

NUTRITION-PUBLIC HEALTH

Invention Opportunities

Speedy production of huge quantities of fried eggs and hot cakes and a gadget for automatically preparing grapefruit, are urgently needed by the Army.

► **AUTOMATIC** hot cake, egg frying and grapefruit-preparing machines are invention opportunities in order that great numbers of men in war can be fed quickly.

Lieut. Comdr. C. M. McCay of the Naval Medical Research Institute at Bethesda, Md., in predicting to the meeting of the American Public Health Association, changes in American eating habits, explained that there is need for:

A simple, inexpensive machine to turn out 15,000 to 20,000 hot cakes in an hour; a machine to turn out speedily similar numbers of fried eggs; a simple gadget for automatically preparing thousands of grapefruit so men can eat them with blunt spoons.

Changes in American eating habits and tastes with consequent changes in design of cooking equipment for home and public kitchens as a result of the war are foreseen by Comdr. McCay.

Comdr. McCay reported nutrition studies of mass feeding at naval stations where as many as 7,500 men are fed at a single meal.

The typical man eats a little less than two slices of bread per meal, he found, but bread is still an important fraction of the total food. More might be eaten if more varieties were used and more attractive spreads provided.

Candy bars play an important part in the feeding of the men, he discovered. The typical man in Navy training, unless closely supervised, leaves 400 to 600 calories of food on his tray to go into the garbage and then buys an equal amount, chiefly in the form of candy bars and soft drinks, at the ship's service to satisfy the needs of his body. Candy bars account for about 40% of the food eaten outside the mess hall. Estimated purchase of them for the Army the first quarter of the year was about 100,000,000 per month.

The men tend to reject fats served in their meals. Studies of the deterioration of fats used in deep fat frying are needed, Comdr. McCay found. Simple tests are also needed to tell the cook when it is time to discard cooking fats.

If the men do not like fats, they do like milk. Watching 5,000 colored re-

cruits passing down a cafeteria line, Comdr. McCay saw that not one of several hundred refused milk.

"One can only wonder about the future expansion of the dairy industry," he commented, pointing out also that about 11,000,000 men are learning to eat a balanced diet in the armed forces and that they will have a tremendous influence on our eating habits in a decade or so when they become the heads of families of 40,000,000 to 50,000,000.

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Navy Uses Ultraviolet

► **RESPIRATORY** illness, such as bad colds with fever, German measles, scarlet fever and the like, was reduced one fourth by ultraviolet irradiation of dormitories at the U. S. Naval Training Center, Sampson, N. Y., during the winter of 1943-1944, it was announced at the meeting.

Germ-killing ultraviolet light has previously been used to check the spread of disease in hospital wards and school rooms and to sterilize the air about the patient in operating rooms. This however was its first test in military barracks. The test was made by a six-man team of U. S. Navy disease fighters, Lieut. S. M. Wheeler, Lieut. Hollis S. Ingraham, Dr. Alexander Hollaender, Lieut. Comdr. Nicholas D. Lill, Lieut. Comdr. Jacob Gershon-Cohen and Capt. E. W. Brown.

The 25% reduction in respiratory illness was achieved in those barracks equipped with high intensity sources of ultraviolet energy. Other barracks without the ultraviolet irradiation served as controls.

In the irradiated barracks, lamps were hung from the ceilings of dormitories and were installed under every other bunk. These last had their ultraviolet rays directed downward to strike at germs on the floor and in the dust. Only sleeping quarters were irradiated. Drill halls, mess halls and the like were not.

The visible light from the powerful lamps was too low to interfere with sleeping and the men found it similar to bright moonlight. Practically none

complained of any harmful effects on the eyes. The effect of the ultraviolet in checking disease was most marked in the early winter months when illness rates were at a generally high level throughout the camp. At this time reduction of illness in the irradiated barracks over the non-irradiated was over 35%.

Illness due to streptococci such as scarlet fever and strep sore throats, and healthy carriers of these germs were at a very low level in the camp and were not further reduced among men living in the irradiated barracks. Samples of the air showed only half as many germs of all kinds in the irradiated quarters as in the non-irradiated. Because the reduction of sickness rates was marked only during the first months of the test, the Navy scientists say the result "should be interpreted with caution." Further tests, planned for this winter, may tell the story of how effective ultra-violet light can be in checking disease in barracks.

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Health Supervision

► **MANY** of the physical and mental defects which disqualified several million American young men for military service could have been prevented by continuous health supervision, including mental hygiene guidance, throughout the school years, Dr. Henry F. Mace of the New York State Education Department, told members at the meeting.

"The rate of rejection of boys who have been under the school health program until they reached 18 was very much less than the general average," he found. "Boys who had the benefits of the school medical service were in much better condition than those who had not."

Physical education training has much less to do with rejections than has usually been thought, it appears from a study of six high school graduating classes made by the superintendent of schools in one city.

From the classes of 1939 to 1942 whose physical education facilities were limited, this superintendent found, 93% of the 18-year-olds were accepted by the fighting services. Of the two classes of 1943 and 1944 who had much better physical education facilities, however, only 86% were accepted.

Analyzing the results of 15,000 examinations in New York State Selective Service Dr. Mace found the 18-19-20 year olds showing a much lower rate of defects than the older age groups.

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