

GARDEN & ORCHARD

Grape Culture in Brief.

Editor "The Farmer's Advocate":

Grapes will grow on almost any kind of soil, but will do better on high, sandy, gravelly and black loam. The ground should be pulverized very finely. The rows should go north and south. Set in in April or first of May, about 10 feet apart each way; that is sufficient room to drive between the rows. When ready, set stakes at each end—one further on to guide you straight. Plow two shallow furrows, throwing apart. Now lay in grapes, putting the long roots lengthwise, spreading a little, covering about four inches with the finest of dirt, pressing firmly around the roots. A little strawy manure applied would help to hold moisture. You can harrow the weeds as soon as they appear. The second year they will be ready for posts and wire; posts 8 feet, 2½ in the ground, 20 to 25 feet apart; two wires, equal distance apart, the top 4 inches from top of the post; end posts braced. Cedar posts split in four pieces make lasters. Do not drive the staples up tight; wire put through end posts, with a little twist, will hold.

Next comes the most important point. You can begin trimming in most localities from October, after the leaves fall, until April. It is much better to have grapes from the ground to the top wire. When trimming, be careful; leave the new or last year's vines near the ground as possible; from four to six only to reach the top wire. Spread when tying; tie on the west side of the wires. The old vines are recognized by the loose, dark bark. If you can attend them through the summer, lift the loose vines, tie the curls around the wires; cut off the ends three joints from the fruit; break off suckers (they grow in front of the leaf) and other worthless vines; spread the vines to let the sun shine in.

I have had neighbors say, "Good gracious, how sweet your grapes are." I have taken the red ticket on grapes in four townships. You may have noticed all fruit sweetest and largest on the south side of the tree. We are in Welland County, and eight miles from Lake Erie. I think grapes can be successfully grown sixty miles north. They average 1½c. per pound in vineyard; at the wine-press, \$20.00 per ton. There is money in grapes if you live near a winery. Concord is the main crop; they are the best bearers; Rodgers red make nicest catsup, jelly and jam. No family ought to be without grapes; they are the most wholesome of all fruit.

They should be manured, not too heavily, for they would grow too much vines.
Welland Co., Ont. ALBERT MORRIS.

Soldier-Bugs Controlling the Potato-Beetle.

Specimens of two species of Soldier-bug have been received from W. B. Ecclestone, of Brant Township, in the County of Brant, and subsequently from several correspondents of "The Farmer's Advocate." Mr. Ecclestone's accompanying letter describes how completely these predatory foes of the potato beetle are controlling the latter in his neighborhood. He states that, as a result of a good deal of searching, he found only a single larva of the potato beetle, although there are many adult ones to be seen, and these have been plentiful enough right along since the beginning of the season. It is easy to find potato leaves bearing patches of eggs that have been emptied of their contents, but very difficult to find a young potato beetle. He also states that his neighbor, who has five acres of potatoes, is practically free from beetles, although he has not used his spray at all.

Entomological journals have now and again, for years, been reporting observations of ground beetles and soldier bugs preying upon the eggs and larvae of the potato beetle. In the Southern United States, this pest of the potato would seem to be held in check by such predatory insects, but in our latitude, so far as the writer of this note knows, there has not hitherto appeared so encouraging a report as the one quoted above, namely, that an area of five acres is practically free from beetles, without having been sprayed at all. It is to be earnestly hoped that the soldier bug will become as widespread as the potato beetle. Of course, the multiplication of the former is dependent on the food supply, and were the soldier bug to confine itself to the eggs and larva of the beetle, as the latter became reduced in numbers, the supply of the other would also fall off. The result in such a case is not complete extermination, but a successive rising and falling of the numbers of both classes. In districts where the soldier bug is fairly effective, it might be a good plan to spray the potatoes once in the early part

of the season, and leave the subsequent care of the beetle to the soldier bug. It should not be overlooked, however, that the Colorado beetle is not the only enemy of the potato. Blister beetles and flea beetles are sometimes so numerous and injurious to the potato that it would pay to spray for them.

Readers generally should follow Mr. Ecclestone's example. Let them take a few minutes to examine the potato field for evidence of the presence of predatory insects under notice, and report to "The Farmer's Advocate" what they observe in their own or neighbors' plantations. The publication of such a stock-taking of insect assistance is in the public interest.

As was said before, two kinds of soldier bug were sent in by Mr. Ecclestone. The more numerous one is a dark-colored, flat insect, with yellowish, black-dotted shoulder piece and a shield-like marking on the back. The abdomen is yellowish, and black-dotted. The adult insect is nearly a half-inch long, and in outline resembles the well-known bitter-bug, or stink-bug, that the raspberry-picker learns to know by experience, that suggest its names. The soldier bugs have strong sucking beaks, about one-third the length of the body, which, when not in use, are turned underneath between the legs. It is interesting to observe their use of the beak. The living ones received from Mr. Ecclestone were offered, on the opening of the box, a couple of larvae of codling moth. The movements of the larva attracted the notice of the hungry bugs, one of which ran up to a "worm," raised its head to get room to work its dagger-like beak, which it sunk into its wriggling victim, and was not long in emptying the liquid contents of about one-half of its skin. The others regaled themselves on eggs of potato beetles that were secured for them. The soldier bug seems to have an insatiable appetite for these eggs. One of them can dispose of all the eggs that several potato beetles can produce. The bugs do not attack the latter in the adult stage. The larva, or nymphs, as they are technically called, of the soldier bug are brightly-colored and spotted; otherwise, they strikingly resemble bed bugs. They have the same feeding habits as the adult.
J. D.

Reservation of Cold Storage Chambers for Fruit Only.

Arrangements have again been made by the Department of Agriculture with the steamship lines for the operation of cold storage chambers for fruit only on the following steamers:—

TO LONDON.		
Date.	Steamer.	Agents.
August 20	"Sicilian"	H. & A. Allan
August 26	"Auszonia"	R. Reford & Co.
September 3	"Corinthian"	H. & A. Allan
September 9	"Ascania"	R. Reford & Co.
September 16	"Devona"	R. Reford & Co.
September 23	"Albania"	R. Reford & Co.

TO GLASGOW.		
Date.	Steamer.	Agents.
August 19	"Hesperian"	H. & A. Allan
August 26	"Cassandra"	R. Reford & Co.
September 2	(Donaldson)	H. & A. Allan
September 9	"Grampian"	R. Reford & Co.
September 16	(Donaldson)	H. & A. Allan
September 23	"Hesperian"	H. & A. Allan
	"Ionian"	H. & A. Allan

TO LIVERPOOL.		
Date.	Steamer.	Agents.
September 2	"Megantic"	White Star-Dom. Line
September 8	"Tunisian"	H. & A. Allan
September 16	"Laurentic"	White Star-Dom. Line
September 22	"Corsican"	H. & A. Allan
September 30	"Megantic"	White Star-Dom. Line

TO BRISTOL.		
Date.	Steamer.	Agents.
September 6	"Royal Edward"	Can. Nor. S.S. Co.
September 20	"Royal George"	Can. Nor. S.S. Co.

The arrangement is the same as has been made during the past three years. Intending shippers must apply for space to the steamship agents in the usual way. They will be charged the regular cold-storage rates. The Department simply gives a guarantee of earnings to the Steamship Company to insure the operation of a chamber on each of the steamers mentioned in this list.

Shippers are reminded of the arrangement between the Department and the railway companies for supplying iced cars for the carriage of fruit for export. The cars are supplied by the railway companies on request of shippers made to the nearest agent, and the Department pays icing charges up to \$5 per car.

The cargo inspectors employed by the Department will watch the handling of these shipments as usual, and careful temperature records will be obtained at all points.
J. A. RUDDICK.

Dairy and Cold-Storage Commissioner.

POULTRY

Induce Early Moulting.

This month and September mark the beginning of the moulting season in most flocks of poultry. The period of moulting usually lasts from two to three months, and during this time the hens lay very irregularly and infrequently. All the hen's reserve vitality is being utilized for the production of new plumage, so that the egg production will fall off, and thus, if winter eggs are desired, it is important that the hens moult early. Those which moult early have not only completed the process and become covered with a good protection of feathers, but they will have also regained their full strength and vitality before the very cold weather.

Hens that commence to shed their feathers in August should begin laying again in November or December, while hens that do not moult until October seldom recuperate in time to lay many eggs during the winter months, when the price of eggs is highest, and they are also quite likely to suffer from the cold, which also retards moulting.

Where the flock consists of early-hatched pullets, little difficulty will be experienced in getting them to moult early, but in the ordinary flock the hens and pullets are often not very early hatched, and thus it is necessary to practice some means of forcing early moulting. This can often be done by feeding the fowls a very light ration for a week or ten days, followed immediately by heavy feeding with a nutritious food. The time to do this is as early in August as possible. All hens should be fully feathered before the weather turns very cold in the fall, because they need the feathers for protection.

Moulting is a natural process, and no drugs or tonics other than suitable feed, should be required. A good laying ration, provided it does not tend to fatten the fowl excessively, is quite suitable during this season. Some advise adding a little ground oil meal or linseed meal to the ration, and, of course, it is necessary that the flock receive sufficient animal food or meat in some form, because nitrogenous material is essential to the growth of feathers. Whole grain can be fed in litter, or well scattered amid the grass every afternoon, while green food is suitable for the morning meal. Grain alone will not make the best plumage; many poultry breeders do not feed enough meat and vegetable foods during this period. Pure water in abundance is also necessary. Where high-class show stock is kept, some advise keeping the hens out of the hot sun during the time the new feathers are coming in, claiming that the sun fades the color of the tips of the small, growing feathers, and that the result is a plumage that is faded or mottled, and too light in color. To remedy this latter condition necessitates keeping the hens inside on bright days and not exposing them to the sun. Where the hens have the run of a full-grown orchard, they will not suffer much from this, as the trees will furnish enough shade.

The moulting season is also a good time to select the stock for breeding and laying purposes. If the breeder watches his flock closely, he will notice that the strong, vigorous fowls pass through the moulting period much more quickly than those of sickly, weak constitution. The robust hen, with reserve vitality, will pass through the moulting period very quickly, and will hardly cease laying for a short time, while the poor layer, with the narrow head and body, and the long, thin beak and dull eye—all of which indicate weakness—will be several weeks producing her new coat of feathers, and will not lay again for some time, probably not until spring is approaching. This, then, affords one of the best reasons to weed out the undesirable birds and select the profitable individuals. Do not neglect the fowls during this season. Keep them well fed, thriving and free from vermin, and do everything possible to keep up their vitality and encourage early moulting.

Remove the Males from the Flock.

Now that the breeding season is over, it is a good plan to remove the male birds from the flock. They should be placed far enough away from the hens that the latter will not be able to hear them. The males can be penned together, provided a strong, vigorous male is selected to be master of the bunch. If this is not done, much fighting will ensue, but where there is a "boss" the birds are not inclined to fight very much. It is sometimes advisable to tie the legs of the birds loosely for a very short time when first placed in the pen with the "boss" rooster, who should have free use of his limbs, and be introduced into the pen a few days previous to the others.