

protection must be given to the colonies to prevent a loss of heat during the cool nights. The amount of protection given to the bees determines in a large measure the amount of stores consumed by the colony during the winter months. "If adequate protection be given the colony, bees will winter successfully on about what they actually need for consumption, or about 12 to 15 lbs. of honey. With less protection more honey is consumed, and the result is that twenty to thirty pounds are required for wintering."

Mr. Benton advocates as the best form of protection several inches of continuous and moisture-transmitting packing about and close to the cluster. The top packing should be connected with free ventilation with the outside, permitting the outward passage of the moisture arising from the cluster below. Again, absolute quietness should be maintained, and there must not be any unnecessary disturbance or jarring in extremely cold weather.

Mathilde Candler in a second article tells us that she considers the queens of weak colonies too valuable an asset to lose, as lost they would be if their colonies were united with others in the fall. She prefers to endeavour to save the weak colonies by wintering them on top of strong neighboring colonies.

BRITISH BEE JOURNAL.

We are very glad to learn that the "Isle of Wight" disease, which has been so prevalent and has occasioned such great losses in Britain during the past two or three years, is fast disappearing. Although some districts are not yet quite free from the disease, it is satisfactory to know that there has been very little of it this season. "There can be very little doubt," says Mr. Cowan, but that the inclement seasons we have had during the last few years have been responsible for a good deal of this disease."

The English Board of Agriculture have been investigating this disease for some

time, and the B. B. J. prints a note on the subject, giving the results of the recent findings of the scientists engaged upon the work. Instead of *bacillus pestiformis apis* being the infective agent the experiments indicate that *Nosema apis* is the cause of the Isle of Wight disease. Infection by this latter organism has been artificially produced in various ways: (a) by feeding with spores; (b) by feeding with candy on which infected bees had fed; (c) by mixing naturally infected excrement with the food; (d) by confinement in a box in which infected bees had travelled; and (e) by contact with dead infected bees.

Samuel Simmins, one of the best known of English queen breeders, and a bee-keeper of long standing, thinks that wintering upon natural stores—especially if these are of inferior quality and contain much pollen—encourages disease. In his article entitled "Sugar Feeding and Disease," he expresses that opinion and adds: Thus we may get dysentery, although infectious paralysis is not usually accompanied by that complaint, except as a result of confinement. Contrary to general opinion, the trouble appears to be constipation, with paralysis, both probably resulting from fever.

"Because of the very fine weather there are now thousands of colonies which will stand in poor plight for wintering, simply because the combs are choked with those natural stores some of our friends consider to be desirable; and where there is any sign of the so-called new malady the excessive store of pollen will seriously discount the chances of successful wintering. There is, of course, yet time to make such preparation as would avoid disaster, but few will do other than let, what they consider, well alone.

Of course, during the busy season workers and virgin queens, to say nothing of drones, will have access to nothing but natural food, especially pollen; but in wintering there are certain advantages in supplying a pure sugar syrup, free

from pollen and known disease germs; a conclusion always sure of with honey.

Mr. J. C. Bee Mason, who is engaged upon the records of bee-life. He is the biographer of the bee. He has seen his animated photographic screen marvel at the production that must have been expected. It was, at the recent convention of the B. B. J. when Mr. Mason exhibited films, that doubts were cast upon the member of the audience who was in the audience. Of a second series Mr. Herrod writes as follows: The picture starts by showing the larvæ changing from the perfect bee through the capping and then see the nurse bees feeding the young, also the queen receiving attention from her attendants. Then comes next, together with the collecting nectar and pollen flowers; that is a marvel as the tongue and legs work very distinctly. Then we prepare for swarming, engaged in building queen cells, the princesses. The swarming we see it cluster. Going to the hive, we see the prince and surplus ones killed and put in the hive. As a finale comes the drones. Mr. Mason was congratulated on a fine production.

GLEANINGS

In our September issue Byer recounted his experiences on the occasion of his journey to a distant outlying place for October 15th he hunted the 75 black queen bees on that occasion. Everybody knew it is, even under the circumstances to "spot" and in Mr. Byer's case