winter, and so cover the roots near the stocks with as much earth as possible to prevent their being frozen. No such precautions are necessary in New Zealand.

In the cellar, bottle as much wine as possible while the cold weather continues.

THE VINEHOUSE.

The vines in cool houses should be kept hanging down till the buds break on the lower part of the rods. To promote the rising of the sap the house should be kept closed at night and the top ventilators opened for an hour or two at midday. In suspending the rods wire hooks, made by bending pieces of fencing-wire, are preferable to binder-twine or other similar materials, which form a hiding-place for mealy bugs. For the treatment of young vines see the article "Vine-culture under Glass" in last month's *Journal*.

POULTRY-KEEPING.

F. C. BROWN, Chief Poultry Instructor.

AUGUST and September are the two principal months for hatching out chickens for the renewal of stock, and therefore constitute a period of considerable importance in the poultry calendar. Chickens brought out after September, or early in October at the latest, usually prove disappointing. I would therefore urge breeders to make every possible effort to secure the required number of chickens during the period named. To succeed in artificial chick-production the first great essential is to know that the parent birds possess constitutional vigour. Next in importance is to ensure that they are fed and managed in such a way as to promote the production of eggs containing strong germs. Many poultrymen consider that the incubation and brooding stages are the main considerations, but these are only necessary links in the chain of management. It is safe to say that the best incubator or brooder ever built will not give the desired results if the eggs in the first place are produced from weak or improperly fed stock. In the May number of the *Journal* some advice was given in regard to the care and management of the breeding-birds, and too much importance cannot be attached to this phase of the work. Strong chicks imply strong germs, and strong germs come only from healthy, vigorous breeding-stock. Given eggs containing the desired strength of germ, and with the up-to-date incubators now available, together with the increased knowledge as to their working, the matter of securing at least a fair hatch is generally assured.

INCUBATING POINTS.

Owing to there being so many different makes of incubators on the market, with varied systems of working, it is impossible to lay down any one general set of rules which could be applied to all machines alike. Thus the novice would be well advised to try no experiments, but to follow closely the instructions given by the maker for working his own particular machines. Of course, even with the most popular makes of incubators it is necessary at times to depart from the makers' instructions in order to suit special local conditions. Only after gaining some experience as a result of study and observation, however, is it a wise course to depart from the instructions laid down. There are some rules, needless to say, which apply to practically any class of incubator, such as the maintenance of an even temperature at about 102° F. for the first week, 103° for the second, and 104° when hatching. The correct degree of heat required means the temperature required by the germ which floats uppermost as the eggs lie on the tray. Thus the bulb of the thermometer should lie close between the tops of the eggs if the right degree of heat is to be recorded. As a general rule, if the eggs commence to pip on the twentieth day, and if the hatch is cleared up on the twenty-first day, it may be taken for granted that the proper degree of temperature has been maintained, and usually really good hatches are obtained only under such conditions.

Sometimes thermometers fail to register the correct temperature. If there is doubt in this respect it is well to have the thermometer tested. This is a simple matter. Place a clinical thermometer and the one to be tested in water at 100° F., stir gently, add slowly at the same time hot water, and observe the different readings. If the incubator instrument reads, say, a degree lower or