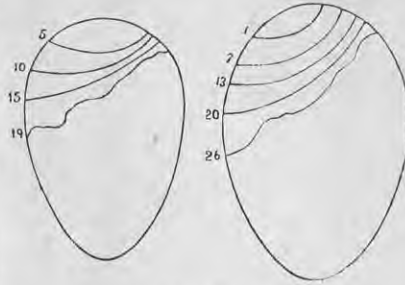


the manufacturer's instructions when first running an incubator, and then later adjust those instructions to meet local conditions, according to the results obtained. Temperature is usually a comparatively simple problem, but humidity and the adjustment of ventilation must be watched and controlled according to the manner in which the eggs dry off as hatching progresses.

At hatching time the size and condition of the chicks should be noted, special attention being paid to the healing-off of the navel, which should be clean and not inflamed. A diagram is included showing the size of the air space at the fifth, tenth, fifteenth, and nineteenth day of incubation, and may



be used as a guide. Table-top machines are not normally fitted with humidity gauges, but they are supplied with cabinet machines.

When using machines fitted with wet bulb thermometers for measuring humidity, care must be taken that only distilled water or rain water, collected in a clean vessel, is used for the gauge. If ordinary water is used the wick attached to the thermometer will become covered with mineral salts as the water on this wick evaporates in the incubator. In time, these salts will cover the bulb of the thermometer, until finally the water in the wick ceases to be drawn up satisfactorily on to the bulb. At this stage the reading on the thermometer becomes unreliable as a humidity gauge, as it is higher than actually should be the case.

## VITICULTURE—Continued from page 149.

no large rise or drop occurs in barometric pressure during those periods.

Once the boiling point of the water is found and the scale adjusted, the water is poured from the boiler and the boiler is rinsed out a few times with small quantities of the cider that is to be tested. The stopcock is then closed, and 50 c.c. of the cider are placed in the boiler; the condenser is filled with water and screwed on, and the thermometer is put in place, first making sure that the mercury has returned to place. The spirit flame is replaced to its previous position, and the cider is boiled. As soon as the mercury is stationary it is read off and the flame extinguished.

Refer to the scale, and opposite the boiling point of the cider (given on the middle portion) its alcoholic strength will be found, given in degrees of alcohol by volume, which has to be multiplied by 1.75 to give the percentage of proof spirit contained in it.

In the case of apple wines where the alcoholic strength exceeds 12 degrees by volume, the wine should be diluted half and half with distilled water before testing, and the result when determined is then multiplied by two to give the correct results.

(To be continued.)

—B. W. LINDEMAN, *Vine and Wine Instructor, Auckland.*

Many lines of apples held in cool storage contain a percentage of fruits marked by contact with the sizing machine. These marks detract greatly from the appearance of fruit, as they discolour and also encourage deterioration from rots. Regular attention should be given to the cleanliness of the bins, rollers, and all parts of the sizing machine that come in contact with fruit in the process of sizing and packing.

—A. A. POWELL, *Cool Storage Officer, Wellington.*

## APIARY NOTES

(Continued from page 152.)

culty in keeping a foothold and many get drowned during the excitement when the fresh food is first discovered in the hives. Dry brushwood or small sticks will do quite well.

While a heavy syrup is required for storage purposes in the autumn, a lighter mixture of equal parts of sugar and water is best for brood-rearing, where required, and should be given regularly twice a week until the bees are able to maintain themselves from natural sources. For stimulative feeding just before the main honey flow, when the colonies are strong and there is a shortage of stores because of bad weather, a mixture of two parts water to one of sugar is sufficient to keep the bees in good condition until the main honey flow begins.

As a general rule, the main points to observe for safety in artificial feeding are to feed luke-warm syrup late in the day, and give no more than the bees are able to take up during the night. Disturb the bees as little as possible, and contract the entrance to all hives.

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

## Cool Storage Notes

### Checking Flesh Temperature of Fruit.

THE flesh temperature is the most reliable guide to the temperature of the fruit, and, taken regularly, it will materially assist the store engineer in obtaining good results with fruit held in cool storage. To enable this to be carried out it will be necessary to use a flesh temperature thermometer to check up on the actual flesh temperature of the fruit in the cases in various parts of the stack of fruit cases. This check will readily reveal any faults in the system of air distribution, whether due to wrong methods of stacking the fruit or any other cause. Flesh temperature thermometers are procurable in a metal case at 16s each.

**Pears.**—All pears still held in cool storage should have been thoroughly examined to ascertain whether their condition is suitable for a further

period of storage, as rots may cause deterioration and loss by contact with the surrounding fruit if the first signs of the development of this form of deterioration are not detected. The sorting out and stacking of pears to growers' registered numbers will facilitate inspection and the marketing of the fruit in time to avoid losses.

**Apples.**—A stocktaking of all apples still held in storage should have been completed, and a careful examination of the various lines of the different varieties will be necessary in order to check up on the condition of the fruit from week to week as the season advances. Varieties such as Delicious, Rome Beauty, Statesman, Golden Delicious, Cleopatra and Rokewood should have been sorted out and carefully examined and released on the market according to the state of their maturity, size, or condition.