forehand if there is no nectar coming in at the time. Larvae approximately 12 to 24 hours old should be used. The bees will not readily accept larvae just hatched, and poor queens will be obtained where the larvae is much more than 24 hours old.

Where the beekeeper is in doubt as to the size of the larvae to be taken or the correct procedure and appliances to use, the Apiary Instructor for the district should be consulted in the appropriate season and asked for a suitable demonstration.

Cell-finishing Colonies

During the 24 hours the selected larvae are in the starting colony, the cell cups are remodelled into queen cells by the bees and feeding of the larvae is begun. The only work to be done by the finishing colonies is to keep up the right temperature in the hive, continue feeding the larvae as required, and build the cells to a finish. These colonies should be strong, and each should occupy two brood chambers with a queen-excluder between.

Early in the season when the bees have built up to good strength, all empty combs in the brood nest should be removed and replaced with capped brood taken from other colonies in the apiary, but care should be taken not to give them more brood than the bees can cover and care for. Six to eight frames of capped brood, according to the strength of the colony, may be placed above the excluder in each hive after shaking off the adhering bees, and later, when both chambers above and below the excluder are full of bees, the colonies are ready to undertake the work of cell finishing. The prepared cells should be placed in the centre of the upper chamber between two frames containing unsealed brood, where they will receive the immediate attention of the nurse bees. On the tenth day after grafting the cells will be ready for use in colonies to be requeened or where increase is made.

Cell-finishing colonies should be fed steadily according to requirements, and not more than 20 to 25 cells given to each to finish in the manner described.

—T. S. WINTER, Senior Apiary Instructor, Wellington.

CHANGE OF HEADQUARTERS

Beekeepers are advised that the headquarters of the Apiary Instructor for the Otago-Southland district has been changed from Dunedin to Invercargill. All inquiries and correspondence should be addressed to:—The Apiary Instructor, Department of Agriculture, P.O. Box 825, Invercargill.

GREEN CROPS FOR WINTER—Continued from page 341

they will continue to supply domestic requirements for several weeks.

After-care

To combat the activities of the white butterfly during the growing season, arsenical spray or dust may be used until the edible portion of the plant begins to form, after which the use of Derris, either in spray or dust form, is recommended.

All the cabbage family require considerable quantities of water, which must be supplied if best results are to be attained. At all time, but more particularly during the early stages of growth, the plants must never be permitted to suffer through lack of water. In dry weather aphis will be more troublesome than when moist conditions obtain. Hoeing for weed destruction and to prevent undue evaporation of moisture from the soil must be attended to (see heading to these notes).

—D. K. PRITCHARD, Instructor in Vegetable Culture, Wellington.

Care of Tomato Plants

PRUNING is a necessary and particular part of successful tomato production. This should begin by removing the "shoots" which grow at the junction of the leaf and main stem. The shoots should not be cut; they can more easily be removed by side pressure of the thumb. Removal is best done when the shoots are young, and on no account should they be allowed to develop. They rob the plant of necessary moisture and valuable plant food, and are highly susceptible to disease.

When the plant has reached a height of 12 inches to 15 inches it will be seen to have divided into two main stems, and, if it has been decided to adopt the single stem method of growing—as previously advised—one of these stems must be removed.

Close examination of the plant will show that on one stem—invariably the stronger and just above the Y junction of the two stems—a short lateral growth is bearing a bunch of flowers. The stem on which this growth has appeared is the one which must **not** be removed. With a sharp knife and an upward cut, remove the other—the weaker stem—a short distance above the junction referred to.

Tying

As the plant develops and tying becomes necessary, it would be well to adhere to the system advised in the October issue of the "Journal" for the fastening and tying material. When passing the raffia round the plant to bind it to the stake, great care should be taken to see that it passes under a leaf and as close as possible to the main stem. Fastened in this manner, the plant is held securely. The tying material cannot slip down the stake, and consequently the subsequent weight of fruit will not bend the main stem of the plant, thus preventing the bottom truss of tomatoes from resting on the soil, which often causes the fruit to start rotting.

Spraying

While crop rotation and strict attention to proper cultural practices will go a long way to check the incidence of disease among garden crops, it should be recognised that spraying is essential to protect tomato plants from attacks of fungoid diseases and destructive pests. Bordeaux mixture, as described in this issue of the "Journal," should be regularly sprayed on the plants at least once every ten days. To ensure adequate protection, the under-side of the leaves of the plants should receive the same attention as the exposed parts, and the stem should be treated similarly.

The quantity of spray applied should not be stinted, as the resultant crop will amply repay any additional cost involved. Purchased in bulk, the ingredients necessary to make 5 gallons of Bordeaux mixture will cost less than 3d. A warm, sunny, windless day is ideal for spraying, but the spray should not be applied when the plants are wet with dew or rain. A sharp look-out will need to be kept for the appearance of the light-green, velvety caterpillars, commonly known as the tomato worm. If and when these are observed, add arsenate of lead (powder form) to the Bordeaux mixture at the rate of 1 oz. to 2½ gallons. Mix the arsenate powder in a small quantity of water to a cream consistency before adding to the spray. Spraying, it should be understood, is not a remedy for the blight; the mixture is applied as a preventive. Once the plants become affected, spraying is useless.

Close attention should be paid to cultivation, and shallow hoeing—preferably with a MacKinnon hoe—is recommended in order to destroy weeds and conserve soil moisture.

—D. K. PRITCHARD, Instructor in Vegetable Culture, Wellington.