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# Aerobiological study of the town of Hinojosa del Duque, Córdoba, Spain.

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Hinojosa del Duque is located at the north of the province of Cordoba, in Andalusia (southern Spain). This area is characterized by being a rural region, mainly agricultural with extensive vegetation formations of the Mediterranean Dehesa type.

This study develops a qualitative and quantitative analysis of the atmospheric pollen content over a period of two years, 2021 and 2022, using a Hirst-type volumetric sampler, placed in the urban center of this town.

As a result, a total of 54 pollen types were detected, of which 34 correspond to arboreal taxa and 20 to herbaceous taxa. The average annual pollen index was 151,390 pollen grains. The most abundant pollen types were, according to their order of importance: *Olea*, *Quercus*, *Poaceae*, *Urtica*, *Cupressus*, *Amaranthaceae*, *Rumex* and *Fraxinus*. These taxa accounted for 90% of the total pollen spectrum in the two years studied.

The intra-daily variation analyzes demonstrated that the behavior of the different pollen types differs between seasons, showing variations from one year to the next. The different meteorological conditions that took place between the years studied produced changes in the quantity and diversity of atmospheric pollen in Hinojosa. The rainfall that occurred between January and March 2022 produced a shortening and decrease in the atmospheric pollen concentration by approximately 70% in the spring of that year, due to the effect of atmospheric washing.

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