III - PHYSICAL

SIGNIFICANCE OF DUST COUNTS

Correlation between development of asbestosis and some pertinent measure of dustiness, e.g., dust counts, can be developed by periodically observing and recording data on both aspects -- periodic medical examinations of exposed workers together with the periodically measured dust exposure of each. However, to be useful for preventive purposes, theseprocedures have to be extended into the past wherever data is available. This was the procedure employed in the studies of the U.S.Public Health Service in North Carolina plants (Public Health Bulletin No. 241, 1938).

The main value of dust counts in asbestos plants is to obtain data on dust concentrations that can be compared with that study, and thus lead to conclusions as to probability of development of asbestosis in the particular plant being studied.

In that study, dustiness of different occupations was measured in the usual manner, and also the incidence of asbestosis by medical and x-ray examinations of the men employed. A statistical comparison of the two sets of data led the investigators to the conclusion that new cases of asbestosis would probably not occur if dust control measures were undertaken to ensure that no dust exposures exceeded five million particles per cubic foot (measured in the same manner).