

U.S DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH  
CINCINNATI, OHIO 45202

HEALTH HAZARD EVALUATION DETERMINATION  
REPORT NO. 73-62-~~81~~

GALILEO-CAPRI SALAMI, INC.  
SAN LORENZO, CALIFORNIA

OCTOBER 1973

I. TOXICITY DETERMINATION

Section 20(a)(6) of the Occupational Safety and Health Act of 1970, 29 U.S.C. 669(a)(6), authorizes the Secretary of Health, Education, and Welfare, following a written request by any employer or authorized representative of employees, to determine whether any substance normally found in the place of employment has potentially toxic effects in such concentrations as used or found.

The National Institute for Occupational Safety and Health (NIOSH) received such a request from an authorized representative of employees to evaluate the potential hazards associated with the alleged exposure to salami dust as found in the packing area of the main plant of Galileo-Capric Salami, Inc., San Lorenzo, California.

It has been determined through environmental survey and medical interviews that a minor health hazard due to respiratory tract irritation exists from this exposure to mold grown on the outside of salami.

II. DISTRIBUTION AND AVAILABILITY OF DETERMINATION REPORT

Copies of this report will be available upon request from the Hazard Evaluation Services Branch, NIOSH, U.S. Post Office Building, Room 508, 5th and Walnut Streets, Cincinnati, Ohio 45202. Copies of this Determination Report have been sent to:

- a) Galileo-Capri Salami, Inc., San Lorenzo, California
- b) Authorized representative of employees
- c) U. S. Department of Labor - Region IX
- d) NIOSH - Region IX

For purposes of informing the 14 exposed employees, the employer will promptly "post" the report in a prominent place(s) near where affected employees work, for a period of 30 calendar days.

III. HEALTH HAZARD EVALUATION

A. Plant Process - Conditions of Use

This particular type of salami is made by hanging a finished salami in a warm humid room in which a penicillin mold is growing. The process of aging salami lasts 30 days and during this time the penicillin mold grows on the outside of the salami. Three species of non-pathogenic molds are used: *Penicillium simplicissium*, *P. expansum*, and *P. italicum*. The mold protects the salami by preventing proteolytic molds such as *Aspergillus oryzae* from growing and, since the salami casing is fairly permeable, metabolic products of the mold are thought to enter the salami and contribute to its flavor.

Complaints began to generate after Galileo-Capri moved to their new location in San Lorenzo approximately 2-1/2 years ago. Previously, after the mold had grown on the salami the entire product was packed in a wrapper and shipped off. However, due to improvements in climate control, the mold now grows more profusely on the outside of the salami and it was decided by management to blow off the loose mold on the outside of the salami with compressed air before packing. Until 6 months ago when local exhaust ventilation was installed, workers complained that there was a large amount of mold dust settling in other parts of the plant from this blowing process.

At the present time there are still complaints about the salami dust in the packing room where the finished product is placed into waxed paper bags and then packed into cardboard cartons. In this room some mold dust is generated when the salami is placed into the waxed paper bag because of the air rushing out of the bag and around the salami.

B. Evaluation Methods

A walk-through survey of the plant was conducted on August 8, 1973 with consideration to problems such as noise in addition to the major question of dust. Eleven people working in the packing room were interviewed as well as one former employee and one worker operating the compressed air machine. All were women except for one man in the packing room and one man operating the compressed air blower.

C. Evaluation Criteria

At the present time no environmental standards or biological norms exist for airborne mold; however, in speaking to one expert in the field<sup>1</sup> there is no evidence that the three species of penicillin mold used in production of this type of salami have ever caused any infection in normal workers.

D. Evaluation Results and Discussion

Of the 11 workers interviewed in the packing room, 5 complained of yellowish or yellowish-green phlegm production, 2 complained of occasional shortness of breath, 2 complained of headache, and 1 complained of frequent sore throats. Three of these workers were smokers. The man operating the compressed air machine reported no problems. One worker who used to be in the packing room developed severe respiratory distress and diagnosed by her personal physician as having an allergy to the mold. She is a non-smoker and has had no problems since she was transferred from the packing room to a different part of the same building one year ago. She is taking no medications.

Several months ago local exhaust ventilation was installed in the final aging room where excess mold is blown off the salami. Prior to this the mold dust was traveling directly into the packing room. Since this time workers have noted a general improvement in conditions. However, no exhaust ventilation exists in the packing room.

Discussion

A large proportion of workers in the packing room of the Galileo-Capri Salami Company have respiratory tract complaints probably related to the dust from mold on the outside of the salami. No infection, pulmonary or otherwise, is caused by the mold. One case of allergy to the mold was found. In order to improve these conditions, local exhaust ventilation in the packing room should be instituted; also any workers who develop severe respiratory problems should be removed from this area and placed in a part of the plant which is not involved in producing this type of salami.

Based on the environmental and medical data we obtained, a health hazard exists at this time. Based on medical judgment and industrial hygiene experience ventilation in the packing room should be improved to prevent upper respiratory tract irritation.

IV. REFERENCE

1. Communication with George York, Ph.D., Department of Microbiology, University of California Medical School, Davis, California.

V. AUTHORSHIP

Report Prepared By: Arnold D. Bodner, M.D.  
Medical Officer

Melvin T. Okawa  
Region IX Industrial Hygienist

Originating Office: Jerome P. Flesch, Chief  
Hazard Evaluation Services Branch  
Cincinnati, Ohio