

Table 1. NASAL CARRIERS OF *Staph. pyogenes* INSIDE AND OUTSIDE THE PENICILLIN FACTORY. CHARACTERISTICS OF THE CARRIER STRAINS AND CONCENTRATION OF PENICILLIN IN THE AIR OF THE FACTORY

Group	No. of persons examined	Average No. of organisms on nose swab	Carriers of <i>Staph. pyogenes</i> (per cent)	Percentage carrier strains			Approximate recovery of penicillin per cu. ft. of air	
				Penicillin-resistant	Phage group			
					I	II	III	
Penicillin filling-room and packing-room	33	+	8	100	33	0	66	Filling-room 0.1-0.5 μ gm. penicillin Packing-room 0.02-0.1 μ gm.
General (no penicillin) packing-room	32	+++	27	100	36	0	60	Traces of penicillin. Amounts of other inhibitory material present
Administrative	28	+++	32	100	30	0	70	0
General population outside factory	36	+++	30	12	30	62	8	—

of all species in the nares of persons working in that environment, and the strains of staphylococci isolated were all penicillinase-producers. Much smaller amounts of the antibiotic were recovered from the air of other parts of the factory, which, though not sufficient to depress the growth of nasal flora, is sufficient to select and maintain penicillin-resistant *Staph. pyogenes*. Although no penicillin could be detected in the air of the administrative block, it is probable that traces of the antibiotic reach this site by air and dust, and on the clothing and fingers of the staff; thus it could be transferred to their nares and be effective in maintaining strains of penicillin-resistant staphylococci.

The evidence from these experiments confirms that penicillin in the environment is an important factor in selecting and maintaining penicillin-resistant strains of *Staph. pyogenes*. It is reasonable to compare the occurrence and distribution of these strains in this factory and a typical general hospital, and to suggest that antibiotic in the environment is the important factor in hospital which leads to widespread colonization of personnel with antibiotic-resistant strains of *Staph. pyogenes*. Investigations are in progress to try to demonstrate antibiotic in hospital air.

J. C. GOULD

Bacteriology Department,
University New Buildings,
Teviot Place,
Edinburgh 1.
April 18.

¹ Fusillo, M. H., Roerig, R. N., and Ernst, K. E., *Antibiotics and Chemotherapy*, 4, 1202 (1954). Knight, V., and Collins, H. S., *Bull. New York Acad. Med.*, 31, 549 (1954). Wallmark, G., *Acta Soc. Medic. Upsal.*, 59, 209 (1953).

² Gould, J. C., and Allan, W. S. A., *Lancet*, ii, 988 (1954). Rountree, P. M., *et al.*, *Med. J. Austral.*, i, 528 (1956).

³ Rountree, P. M., and Barbour, G. H., *J. Path. Bact.*, 63, 313 (1951).

Heleococcum aurantiacum : an Uncommon Weed Fungus of Mushroom Compost

MUSHROOM compost, if correctly prepared, is a selective medium for the mycelium of the cultivated mushroom. Under commercial conditions, however, various adverse factors may give rise to the production of a medium encouraging the growth of other fungus 'weeds', invasion by which may cause greater or lesser competition to the developing mushroom spawn. Some of these fungus invaders, such as *Oedocephalum* sp., *Papulaspora byssina* and *Coprinus* sp., are

common; others, such as *Sporendonema purpurascens* and *Pseudobalsamia microspora*, occur sporadically; one or two are extremely rare, and of these latter the fungus *Heleococcum aurantiacum* has only occurred twice in samples examined in these laboratories.

In 1935, a compost sample was forwarded for examination. It was full of fine mycelial threads producing globular perithecia which contained numerous asci with eight ascospores in each. The curious thing was that the ascospores, as they ripened, became two-celled so that the ascocarps were obviously not those of the usually occurring *Ascomycetes* in compost. Specimens were forwarded to the Plant Pathology Laboratory to the late Dr. George Pethybridge for examination. In correspondence, he stated, "Your fungus is a puzzle and a very intriguing one. It has been shown to Mr. Ramsbottom of the British Museum, but he is unfamiliar with it". Later, Dr. Pethybridge wrote, "we have now succeeded in identifying your *Ascomycete*, at any rate as far as the genus is concerned. C. A. Jørgensen¹ . . . published (in English) an account of a new fungus which he called *Heleococcum aurantiacum* n.gen. n.spec. Mr. Ramsbottom came across it by accident not long ago and called our attention to it. . . . It is rather curious that although this paper was published twelve years ago, the new genus is not to be found mentioned in Saccardo or in Clements and Shear. In fact, it does not seem to have been gathered up into any published list so far as we can ascertain". Jørgensen's description is accompanied by excellent illustrations.

It was found in this laboratory that *H. aurantiacum* grew well on oatmeal agar and produced perithecia, and cultures were forwarded to the Centraalbureau voor Schimmelcultures.

Since 1935 there seems to be no further record of *Heleococcum aurantiacum*, and compost samples examined here have shown no signs of this fungus. This may be due, so far as mushroom compost is concerned, to improved methods of preparation and pasteurization, causing almost complete elimination of the more fragile weed fungi present. It was somewhat surprising, therefore, to find *Heleococcum aurantiacum* once more in compost samples in February of this year, after a lapse of twenty-two years.

F. C. WOOD

W. Darlington and Sons, Ltd.,
Worthing.
April 5.

¹ Jørgensen, C. A., *Botanisk Tidsskrift.*, 37, 417 (1922).