

small for the breed they represent, and lacking in real vitality, is the first step towards encouraging an outbreak of this disease.

It is also a well-established fact that damp litter and floors give ideal conditions for coccidia, so that for the prevention and control of coccidiosis it is important to avoid dampness at all times in both brooder and laying houses. This rule particularly applies to areas around drinking vessels. As droppings are a source of danger, it will be realised that the large quantities which collect under the perches must intensify this danger where the flock are allowed unrestricted access to such droppings. It is therefore suggested that where coccidiosis has once occurred and may easily break out again, the area under the perches should be wired off against the birds

in the house. Floor space may be lost, but greater safety is attained.

As a safeguard against contaminated runs, annual dressings of quick lime, applied in the winter when the run can be spelled, are advised. The draining of wet runs is a further safeguard against outbreaks.

Where farms have been free from outbreaks of coccidiosis, special care should be taken at any time when fresh stock or hatching eggs are introduced. The eggs should be dipped in methylated spirits and allowed to dry before setting, while fresh stock should be placed in a quarantine pen for at least a fortnight and be kept under close observation.

### **Where Help Can Be Obtained**

The need for recognising the disease as soon as possible and then of acting

quickly has already been stressed as an essential in effective control. It has also been stated that difficulties arise in recognising the disease if it is not present in an acute form. For these two reasons poultrykeepers are strongly recommended to forward suspected birds—two or three if possible—to the Chief Diagnostic Officer, Animal Research Station, Wallaceville. A thorough examination will be made and a report sent back to the poultry-keeper without delay. If serious losses are occurring it is also recommended that the poultrykeeper seek the services of the local Poultry Instructor by writing him at the Department of Agriculture, Auckland, Wellington, Christchurch, or Dunedin, according to the district. Delay is dangerous—act immediately.

## **Cool Storage Notes**

### **Examination of Stocks in Storage**

AT this time of the year the cool storage stocks have been reduced, and a number of chambers are holding only relatively small quantities of fruit. It would be advantageous if these small quantities could be transferred to one or more chambers so that these chambers may be filled with fruit, as by this means the correct flesh temperature can be more easily maintained and fluctuating temperatures detrimental to the fruit may be avoided. The Sturmer variety should be placed in a separate chamber owing to the necessity for holding them at a higher temperature. Other varieties, such as Granny Smith, Delicious, and Dougherty, may be held together in another chamber at a lower temperature.

The cool storage stocks of apples and pears now being held to supply the market requirements until the end of the year should have been thoroughly examined. Varieties of apples such as Sturmers, Granny Smith, Tasma, Dougherty, and Delicious may be held for a longer period provided they were picked and placed in cool storage at the correct state of maturity and held under favourable cool storage conditions. This also applies to pears still held. The Winter Nelis variety should be carefully inspected, as rots are subject to develop from injury and cause loss by contact with surrounding fruits in the case. Winter Cole and P. Barry should also be carefully examined, as excessive wilt or rots may develop.

During August the Dougherty and Frimley Beauty varieties held at un-

suitable storage temperatures developed superficial scald. This form of scald is brought about by the accumulation within the apple tissues of certain gases which are produced by the apples themselves as a result of respiratory activity. Therefore, the lowest temperature at which the variety can be safely held is the best temperature to check respiratory activity and the advancement of maturity, which eventually bring about the accumulation of gases which cause this form of deterioration. Superficial scald will develop more readily on poorly-grown fruit and on fruit which is immature when it is held at unsuitable storage temperatures.

Faulty or insufficient ventilation and close stacking of fruit will increase the percentage of loss. Open stacking which will provide air circulation will contribute to the prevention of superficial scald in storage by assisting to maintain the fruit at a low, even, flesh temperature.

The Dougherty and Frimley varieties need to be matured and well coloured when picked and placed in cool storage, and should be held at 33 degrees F. flesh temperature.

The Granny Smith variety is responding to a delay of from 10 to 15 days after picking and before cool storage, as superficial scald is not developing on the fruits either during cool storage or after removal. The use of the oil wraps is also assisting in the prevention of scald and the development of lenticel rots on this variety.

To prevent wilt development in fruit held in cool storage, and also to preserve its natural bloom and appearance, 90 per cent. relative humidity is desirable in the rooms. An accurate check of the relative humidity of the storage atmosphere throughout the season would greatly assist in improving the results obtained with fruit, particularly when the varieties are susceptible to wilt development and are being held for long storage.

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

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