Does rhizospheric microbiome contribute to common bean tolerance to drought and tropospheric ozone ?

Charlotte Dianoux*[1], Manami Bastelica[1], Mohamed El Mazlouzi[1], Marien Have[1], Anne Marmagne[2], Luis Leitao[1], Juliette Leymarie[1], Anne Repellin[1], and Ruben Puga-Freitas[1]

[1]Université Paris-Est Créteil Val-de-Marne - Faculté des sciences et technologie (UPEC FST) – Institut d'écologie et des sciences de l'environnement de Paris (iEES Paris) – France

[2]Institut Jean-Pierre Bourgin (IJPB) – AgroParisTech, Université Paris-Saclay, Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement – France

Résumé

Drought and elevated tropospheric ozone episodes are expected to be more frequent and severe in the near future. Both are threats to crop yield and food security. In experiments conducted in 2023, two common bean genotypes differing in their sensitivity to ozone, were grown on a natural soil and subjected to drought, elevated ozone or the combination of both stresses, during the seed filling stage. We wondered if the physiological and yield discrepencies between the genotypes were related to their N use efficiency and/or to the structures of their respective rhizospheric microbial communities.

Mots-Clés: ozone, drought, common bean, N use efficiency, rhizospheric microbial communities

*Intervenant