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Conclusion: This poster allows to better recognize herbaceous plants, especially those that are very allergenic, by offering complete information.

Given the level of allergic risk, recommendations concern urban spaces and any garden in the vicinity of homes. They must either prevent planting or allow maintenance to limit the dispersal of pollen grains (mowing, pruning, etc.). In any case, consult the website "vegetation in town" and the posters "trees" and "herbaceous" listed below for more information:

https://www.vegetation-en-ville.org/

https://www.pollens.fr/docs/poster_arbres.pdf

http://www.pollens.fr/docs/poster_herbacees.pdf

323 | The impact of allergenic pollen, air quality, and thermal regime on personal health in lithuania

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Background: Air pollution and airborne allergens are essential factors that exacerbate the health of people with hay fever. This study aimed to investigate the effect of variables exposure to the well-being of pollen-sensitive individuals by assessing the links between pollen, air quality, and extreme atmospheric phenomena.

Method: Modelled airborne birch and grass pollen data, depersonalised health data, meteorological (2 m dew point temperature and average air temperature) and air quality (O_3, CO, SO_2, NO_2, $PM_{2.5}$, PM_{10}) data of 2018-2020 were used in this study (LMTLT S-MIP-19-53). Information was acquired from models provided by the Copernicus Atmospheric Monitoring Service and Climate Data Store ERA5. Health data is obtained from the Pollen Diary using the PASYFO app. The values of allergy symptoms expression were analysed according to the discomfort index caused by the symptoms of the eyes, nose, and lungs. The calculated Humidex index defines thermal comfort conditions. R software packages have been used for statistical data analysis. A multiple linear regression model was used to evaluate the associations of different factors with allergy symptoms expression values.

Results: Assessing the average air temperature and allergy symptoms expression showed that the severity of symptoms associative with rising air temperature. Analysing the relationship between the Humidex index and the symptoms reported in the Pollen Diary, it was found that PASYFO app users may have felt thermal discomfort during the declaration of symptoms. CO, O_3, SO_2, Humidex index and Betula pollen concentration were recognised as statistically significant multifactorial analysis variables.

Conclusion: Assessing the correlations of meteorological parameters and air quality conditions with the declared personal symptoms found that the severity of the symptoms is related to rising temperature, decreasing relative humidity, and increasing O_3 concentration. The Pollen Diary users reported severe eyes and nasal allergy symptoms when the concentrations of CO and SO_2 were hight. Analysing the correlation results of the modelled pollen concentrations with the input of symptoms showed a stronger correlation with birch pollen than with grasses.

707 | Different fungi contaminate allergenic plant pollen of various groups

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Background: A growing interest to fungal spores is observed in Allergology during recent years. Some of them such as Alternaria are well-known factors of both persistent and intermittent allergic rhinitis. As fungi are ubiquitous, they may inhabit nearly every substrate including different parts of flowering plants. In addition, as we observed in recent years, pollen can carry fungal spores on its surface. As we have already shown, Alternaria and other spores can be associated with Ambrosia pollen. This might be practically important as simultaneous exposure to different allergen types can promote polysensitisation of atopic patients. Therefore, the aim of our study was to check pollen of early flowering alder for presence of fungal spores and compare the data with the fungal spore spectrum found on the ragweed pollen.

Method: Alnus catkins were selected on the shores of Sotskij Lake on March 14, 2020. Sterile gloves were used to reduce possible contamination of the catkings by external factors. Petri dishes with imprints of cross sections of catkins with pollen were cultured on Sabouraud dextrose agar from 16.03.2020. After germination of fungal spores, further determination of fungal colonies was performed by light microscopy based on their morphological features at magnifications of 4 ×, 100 × and 400 ×. A preservative, 1% lactic acid, was also used to prepare the samples.

Results: Cladosporium (38 %), yeast colonies (up to 30%), non-sporulating fungi and Aspergillus dominated on the Alnus pollen. While on the cultured Ambrosia pollen surface' Penicillum was prevalent (53 %). Yeast fungi (23%), Cladosporium (5%), non-nonsporulating fung'al colonies (5%), Aspergillus (4%), Arthrinium (3%) and Alternaria (2 %) followed them. Using molecular sensitization data for Ukraine, we found that 40.45% of tested patients were sensitive to alder pollen. Almost 60 %, namely 59.7% of them, were sensitive to Alternaria at the same time, 27.4% – to Aspergillus and 1.7% – to Cladosporium.

Conclusion: Thus, pollen of alder and ragweed could transfer fungal spores on its surface. Therefore, inhaling pollen, people can experience allergy symptoms caused by fungal spores on its surface. Other people, which are not sensitive to fungi yet, may develop such sensitisation. The composition of fungal contamination for different types of pollen may be different, taking into account different environmental conditions for plant growth and different timing of their pollination.