the brood chamber, and a part (often a very large part) of the comb that is damp with moisture extends up at the sides of the cluster to the top bees. This moisture gets into the honey and causes it to sour; and as the foul air is impure, gas rises on top of the brood-chamber, making the bees uneasy, and they begin to move about, use the sour honey (which causes the diarrhœa), and the destruction of the colony ensues. We are safe in saying that a colony of bees never was known to have the diarrhœa when the honey and combs were kept perfectly dry.

Those that winter their bees without proper ventilation are often heard to complain that their bees got restless and uneasy from being too warm. My experience has proven that it is not the warmth, but the fumes of the sour honey arising below and accumulating in the upper portions of the brood-chamber that makes them uneasy, and the removal of the tight cover on top of the hive at such a time will convince any person that proper ventilation is necessary to the health of the colony.

WM. UMRIE.

Minneapolis, Minn.

THE STING TROWEL THEORY.

ON page 48 of his Birds'-eye View of Bee-Keeping, the Rev. W. F. Clarke thus writes:

"When honey gathering bees with cheerful hum
Will do the work they understand so well,
And store sweet nectar in each vacant cell,
Smoothing and polishing the surface all
With that small trowel we a dagger call,
And which by them employed so much is
In giving honey comb its final touches.

This assertion of friend Clarke's has been challenged, and a recent issue of the *A. B. J.* contained numerous answers to a query regarding it.

Professor Cook says: I think that idea is a myth. There is formic acid in the honey, which is doubtless the result of digsstion. How do the stingless bees of hot climates acidulate their honey?

A. B. Mason: My "idea" is that I never saw it done, and that I do not believe it is done. * * * * If formic acid has to be put into honey to prevent its fermenting, when is it put in honey that is extracted before being capped?

G. W. Demaree: There is not a shadow of truth about it. Honey contains more or less of formic acid, but it gets there by absorption from the effluvium rising from the heated cluster of bees. Perhaps this is a wise provision of nature—certainly it is the most natural process by which such an end could be accomplished.

Eugene Secor declares it a "grand humbug," and J. M. Shuck inclines to the belief that "the acid formed in honey is developed and incorporated with the honey in the honey stomach, and tends to preserve the nectar till it ripens, rather than after it is evaporated and sealed."

Dr. C. C. Miller in the last issue of the same periodical writes strongly and says: That bees ever use their stings to work wax, I believe is just as untrue as that artificial comb honey is made, and yet this error had its origin entirely among bee-keepers. It is true that it is not like the Wiley affair in mischievous tendency, and I do not suppose Mr. Clarke would have made the statement he did if he had known mischief would arise from it; still he was far from warranted in putting forth as an ascertained fact that which was a mere play of his imagination. I do not believe he ever had any proof that his fancy was a fact, and I confess I would very much like to see Mr. Clarke himself the first one to give the "sting trowel" its quietus. I would like this for the sake of the truth, and also for the sake of Mr. Clarke as well.

From the British Bee Journal.

BIRDS AND BEES.

I AM surprised that any bee-keepers should have doubted that martins as well as swallows and sparrows are most destructive to bees. From my own observation I should say there is not a pin to choose between them, though sparrows are far the boldest. The other day I saw an old cock sparrow catch five bees on the wing in two minutes; he sat on the top of the hive and pounced at them as they came home, but I have never seen them eat *drones*. When the ground was covered with the dead and dying the sparrows carefully picked out live workers, while the swallows and martins (chiefly the former) scud after the bees as they come home before a shower, and catch hundreds on the wing, and when a swarm has turned out they will fly backwards and forwards through the cloud of bees. I have seen this times out of number.

W. E. BURKITT.

Buttermere Rectory, Aug. 31, 1888.

From the London Free Press.

THE HONEY CROP.

THE honey crop in given latitudes, and on certain isothermal lines all the way from the Atlantic to the Pacific is poor this year. From Gaspe to Sandwich, from Maine to California, and even extending to the British Isles and the northern part of France