Pretreatment And Wrapping Of Frozen Pack Meats Studied For Effects On Storage Qualities

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It is well established that the temperature of frozen foods should be as low as possible. It should be 0 Deg. F. or lower for longest storage. Meat should not be overaged and well wrapped should keep satisfactorily at 0 Deg. F. for the following periods:
1. Beef chuck or sirloin, 10-12 months.
2. Fresh pork, 6-8 months.
3. Lamb and poultry, 8-10 months.
4. Frozen ham, 12-14 months.
5. Other ground meats—hamber- 
ger and lambberg, 4-6 months.

Cow meat was superior in every respect, compared with interesting results.

Aluminum Foil

Aluminum foil proved superior to paper in many respects. First, because of the relatively thin aluminum foil material, so that most air pockets were excluded. It fitted the contour of the container and remained in position much better than does locker paper. Results of our experiments agree with those recently reported by Dr. O. W. Woodin in California Agriculture.

High wet strength is necessary; (2) should be odorless and tasteless; (3) be colorless and transparent; (4) not contain heavy metals; (5) not absorb and impart non-fat milk solids because these substances would be disastrous in the case of milk. Usually the addition of the salt is not necessary; (6) be grease proof; (7) be of good strength when fat freezing; and (8) easily marked for identification.

Our experiments of wrapping materials in important factors in the successful storage of frozen pack meat.

Beef properly aged and well wrapped should keep satisfactory at 0 Deg. F. for 12 to 14 months. The choice of wrapping materials is important; especially for short periods of storage.

Cold Kipping

Lamb chops, beef steaks and pork chops were given a very brief cold-kipping to determine if this procedure would remove the odor and flavor, but the results were inconclusive. They were wrapped in plastic surfaced paper, or placed in plastic bags.

The smoked meats were very pleasing in aroma and flavor after drying or broiling—after about 12 months of storage at 0 Deg. F. The unbiased smoked meats as such had since become rancid or stale or both.

Chicken similarly treated was very pleasing in aroma and flavor, but the packaging experiments had not been stored long enough to ascertain the effects of kipping on keeping quality.

Theoretically, this treatment should be effective on poultry, fish and meat.

Dipping Experiments

Samples were dipped in several anti-oxidant solutions before freezing.

The technique used consisted in dipping the meats in the solution, draining, wrapping, freezing and storing.

Of the dips compared in these experiments the dilute—0.5 to 1 per cent—of citrus and tomato juice kept the greatest practical value for use in keeping foods, because they retarded browning and rancidification of the wrapped meat. Other dips containing 0.5 to 0.3 per cent of the acid would be sufficient. It is inexpensive and readily available.

Wrapping Materials

A satisfactory wrapping material should be:

1. Odorless and tasteless;
2. Possess high wet strength so when it is wet with meat juices it will not soften or break easily;
3. Be easy to seal, but not be so easy that it is not necessary;
4. Be grease proof;
5. Be of good quality when cold or frozen;
6. Be easily marked for identification.

Aluminum Foil proved superior to paper in many respects. First, because of the relatively thin aluminum foil material, so that most air pockets were excluded. It fitted the contour of the container and remained in position much better than does locker paper. Results of our experiments agree with those recently reported by Dr. O. W. Woodin in California Agriculture.

Processing Milk Powders For Their Particular Uses

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High heat treatment of the fluid milk with a spray dryer will produce anti-oxidant fats which protect the butterfat against oxidation. The powder in a state so dry that it will not be wet, or is not cooked flavor and this seems to be largely due in part to enzyme action and in part to oxidation with the can company through research with the can factories.

The technique used consisted in spraying the milk into the fluid skim milk to 120-130 Deg. F. for 10 minutes, both for roller and spray driers, and pure aluminium foil. Various plastic film bags, laminated or non-laminated, were compared as containers for the frozen meats wrapped in locker paper. The results were still in excellent condition with plastic bag liners, and pure aluminium foil was superior to wrapping paper.

Various plastic film bags, laminated or plain, were compared, with interesting results.

In conclusion, this treatment would be effective on poultry, fish and meat and remains in position much better than does locker paper. Results of our experiments agree with those recently reported by Dr. O. W. Woodin in California Agriculture.

The addition of non-fat dry milk solids to the fluid milk to be freeze-dried improves the water-binding quality of the powder manufactured and remains in position much better than does locker paper. This part of the experiment was accomplished by short time heating to about 190 Deg. F. and holding for 10 minutes, both for roller and spray driers, and pure aluminium foil was superior to wrapping paper.

Plant Growth Regulators For Control Of Drop Of Valencias And Navelss Subjected From Research

Analyses of the fruit harvested from trees sprayed with 2,4-D for preharvest drop control have shown no undesirable effects on the fruit. No data have been obtained on the storage qualities of this fruit.

In view of these data it appears that it will be possible to incorporate preharvest drop control directly into the regular production program at a potential saving, avoiding the additional cost of the plant growth regulator.

The cost of the 2,4-D in 30,000 gallons of an 8 p.m. spray is about $4,000. The cost of the 2,4-D in 8 p.m. spray would be sufficient to treat a 10 acre orchard.

An 8 p.m. 2,4-D spray has been found to reduce preharvest drop 30 to 40 per cent with no apparent in- jury to either young or mature leaves but at present it is recommended for limited trial only.

Sprays containing between 2 and 8 p.m. generally gave a greater reduction but resulted in various degrees of curling or buckling of young "soft", expanding leaves. With continued growth there was a tendency for the leaves to regain their normal shape. In all cases, the sub- sequent flush of leaves were normal.

Curing of young leaves can be minimized when using high concentra- tion 2,4-D sprays—above 8 p.m. by spraying by growth flushes.