

rain showers than when prepared in the way usually recommended, viz.: first pouring in the copper sulphate and lime solutions, and then filling the barrel. The second spraying was made on June 12th and 13th, just as the berries were beginning to form. One corner of the old plantation was then quite badly affected with the blight. I also sprayed three acres of young plantation on June 16th and 17th, which had not received first spraying. After last spraying, very little rain fell in many weeks.

Now, as to the results: In the corner of the old plantation, where the foliage was already affected, the disease was entirely checked, and none of the leaves of other bushes became affected, although some of the canes that were injured from the previous year dried up to a certain extent, and some of the fruit on those canes was not quite as large as it should have been. But, while the previous year many of the lateral branches did not grow to more than six or eight inches in length, this season many reached the enormous length of ten and twelve feet, and none are less than four feet. I also find in the plantations that received the first spraying, the canes are almost entirely free from symptoms of the disease, while in those that received only the last application there are still evidences of it. I would therefore recommend spraying, by all means, before the buds have burst.

Again, I find that the disease is much more difficult to eradicate when affecting the Shaffer's Colossal, a purple berry. But perhaps this is due to the foliage being so much more dense on this variety, thereby preventing the mixture from thoroughly reaching the canes. But in this variety the fruit does not appear to be injured as much by the disease as in the case of black caps.

In conclusion, I would say that while many persons find fault with the Experimental Stations, and consider them only a bill of expense, I feel confident if their teachings were more closely followed great benefits would result. I know that in my own special case their advice has been worth hundreds of dollars.

The Cauliflower.

BY FRANK GARDINER.

(Continued from page 93.)

The great enemy to the young plants is the flea-beetle. Where these are very destructive, some protection may be gained by growing the plants in beds raised a couple of feet above the level; while the grubs may be circumvented by repeatedly working the ground, applying a dressing of potash salts and enclosing the seed-bed with partly-sunken boards. The objection to the raised beds is the rapidity with which the soil dries out, requiring constant care in watering. Radishes are often sown with the cauliflower seeds, as the fleas prefer these and will confine their attacks to them, giving the cauliflower plants comparative immunity. Dust is also a "discourager," and fine road dust, lime, ashes and plaster are often sifted on the plants as a protection. An emulsion of fish-oil, and a decoction of tobacco, are also serviceable.

The cut-worm is another foe which must be combated. Generally the safest way to avoid loss is to trap the worms before the plants are set out in the field. This is done most expeditiously by a method recommended by the Entomologist of the National Department of Agriculture. He advises spraying a patch of young clover with Paris green. Cut it, divide in small bundles, and scatter over the field a day or two before the plants are to be set. The worms find the clover, eat of it, and it ends their career very satisfactorily.

Of course, in a paper which circulates all over America, like the FARMER'S ADVOCATE, it is of little use to give directions when to sow seed or transplant. The time in each locality will vary with the latitude. At the north plants are managed at about the same season as late cabbage. The object is to get the crop ready in October; it should begin to head in September. For an early crop, at the north, plants should be started in February, in a hot-bed, and set out the middle of April. Avoid setting in May, for early varieties set then will head in August, usually at a dry, hot period, and will be of very poor quality.

The early sorts, which usually have small heads, should be set in rows two feet apart, and three feet in the row; for the late, large-growing varieties, four feet by four is none too far apart, as cauliflower, like cabbage, is a gross feeder. Medium sized, or even small plants are preferable, as if too large, though more certain to live, they are apt to "button"—that is, form inferior, miniature heads very early. Set the plants just before or after a rain: if the skies are unpropitious and it is necessary to water, give no "heel-taps," but a good, thorough wetting. Setting the plants in shallow trenches, like celery, is advantageous, and if irrigation is practiced, a necessity. In early planting the ridges are a protection to the plants from wind and cold, and the ground is gradually leveled by after-culture.

A steady growth must be maintained, for if checked the result is disastrous, the plants heading at once, and failing to head at all. And culture is to be continued until the plants are nearly ready to head: then they must be undisturbed. Experience teaches when to stop, but usually should cease when the leaves begin to impede the work. Plenty of water is needed when heading begins; it is then that irrigation is practically useful, improving the crop in every respect. Possibly the fine crops of European gardeners are due to the practice of irrigation, made possible by the cheapness of labor. In this

country the crop is usually grown without, except in certain parts of the west, or near large cities, where an early crop will demand large prices. If watering is once begun, it must be continued, or "the last state is worse than the first."

Blanching is another essential. If the heads are left unprotected, they are yellow or brownish-yellow and strong-flavored, and quite unsalable. The blanching is usually done by lapping the leaves (somewhat in the fashion in which they grow) over the head, till well protected, and tucking the last leaf under the others to hold them all in place, or fastening with a thorn or tooth-pick. This work is done early in the season, and during the heat of the day, when the leaves are limp and easily handled without breaking. On a late crop, a leaf broken from the lower part of the plant is laid over the head, or the leaves are tied down with rye straw, serving the double purpose of protecting from frost as well as promoting growth of heads. Well-covered heads will endure six or eight degrees of frost without injury, and then go on and perfect themselves.

As the heads perfect, frequent cutting is necessary, especially in the early crops. Here, again, experience is the best guide. A mature head bulges its leaves out; the surfaces take on a grained appearance. If left too long they get loose and warty. They must be cut early in the morning, when crisp with coolness and dew; and careful handling is imperative, as a bruise soon turns black and the sale is spoiled. It is best to leave the leaves on until the heads are exposed in market. They are packed in barrel-crates and each head wrapped in white paper tucked between the leaves and the head. They pack best when a trifle wilted.

The Extra Early Dwarf Erfurt is the most popular variety grown, and is the parent of a great many other kinds differing slightly from it. The earliest varieties are now often grown in the north for a late crop, by sowing late, owing to their reliability in forming heads, and the less space required.

The cabbage maggot, which attacks the roots; the well-known cabbage worm, and a fungus disease known as stem rot, are all enemies of the cauliflower as well as the cabbage, and may be fought by the means employed to secure a cabbage crop. Somebody has called cauliflower "etherealized cabbage"; Dr Samuel Johnson said the only flower he cared for was cauliflower; and as it is much less coarse and heavy, and much more easy of digestion, as well as more nutritious, than cabbage, perhaps the old doctor was right. At all events, the culture and consumption of the more delicate vegetable are constantly increasing, and good profits are often secured by the careful gardener.

APIARY.

Who Should Keep Bees?

BY JOHN MYERS.

An article on the above topic was brought to my mind by a question asked by one of my correspondents, as follows: "Having a few acres of land, situated in the suburbs of a thriving town, do you think I would be able to keep a few colonies of bees?" First and foremost, I think farmers ought to keep a few stocks of bees; enough to provide their families with one of nature's rarest delicacies—honey. But I see no reason why the larger number of farmers should not only keep enough hives to supply their own tables with honey, but enough to enable them to sell a quantity each season. It would be hard to find a farmer's wife that is not interested in butter-making and keeping poultry, yet I guarantee, if you could get those same women interested in keeping a few hives of bees, they would make more money out of them in a season than they would out of eggs, if not of butter, and with not nearly the amount of work. It is surprising how little work is really required in bee-keeping, if you have the right kind of hives and implements. Of course, there can be any amount of time spent on them if the owner so desires, but if one wishes to do no more work than is really necessary (and which I think is the best method), the labor part is reduced to this: Look them all over in the spring, and see that they are in good condition; then when white clover commences to bloom, put on your honey boxes or upper stories. Have all swarms that issue. See that they have plenty of room to store honey. Take off honey when ready, and in fall prepare and pack for winter, or remove to a cellar. Now, you will see by the above that it takes really more work to care for one cow or twenty hens than it does to care for ten colonies of bees. They need no feeding or watering in the winter, or at any other time of the year, if the owner is not too greedy and does not take too much honey from them in the fall; therefore you see they are largely creatures that work for nothing and board themselves.

While farmers and those living in rural districts have a trifling advantage over those in cities and towns, still there are many of the latter class that could keep a limited number of stocks and add materially to their income. I know a gardener who keeps fifteen to twenty colonies, and sells his whole product on the market with his vegetables, and he says his honey pays him better than any other product. Why should not gardeners in every town of the Dominion go and do likewise? In our city we have a man who is a mail clerk on the train, and has to make his trip every other day the year

round, and yet he keeps one hundred colonies of bees, and has no other help than his wife, and her part of the work is to watch the bees and catch swarms on days when her husband is away on duty. This man has a peculiar swarm-catcher, and all his good wife has to do is to watch, and when she sees a swarm issuing, she picks up one of these catchers, run and places it in front of the hive from which the swarm is issuing, and the bees enter it, when she closes the lid and carries them into the cellar until the man comes home and hives them the next day.

I also know of some ministers who make quite a success of keeping bees. Laboring men, and men in nearly every station in life, can keep a few stocks as a hobby, and still provide plenty of that health-giving food—honey—for their families. Oh, but, says some one, you would not get me or my wife to go near a hive of bees; we would get stung to death. Well, my friends, there is no necessity of scarcely ever getting stung. I cannot in this article tell all about how to avoid being stung (in some future one I may do so), but it would be best for any person intending to commence keeping bees to procure a good book on the subject, which will give all the ins and outs of the business. In my next I will deal with some of the profits of bee-keeping.

Bees in Spring.

It is well to remove bees from the cellar as soon as there is any prospect for good flying weather. It is well, however, to provide ample protection from possible harm from cold by covering the quilt with several sheets of paper and a good warm cushion. The bees should not be handled nor the hives opened until the weather is moderately warm, when every colony should be inspected to see that they have sufficient stores. Stimulative feeding in spring is not recommended except when the stores are dangerously low.

VETERINARY.

Milk Fever vs. Milk Chill.

We had no intention to offend Mr. Donald Alexander when we penned the reply to his first letter on this subject. It was done with a sincere regard to the readers of this paper, as we considered that we were entitled to speak with some authority on the subject. It does not often fall to the lot of one man, outside of the veterinary profession, to see many cases of milk fever, or parturient apoplexy more properly named, and from that particular fact we ventured to suggest that the new name, "Milk Chill," was inaccurate and a false deduction. There is plenty of room for controversy of this subject without descending into exhibition of bad taste, etc. We welcome criticism, and will at all times answer to the best of our ability fair and honest objections. Now sir, if you will refer to our letter on the subject you will find this paragraph:

"It is a recognized fact that during pregnancy the nervous system is in a peculiarly excitable condition, easily disturbed, and prone to the influence of shock. Parturition is naturally accompanied with much pain and great expenditure of nerve force."

Again, we never mentioned anything about loss of blood at calving. What we did say was as follows:—"Calving may be said to be an exciting cause; yet, the labor and fatigue is not the exciting cause in these cases, for it is after the easy calving, when there has been little expenditure of vital force and no loss of blood."

First of all, to answer our friend, we wish that he had more knowledge of natural laws, so that he could better understand what is meant by vital force. Muscles contract as the result of nervous influence; here we get expenditure of blood, viz., vital force. Reading, writing, thinking, speaking, etc., wastes nervous force. Members of Parliament, orators and actors always experience great prostration and fatigue as the result of their labors. There has been great consumption of nervous force. Paralysis of nerves is always due to compression or pressure from exciting cause. Here we get the irritable, nervous individual, always in a fret, liable to excitement, easily disturbed, and prone to the influence of shock. We will try and illustrate this fact: When a strange hand is placed on our shoulders we experience a nervous shock; this is not called forth if the hand is a loving one—of our sweethearts or wives; there is no fear or revulsion of nervous influence; the shock is absent. When a cow is milked by a strange, unfamiliar hand, she will usually hold up her milk. Amongst men who have studied animal life, it is pretty well known that the cow has no power to retain her milk by voluntary muscular effort; it is simply the result of nervous shock, reacting on the blood pressure, causing the suppression of milk. After the lapse of a few minutes, this shock passes away, and the blood pressure is restored—the milk is again secreted. Again, it is very frequently seen that during milking the animal will give a throbbing pain, arch the back, evert the vagina as if to discharge a foetus. Now, we say that this is again a manifest influence, expenditure of vital force from nervous shock. It is scarcely necessary for us to again speak of the congestion of the blood to the brain, the cold skin and extremities, the result of fever, or what is meant by inflammation. That ought to be very well known after the many articles on the subject.

DR. W. MOLE.