tegration of tissues bears a direct relation to the degree with which they are exerted, it follows that their waste, between the periods of pollen-gathering, must be considerable; and for their renovation as well as for a constituent of the secretions, "a corresponding demand for nitrogenous matter is created."

After the carbohydrates have been digested and absorbed into the blood current, nitrogenous matter is still essential for starting in motion the changes which result in heat and motion. Carbohydrates do not of themselves readily undergo these changes, without the aid of nitrogenous matter. Prof. Foster says, "Fats and carbohydrates differ essentially from proteid (nitrogenous) food, in that they are not distinctly provocative of metabolism. (Chemical changes of transformation which occur in the living tissues.) The characteristic feature of proteid food is that it increases the oxidative metabolic activity of the tissues, leading to a rapid consumption, not only of itself, but of the non-nitrogenous food as well." (Text book of Physiology, page 599.). Dr. Parkes says, "Late researches, which have much modified our opinion of the direction in which the potential energy of the dietetic principles may be manifested, (as heat, or electricity, or mechanical movements), and of the mode in which the nitrogenous substances, in particular, aid or restrain this transformation, do not impeach the proposition that the presence of nitrogen in an organized structure, and its participation in the action going on there, is a necessary condition for the manifestaton of any energy, or any chemical change." (Manual of Hygiene, vol. I, page 204). Dr. Pavey says, "Whenever vital operations are going on, their nitrogenous matter is present, forming so to speak the spring of vital action. Although non-nitrogenous matter contributes in certain ways toward the maintenance of life, yet it is nitrogenous matter which starts, and keeps in motion, the molecular changes which result in the phenomena of life. Nitrogenous matter, it may be said, forms the basis without which no life manifests itself. Life is coincident with molecular change. In non-nitrogenous matter the elements of the molecular are not, of themselves, prone to change, whereas in the molecule of nitrogenous matter there exists a great complexity of grouping among the elements, and these cohere so loosely, or are so feebly combined, as to have a constant tendency to alter, or regroup themselves into simpler combinations. By this change in the nitrogenous, change is induced in the contiguous non-nitrogenous molecule, and, occurring as the whole does in a definite or prescribed order, the phenomena of life are produced. Nitrogenous matter, forming in this way the instrument of living action, is incessantly being disintegrated. Becoming thereby effete and useless, a fresh supply is needed to replace that which has fulfilled its office." (Food and Dietetics, page 26).

From the foregoing the thoughtful reader will be apt to conclude that the opposition of some bee-keepers to the use of pollen as a part of the winter food of the bees, is not based on sound physiological principles. The conclusion of the whole matter is that bees must have a supply of nitrogenous food at all times, or they will certainly die of starvation, although they may be well supplied with carbohydrate stores. Exposure to severe cold will hasten this result, because it has been shown by experiment, that the immediate cause of death from starvation is a decline of the animal temperature. "The operations of life can only be carried on within a certain range of temperature, and if from any cause this range is passed, death is the inevitable consequence." Fortunately for the bees, it is just about impossible to entirely deprive them of pollen; in fact, I believe it has never yet been done; and for this reason they often live, not on account of, but in spite of the intended kindness of their owner.

S. CORNEIL.

Lindsay, Ont., 1st April, 1889.

For the CANADIAN BEE JOURNAL.

WEEKLY REPORTS DESIRED.

I HAVE often thought it would be a good plan to have regular weekly reports from different parts of the province during the season from April to November inclusive, of condition of bees, state of weather, results, prospects, etc. As it is now, unless some one volunteers a report we may not know how other bee-keepers are faring for weeks or months after. Such reports are most interesting. If you put the idea into operation, I am sure the reports will be the first thing I will look for each week and believe the majority of your subscribers would say so too. The reports you had sent in last season during the drought interested me very much. Somehow after reading them I felt better to know I was not alone in a scant harvest. It was also profitable to me, for after reading reports of short crops all over the country, I raised the price of what little honey I had 2½ cents per lb and got it too, and this is where regular reports would be valuable, every reader would have a guide for prices. In your letter you say once in two weeks would be often enough for reports as correspondents would tire