Respiratory Health Associated with Dairy Work in California.

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Modern large–scale dairies generate considerable amounts of respiratory toxins. As part of a large study of dairy worker respiratory health, we examined the hypothesis that dairy work in California is associated with acute and chronic decrement in lung function. 226 male dairy workers throughout California's Central Valley completed both questionnaires and spirometry pre– and post–work shift. In addition, 49 male employees of a food processing plant completed a similar survey and pre– and post–shift spirometry. 97.8% and 97.7% of dairy and processing plant employees, respectively, were Hispanic. 20.5% of dairy workers and 13.6% of control facility employees were current smokers; the difference in proportions was not statistically significant. Mean age was 33 years (SD=10.8; range 18–70) and 36 years (SD=12.2; range 19–63) for dairy and control participants, respectively. Adjusting for current smoking status, dairy work was found to be a significant predictor (p=0.025) of a decrease in baseline (pre–shift) percent predicted forced expiratory volume in one second (% FEV_1). The estimated coefficient associated with dairy work in a linear regression model (% FEV_1 as outcome) was –0.0464 (95% CI: –0.0865, –0.0062). These findings are consistent with chronic airflow obstruction associated with dairy work. Further analysis will determine the acute cross–shift change in pulmonary measures in relation to measured personal exposure.

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