

11. Inhalation Experiment with "King's Flouts" Asbestos Dust

The first inhalation experiment conducted at the Saranac Laboratory with asbestos dust was begun in 1926. Animals inhaled the dust for periods up to nearly three years and some guinea pigs lived for about four years after their first exposure to dust. A preliminary report giving observations after 29 months of exposure appeared in the February, 1931 issue of THE JOURNAL OF INDUSTRIAL HYGIENE.* At that time observations covered a period of only 2-1/4 years and the conclusions as to the ultimate effects of inhaled asbestos dust were provisional. Results of the completed study show that most of the conclusions drawn in the preliminary report were substantiated. A complete review of this experiment follows.

12. The dusting material was a commercial variety of asbestos dust known as King's Flouts and was composed of short fibers and particles of variable size. It was obtained from the Thetford, Quebec plant of the Asbestos Corporation of America.

13. The dust composition (Table 2) reveals that the amount of fibrous chrysotile was only 14 per cent, a rather low value. However, there was sufficient fibrous material to produce a characteristic fibrosis.

14. The dust concentration at first was quite low and for impinger samples taken soon after the experiment was started, the average light field count by the standard technique was only 6.3 million particles per cubic foot of air. An appreciable number of large particles (or fibers) also were present, as

*STUDIES ON EXPERIMENTAL PNEUMOCONIOSIS. VI. Inhalation of Asbestos Dust., Gardner, L.U., and Cummings, D.E. J. Ind. Hyg., 13: 65-81, 97-114, 1931.