

IN RE: ABRAMS November 1992

- 401 Pulmonary Function Impairment Produced by Atmospheric Pollution.
H.L. Motley and H.W. Phelps. *Diseases of Chest* 45, 154-162 (Feb. 1964).

The Los Angeles smog was found to aggravate the severity of emphysema by increasing the residual and impairing still further air distribution in the lungs. The Tokyo-Yokohama asthma type probably should be referred to as an allergic bronchitis, and this condition probably exists in many parts of the world. The control of the military personnel in Japan by the armed forces is unique and this method of studying the effects of air pollution is not available in most other areas. Airway obstruction was a consistent finding, often associated with increased residual air and hypoxia. The present outlook is less favorable than at first thought regarding complete reversibility when the subjects stay too long in the Tokyo-Yokohama area after the condition has become manifest. The use of treatment rooms with air filtered over activated carbon has been demonstrated to protect patients against air pollution in Los Angeles and in the Tokyo-Yokohama areas. An allergic type of bronchitis was demonstrated in an industry from the introduction of two chemicals in the manufacturing process, and the clinical and physiologic findings in the sensitive patients were similar to the Tokyo-Yokohama asthma type. Cigarette smoking (personal air pollution) irritates the bronchial epithelium and appears to be an important factor in rendering individuals more susceptible to allergic factors in air pollution. Cigarette smoking impairs the transfer of oxygen to the blood from the lungs in severe emphysema. Air pollution has become a serious medical problem in many of the larger cities of the United States, and all possible measures should be taken to reduce the pollution from all sources and to prevent further increases.

-- Authors' summary

- 402 Atmospheric Aldehydes Related to Petunia Leaf Damage.
Eileen G. Brennan, Ida A. Leone, and R.H. Daines. *Science* 143, 818-820 (Feb. 21, 1964).

Snowstorm petunias grown in the greenhouse developed a necrotic banding of the actively expanding foliage characteristic of injury ascribed to various photochemically produced pollutants in the atmosphere. In this case the damage appeared to be related to the high aldehyde content of the ambient air. Each time the aldehyde concentration exceeded 0.20 parts per million for 2 hours, injury appeared within a day or two. From July to September 1963 such plant injury was observed on seven occasions.

-- Authors' abs:

- 403 Airflow Related to Denver Air Pollution. L.W. Crow.
J. Air Poll. Control. Assn. 14, 56-59, 65 (Feb. 1964).

The airflow related to air pollution episodes in the Denver metropolitan area shows a definite sequence throughout the daily period. Downslope motion and collection of polluted material in the lowest and coldest portion of the area takes place during the night. Differential heating and the artificial blanket of air pollution during the daylight hours combine to permit upslope airflow from north to south. The main objective of the study was to explore methods for a systematic approach leading to definitive computations explaining Denver pollution. Such computations are necessary for formulation of sound remedial measures.

-- Author's conclusion

- 404 Weather Data for Air Pollution — Available, Analysed, and Inexpensive. R.H. Frederick.
J. Air Poll. Control Assn. 14, 60-64 (Feb. 1964).

This paper is not intended to be an exhaustive review of the use of Local Climatological Data (LCD) and climatology publications. It is intended to show that there may be a ready and yet inexpensive source of data which may be applied directly to an air pollution problem or as a guide to indicate what meteorological areas need additional or specialized data. Application to specific problems may be rather subtle and not immediately obvious. Mention should also be made of the large volume of summaries that have been made for many locations other than those having published LCD's. For instance, the Air Force and Navy have made many summaries needed in their operations. These are on file at the National Weather Records Center and can be made available upon receipt of a request to determine if

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