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# Pollen calendars in three rural areas in the SW of Iberian Peninsula

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**Introduction:** Pollen calendars are valuable tools for helping allergists to forecast the pollen concentrations in a best way and for trying to optimize resources (drugs ad treatments). Also it is quite important for patients, who are able to manage and adapt their lifestyle to periods with high pollen concentrations, and avoid unnecessary expositions in the seasons with more risks.

**Material and Methods:** Sampling was taken from March 2011 to March 2014 in Don Benito, Plasencia and Zafra (SW of Spain). Hirst pollen traps were used continuously. Pollen grains were identified and counted at x400 microscopic optical magnification according to literature guidance's methodology. Pollen calendars were created following the methodology of Spanish Aerobiology Network (Galán et al. 2007). 20 taxa were studied and classified in four categories depending on their abundance, in null value (below 1 grain/$m^3$), low, moderate or high values in white, green, yellow or red color. Depending on the pollen type, they were also classified in four categories, according of their anemophilous/entomophilous character, seasonal pollen index (SPI), and their allergenic capacity. All the factors previously mentioned show a pollen concentration threshold classified in low, medium or high percentage of sensitized population, able to develop the symptoms associated to the presence of these pollen types.

**Results:** *Quercus* was the most abundant pollen type in the three cities, with a continuous presence in the atmosphere along the year, showing peaks in April and May. *Poaceae* was the second one in Don Benito and Plasencia, whereas in Zafra was *Olea europaea*. All of them were quite important in spring. Particularly in Don Benito, were recorded high concentrations of *Platanus* during March and April. In Plasencia appeared medium concentrations of *Alnus glutinosa*, where this pollen type was important. *Amaranthaceae*, *Anthemideae Cupressaceae*, *Pinaceae*, *Rumex*, *Urticaceae* p.p. and *Urtica membranacea* showed a continuous distribution in the atmosphere. Other such as *Ulmus*, *Platanus* and *Salix* were recorded during a short period of time. May was the month with the major variety of pollen types in the atmosphere.

**Conclusions:** Despite of some pollen types showed a continuous presence in the atmosphere, due to being integrated by a great number of different taxa with occurrence along the year or having a wide length of growing, the most of the pollen types that were studied showed main pollen seasons well defined.

**Keywords:** Pollen calendar, airborne pollen, rural areas.

**References:**

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