in a supplementary number of the *London, Edin. & Dub. Phil. Magazine*, page 533, 1854, we find that in full grown canes there are present silica, phosphoric acid, sulphuric acid, lime, magnesia, potassa, soda, chloride of potassium and chloride of sodium. The sugar obtained from the juice is an organic substance, (*i. e.*, a substance not composed of minerals, its formula being C. .24, H. .22, O. .22 — gases always present in the air or water); consequently, to produce the sugar only, does not exhaust the soil — to produce the cane does so exhaust the soil; then, if the ashes or canes be returned to the soil, we see no reason why sugar lands, so called, may not be cultivated indefinitely. Now, how does fact bear out these inferences? In many sections of the West Indies, owing to the scarcity of fuel, they are obliged to use the bagasse (dried refuse of stalks after the juce is pressed out) as fuel for evaporating the syrup. The silica and alkalies present are converted into a hard, insoluble glass, which, in this form, being useless, is thrown away. In Louisiana, on the contrary, hithertoo, wood has been used as fuel, and the crushed cane being returned to the field, the yield of sugar from their fields is but little, even after years of cultivation. As another illustration, to what cause can be attributed the almost magical guano and similar manures on soils which, before their application, are hopelessly sterile and barren? Simply because that in those manures are these elements which have been carried away by a succession of cereal or grain crops, and after the land has been robbed of all its fertility, it is turned out to rest.— Similar, unfortunutely, is the practice of too many at the present day. Intent upon present gain, too wise to profit from the experience of others, and regardless of their own permanent welfare, they pursue the same beaten track of exhaustion, and ultimate starvation.

But to return to our subject. A few soils formed by the debris, or pulverization of volcanic rocks, seem capable of the indefinite and successful cultivation of grain crops, a year's rest, when it seems to have become tired, so to speak, provides anew the elements of fertility. Such is not the case, however, with the vast majority of American farms. Our cities are the devourers of the fertile elements of their soils, and in too many cases it is but a beggarly pittance that is given back by them. In every carcass of an animal conveyed to the city shambles— in every pound of cheese, bushel of wheat, corn, oats, &c., the same loss is occuring; and how few there are who seem aware of the necessity of returning to generous Mother Earth, what her prodigal children so thoughtlessly waste.

This restoration, or supply of fertile elements, must be made by every one who would preserve, unimpaired, the productive capacity of his land. How it can best be done, will be considered when we treat of manures and manuring.

BEE CULTURE.

The great obstacle to successful bee culture, is the ravages of the bee moth. Wherever the bee can enter, the moth miller can do the same; and we believe that in every hive, patented or unpatented, the havoc made by the lodgement of worms in the hive still remains the most serious difficulty.

The bee-masters and apiarians of European countries do not speak so strongly, or so often allude to the insect in question, as is done by those of the United States.

There is no remedy, in fact, but a care and watchfulness removing all hiding places for the miller from about the hive and bee-house, and a constant inspection and cleansing of the bottom board of the hive.

Such being the case, those hives which do not allow of this cleansing and removal of the dirt and excrements of bees, fail wholly to answer the desired end.

Considering the nature and character of the honey bee — the order and system in which the different operations are carried on in a hive, their internal government and economy, their indefatigable industry in collecting their luscious store, and the wonderous skill displayed in the construction of the comb and the shape of their cells — we do not wonder that the attention of eminent philosophers should have been directed to them; and once engaged in the interesting work, a life time can be spent in the study and contemplation of their nature and mysteries.

The editor of the *American Agriculturist*, who is an experienced apiarian, gives it as his opinion, that a plain box hive, of the very simplest construction, is equal to any of the patented hives now before the public; and that the more simple the fixtures for a hive and apiary, the more likely to be successful in their culture.

Mr. Quimby states in the *Country Gentleman*, that he has "an interest in about 400 hives, and has sold this season about two tons of honey." He also states, as a fact, "that in all extensive apiaries that he has visited, the patent hives are not used — *they* are found in apiaries that seldom exceed twenty