

"Note that, except for *C. botulinum* type E, we could safely store all goods at slightly below 44° F. Type E is a relatively rare organism. Like the other botulism strains, it requires the absence of air and absence of competing spoilage organisms, and needs a neutral food to grow.

"But unlike the other strains, it also seems to prefer fish products, and most important of all, it is rather easily killed by heat. This latter fact probably accounts for its rarity.

"In any case, at adequately low chill temperatures foods do not become dangerous to eat. Any frozen-thawed food that has some ice in it would certainly not have become unsafe.

"NOT HAZARDOUS

"Frozen fruits and vegetables are not potentially hazardous no matter what temperatures they are held at after they thaw, because they either will not support growth of such bacteria, or they will become putrid from spoilage organisms before the dangerous bacteria have a chance.

"Raw meat is known to be a source of food poisoning bacteria, but cooking makes it safe.

"The precooked, moist, bland foods may be of potential danger to health, but only if they are held in the danger zone, say 50° to 110° F. for several hours, for food poisoning bacteria can survive freezing and grow in such products after thawing.

"But the record of frozen foods is very good. Although the 'do not refreeze' label implies otherwise, there is nothing about freezing or even refreezing foods that introduces any special hazard. In fact, the opposite is nearer the truth, because of the inability of these bacteria to grow at low temperatures and the tendency of many of them to die off to some extent in frozen storage."

I would like to add another observation on this general subject. Thawing and refreezing food products is standard commercial practice in producing many items. Seasonal products such as turkeys, orange juice, green beans, peas, red tart cherries, and cranberries are first frozen and stored in bulk containers. At a later date, processors thaw these products and use them in preparing the final consumer item such as turkey pie or dinner, blended fruit juice, mixed vegetables, cherry pie, or cranberry cocktail. The final consumer item is then either refrozen or canned and distributed for retail sale.

CONTINENTAL BAKING CO. CASE

The Defense Supply Agency did not notify USDA that it had rejected 18,563 precooked frozen meals awarded under a DSA contract on October 12, 1966. We did not learn of this particular rejection until your current inquiry on rejected products was started. USDA inspectors stationed at this plant have no record or recollection of this product.

VILAS & CO. CASE

This truckload of frozen turkeys was rejected on arrival at destination because the temperature ranged from acceptable level (under 15° F.) to as high as 30° F. Since the temperature never exceeded 40° F. (the level below which bacterial action is practically nil), the inspector allowed the product to be returned to vendor. The turkeys were reinspected at the plant and found to be wholesome and fit for human consumption. They were then relabeled, refrozen, and shipped for commercial sale.

ARMOUR & CO. CASE

This truckload of frozen turkeys was rejected on arrival because the temperature exceeded the contract specifications of 15° F. The range was 24° to 30° F. The vendor sold the product in commercial channels. As long as the product temperature did not exceed 40° F. and was handled in a sanitary manner, there was no reason to consider that the product was unwholesome.

CITY PACKING CO. CASE

This truckload of ground beef was rejected at point of origin because of improper packaging, damaged cartons, and evidence of having been defrosted. The examination was made by a Federal meat grader. His certificate showed no indication that the product would be hazardous to health or otherwise unfit for human consumption. Consequently, it was released to the vendor for disposition.