

to take up; I have no experience and the information I possess is gleaned entirely from others. I pass on to extracted. Although I have some knowledge of agricultural and animal chemistry I am somewhat "rusty" and should I stumble in minor points I hope I shall not have thrust upon me in a variety of ways, and from as many sources, the oft-used phrase: "a little learning is a dangerous thing." How then shall we secure the best extracted honey for market?

We have to take into consideration color, exture and flavor. Three points of varied importance, but none of which can be overlooked.

Out of 100 I should give flavor 65, color 20, texture 15. Why? Because flavor is what will draw your customer, and after he is once drawn, *hold him*. Color I place next because it will draw your customer, especially if your package is glass, and if you have flavor and color texture cannot be so far behind.

Now, then, how is honey affected as to color, that is so far as it lies in our power to affect it. The care we take of it after leaving the combs, perhaps, and probably, if not certainly, its condition as to fitness for extracting. I mean what is generally known as its degree of ripeness, but there is another and one which I have known for some years, but never saw an occasion sufficiently weighty to lay before the public. That is the hive and combs wherein the bees store their honey.

To secure the best colored (and probably the flavor is affected) honey we must have perfectly clean hives, wood white and fresh and the combs light and bright. Cells which have had repeated generations of baby bees swaddled in them will change the color of honey in proportion to the number of generations which have inhabited them. This item is of *practical value* only in a measure; the conditions may be aimed at but cannot always be secured. We next pass on to texture and flavor. In passing, I would say in my estimation, in Europe our Linden honey will meet with a more favorable reception than our clovers, and of the latter, Alsike will have the preference. Why! because all the preparations of their food show that a decided flavor is desired. How can we then improve the flavor of our extracted honey? This is a question which has perhaps not been fully answered by any, and thought of by few.

I again assert that honey extracted before ripening before being capped, or before being ready for capping, never will have the richness of flavor which honey so ready has. Why? I think honey exposed to the atmosphere after leaving the hive loses a part of its essential oil which is volatile, this oil is distilled by the flow-

ers and gathered by the bee in connection with the honey, of this latter fact there is no shadow of doubt. Again we know that the honey bee spreads honey all over the surface of the combs and as it is prepared by evaporation, etc., the bees again take it up in their honey sack and carry it upwards, so that it is self evident that several times, at least, honey enters the honey sack of the bee and is again placed in the cells. In my paper read at the Brantford convention in January and published in the *British Bee Journal*, I refer to the value of honey as a food, being perhaps owing to its easy assimilation, the bee having effected part of the process of digestion. If this be correct, and there is every probability it is, honey cannot have that richness of flavor nor can it be of the same value as a food until the bee is ready to place the cap upon it. We have many examples of food being partially digested and then fed to young; if I mistake not, many of our birds do so, of course the case is not analagous, but is it not extremely probable that honey undergoes the first process of digestion, and the most difficult, in the bee? Would this not account in a measure for the extremely short life of the worker at this season, for the opinion many have that it is injurious to feed bees late in the season? And above all if such be the case, and I have for some time thought so, are we not losing sight of a fact which we should place before the consumer, that honey is a food in its most concentrated form and not only so but that it is in a condition that it can be readily assimilated by the system?

To show its great value let me briefly, and to the best of my ability, show the process of digestion. Food is taken into the mouth, then the salivary glands during the process of mastication secrete a fluid which acts upon the starch in the food and converts it into sugar. The food then swallowed has certain parts of it acted upon by the gastric juice, from there it is acted on by the pancreatic juices and the juices from the liver. This being done in perfect digestion the nutritive has been so separated from the non nutritive, or that incapable of nourishing animal life, that the small vessels upon the small intestines can assimilate and take up what is nutritious and from there it passes on as a milky fluid until colored and taken up to nourish the system. In many cases of disease the system does not perform properly the process of digestion either nitrogenous or carbonaceous food or both, that is the nutritious is not separated from the non-nutritious and the system is unable to take up nourishment and replace waste. If honey then is a food already digested and ready to be assimilated we have a class of foods which