

tion. There are many books written on the subject, and they are truly the farmers' best friends if they only use them correctly. Agriculture, then, should be the most important part of the young farmer's education, although there are other branches of almost equal importance.

Business correspondence is something that a great many farmers greatly neglect. True, the most of them can make a person understand what they want, but the appearance of his letter very often gives rise to a great deal of mirth (sometimes profanity) among business men. If a business letter be neatly written, and put in good form, it is a guarantee to the dealer that his customer is a man of business, and such a letter is more likely to receive prompt attention than one that is written in a slovenly way.

Then again, it is important that a farmer should keep an account of all his money affairs. He has just as much need to know how his business is prospering as the merchant has, and he can not tell how it is going unless he knows how to keep a simple set of accounts. It is not necessary that he should know all the ins and outs of double entry book-keeping, but it is necessary that he should know how to keep trace of his money.

A farmer should understand farm arithmetic pretty well; that is, he should know how to compute simple interest, to measure a field, to measure lumber, to measure fences, and any little problem that may come up concerning his business. Because a farmer has not a great deal of business to do, that is no reason why he should be cheated out of what little money he has.

There are many little jobs of carpentering about the farm to be done, and many farmers send for the carpenter to come and do them instead of doing them themselves. The farmer should know how to use a saw and plane, so that he can do his own "tinkering," because there are many times when he can not get a carpenter just when he wants him; and if he doesn't do it himself he will probably have to wait a week or so before he can get anyone else to do it.

But I have so far spoken about the education of the farmers' sons; and now how about the daughters?

I think it is important that the daughters have a good education as well as the boys, although their education will not be in just the same direction. Girls should have a good public school education in the first place. If they intend to remain on a farm, it is necessary that they know all the details of butter-making, and, whether they remain on the farm or not, it is necessary that they know a good deal about baking, laundry work, &c., for no matter where they go to these things will have to be attended to.

It is also well for the girls to understand something about simple accounts, so that if the boys are very busy, they may take charge of the accounts. The daughter might take full charge of the books, and keep them for the men, who might give her a nice little sum of money for doing so. I know of men who do this, and they say that it saves them considerable work, besides pleasing the daughter, who is thus able to get a little pocket money.

Music is something that every farmer's daughter should know something about, for during the long winter evenings one has ample time to practice this art, and it will do a great deal towards keeping the boys at home during the evenings.

A great many argue that the farmer's daughter is not expected to be so well educated or so refined as her city cousins, but I think that she has just as much right to be refined and educated as any person who lives in the city.

If farmers' sons and daughters would only take the pains with themselves that they ought, they might improve themselves a great deal. Now I don't say that they are not a good class of people, but if they would only take the interest in books and music that they should, I do not doubt but that they would enjoy themselves a great deal better, besides being able to do their work more intelligently and profitably.

The Apiary.

The Medicinal Properties of Honey.

The physiological effects of honey are singularly effective, though mild and passive in their character, says an M. D. in the American Bee Journal. It occupies a broad line between alimentation and therapeutics, being both food and medicine; therefore it belongs to that class of medicinal remedies that cure indirectly, that is, by putting the vital forces in such a condition as to enable them to overcome diseased action. Mineral waters, cod-liver oil, glycerine, malt, etc., all belong to this class of remedies.

Before speaking of the curative properties of honey we will note its physical properties.

In the first place, where is honey from? Some assert that it is a secretion of the bee, others that it is a natural product in plants. If it is a natural vegetable product, the laboratory would have furnished us, long ago, with genuine honey. It must be remembered that the sugar and glucose in the flowers and fruit that bees resort to, is never honey until it has passed through the stomach of the bee, and please do not call this organ a bladder, as some do. It is virtually a stomach and performs the functions of that organ. The bee gathers into it a saccharine material. After its reception, a gastric element is mixed with it for two purposes, one to give it the character of honey, and the other to make it assimilative for the formation of an oil, that is, perfect wax.

It is generally supposed that after a bee returns to its hive with its treasure, that it hurriedly dumps it into a cell and goes out for another, and so on. This is not the case; when the bee returns, from fatigue and under the stupefying influence of digestion, it has to abide its time, both to recuperate, and to get rid of its burden of honey and wax. We have reason to believe that even after the honey is deposited into the cells, it has yet to receive the finishing touch of perfection by the bees, in all probability by the young bees of the hive.

The young bees are active house keepers in the hive; they live on the honey imported, and this rich, concentrated food demands an excess of gastric secretion; when coming to a certain point, it creates a regurgitation something akin to vomiting. This the young bee economically puts back into the cells, thus completing the process of honey making. Another point as to the character of the bee's stomach: As soon as it is unloaded, an insatiable sense of hunger and restlessness ensues, which at once forces the old bee to work abroad and the young at home. We all know how to respect the buzz of the hungry bee, and admire the sweet disposition of the one that has just finished a sumptuous repast. And how rare are family jars when the pantry is ever full. It is Nature's law, in all the same.

We go more especially into these details, to point out the medical properties of honey. It has two physical elements that make it particularly a medicine, viz.: 1. An aromatic irritant imported to it by the stomach of the bee. 2. Its ready transformation into fat, without those complicated physiological operations necessary to transfer other saccharine elements into this material.

These make it at once both a local and con-

stitutional remedy. Locally, it is an irritant, sedative, emollient, detergent, antiseptic, solvent, rubefacient and a parasiticide. Constitutionally it is nutrient, demulcent, laxative, deobstruent, alterative, tonic, expectorant, restorative, febrifuge, diuretic, diaphoretic, vermifuge and antaphrodisiac, as well as containing certain poisonous properties manifested under peculiar circumstances.

When we say that honey is both an irritant and a sedative, we mean that its first effects may irritate, followed with a sedative effect. All liniments work beneficially on this principle, the same with the most of eye-waters, etc. The solution of honey as an eye-water, proves particularly beneficial on account of its antiseptic, absorbent or resolvent properties. It cures inflammation of the eye, in the way a solution of borac acid does, that is, mainly by reason of its antiseptic and sedative properties.

The irritant properties of honey are, in a great measure, destroyed by dilution. Therefore as a topical irritant, where we wish to favor resolution, by counteraction, it is used in pure state or in conjunction with other more active irritants. It is its irritant or rubefacient effect, joined with its emollient nature, that precipitate local inflammation into suppuration, and is, therefore, a suitable remedy for abscesses, boils, whitlows, carbuncles, etc. Therefore, woe to the one that applies a honey-plaster over an inflamed eye, in place of the solution! As a rubefacient and absorbent it makes an excellent local application in glandular swelling, and in chronic tumefaction, in particular when joined with iodine, iodoform or mercury.

On account of the temperature of the body, it is difficult to keep pure, undiluted honey on the surface; this can in a measure be remedied by saturating layers of Canton flannel, and apply them, changing frequently.

I speak of it as a parasiticide not only in connection with the theory of the pathogenesis of diseases as advocated by Pasteur, Cohn, Koch, Klebs, and others who have investigated the bacteria, but even those who created several skin diseases, well known by almost every one. Take honey for the destruction of the bacteria, because of its antiseptic, tonic and laxative effects, its daily use would disarm every dire and malignant disease of its destructive force. Cholera, yellow fever, small-pox, scarlatina and diphtheria may run their course as before, but comparatively in such a mild form as to afford but little anxiety. I only speak of honey as a preventive of malignancy in these diseases, and not as a curative agent.

I have reason to think that it may even serve as a prophylaxis in epidemic diseases. Last year, Austin and vicinity were afflicted with an epidemic of dengue, prostrating nine-tenths of its inhabitants! My residence and apiary is two miles south from the city; and I suppose almost every one in our neighborhood had the disease; however my family and servants never took it, although we kept a daily communication with the city, and with persons having the disease. I cannot account for this exemption, which created a great surprise among our friends, unless it was the honey we ate almost at every meal.

The constitutional effects of honey cannot be fully understood and appreciated, except to study it from its medical properties, as represented above. All scientific investigations of