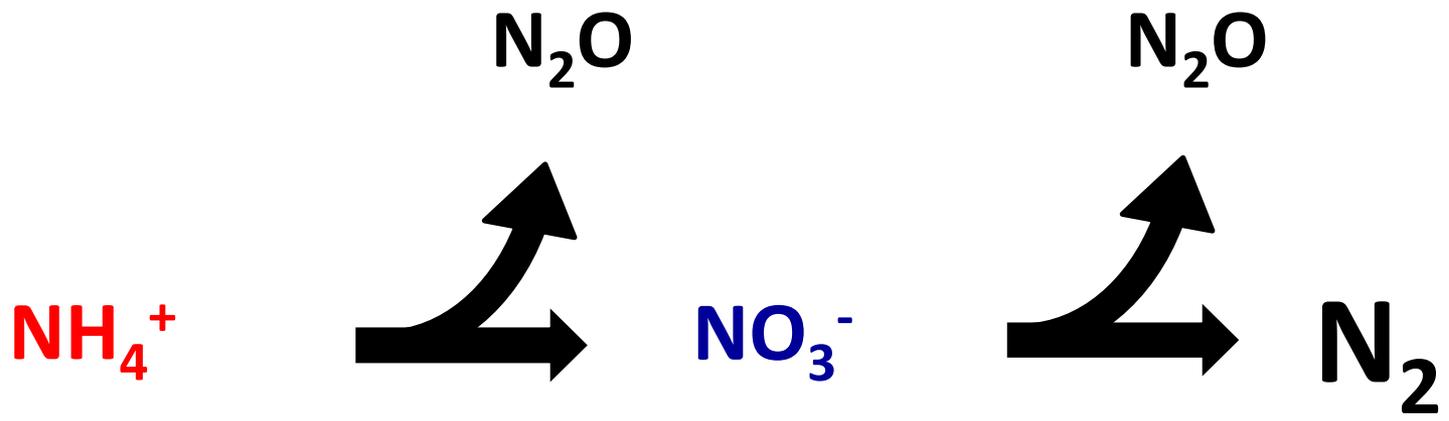


Résultats



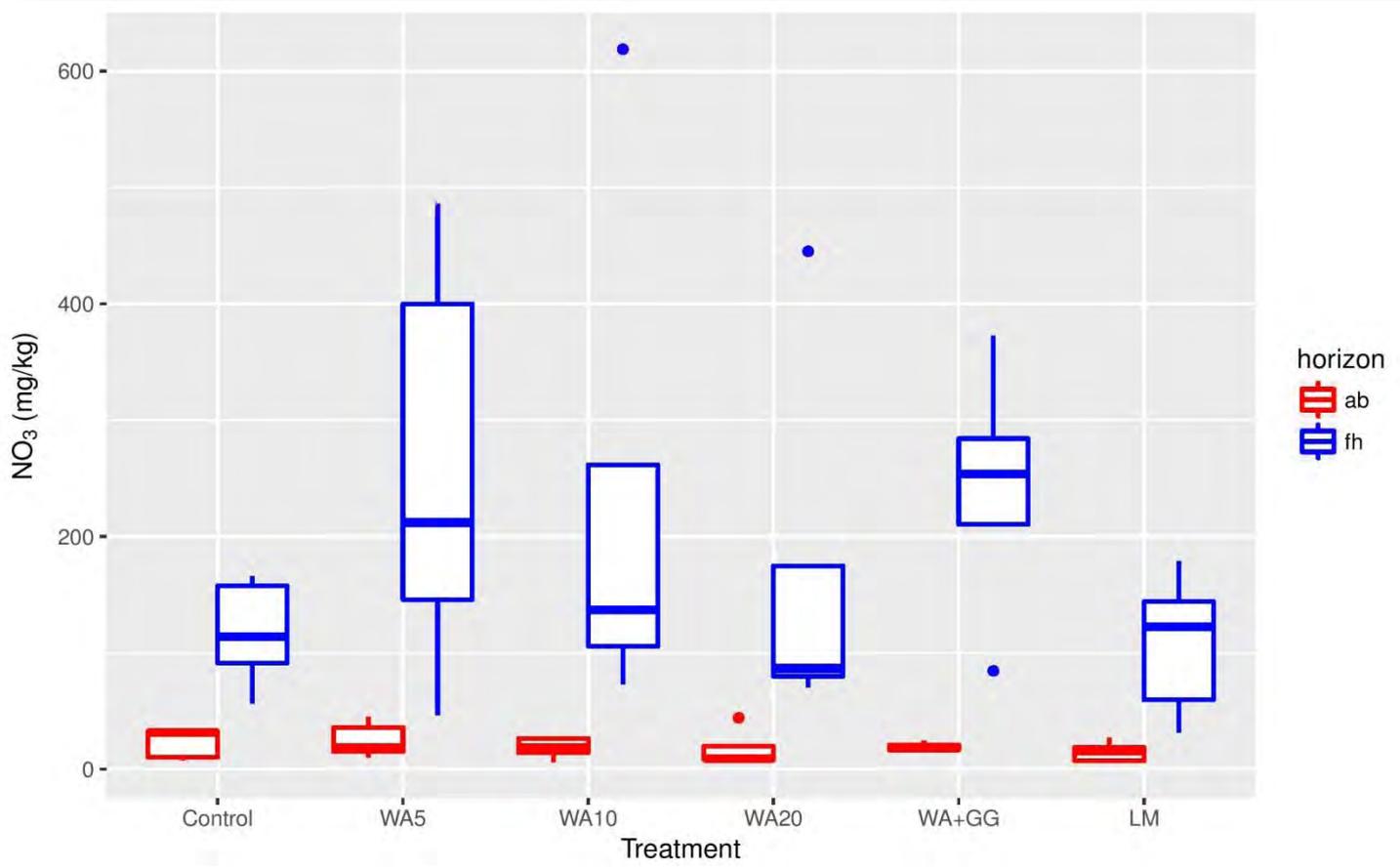


Résultats



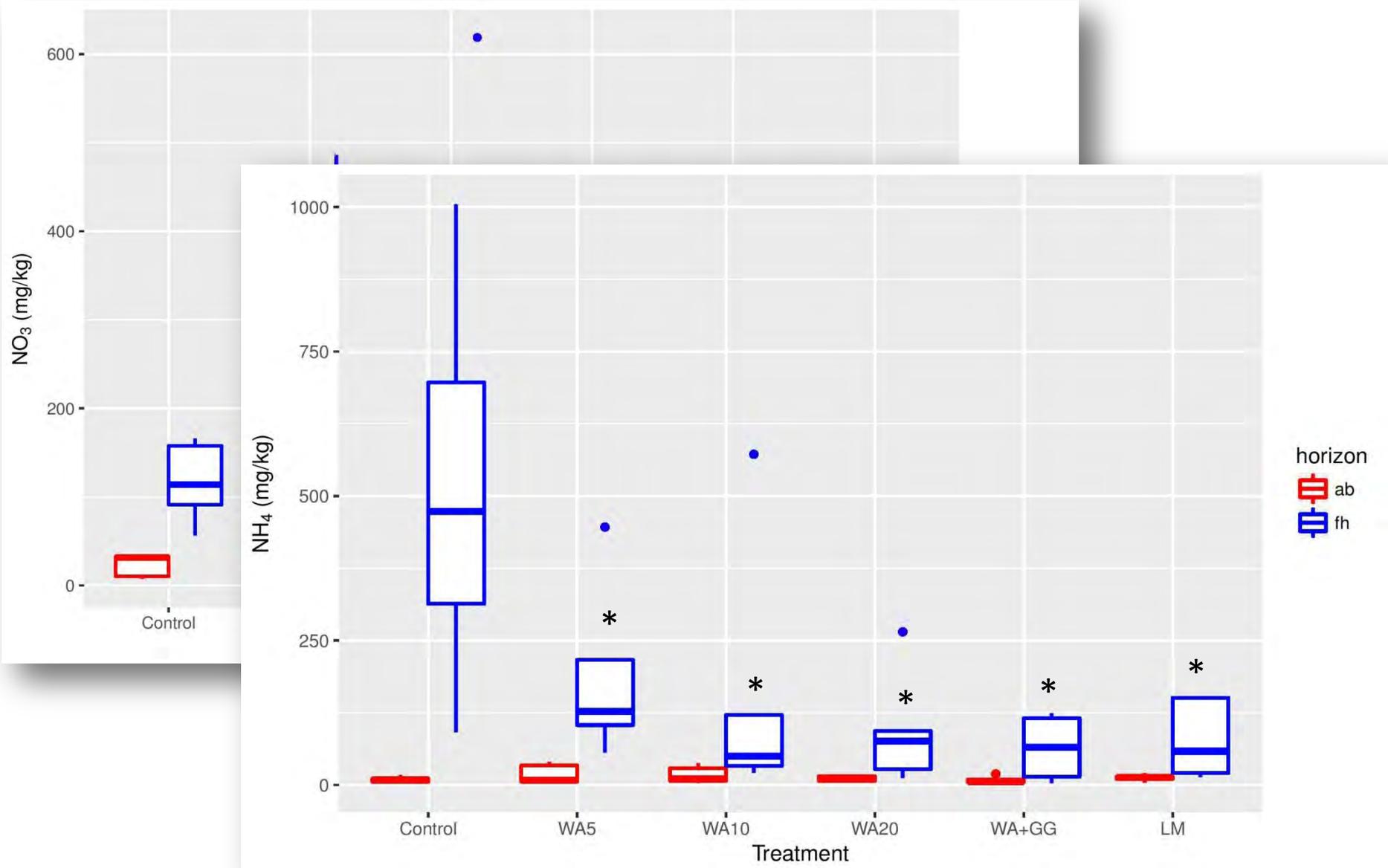
N₂O

Résultats



N₂O

Résultats





Résultats



Ressources naturelles
et Faune

Québec 

INSTRUCTIONS - LICENCE D'UTILISATION

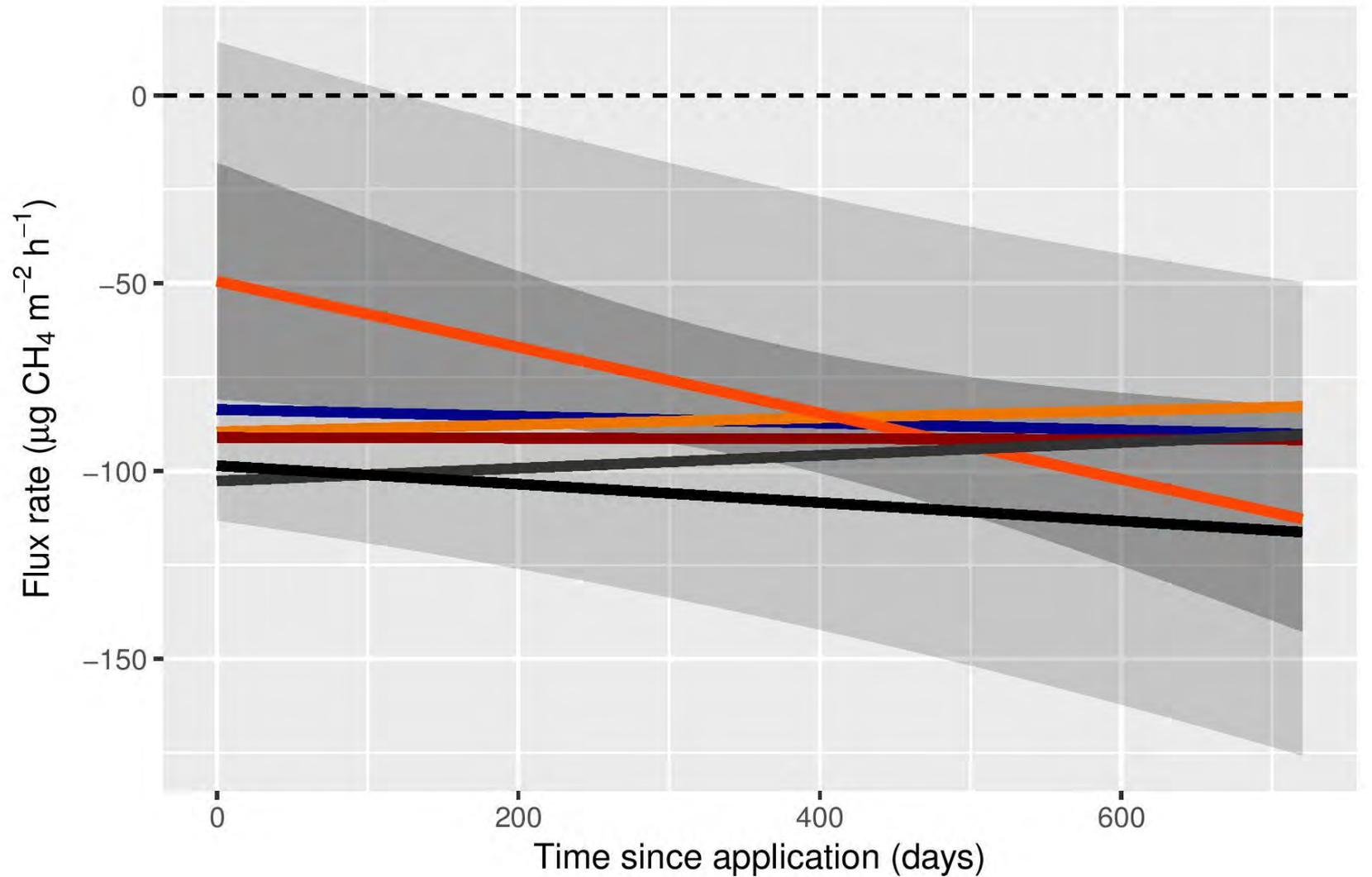
v.1.3

DELTA pour diagnostic des éléments limitatifs à partir du feuillage et du sol, version 1.3

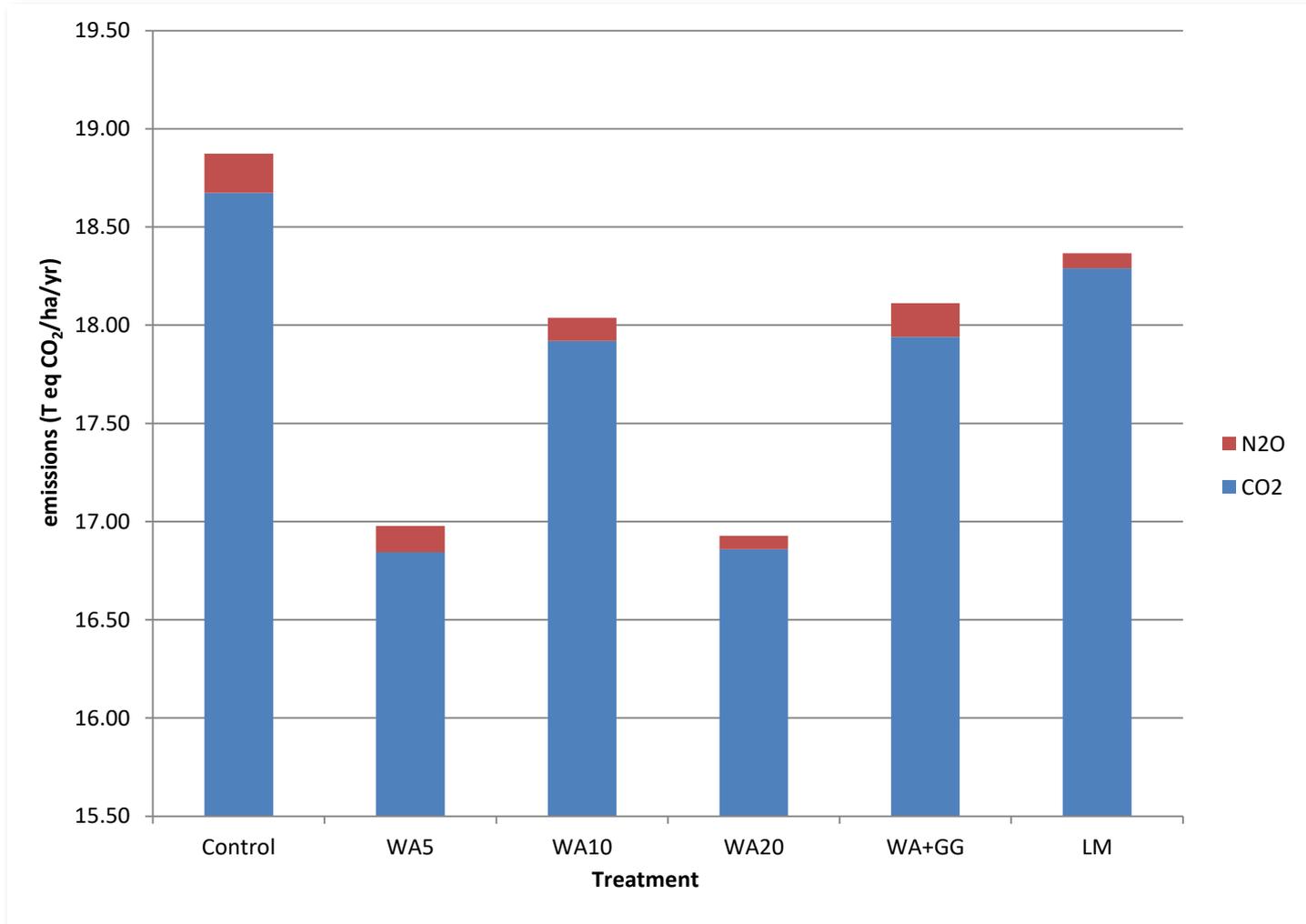
Site	Ca (kg/ha)	Mg (kg/ha)	K (kg/ha)	P (kg/ha)	Cendres (T/ha)
1	1274	0	0	0	6.4
2	210	0	67	25	1.1
3	693	0	0	0	3.5
4	0	0	0	5	0
5	422	0	0	0	2.1
6	858	0	50	0	4.3

CH₄

Résultats

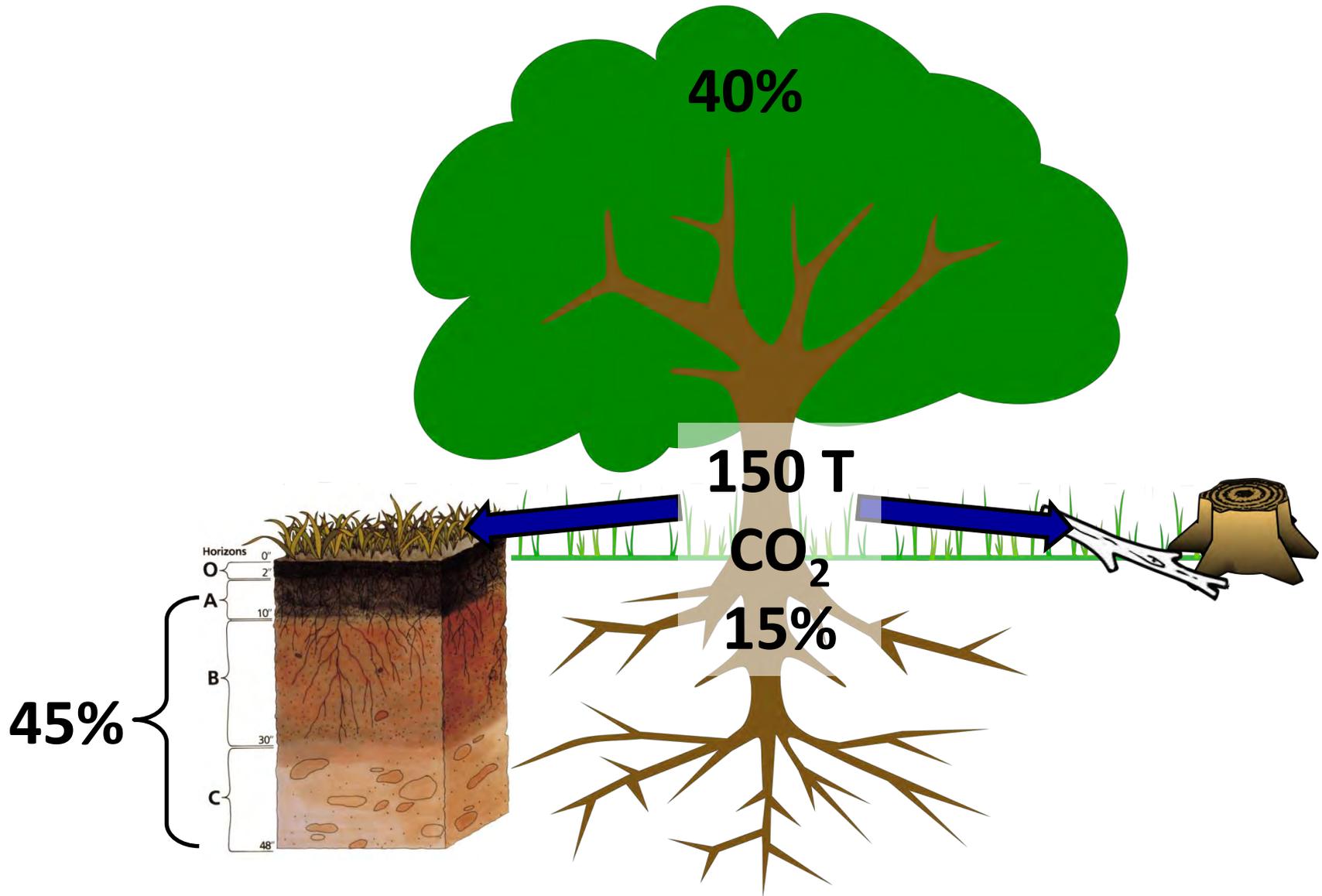


Résumé



0.5 – 2 T CO₂/ha/yr

Implication de ces résultats



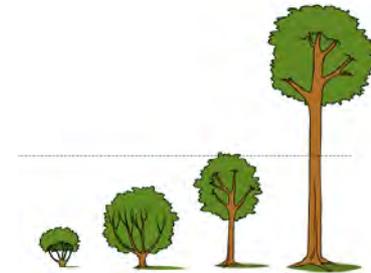
Ce qu'il y a à retenir

- Les cendres diminuent les GES



- Directement Ca(OH)_2

- Indirectement



- Bénéfique pour la santé des érablières et le stockage de carbone



Modélisation de la
Complexité de la
Forêt



Merci de votre attention!



- **Huotari, N., Tillman-Sutela, E., Moilanen, M., Laiho, R., 2015.** Recycling of ash – For the good of the environment? *For. Ecol. Manage.* 348
- **Jokinen, H.K., Kiikkilä, O., Fritze, H., 2006.** Exploring the mechanisms behind elevated microbial activity after wood ash application. *Soil Biol. Biochem.* 38
- **Maljanen, M., Liimatainen, M., Hytonen, J., Martikainen, P.J., 2014.** The effect of granulated wood-ash fertilization on soil properties and greenhouse gas (GHG) emissions in boreal peatland forests. *Boreal Environ. Res.* 19
- **Perkiomaki, J., Tom-Petersen, A., Nybroe, O., Fritze, H., 2003.** Boreal forest microbial community after long-term field exposure to acid and metal pollution and its potential remediation by using wood ash. *Soil Biol. Biochem.* 35