

## ABSTRACT

Reported respiratory and related symptoms during work were compared between 265 exposed animal feed workers and a control group consisting of 175 external controls and nonexposed workers in the animal feed industry. Symptoms indicating respiratory and nasal irritation were significantly increased in the animal feed workers. Prevalences ranged from 9% (cough) to 21% (sneezing). Reported cough after work was also significantly increased. In 119 workers, a total of 457 across-shift spirometric lung function changes were measured. Almost all lung function variables showed a decrease during the work shift, as could be expected since the circadian rhythm is in a downward phase during the measurement period (2 p.m.-10 p.m.). When the workers were grouped into dust and endotoxin exposure categories according to their job titles, and exposure-response trend was seen for maximum mid-expiratory flow (MMEF) and maximum expiratory flow rate at 50% of vital capacity (MEF50). The effect of endotoxin was stronger than that of dust, both in magnitude and significance. For the same lung function variables and for forced expiratory volume in 1 second (FEV1) and MEF25, a significant across-week change was also detected. The results of this study are in concordance with other studies that indicate acute effects on lung function and elevated prevalence of respiratory symptoms during work caused by exposure to grain dust.

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