**Measurement and modelling of pollutant dry deposition to semi-natural Mediterranean ecosystems**

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The research group “Contamination of agrosystems by agricultural practices” of the Technical University of Madrid focuses on the environmental impacts of agricultural management and strategies to mitigate these impacts. One of the lines of research of the group is the measurement and modelling of dry deposition of air pollutants, with a special focus on ammonia emitted by agricultural practices.

Measurement techniques used by the group range from low-cost deposition flux measurement systems that can be installed in remote locations without the need for mains power to state of the art continuous gradient and eddy covariance flux techniques. A low-cost deposition measurement system has been used to measure mean monthly dry deposition fluxes of ammonia and nitric acid at a semi-natural grassland site 40 km north of Madrid during a period of more than a year as part of the European project NitroEurope and regional project Agrisost. These results provided the first estimates of ammonia and nitric acid deposition to a Spanish semi-natural ecosystem. As part of the ÉCLAIRE European project the group has made intensive measurements of dry deposition of ammonia and ozone to a semi-natural grassland site near Madrid using gradient and eddy covariance techniques. The results of these intensive measurements provide detailed information that can be used to model and understand the deposition processes for this type of Mediterranean ecosystem.

The group is also involved in the European deposition modelling work of the ÉCLAIRE project and is the coordinator of the work package looking at the uncertainty of the nitrogen deposition estimates output from European modelling activities (from the EMEP model). Specifically, the group is coordinating the work analysing the uncertainty in the European deposition estimates as a result of the coarse spatial resolution used by the European modelling. The group is also coordinating the activity developing methods to improve the spatial resolution of concentration and deposition estimates of the EMEP model using sub-grid estimation techniques.