SCIENCE NEWS

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DISINFECTION OF SCHOOLROOM AIR BY ULTRAVIOLET LIGHT

THE ever-difficult problem of hygienic schoolroom ventilation may be solved by ultraviolet light, it appears from a report of Dr. Mildred Weeks Wells, of the School of Medicine of the University of Pennsylvania, in the *Journal* of the American Medical Association.

"School ventilation, which has necessarily been curtailed on account of fuel shortages during the war, will probably never return to prewar standards. Enlightened opinion, which formerly opposed, on hygienic grounds, lowering the volume of air change, now recognizes the potentiality of higher standards of sanitary ventilation through air disinfection, which can practically provide the hygienic equivalent of ventilation impossible of attainment by actual air replacement."

The school ventilation standard of 30 cubic feet of air per minute per child is not only difficult to attain; it is not enough to prevent classroom spread of chickenpox and measles except in rooms where less than 40 per cent. of the pupils are susceptible to chickenpox and less than 20 per cent. are susceptible to measles.

In contrast to this, Dr. Wells found the chances of a susceptible child getting measles, chickenpox or mumps from a classmate can be definitely reduced by disinfecting schoolroom air with ultraviolet light.

Her conclusions are based on studies begun in the Germantown, Pa., Friends School in 1937 and subsequently expanded so that since the fall of 1941 they have included two neighboring private schools and two groups of public schools in Philadelphia suburbs.

Even better results may be attained with air disinfection as the result of the early experience with it. Proper servicing of the lamps is important. Teachers and pupils should understand how they work so as to avoid the mistake made in one school of draping the lights with autumn leaves and Spanish moss for the Thanksgiving festivities. This, of course, blocks the ultraviolet rays so they can not get at the germs in the air to kill them.

In a first grade outbreak of measles, nine little girls being infected from a classmate, the cause was apparently the fact that a playhouse was put into the schoolroom. This reproduced in miniature the exact situation the lights were designed to prevent. It gave a chance for germ-laden droplets of moisture from one little girl's breath to reach all the others without having been exposed to the germ-killing light.

When the air has a high relative humidity, as it may in fall before the heat is on, the ultraviolet light is less effective in killing germs. This difficulty may be unavoidable.—JANE STAFFORD.

ITEMS

FOREST conservation and expansion under a plan for international collaboration is recommended in a recent report to the United Nations Interim Commission on Food and Agriculture by that body's technical committee on forestry and primary forest products, according to Lyle F. Watts, a member of the committee and chief of the U. S. Forest Service. Forest conservation is a critical world problem, and must be solved if the world's supply of wood is maintained, the report states, in the face of a constantly shrinking supply and heavy demands. "The world is confronted," says the report, "with the inescapable fact that the forests—sole source of wood—are steadily diminishing. . . . To-day the world stands on the threshold of developments in the use of wood that may be as revolutionary as the invention of the steam engine or the introduction of technology to the farm." The technical forestry committee making the report is headed by Dr. Henry S. Graves, a former chief of the U. S. Forest Service and dean emeritus of the Yale School of Forestry. On it are representatives of Great Britain, Canada, Soviet Union, France, Norway, Brazil, Czechoslovakia and China.

PROPER dimensions for the ideal railway coach seat have at last been scientifically determined. Nearly 4,000 average American men and women passing through two great railroad stations can't be wrong. They voluntarily sat in a "measuring chair" in the two stations and answered unusual questions to furnish data from which the results were derived. The ideal coach seat should have a seat length of 20 inches and a back height of 28 inches, according to the findings. Elbow height should be 8.5 inches and hip breadth 19 inches. Shoulder breadth should also be 19 inches, and the height of the seat above the floor again 19 inches. The study was confined to chair dimensions and eliminated upholstery and other factors. The measuring chair, in which 3,867 persons sat in the tests in the two stations, was made here by the Heywood-Wakefield Company for the Chicago and North Western Railway, which sponsored the study. The actual investigation was made by Dr. E. A. Hooton, chairman of the department of anthropology of Harvard University.

NEW domestic developments in the application of aviation to sanitation and public health after the war are hinted in the use of a B-25 to spray DDT on Rockford, Ill., as a possible help in fighting an infantile paralysis outbreak in that city. So far as infantile paralysis goes, this spraying of the potent insecticide by air and the use of DDT by power sprayers from an Army truck are in the nature of trial balloons. Dr. John R. Paul, of Yale University, and some other scientists have for some years suspected that the common house fly might spread the infantile paralysis virus. The virus of the disease has been found in flies, but whether the disease actually is spread by them has not yet been proved. Through the Army's Epidemiological Board and the Air Surgeon's Office, the plane from Wright Field and Army DDT power sprayers and men who know how to use the latter were ordered to Rockford for the trial.