SCIENCE NEWS

Science Service, Washington, D. C.

VARIATIONS IN TUBERCULOSIS DEATH RATES

STARTLINGLY great differences in tuberculosis death rates, among American cities, are challenging public health authorities, and steps are already being taken to find, and if possible eliminate, the causes of the bad records. Differences range between the low score of 15.6 deaths per 100,000 population among white people in Grand Rapids, Mich., to a high of 275.5 per 100,000 among non-whites in Newark, N. J., according to Dr. Herman E. Hilleboe, chief of the U. S. Public Health Service Tuberculosis Division, in a statistical study of 92 cities of 100,000 or larger for the period 1939–41.

Cities as a whole compare unfavorably with smaller towns and rural areas. For the 92 large cities, the average yearly tuberculosis death rate was 55.4 per 100,000, as compared with 43.5 in places of 2,500 to 100,000 population and 41.1 in rural areas. And the countryside's score might have been even lower, had it not been for the puzzling fact that farm women show a higher death rate (except among very young girls) than do their sisters in the cities.

Dr. Hilleboe presents an honors list of 14 large cities which have kept their annual death rates from tuberculosis down to less than 30 per 100,000 among all races. These cities, and their death rates, are: Grand Rapids, Mich., 15.6; Salt Lake City, Utah, 19.3; Minneapolis, Minn., 20.9; Des Moines, Iowa, 22.7; Spokane, Wash., 23.8; Akron, Ohio, 25.1; Duluth, Minn., 25.1; Flint, Mich., 25.5; Wichita, Kans., 26.4; Long Beach, Calif., 26.6; St. Paul, Minn., 26.8; Peoria, Ill., 27.0; Springfield, Mass., 27.2; Sommerville, Mass., 27.7.

The worst showing is made by 12 cities, all of which have death rates higher than 75 per 100,000 for all races: Nashville, Tenn, 79.3; Norfolk, Va., 80.6; New Orleans, La., 81.0; Baltimore, Md., 82.1; Washington, D. C., 82.7; Birmingham, Ala., 83.7; Atlanta, Ga., 86.5; Memphis, Tenn., 89.1; Jacksonville, Fla., 89.4; Sacramento, Calif., 97.5; Chattanooga, Tenn., 113.7; San Antonio, Tex., 151.7.

The grouping of all but one of these cities below the Mason-Dixon line is apparently connected with the known and tragic high susceptibility of Negroes and other non-white peoples to tuberculosis. That the correlation is either racial or sociological and not geographic is indicated by the blackest scores of all, those of tuberculosis deaths among non-whites alone. Of nine cities showing death rates of more than 200 per year among non-whites, seven are in the North. The entire list, with death rate per 100,000 non-white persons, is: Philadelphia, Pa., 203.5; New York, N. Y., 213.0; Boston, Mass., 215.7; Baltimore, Md., 229.2; Tulsa, Okla., 234.1; Cleveland, Ohio, 235.1; Cincinnati, Ohio, 243.3; Chattanooga, Tenn., 244.4; Chicago, Ill., 250.1; Newark, N. J., 275.5.

ITEMS

THE death rate among civilians is "extraordinarily favorable" although the nation is well into its third year of war, figures based upon the Metropolitan Life Insurance Company's industrial policyholders show for the three months, April through June. The mortality rate, exclusive of enemy action, was 760 per 100,000 which is 3½ per cent. below the corresponding rate of last year and lowest for any like period of any year except the record health years of 1941 and 1942. This good record was set despite the bad start for the year when in January, due to a respiratory disease epidemic, the civilian death rate was the highest since 1937.

D.D.T., the deadly new insecticide used by the Army in combatting mosquitoes and ridding liberated populations of typhus-carrying lice, has added a new conquest to its string of triumphs. This time it is the gipsy-moth caterpillar, forest-stripping pest introduced many years ago from Europe and now one of the most devastating enemies of Eastern timbered areas. The Pennsylvania State Department of Agriculture tells of a spectacularly successful experimental attack on the gipsy-moth caterpillars on a 20-acre woodland tract near Scranton. On May 3 a solution of D.D.T. was sprayed over the tract by airplane. Five pounds of the chemical was used per acre. Within the following week practically all the gipsy-moth eggs in the area had hatched—and not one survived. And this, despite the fact that there had been two rains over the treated area. For good measure, the D.D.T. had also killed off all the mosquitoes and blood-sucking black flies in the test plot, as well as all leaf-feeding insects besides the gipsy-moth caterpillars. Yet birds observed in the test plot and cattle grazing across the road from the timber tract have shown no signs of harm.

A NEW type of evaporator that uses infra-red radiation as a heat source was described by J. Arthur Reavell, at a meeting of the British Institution of Chemical Engineers. It is claimed that the infra-red evaporator is a quicker and cheaper method of evaporating and distilling such heat-sensitive materials as blood serums and penicillin. The material to be treated, usually a liquid, is put into an evaporating or distilling tube made of silica or special glass through which infra-red rays can pass. Infra-red heat lamps, such as are used by athletes for baking out muscular knots, are placed outside the tube. The liquid inside the tube absorbs the infra-red rays. These are turned into heat within the liquid, the tube itself remaining comparatively cool. This system does away with the ill effects caused by the hot tube wall coming in contact with the liquid, as in heating over a flame. Another important advantage of this new method of evaporation and distillation is that the necessity of using a high vacuum when working with materials which are very sensitive to heat is eliminated.