

# IMPORTANCE OF AIR ANALYSIS IN EVALUATING EFFECTS OF AIR POLLUTANTS ON PLANTS

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Measuring air pollutants is not only important for the surveillance of air connected with studies about the distribution of air pollutants, and the establishment of empiric relationships between emissions and air pollutants, but it is also important in evaluating effects of air pollutants on objects of our environment, for example, plants. The following scopes of application result from this:

- (1) In the field of research, in conducting fumigation experiments in climate chambers, small green houses, and especially with poly-factorial field experiments, one of the most inescapable conditions in establishing quantitative relationships between different air pollutants and the resulting effects at times is the determination of air pollutants, plants are exposed to. These quantitative relationships are called air quality criteria for plants.
- (2) For practical purposes the power of evidence of air analysis is implied to the possibility to make statements with the aid of the mentioned air quality criteria about the risk for any plants at any habitat, caused by an air pollutant present there. This possibility is of great importance in such cases when emitting installations are projected in stronger urbanized or industrialized areas, and when the herewith connected additionally caused risk has to be evaluated on the basis of the analytically de-

terminated potential of effects being present already. Such an evaluation would be absolutely impossible without any knowledge about the level of pollution being present. Finally air analysis is of practical importance in investigating injurious effects of emissions differential-diagnostics. Herewith the aim is to find out which air pollutant and which mixture of air pollutants has caused the damage manifested, and which source has emitted those pollutants.

The measuring methods, the monitoring and evaluating techniques used in the Federal Republic of West-Germany, being applicable to the purposes mentioned under item (1) and (2), are described by the aid of slides for the following pollutants: Sulfur dioxide, fluorides, chlorides, nitrogen monoxide, nitrogen dioxide, hydrogen sulphide, ozon (oxidants), formaldehyde, organical compounds, suspended matter, and dust-fall.

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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

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