hay fever season usually represent the number of grains found on 1.8 sq cm of a 24-hr *gravity slide*.

Hay fever sufferers may notice the first symptoms when the pollen count is 10 to 25, and in some localities the maximum figures for the seasonal peak may approach 1000 for a 24-hr period, depending upon the sampling and reporting methods of the laboratory. Translation of gravity counts by special formulas to a volumetric basis, or the number of grains per cubic yard or per cubic foot of air, is unreliable because of the complexity of the modifying factors. When such information is important, it is best obtained directly by a volumetric instrument. The number of pollen grains per cubic yard of air evidently varies from 2 to 20 times the number found on 1 sq cm of a 24-hr gravity slide, depending on grain diameter, shape, specific gravity, wind velocity, humidity and physical placement of the collecting plate.[29, 30, 31]

AIRBORNE BACTERIA

Study of the occurrence and significance of micro-organisms in the atmospheres of the indoor world is absorbing the energies of a substantial number of physicians, bacteriologists, aerobiologists, physicists, public health workers, engineers and hospital personnel. Some data are available on the types and quantities of bacteria found in a variety of spaces, but it is not possible at present to use this information as a conclusive index of the potential health hazard of a given environment. The reported number of airborne organisms may vary from 1 to 1000 per cubic foot of air, influenced somewhat by the method of testing.[32] Many are attached to the dust particles present in the air.

Where it seems advisable or desirable to control the bacterial content of rooms, public conveyances or buildings, highly effective methods are available (see Chapter 7), and their extended use may do much to assist the workers in this field in accumulating the necessary mass of evidence that will decide the practical value of air sterilization for the control of communicable disease. It is now well established that ultraviolet radiation is feasible for the protection or preservation of pharmaceuticals, cosmetics, and food products.

RADIOACTIVE AIR CONTAMINANTS[33]

Radioactive air contaminants are physically similar to ordinary industrial and chemical plant contaminants. They differ from ordinary contaminants, however, in that they may be highly toxic when ingested and may present a direct radiation hazard when accumulated in appreciable quantities. Another factor which must be considered in the filtration of these materials is the possibility of their being concentrated in plant and animal life in the area of contamination. Concentrations resulting from absorptions by plants and subsequent feeding of animals in the magnitude of several thousand times, is not unusual. Tolerances for radioactive contaminants have been established and are under continuing study and review. Guidance in regard to tolerance levels for discharge of contaminated air in different types of localities can best be had from the classified literature which is available through proper clearance procedures.

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