

Effect of Slate Flour on The Lungs - In his paper "Effects of Certain Silicate Dusts in the Lungs" read before the Industrial Hygiene Section of the American Public Health Association at Washington, D.C. on October 27, 1932, Dr. Waldemar C. Dreessen of the United States Public Health Service, reporting the results of his studies of workers exposed to slate dust, wrote:

"Of the 48 cases of pneumoconiosis observed, all were in the first stage except 5 cases. In general, the pneumoconiosis observed in the early or first stage cases resembled that induced by cement dust. The bronchial striations, however, were somewhat more prominent. There was always a moderate bilateral increase in the size and density of the hilar shadows with accentuations of bronchial striations which extended well out into each lung field. The linear striations seemed "softer" in appearance and lacked some of the sharpness of detail which is usually observed in the X-rays of individuals who have inhaled silica dust. This diffuse, fine generalized fibrosis was chiefly confined to the lower two-thirds of the lung fields.

"In the second stage an increased prominence of the above mentioned characteristics was present with the appearance of flake like, dappled areas of increased density in both lung fields. In the third stage these dappled areas seemed to conglomerate, and in this manner gave way to massive, clouded areas of increased density."

Dr. Dreessen found that although the silicate dusts of slate "induce a fine diffuse, bilateral fibrosis of the lungs which is definitely demonstrable in the X-ray" workers exposed to slate dust do not begin to show definite first stage pneumoconiosis until after more than ten years' exposure. He did not find any evidence that the resultant pneumoconiosis had led to disability.

K - GRINDING DERRIS ROOT: Derris root is used in the manufacture of insecticides. It comes in 500-pound bales from the Dutch East Indies. In order to reduce dust, the bales are thoroughly wetted with white oil. The root is ground at the rate of 500 pounds an hour to pass through a 3/8"-screen. One man with three years' service is exposed to an average dust concentration of 1,604,800 particles, ten microns or less, per cubic foot of air. About 80% of these dust particles are rather round, crystalline in appearance under the Konimeter microscope, and about five microns in size; 20% are sharply angular, five microns or less in size. The particles appear to be more inorganic than organic in character. Evidently the lighter root dust particles are either larger than 30 microns and were, therefore, filtered out by the Konimeter filter or were carried out by the exhaust ventilation, thus leaving the dirt or soil which had adhered to the roots. The grinder is located in a small room well ventilated by means of a 30-inch motor-driven fan. This explains the low dust concentration in the samples taken during the grinding operation. The operator wears rubber gloves, cover-alls, and is provided with a fresh air hose type of mask while grinding.

To What Extent is Derris Toxic? According to recent studies by the United States Department of Agriculture (Indust. & Eng. Chem. Vol. 28, No. 7, July 1936, pps. 815-821) Derris is a possible health hazard to those engaged in milling, grinding, and diluting it (Derris) without the use of suitable protective measures. Pharmacological studies show that Derris and its water extracts affect the respiratory center which is initially stimulated and then, after fatal doses, completely depressed, with death resulting. Derris dust when applied to the armpits was also found to provoke a "mild evanescent irritation."

L - GRINDING PYRETHRUM FLOWERS: Pyrethrum flowers are an important source of one