

The difference in the consumption of honey by the bees is marked since the cellar was improved. The coal stove which was formerly in a smaller room to keep a uniform temperature and to keep the cellar dry, has been abandoned, as the cellar and hives can be managed so as not to require it. I would not recommend anyone to use artificial heat.

Experiment No. 1.—Eight colonies in eight frame "Langstroth" hives were put into winter quarters in the cellar and placed on the shelves. Under the back end of each hive was placed a three inch block, by which means the back of each hive was raised so as to ensure free ventilation. Each hive was besides raised from its own bottom board by a small  $\frac{3}{8}$  of an inch block placed at the back. All front entrances were left wide open, the wooden covers all removed and replaced with cushions made of chaff four inches thick, and wide and long enough to lap over the hive two inches. Temperature of the cellar was taken once a week all through the winter.

November	Temp.	46 to 47 deg.
December	"	47 to 48 "
January	"	44 to 46 "
February	"	46 to 50 "
March	"	48 Steady.

The bees were quiet, only a very slight hum being noticeable up to February, when the temperature having risen to 50, the bees began to get uneasy and make considerable hum. Cold air was carefully let in during the night by opening the slides in the doors and closing them in the morning; this lowered the temperature and the bees quieted down.

During the past winter every colony in this experiment was perfectly dry and clean and all came out in excellent condition. Average honey consumed, or loss in weight for the past

six years, eleven pounds one-half ounce.

Experiment No. 2—Two colonies were put into the cellar on November 12th with tops and bottoms of the hives left on, just as they were brought in from the bee-yard. They were watched for dampness and to compare the amount of honey consumed. Temperature of cellar the same as No. 1. During December and January both hives made considerable hum. December 27th drops of water were noticed all along the entrance of both hives. This same trouble continued until March. On March 30th both hives were removed to their summer stands; one had spots of faeces on the entrance, both hives were damp, and the combs were slightly mouldy but there were very few dead bees in the hives. Average loss in weight for the past six years has been thirteen pounds one and one-quarter ounces.

Experiment No. 3—Wintering in a root-house. The hives were placed on a shelf nailed up against the wall about three feet from the ceiling and projected two feet. A curtain was hung from the wall over the top and down in front of the hives so as to keep out all light. The wooden covers were removed and replaced with a chaff cushion; a strip of wood 2x2 inches was placed all along both sides between the brood chamber and the bottom board so as to give ventilation at the bottom; both back and front were left wide open. In former years the hives kept in the root-house did not appear to have ventilation enough. This extra space has proved very satisfactory. Temperature was taken every day of each week.

November, highest temp. 38 deg., lowest 36 deg., both hives quite dry but very noisy.

December, highest temp. 42 deg.,

lowest 36 deg., both hives quite dry but very noisy. During the winter the bees were very quiet, only a very slight hum being noticeable up to February, when the temperature having risen to 50, the bees began to get uneasy and make considerable hum. Cold air was carefully let in during the night by opening the slides in the doors and closing them in the morning; this lowered the temperature and the bees quieted down. During the past winter every colony in this experiment was perfectly dry and clean and all came out in excellent condition. Average honey consumed, or loss in weight for the past six years, eleven pounds one-half ounce. Experiment No. 2—Two colonies were put into the cellar on November 12th with tops and bottoms of the hives left on, just as they were brought in from the bee-yard. They were watched for dampness and to compare the amount of honey consumed. Temperature of cellar the same as No. 1. During December and January both hives made considerable hum. December 27th drops of water were noticed all along the entrance of both hives. This same trouble continued until March. On March 30th both hives were removed to their summer stands; one had spots of faeces on the entrance, both hives were damp, and the combs were slightly mouldy but there were very few dead bees in the hives. Average loss in weight for the past six years has been thirteen pounds one and one-quarter ounces. Experiment No. 3—Wintering in a root-house. The hives were placed on a shelf nailed up against the wall about three feet from the ceiling and projected two feet. A curtain was hung from the wall over the top and down in front of the hives so as to keep out all light. The wooden covers were removed and replaced with a chaff cushion; a strip of wood 2x2 inches was placed all along both sides between the brood chamber and the bottom board so as to give ventilation at the bottom; both back and front were left wide open. In former years the hives kept in the root-house did not appear to have ventilation enough. This extra space has proved very satisfactory. Temperature was taken every day of each week. November, highest temp. 38 deg., lowest 36 deg., both hives quite dry but very noisy. December, highest temp. 42 deg.,