

- 100 Millworkers' Asthma: Allergic Responses to the Grain Weevil (*Sitophilus granarius*).
J. A. Lunn. Brit. J. Ind. Med. 23, 149-152 (April, 1966).

Two laboratory workers, who spent a considerable time each day handling grain infested by the grain weevil (*Sitophilus granarius*), developed allergic responses to this insect varying from rhinitis and pruritus to marked asthma. These findings suggested that weevil protein present in mill dust could result in sensitization in those exposed continuously. A pilot study was therefore undertaken on 75 volunteer millworkers to determine whether such sensitivity existed. A millworker was defined as anyone who worked in a flour mill or mill producing animal feed from mixed cereals, or who worked in grain-storing silos. Skin testing with weevil, mixed flour extracts, and a control was carried out on all 75 volunteers; 57% had a positive response to the weevil extract and 68% a positive response to the mixed flour extract. In a control group of 100 workers from two engineering firms matched for age and sex, 34% were positive to the weevil extract and 17% to mixed flour. From the initial 75 millworkers, 15 were selected for further study based on a positive skin response to the weevil and a history of a productive cough and chest tightness and wheezing when exposed to mill dust. The forced expiratory volume in one second (FEV_{1.0}) was measured after control inhalations and after weevil and mixed flour inhalations. Significant reductions of 20% and 15.4% were found in two subjects after inhalation of weevil extract. In one case wheezing and cough developed. The changes in FEV_{1.0} were reversed after inhalation of a bronchodilator aerosol. Twenty-five of the control subjects with positive skin responses to the grain weevil were given similar provocation inhalations but none showed any significant change in FEV_{1.0}. This pilot study suggests that grain weevil sensitivity is an additional factor in millworkers' asthma.

-- Author's abst.

- 101 Farmer's Lung. P. Marland. Poumon Coeur 21 (2) 209-223 (1965). French.

Farmer's lung may exhibit three pictures: acute dyspneic attack, relapsing subacute respiratory manifestations, chronic respiratory failure. Hay and musty grains are responsible for these disorders. The proof of a candidosis has not been established in a formal manner. The irritating action of dusts on the bronchi of a sensitized subject would rather include the disease within the sphere of allergoconiosis.

-- APCA Absts.

- 102 Antigens From Moldy Hay Involved in Farmer's Lung. D. E. LaBerge and M. A. Stahmann. Proc. Soc. Exptl. Biol. Med. 121, 458-462 (Feb. 1966).

Trichloroacetic acid (TCA) extracts of moldy hay contained three antigens that produce precipitins with a typical farmer's lung serum. These antigens were fractionally precipitated with ethanol; antigens were present in the fractions precipitated between the limits of 50 to 60%, 60 to 70%, and 70 to 90% alcohol. Each of these alcohol fractions were further purified on diethylaminoethyl (DEAE-) cellulose and analyzed for sugars and amino acids. It is concluded that these TCA-soluble antigens involved in farmer's lung disease are composed of peptides and carbohydrates that were not separated by TCA extraction, alcohol fractionation, or by chromatography on DEAE- cellulose ion exchange columns. There are 13 references.

-- Public Health Eng. Absts.

- 103 Asbestos and the Urban Dweller. J. G. Thomson. Ann. N. Y. Acad. Sci. 132, 196-214 (Dec. 31, 1965).

Investigations were made in Cape Town, South Africa, to determine the extent to which the ordinary urban dweller is exposed by occupation or environment to the inhalation of asbestos. Investigations were made by counting asbestos bodies in smears from the lung bases from 500 consecutive autopsies in subjects over 15 years of age in Cape Town and 500 in Miami, Florida. The results were similar in the two cities. Approximately 30% of the males and 20% of the females showed asbestos bodies. The finding of abundant asbestos bodies in the lung bases of one in 17 of the male hospital population suggests that the occupational hazard from asbestos is greater and more diversified than realized at present. As a limited basal asbestosis may be associated with malignant mesothelioma of pleura and peritoneum an increase in this tumor is forecast as the main ground for regarding asbestos as a potential urban hazard.

-- APCA Absts.

- 104 The Inhalation of Fibrous Dusts. V. Timbrell. Ann. N. Y. Acad. Sci. 132, 255-273 (Dec. 31, 1965).

The largest compact particles normally found in lungs are about 10 microns in diameter. Asbestos fibers 50 microns and even 200 microns long can be explained by the fact that the parameter of the two main deposition mechanisms is particle free-falling speed, determined by the diameter and not the length. If the diameter of an asbestos fiber is less than 3.5 microns, the fiber has a chance of escaping deposition by these two mechanisms and of penetrating deeply into the lung. The more symmetrical a fiber is, the greater its chance of penetrating. The limitation on the lengths of the fibers which reach the pulmonary air spaces is imposed by the nasal hairs and by the small diameters of the respiratory bronchioles. Asbestos and glass fibers are discussed.