

TINNED FOODS

(Written for "The Listener" by DR. MURIEL BELL, Nutritionist to the Health Department.)

I REMEMBER seeing a cartoon of a young newlywed showing her new home to her aunt. "And this is the kitchen, complete with table and tin-opener" was the caption. We often hear people who sweepingly condemn the modern housewife because she gets too much out of packets and tins. So we need to find out what are the points for and against these foods. On the whole they are more expensive, which is a very important point.

Tinning factories are usually situated in the areas where the food is grown. Thus the food going into the tin has a good chance of being perfectly fresh, with none of the spoilage and deterioration that occurs when the food has to be transported. No need to pick the fruit before it is ripe; thus tinned fruits frequently have full flavour.

Another advantage about fruit preserved by tinning is that the commercial process involves excluding all air, for they apply the vacuum closure method, whereas the housewife cannot avoid having a little air entrapped in her glass jar. This air in home-bottled fruit causes a slight initial loss in vitamin C.

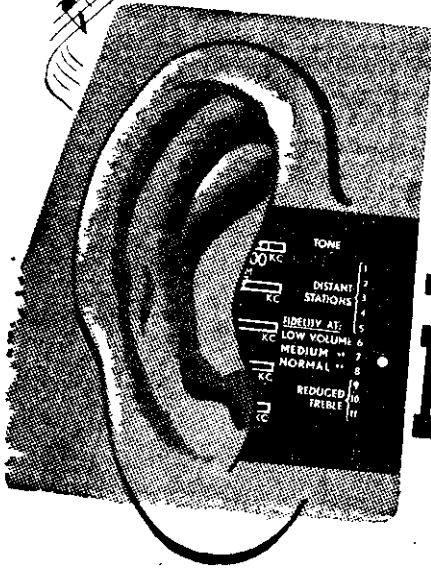
Effect of High Temperatures

When it comes to vitamin B1 there is a different set of circumstances in tinning of fruit as compared with tinning of meat; bacteria and other organisms are more easily destroyed in the presence of acid, and the housewife knows that she can preserve her highly-acid fruits such as gooseberries and black currants without the aid of sugar. She also knows that there is less risk of the loss of her bottled vegetables if she adds vinegar or if she processes them by heat on three successive days. Now the principles underlying proper preservation of foods in the factory are that when a food is not acid (e.g., beans, peas or other vegetables, or meats are not acid), a higher temperature than boiling point is required in order to kill the organisms, especially the spore-forming ones that can stand up better to heat. These spore-forming organisms that are capable of living in the absence of oxygen are the very bacteria that may cause food poisoning. Inspectors are continually on the watch lest "blown" tins, containing these organisms, may accidentally reach the market. Similar organisms may ruin your home-bottled peas or beans.

Thus a high temperature is used in order to kill these organisms in factory canning. But that high temperature likewise destroys the vitamin B1. Though vegetables and fruits are not particularly good contributors to our total day's supply of B1, meat furnishes an appreciable quota. Thus it would be an error to take one's meat entirely out of tins without making some amends by improving the vitamin B1 intake from other foods. A case comes to mind of a Chinese man who came into Dunedin Hospital 20 years ago suffering from beriberi—he had been on the gold-diggings, where he had been living on white rice and tinned meat. He was not likely to know (nor did I at that time) that something like 80 per cent of the B1 value in meat is lost when it is tinned.

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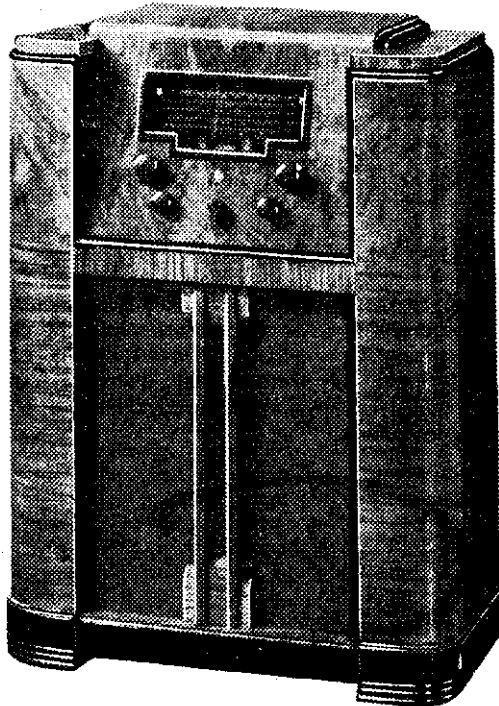
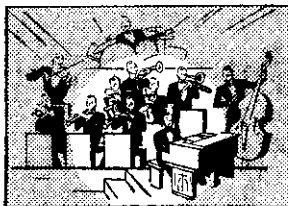
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