(*b*) *Pasture.*

The predominant pastures within the area are paspalum and white clover and these, together with green fodder crops, make up the main spring and summer feed stuffs for the dairy cattle. Pasture improvement is carried out fairly consistently mainly with the object of providing winter feed. Rye grass (mainly perennial) and clover (both red and white) are most favoured, the majority of farms having from 10 to 40 acres of such pasture. Rhodes grass is also important on some farms. Winter pastures are usually supplemented to a small extent by oats or wheat as green fodder crops.

*Note.*—This article will be concluded in the March number of the review.

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## SNAP FREEZING OF FOODSTUFFS.

### LOCAL AND OVERSEAS DEVELOPMENTS.

In view of the recent development in the United States in connection with quick or snap freezing it is interesting to note the proposals of the St. George County Council (the electricity supply authority for portion of the Sydney Metropolitan Area, viz., the Municipalities of Bexley, Hurstville, Kogarah and Rockdale) to enlighten residents of the district as to this method of preserving food and the possibilities in Australia.

The Council is not unmindful of the fact that the development of improved methods of food freezing in Australia is not so urgent or necessary as in the United States, for instance, where climatic conditions warrant, in some respects, the adoption of a different technique in the feeding of the populace. It feels that quick freezing methods in Australia may not be commonplace for some considerable time, and, in any case, the development of the low-temperature storage unit for use in the home and installation in stores would appear to be dependent on the prior establishment of plants for bulk food processing and snap freezing with provision for transport to centres of population.

The Council holds the view, however, that the consumer in Australia should be given the opportunity to examine at first hand the operation of storage units and assess their potential value in the food distribution set up in this country. For this purpose the Council has arranged to install, at an early date, in its auditorium at Kogarah, a locally manufactured home-freezer unit. If experience justifies the experiment an additional unit will be secured for display elsewhere.

In addition to the action indicated the Council has secured considerable data on the subject, included in which was a paper by P. D. Rodgers, of the United States Department of Commerce, on the "Present Status and Probable Development of the Frozen Food Industry." The following points are interesting as indicating the present position in that country.

Mr. Rodgers states that the quick-freezing industry in the United States of America has grown rapidly in the last few years, and it is expected that this newest method of food preservation will tend to change food distribution and dietary habits. There are three principal branches of the industry—the original "coldpacking" side, the commercial quick-freezing side, and the freezer-locker plants.

"Coldpacking" is the term applied to fruits packed with sugar and frozen in bulk containers in cold storage. This method was introduced twenty-five years ago.

Commercial quick-freezing applies to products consisting of fruits, vegetables, meats and poultry which are processed, frozen and packed, mostly in paper cartons, for distribution to hotels, restaurants and stores for general consumption and sale to the public. The retail trade offers the greatest opportunities for expansion of the new industry.

With fresh foods available all the year in frozen form the day by day diet of the consumer should be improved. A call to the grocer would give a wide selection any month of the year. Frozen foods would eliminate part of the drudgery and time in preparing food for the table. It is a simple matter to put frozen beans into a cooking vessel or empty a package of frozen cut-up chicken into a frying pan. As all waste material is discarded before the product is frozen it is in ready-to-eat form.

As far as the cost of frozen food is concerned this should eventually favour the consumer when there is sufficient output, as every penny goes for edible food. Also, frozen foods should keep the price more or less stable throughout the year.

It has been estimated that the American market will ultimately demand about one-third of its vegetables, fruits and meats in fresh form, about one-third canned and one-third in frozen form. Because of these trends a number of the more progressive and well-financed canners have found it desirable to enlarge their operations to include freezing.

The third branch of the frozen food industry is the freezing-locker plants. The early plants consisted of surplus refrigerated space in ice-plants. When it became apparent that this type of service was in demand, cages were built for storing food. The individual locker was a natural development.

Locker plants are usually classified into two general groups: those that provide refrigerated lockers only and those that will also process food for the customer. The future of the locker system is linked with the development of merchandising methods in the distribution of frozen foods and the use of home-storage units. It seems possible that the locker plants will be able to process food and freeze it for the locker patrons and also for sale to the local retail trade, in competition with large packing houses. Factors such as transportation savings, lower fixed costs and lower distribution costs favour such an enterprise. The economic possibilities in each locality would need to be studied. In establishing fruit and vegetable freezing operations in any

particular area, certain primary factors must be taken into consideration. A reliable supply of high-quality produce, suitable for freezing, must be available all the year, and local production and marketing conditions must provide a satisfactory return to the growers.

Mr. Rodgers concludes his paper by stating that whether a large commercial freezing plant or a locker plant is envisaged due consideration must be given to the basic business and agricultural factors.

It is evident that the frozen-food industry in the United States of America will continue to develop and there will be an expansion of the activities of locker-plant operators, together with the sale of packaged frozen commodities by retail houses and the installation of freezer units in the home.

Users of the home freezer, who are careful of the quality of the food which they select and who follow directions for preparing, packaging and freezing the food carefully, produce results equal to or superior to some of the quick frozen foods on the commercial market. The home freezer has certain advantages over the commercial freezer which handles many tons daily. It is impossible to purchase daily large quantities of foods of the very highest quality for freezing such as peaches, strawberries and other fruits. Further, the larger the quantity of food being handled the more likelihood for delays in handling. The housewife freezing foods in her home is only handling a small quantity of food at a time and consequently should be able to get the right variety and to prepare and freeze it with a minimum of delay.

In closing it might be mentioned that commercial developments locally have already passed their initial stage. An established catering house is engaged in processing and selling such products as rabbits, chipped potatoes, peas, beans, cauliflowers, broccoli and brussels sprouts. It has also arranged with a chain grocery company to sell frozen packaged food at the company's branches in Kogarah and Hurstville, these stores being equipped with storage freezing units. It is understood that a firm in the Burwood district is also contemplating the commencement of processing operations by the subject method.

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