

Comparison between Airborne Pollen and Aeroallergen Quantification with the ChemVol Impact Sampler. Olive pollen vs *Ole e 1*.

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Nowadays, pollinosis is affecting a large percentage of population in the countries with a western life style. The existence of allergenic activity in the atmosphere is not only associated to pollen grains and fungal spores, but also to submicronic and paucimicronic biological particles. The origin of these allergens can be due to the rupture of pollen transported in the atmosphere or to the presence of allergens from other parts of the plant making amorphous material with an allergen load.

Olive pollen is recognized as one of the main causes of allergic disease in the Mediterranean area. In this study we have tried to compare olive pollen count in the air and Ole e 1 as major allergen of this species, at two different localities in South of Europe: Evora (Portugal) and Córdoba (Spain). At each location both samplers were placed side-by-side.

Pollen grains have been sampled using a volumetric Hirst type spore trap. Chemvol high-volume cascade impactor equipped with stages PM>10µm, 10 µm>PM>2.5µm were used for detecting aeroallergens. Ole e 1 major allergen was determined using allergen specific ELISA's.

Similar behaviour between pollen and the total allergenic load was observed during the pollen season. Nevertheless, at some occasions, during the previous and later period of the pollen season, airborne allergenic load was detected in South Spain, due to the contributions from other Oleaceae species. For this reason the use of these two different methodologies allow a better understanding of the allergenic load in the atmosphere.

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