



Is pollen a pollutant?

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A pollutant? Definition

- Introduced in environment
- Undesired effects
- Interference with human health etc.

- Man-made
- Originated by human activities
- Impact negatively human health
- Unhealthy effects should be avoided

Pollution

If chemical particles that cause air pollution are subject to measures limiting their sources, it cannot be the case of biological particles such as pollens or moulds from vegetation



Pollens = biological pollutant?

In quantitative and qualitative terms, most of the pollens and moulds inhaled by the population come from natural plant species. But, downtown, in public park and garden, the pollen content in the air is modified by surrounding plant species, planted by man



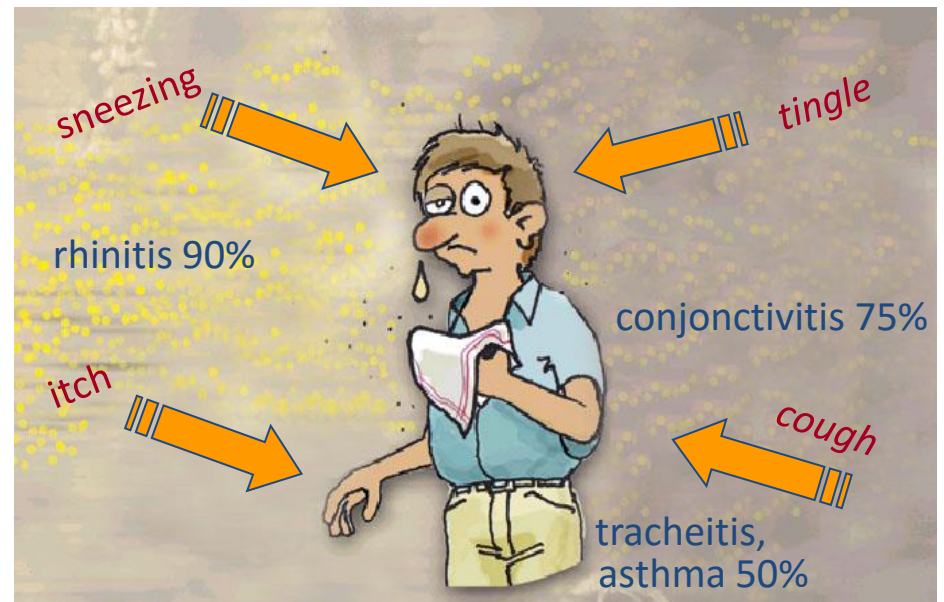
Airborne particles and allergy

Some of these pollens have a high allergy potency and have a real health impact. But can we consider some of them as pollutants?

Exposure

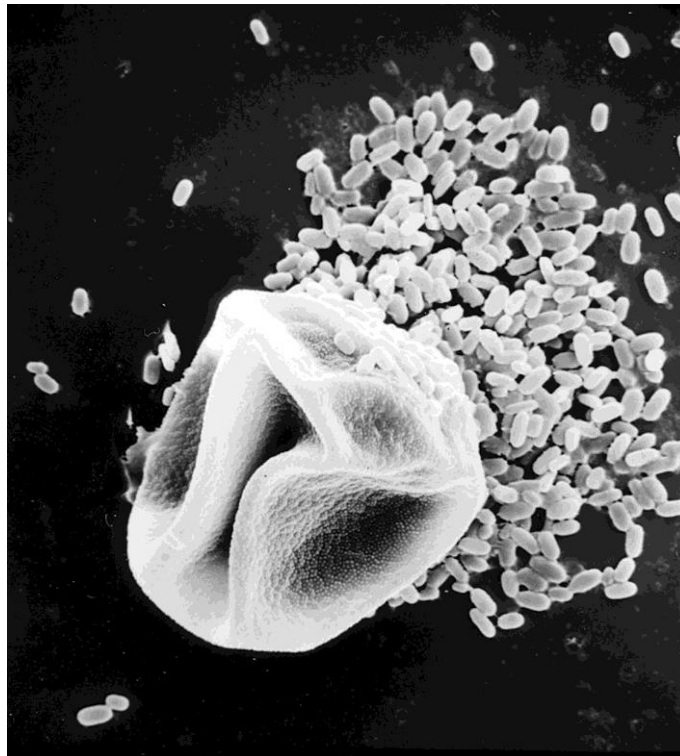


Health impact



Allergy potency of pollens

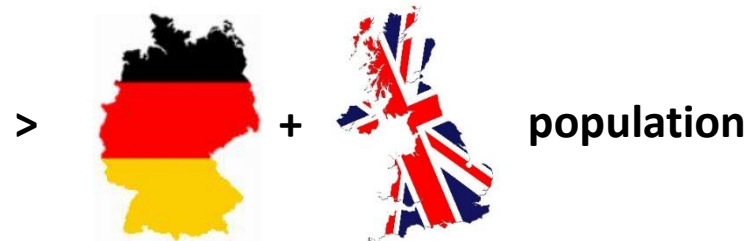
The allergy potency takes into account the number more or less important of major allergens into pollen grains



In Europe, legislative texts cover chemical pollutants

But for **biological particles?** Nothing, NO
EU LEGISLATION COVERING POLLEN!

- Over **150 million** EU citizens suffer from chronic allergies



- By 2025 **more than 50%** of all Europeans will suffer from allergy, with no age, social or geographical distinction
- Up to **45%** of patients have never received an allergy diagnosis

WHO (World Health Organisation)
10 to 20% of European population

Allergic rhinitis  Asthma

“One airway-one disease”

- Over 100 million Europeans suffer from allergic rhinitis and 70 million from asthma
- Asthma and allergies as most common non-communicable diseases in children

“Allergy is far more than huffing and sneezing for a couple of weeks during the pollen season. The quality of life of patients suffering from allergic rhinitis and allergic asthma is often severely impaired as is their social life, their career and even their school performance.”

Breda Flood, former
EFA President



Aerobiology community **since 10 years**
calls to have a European regulation on
biological particles as biological
pollutants

2012

A topic declined by European Commission during a Fairmode presentation by our colleague Mikael Sofiev



2013

Year of Air Quality: sensitisation of the European parliament about the importance of regulating pollen particles

BUT...



EFA call to have real-time pollen monitoring and to set pollen levels:
EFA position paper on the need to secure real-time information on allergenic pollen in Europe

2013

Written question on facilitating real-time pollen monitoring in the EU by Italian former Member of the European Parliament Zanoni

Answer from the European Commission: EU environmental protection legislation excludes pollen monitoring because pollen emissions are not from man-made activities and hence cannot be reduced by Member State action



Pollen myth-buster

Myth: pollen is not man-made and therefore it cannot be regulated



Fact: pollen emissions affected by human activities as regards:

- Air pollution
- Climate change
- City planning & other actions

Air pollution

Higher concentrations of **carbon dioxide** (CO₂) = plants grow faster, produce more fruits & release more aggressive pollen grains

Co-exposure to grass pollen and **small particles** (PM) = stronger allergic responses

Exposure to **sulphur dioxide** (SO₂) and **nitrogen dioxide** (NO₂) = exacerbation of pollen allergy and enhances lung inflammation



Climate change

Total amount of pollen in the air is growing probably due to interaction between **changing land use, temperature and CO2 concentrations**

Growing season of many trees and weeds starts earlier and lasts longer

Severity of allergy is affected by the **changes in production, dispersion and allergen content** of pollen



City planning

Highly allergenic trees planted **close to people's houses and schools** (e.g.: birch, alder, hazelnut, cypress)

Large monocultures of certain cultivated plants (e.g.: spruce, olive trees, oilseed rape) aggravate allergies

New or non-indigenous allergenic species, such as ragweed, introduced by human activities (e.g.: transportation, contaminated seeds)



Common communication ESA-EFA

BUT...



Some reproaches for aerobiology:

1. Biological particles are natural and not anthropogenic!
2. Pollen and fungal spores sampling and analysis methods differ!
3. No accurate values to define thresholds!

“1. Biological particles are natural and not anthropogenic!”

Our approach must take into account urban areas colonized by allergic species.



Quid of ragweed? Natural or anthropogenic?
Quid pollen + pollution?

“2. Pollen and fungal spores sampling and analysis methods differ!”

CEN/TC 264 WG 39 worked since 3 years and obtain the vote of the European technical sheet **CEN/TS 16868**:

“Ambient air - Sampling and analysis of airborne pollen grains and fungal spores for networks related to allergy - Volumetric Hirst method”

“3. No accurate values to define thresholds!”

Quid of Cost Action ES 0603 “Assessment of production, release, distribution and health impact of pollen”?

Quid of thresholds levels for clinical studies elaborated by a WG EAACI?

A lot of policy-makers think that allergy and respiratory patients are considered as second-class patients

BUT...



And now?

In **France**, after more than 10 years of fight, we obtain in January 2016, thanks to Health Ministry, a legislation with the obligation of pollen and fungal spore survey and information!



RNSA must be the legal body for this coordination.



- In other European countries?

Still voluntary pollen information systems, sometimes coordinated by patients organisations (e.g.: Astma-Allergi Danmark, Danish Asthma and Allergy Association)

- Possible policy hook?

Review of the EU ambient air quality directive – setting maximum level of pollutants at local level, possibility to include pollen?



An opportunity? European Parliament Interest Group on Allergy and Asthma

- Launched in 2015
- Secretariat co-run with EAACI (European Academy of Allergy and Clinical Immunology)
- Co-chaired by MEPs Sirpa Pietikainen (EPP, Finland) and Nessa Childers (S&D, Ireland)
- 16 active MEPs committed to tackle asthma and allergy in Europe
- Organisation of policy events at the European Parliament on pollen monitoring – **encourage your national Members of the European Parliament to become members and fight for allergic people in Europe!**



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