

months, and was very strong after two years. Treatment of the *Pinus radiata* with Plio wax before assembly of the box did not prevent timber taint when parchment wrappers were used, but limited it to negligible proportions when a Pliofilm wrap was used with the treated box. Tensilized Pliofilm was not satisfactory with the untreated box with or without parchment.

*Estimation of Iron and Copper Content of Butter and Butterfat.*—The work on production of dry butterfat during the war years led to an examination of the methods of estimation of copper and iron in butter and in dry butterfat. A report detailing some improvements in the methods, and their adoption for routine analysis, has been forwarded for publication.

*Wrapping of Cheese in Pliofilm.*—Trials have been made of a method developed in the United States for the wrapping of matured cheese in Pliofilm. The method, if successful commercially, would make it possible to market wrapped 8 oz. or 1 lb. portions of matured cheese in the same manner as processed cheese. The results so far obtained indicate that the holding of the cheese in Pliofilm has a similar effect to the storage in cans. The packages did not encourage any appreciable growth of mould. It is not yet possible to report on the commercial prospects of the method.

*Cheese-mite Control.*—Further large-scale trials of the use of dichloroethyl ether for control of mites in cheese-curing rooms have been carried out. The curing-room in one factory was treated by brushing dichloroethyl ether onto the shelves. A complete kill of the heavy infestation of mites was obtained, and the room remained free from mites for eight months. Other experiments were made on the application of dichloroethyl ether as vapour, and also on the use of scale-boards treated with dichloroethyl ether for placing under the cheeses. These methods were less effective than application of the liquid to cheese shelving, but may be useful in certain cases. A paper giving a full account of the experiments is in the press.

*Payment for Milk for Cheesemaking.*—The “costed cheese” system of payment for milk for cheesemaking has been in use at the Tamaki Co-operative Dairy Co., Te Rehunga, for seven years. The system, which was developed at the Institute after an extensive investigation into the relationship of composition of milk to yield of cheese in commercial factories, makes allowance for the higher casein/fat ratio in low-testing milk and for the higher costs of manufacture of cheese from this milk. It had already been shown that these two factors tend to balance each other and that the errors of the straight butterfat system of payment were not so great as had been supposed. An analysis of the working of the system at the Tamaki Co-operative Dairy Co. over the years 1942 to 1944 showed that the total amount requiring redistribution each year on the costed-cheese system as compared with the straight butterfat system was £300 to £360, out of a total annual pay-out of £30,000 to £35,000. The overpayments and underpayments were appreciable only for a few suppliers. Following a study of the Institute’s analysis of the system in operation at their factory the Tamaki Co-operative Dairy Co. has decided to revert to payment on straight butterfat for the 1946–47 season. A report on the subject has been forwarded for publication.

*Use of Transparent Wrapping-materials for Packing Skim-milk Powder.*—The suitability of materials such as Pliofilm, cellophane, and waxed paper for packing small quantities (2 oz.) of skim-milk powder has been investigated. Waxed paper was found to be useless, while the storage life of the powder in “moisture-proof heat-sealing cellophane” was also short. Pliofilm and wax-coated cellophane were equally good, and samples of skim-milk powder enclosed in sealed bags of these materials remained in good condition for six to nine months when stored at a temperature below 15° c. (60° F.) with relative humidity up to 85 per cent. At higher temperatures, however, even where the relative humidity was kept at 50–55 per cent., transfer of moisture through the wrapping-material was much more rapid, and at 30° c. (86° F.) the skim-milk powder did not remain in good condition for more than four weeks. Beyond this period there was a large increase in moisture content, decrease in solubility, and deterioration of flavour.