

insure the safe production and handling of arsenicals. The employment of women and children in arsenic factories should be forbidden. Laws should be passed to prohibit the release of arsenic-containing fumes from stacks of smelters and other industrial establishments into the atmosphere. Laws should provide for the obligatory installation of neutralization apparatus for the removal of arsenic from the waste gases of such plants.

The use of arsenic-containing dyes for objects employed in the household, as clothing, wall paper, and wall paint should be forbidden. Laws to this effect were passed in Germany (in 1879), and in Sweden and Norway, and similar restrictions are in force in the United States and France.

The recent investigations of Hanzlik, Myers and coworkers, and Calvery and associates, concerning the general health hazard introduced by the use of arsenicals as insecticides, have shown clearly that the chief danger is not represented by acute, accidental poisonings, but by the great opportunity created for the occurrence of insidious chronic poisonings, especially in their latent, metatoxic form. The actual existence of such a hazard in this country has been emphasized repeatedly in editorials published in the *Journal of the American Medical Association*. It becomes an urgent necessity and duty for every government to study carefully the existing laws covering the arsenic hazard and to determine whether these laws are adequate in protecting the health of workers engaged in operations with arsenicals as well as of the general population which is exposed to risk in the consumption of foodstuffs treated with arsenicals.

In the United States federal laws regulating the use and content of arsenicals in foodstuffs introduced as a contaminant by insecticide sprays, with chemicals used in the manufacture of foods, by factory processing equipment and other means, cover only products handled in interstate commerce (Farmer's Bulletin 1752, U. S. Department of Agriculture, 1935). They have no effect upon and exert no control over foodstuffs shipped and traded in intrastate commerce. In 1937 there were only two states in the United States (Colorado and Michigan) in which laws fixed the upper limit of the permissible arsenic content of foodstuffs and thus provided some protection to consumers of fruits and vegetables produced and distributed within the state.

The United States Department of Agriculture allows in foodstuffs 1.06 parts of arsenic (as As.) or 1.4 parts of arsenic (as As_2O_3) per million parts of food. Similar figures and regulations were set up by the British Royal Commission. The United States Department of Agriculture recommends the removal of the traces of arsenic by rinsing fruits with a dilute solution of hydrochloric acid. While this procedure is effective in a limited degree with most fruits, it is inadequate for leafy vegetables, cauliflower, and broccoli. Such a procedure is entirely ineffective to reduce arsenic which fruits and vegetables may have obtained by resorption from the soil and which they have incorporated into their substance. Inasmuch as an effective, enforceable and practical control of this situation is not likely, the replacement of arsenical insecticides by