

years of experience, teach us that bee-keeping is a branch of agriculture which punishes sooner or later the careless, inexperienced bee-keeper, and the person who cannot give it due attention. And it rewards liberally the careful, energetic, thrifty and studious performer, or in other words, it is worthy the attention of our brightest minds and dispositions. This last deduction is sound and the more we blazon abroad this fact the better for bee-keeping and the better for the country. The more successful bee-keepers we have the less of the dangerous elements there will be. Bee-keeping is an occupation peculiarly dangerous to one of a slothful or improvident disposition. Action has to be taken when present circumstances would not spur us to that action. To prepare for a honey flow, weeks, yes, months before, when cold would rather draw us to the fireside; to prepare for a rush of honey when scarcely a bee is stirring in the apiary requires energy and foresight. The life history of the bee, a knowledge of the best implements, mechanical training, botany, chemistry, entomology, physics and meteorology, the nature of soils, physical strength, mental endowments, and business acumen possessed and applied, all will be rewarded when one engages in bee-keeping. This is more or less true of all branches of agriculture. In choosing a life profession the parent and child often choose a calling where the means, financial, mental and otherwise, can give no hope of being in anything but the vanguard of the profession; desire in this should be governed by solid sense. The careless and thoughtless and the poorly equipped and shiftless better not follow agriculture as a business, but select something which does not require so wide a range of information and powers. It would be better for him become a lawyer, a doctor, a merchant, a poli-

tician or the like. Strictly speaking, my subject ends here, and yet I venture an addition to what has been said, to say a few words upon the additional prevention of these winter losses. Seeing that every colony has a fertile queen, of the best wintering strain, and thirty pounds of winter stores, would reduce the percentage of winter loss very much. The colder it is the more compactly bees cluster. If stores do not reach the cluster they may not be able to break the cluster to reach the stores, and starve. This is frequently the case during prolonged cold spells, and only a moderate amount of stores in the hive.

The moisture given off by the bees should be expelled from the hive. After allowing in outside wintering sufficient packing to protect from cold, there are two methods advocated. By means of one the fresh air is brought in at the entrance of the hive, and the air laden with moisture and carbonic acid gas carried off at the same opening. The other method is to bring in the pure air at the entrance and carry the foul air by the pressure from the fresh air entering the hive, and the natural tendency for the warmed air to rise, by these means to carry the exhausted air through the packing above.

Arthur C. Miller in The "Review," lays down in no uncertain tones that the entrance is the proper opening for fresh air, and also the outlet for foul. In a stove we have the place where the fresh air enters, as in the hive we have the entrance to the hive. In the wood we have combustion and oxidation, as with the bees and honey we have combustion and oxidation. When the fresh air entrance becomes the natural outlet for the smoke and carbonic acid gas, then the entrance to the hive will be the natural outlet for the exhausted air of the hive.

In the common entrance and outlet