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Army Drops the Ball

From earliest times man has sought to escape from the cycle of the fat and the lean years by storing food. Grains are readily stored without special treatment, but leafy vegetables and meats must be preserved from attack by decay organisms. All of the methods in use until recently—drying, salting, pickling, smoking, and canning—change to some degree the appearance, flavor, and texture of the foods.

The goal of storing foods in an essentially fresh condition for indefinite periods has only been attained in this generation, through quick-freeze techniques and storage at temperatures sufficiently low to prevent multiplication of decay organisms and inhibit enzyme activity. But this method can only function in societies that can afford the refrigeration equipment and the power supplies to keep it in operation.

More than ten years ago atomic energy seemed to offer an alternative mode of food preservation. In principle, the method is simple and straightforward: irradiation in sufficiently high doses will kill all decay organisms. Thus, if food is properly packaged during irradiation it will be completely sterilized and no decay will occur even without refrigeration. In practice, some difficulties are encountered: some irradiated foods develop unpalatable flavors or undergo changes in appearance; the dosages used for sterilization do not destroy the enzymes in the food, and consequently gradual changes occur at ordinary temperatures. But preservation by irradiation would, if successful, make it possible to store and ship essentially fresh foods without refrigeration, and it was this promise that led the Quartermaster Corps of the Army to start a research program in 1951. By 1954 the results seemed to justify an accelerated attack. The Department of Defense worked out an agreement with the Atomic Energy Commission for all research in food irradiation to be carried out by the Army. The main sources of radiation, then and since, were spent fuel elements from reactors; hence, the sources were variable, and precise conditions of irradiation were not reproducible.

By 1955 enough progress had been made for the Army to lay plans for the construction of an Army Ionizing Radiation Center at Stockton, California. This installation was to provide a cobalt-60 source for gamma rays and a linear accelerator for electrons. It was to be both a research laboratory and a pilot plant capable of sterilizing several tons of food per day. The program has so far cost more than $14 million, of which about $1.7 million was spent for test borings and for design and engineering studies for the proposed $7.5 million radiation center.

On the recommendation of Richard S. Morse, Director of Research and Development, the Army indefinitely suspended the program on 22 October 1959. At hearings held last month by the Joint Congressional Committee on Atomic Energy, Morse testified that the suspension was in order because the Army had no urgent need for irradiated food, irradiation had not been shown to offer substantial economic advantages over methods now in use, and additional research was needed before irradiated food could be proved suitable for long-term human consumption. On all these points except the last there was contrary testimony. Most of those who testified agreed that further research was needed but felt that the outlook was so bright that an intensive effort was justified.

Should this country abandon all effort to perfect so promising a method of food preservation? Perfection of the method, by making high-quality proteins readily available in underdeveloped areas, would be a long step forward in the Atoms-for-Peace program. In our opinion, the Atomic Energy Commission should move to recover the Army fumble.—G.DuS.