

POPULATION

Fewer Males Predicted

► THE sex ratio in the United States population in 1975 will be about 985 males per 1,000 females, statisticians of the Metropolitan Life Insurance Company predict.

This means a slight decrease in males below the 1947 figure when for the first time in our history there were fewer males than females in the population. The ratio then was 992 males per 1,000 females, with men in the armed forces overseas counted in.

The sex ratio at ages 15 to 44 years, however, is expected to reverse its downward trend and eventually will lead to a surplus of males under middle age. This expectation is based on gains in life conservation. At ages under 15, the ratio of boys to girls has increased from 1,022 per 1,000 in 1910 to 1,037 per 1,000 in 1947. This

ratio may increase further as mortality in childhood continues to decline.

At the early years of life, the statisticians point out, there is always a surplus of males because more boys are born than girls. The excess of males is reduced with advance in age because of the higher death rate for males.

This was offset in the United States during the early years of the century by the high influx of immigrants in which men greatly outnumbered the women. In 1910 there were 1,060 males for every 1,000 females in our population, and even as late as 1940 the ratio was 1,007 per 1,000. The ratio will continue to decline at ages 45 and over, the statisticians state, as the foreign-born population with its excess of males passes out of the picture.

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MEDICINE

Fluorescent Lights Harm

► WORKING near unshielded fluorescent lights can produce a sunburn-like effect on the skin, Dr. R. Ralph Bresler, chairman of the Industrial Health Section of the Philadelphia County Medical Society reported.

This discovery followed the complaint of five women who were employed in a small penicillin filling-room. The skin of their arms and neck not covered by clothing was red, dry and itched. Tests eliminated skin sensitivity to the drug.

Ultraviolet lamps, which were used to sterilize the room, then fell under suspicion but investigation revealed that they were never turned on when the workers were in the room. Further checking at each worker's position showed that even with them turned on the shields were adequate protection.

The ozone emitted by the sterilizing lamps was also measured but found to be within safe limits so that there was no question of an ozone inhalation danger.

Attention was then focused on the ultraviolet lamps which illuminated the filling tables. It was discovered that when these women worked in another room where the filling tables were lighted by ordinary incandescent lamps, the skin inflammation disappeared.

Dr. Bresler, reporting to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Aug. 27) stated that since the lights were 10 to 14 inches from the workers, and since they were exposed to them for six to eight hours a day, it was entirely possible to get the skin burn found in these patients.

Two other patients had been previously reported as suffering from a skin inflam-

mation when fluorescent lighting had been introduced into their office. These are the only cases on record.

Dr. Bresler pointed out that of three possible remedies, the most practical and safe was found to be the placing of an all-around plate-glass shield around the fluorescent fixtures to absorb the radiation without cutting down the light.

The other two protective measures, replacing fluorescent lighting with incandescent lighting or the using of protective ointments or creams, were found undesirable and impractical.

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ENGINEERING

Lightweight Tractor Built for Small Farms

► A LIGHTWEIGHT tractor for small acreage farms which is capable of flexing its muscles like a heavyweight when the going gets rough has been developed at England's National Institute of Agricultural Engineering.

The mighty midget was described in a paper submitted by S. J. Wright of the Ford Motor Company, Ltd., Dagenham, England, at a land section meeting of the United Nations Scientific Conference on the Conservation and Utilization of Resources at Lake Success, N. Y. The tractor is a standard two-wheeled machine. Its unique feature is a winch mounted in front with a clutch and chain drive from the engine.

On its ordinary power it performs routine

tasks. When a job requires extra power—for example, deep furrow plowing—the winch attachment takes over. The free end of the cable is anchored at the far end of the field, the winch starts winding, and the tractor hauls itself across the field. When the plow is raised, the tractor runs in reverse gear to its starting point and the operation is repeated. As many as seven or eight furrows may be plowed in this way before the anchorage needs to be reset. The winch carries about 100 yards of cable.

While quite unsuitable for large scale operations such as are required in the middle west or in the areas where large stumps or other heavy obstacles might be encountered, American experts think it might be adapted successfully to certain sections of the United States, especially in the South and East.

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RADIO

Voice of America Jammed By 205 Soviet Stations

► THE Soviet Union made use of 205 separate jamming stations to keep the radio Voice of America and other foreign broadcasts from reaching its population, the U. S. Department of State says in a recent issue of its monthly Information Sheet. These 205 jamming stations were noted by a British monitoring station in the United Kingdom late in May.

United States Government monitors report that there has been no considerable change in Soviet broadcasting schedules for its own people, indicating that the jamming is carried out by a separate set of high powered transmitters not employed for ordinary programs.

The Voice of America broadcasts had been jammed since February, 1948, but only on a limited and sporadic basis until April 24, 1949. Three agencies of the United States have accurately located the sources of this deliberate interference. All these sources are inside the Soviet Union. Approximately four times the number of transmitters are involved in the Russian jamming as are used by the United States Government in its entire world-wide international broadcasting program.

Jamming is a deliberate radio interference designed to make radio programs unintelligible. One system is to send out from transmitters radio signals of the same identical frequency or wave length as used by the incoming program. Another varies in the frequency of the jamming waves, varying from above to below those of the incoming waves. A third puts on the air "noises" from random frequency modulation.

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The so-called *Cleopatra's Needles* from Egypt, one now in England and one in the United States, were quarried from solid granite far up the Nile, some 1,500 years before Cleopatra's time.