HORTICULTURAL

QUESTIONS AND ANSWERS.

The Apple Tree Root Louse.

Can you tell us any efficient remedy for *Root Louse?* It is a great pest in our apple orchards; infests "Pryor Red," "Horse Apple;" "Red Astrachan," most of any varieties we have. Seems to be worse on upright growers than open topped trees; but no tree in our entire orchard but what is infested with them to a greater or less extent. Professor Walsh recommended hot water, but that is impossible to apply, to large trees, and especially inconvenient to use in large orchards. The per centage of trees actually killed by them is small, but they must retard the growth and injure those which survive their attacks. Young trees whose roots are dipped in strong solution of tobacco before setting, soon loose the effects of the "weed" and become as badly infested as others. We want a remedy for them that can be applied. Can you enlighten us? EGYPTIAN.

Probably there are but few persons who are aware to what extent the wooly root louse injures apple trees, or how readily they discriminate between roots of trees which are healthy, and those that are wounded. For example, when trees are leaned in summer by the force of the winds, so as to produce a great strain on the roots on one side, the lice will assemble in vast numbers on the roots that were subjected to the greatest strain, or were split or cracked, and rob that side of the tree of so much of its sap as to weaken it. When one side of a tree becomes exhausted, borers are atttracted to it. Persons of limited experience, seeing trees in this condition, point to them as proofs that the sun will kill exposed parts; when in fact the sun has no more agency in producing such results than electricity has in blighting pear trees, or inducing cholera among pigs. Nothing is more common than for theorists to ascribe, what is to them unknown, to some hidden agency as electricity, when in fact many of the real causes operating injuriously on fruit-trees, might have been learned by timely observation, or of some practical horticulturist. On large roots the injuries done by root lice do not, at first, become apparent. Generally not until after the lice have left, and then only by the dead roots which they leave behind. Small roots, when punctured by them become knotty and greatly deformed, but large roots, on the collar of the tree may be sucked dry by them without showing knots. On this account the real cause of the death of the tree is often overlooked. Indeed we have known persons, possessing much entomological information, inspect trees killed, on damaged, without for once suspecting that root lice had any agency in producing the results.

After root lice have deprived a root of its juices, they shift to others which will afford the needed supply of food. Thus one root after another yields up its nutriment to these pests, until the tree is either killed, or so weakened that it is attacked in all its parts by borers. When we consider the rapidity with which root lice increase, it seems probable that all our apple trees would be certainly and quickly destroyed by them. This, undoubtedly, would be the case, were it not that all, or a very large part of the lice, each summer, make the under-ground journey by way the roots to the trunks and tops of the trees, from whence they are distributed to near and distant points, by the winds. In the summer numbers of them may always be found in the tops of the trees, under the partial cover of new wood and bark growth, where it is forming over fresh wounds made in pruning. When considerable numbers of lice assemble at these points, they cause numerous warty excrecsences on the new made bark, similar to the parts punctured by them below ground. On summer grafted or newly budded trees, they are a great nuisance. They soon find the wounds, made in inserting the grafts or buds, which they enter, and if not prevented, they so deplete the parts that the stock will not unite with the graft or bud. If a heavy mulch of straw or hay is placed close around the trees early in the fall, vast numbers of lice will come together on the tree at the surface of the ground. On single trees so treated, we have, in the month of October, seen as many as a half a pint of these insects. It has been suggested that advantage might be taken of their coming together under the mulch, by pouring boiling water over them. But, if they are allowed to remain long at this point they would kill the tree, by severing the connection between the sap vessels in the top and roots.

Whether these lice are followed to their underground haunts by parasitic insects, is more than we can say. It is, however, certain that lice taken off the roots at a considerable distance below the surface, in the latter part of June, when examined by us, microscopically, contained minute parasitic insects. How far these parasites operate to hold in check these insiduous foes is a point of much interest to the orchardist; but for one we must leave with entomologists to decide. The application of hot water to the ground over the roots cannot possibly be practical, since the whole ground under the trees, to the depth of not less than eighteen inches, would have to be heated hot enough to scald the lice.

Before planting young apple trees, they should be immersed in a decoction made of soap, tobacco and water. In June and again in August, the trunks of young trees should be washed, with soft soap, from the ground up to the trunks. Common soft soap will answer. When the trees have stood in the orchard two or three years, the the bark will be thicker, when the soap, without thinning, should be put on boiling hot. One application in June of each year, using a liberal supply, especially near the roots, will sufficiently protect the trees, not only against root lice, but from borers also.

Cutting Back Nursery Trees.--Magnolia Seed.

1. I set a few thousand root grafts last spring, of apple, pear and cherry on good ground and gave good cultivation, so that they have made an extra growth, 3 to 4 feet. Now, I wish to have "stocky" trees and not switches. Will it be necessary to cut them back this spring, say one-quarter?

2. Last fall I packed away, in sand in the cellar, some seed of the Magnolia or wild cucumber. How shall I proceed this spring so as to have the best success? I have never seen any of this seed planted and know nothing about it. I am also putting out some chestnuts, but these I can manage I I think myself. J. G.

ROSEMOND, ILL.

1. If your trees have plenty of room in the nursery they will become stocky enough without being cut back. Little or no pruning is admissible in the nursery; but when the trees are set in the orchard, all the side branches not needed to make the stem stocky, may be cut away, and those left cut back to one and two buds each. The tree may also be cut off just above the point where it is to head.

2. Unless you washed your seeds as soon as they were ripe, and put them in a large quantity of sand, so they would not be together, you will find them rancid. If you have kept them safe, plant them much as you would apple seeds. Until they get the second pair of leaves, shade from the noonday sun would be desirable. The soil around the young seedlings should be kept carefully stirred.

Unproductive Persimmons Trees.

Will you please inform me through the columns of your excellent paper, how old a persimmons tree has to be before it will bear fruit. I have one eight years old; it has bloomed the last two years, but has borne no fruit. Will it do to remove it this spring, and how should it be pruned?

CONKEY'S STORE, ILL. LIZZIE SALLEE.

Persimmons will not bear very young, unless something is done to check growth. Trees in grass or poor soil will produce fruit earlier than those in rich ground, especially if the ground is cultivated. Except in standing water, the trees make but few lateral roots. On this account it is not so easy to bring them into bearing by root-pruning, as it is other trees. The operation, however, would be practical. For trees the age of yours, dig on one side, eighteen inches from the tree, to the depth of two and a half to three feet, then under the tree far enough to cut the tap root at this depth; this done fill up the excavation. Trees so treated will bear fruit in one year from the time.

You cannot safely move a persimmons tree without first pruning tap and lateral roots. The roots should be cut and the trees left to stand one summer—this will give it a mass of fibrous roots; in the fall it can be safely removed.

The trees grow so open that little or no pruning is needed, unless it be to form the head at the proper height.

Sweet Brier.

I have an idea the Sweet Brier would make a good hedge, and should like to try it if I could procure the seed and proper instructions for growing it. I planted some seed two years ago but none of it came up. I planted the seed dry. L. N. L.

FRANKLIN CO., IOWA.

We have not grown Sweet Brier seedlings, nor do we know of any one who has, or of whom information could be had respecting their culture. Near springs, or on moist grounds where the seeds fall on decayed leaves or rotten wood, which is afterwards covered with leaves, it vegetates freely. From this circumstance we should suppose it would be best to gather the seeds as soon as they are ripe, and sow them at once on a well shaded bed of leaf mold or a mixture of leaf mold and decayed wood. It is also probable that the young plants would require careful shading until they were one year old. A stock might easily be obtained by cuttings.

Tree Lice.

What had I better do with my Wine Sap apple trees, which formerly bore abundantly, but are now infested with lice? The limbs are dying. C. D.

ORCHARD GROVE, IND.

Ans.: You do not say what lice are troubling your trees. The past year in some orchards visited by us, the apple tree lice were so numerous that they destroyed or rendered worthless all the fruit and injured the foliage and young branches also.

This louse hatches early in the spring, but may be found in the orchard at any time in the summer. The eggs are glued to the branches in the fall. The apple tree louse is easily killed, by dusting the trees, while they are wet, with air slaked lime, as described in a former number.

Bark lice are supposed to be more difficult to kill. But we have been informed by several reliable horticulturists, that while they are young and not protected by scales they may be destroyed as easily as other tree lice. All do not hatch and leave the old scales at the same time, but are several weeks coming out. Therefore any applications made to remove them, must be repeated as often as new lice appear, or before they are protected with scales.

Having freed your trees from lice, next prune away dead or diseased branches. Thoroughly cultivate the ground and your orchard will again become fruitful.

Separating Larch Seed.

Do you know of any means of extracting larch trees from the cones? If so, please inform us of it through your paper. M. C.

ASSUMPTION, ILL.

To save larch seed, the cones should be gathered before they open and spread in a dry room, where they may remain until spring, when they will be so dried that most of the scales, under which the seed lie, will open enough to let the seed out. Rake them together and give them a light threshing. Throw away the coarse fragments and sift the balance, using a sieve coarse enough to allow the seeds to pass through. Any foreign substance passing through the sieve, can be winnowed or blown away.

Sprouting Osage Orange Seed.

Mr. WILLIAM AULD, West Union, Iowa.—There are several ways of preparing Osage Orange seed. But for so late a period you had better pour boiling water over your seed, say one quart of water to a pint of seed.

Set the vessel containing the seed under the stove, or where the water will remain at a temperature of eighty or ninety degrees. At the end of twenty-four hours, turn off the water and again pour on boiling water, this time just sufficient to cover the seed and again set in a warm place. In from twelve to twenty-four hours the seed will be ready to plant. Plant in broad drills, twenty or more inches apart, on ground made fine by plowing and harrowing, covering to the depth of one inch. If the seed is good, all will sprout. Some nurserymen put the seed in sand till they begin to grow and then plant them.

Buckthorn for Hedges.

Orchard P. O., Mitchell Co., Iowa.—The buckthorn will be hardy. It is probably the best plant we have for hedges as far north as you write. It will take four years to make a hedge of it — one year longer than Osage Orange. Plant in single rows, four or five inches apart. Broad hedges are sure to die out in the center. To prevent this, never permit so great a breadth that the inside cannot be exposed to light and air.

MR. JOHN CAVE, Hampton, Ill. — Your three and four year old apple trees on which you say the bark cracked open at the ground, grew too late the past summer. If any of them have the bark started from the trunk all the way round, they will not recover. But those on which the ruptures extend only a part of the way round may be made to heal by covering the wounds with a morter made by mixing equal parts of cow manure and soil. Spread this over the wounded parts and bandage it on with pieces of old cloth. To prevent the like occurrence the coming and succeeding years, with a root-pruner cut the lateral roots near enough to the trees to force branch growth to cease by the middle of July.

MR. M. N. MILES, Prairie City, Nebraska. —Your request comes too late for spring grafting. At the proper time we will describe a style of summer grafting by which you can graft both your cherry and plum trees.

IN THE FLOWER GARDEN.

The early spring bulbs will soon disappear and give place to summer beauties. Now should be a busy time in this department, and if it is neglected now, but little hopes of a profusion of flowers can be expected. Of course, cleaning up, spading and all similar work should have been done ere this, but if not it is still in order.

All grass edges should be nicely trimmed down with a sharp spade, sloping slightly back from the walk or flower bed. These edges, to look well, should not be over two inches high or so. It is in bad taste to have them four to six inches, as is sometimes seen.

When the edges are properly trimmed in the spring, it is comparatively easy work to keep them so during summer, while if they are left rough now, the grass will grow into the flower beds or walks, and give the whole an untidy appearance.

Everybody who has a lawn to keep in order and can possibly spare the expense, now comparatively light, should have one of the new lawn mowers that the last year brought into quite general use.

With one of these, any person who has a leisure hour a day, can keep quite a considerable sized lawn in the finest trim, that with the old scythe would be quite a work of labor.

The old fashioned lawn mowers took two men to operate, and then not very light work, while several of the present style are operated by one person only—very simple operation and not very laborious; while the lawn after them looks the velvety texture so highly prized in English lawns.

Last year we ventured upon a forty dollar expenditure in this matter, and never spent money that gave us such entire satisfaction as did this. Now we see they are advertised at $25.

One serious difficulty heretofore has been in keeping grass in good order, as for such odd jobs where a person cannot employ a regular hand, the charges of so-called gardeners are often monstrous.

Now any person that so wills, can be independent of any help, if his place is not too extensive.

Almost all annuals transplant readily; hence if too thick in one place can be readily transferred to another. Choose a showery day for the purpose if possible, and lift all the roots that will come with the plants. Annuals are much better allowed plenty of room; it is common to see them left all in a mass just as the seed came up. The consequence is, a weak spindling growth and a very early cessation from flowering; whereas if left from six inches to a foot assunder, each plant develops itself in all directions and keeps a great deal longer in a flowering state.

The class of plants called by florists, bedding plants, are all deservedly popular. The chief attraction over ordinary border plants that stand out during the winter, is that they are continuous flowers, instead of one seasoned only, as the Phlox-Pæonies, and the like.

Then again the colors are, as a rule, richer than border plants; in fact bedding plants are the pick of the floral kingdom for rich and continuous flowering plants.

Verbenas, Ageratums, Snapdragons, Lobelias, Petunias and some others of this class called bedding plants, flower freely from seed sown the same year. And this is a famous way to get a rich flower garden at a very small expense—the only drawback, as compared with plants grown from cuttings, is that the colors are uncertain; hence grouping with special colors cannot well be done.

Thanks to the seed and plant rates through Uncle Sam's mail-bag, thousands of choice plants are now being scattered far and wide to the homes where no express reaches, or where the pocket does not allow a very heavy expenditure. It may be well to state that plants by mail require a little more careful handling than those by express.

For example, on receiving, if possible, they should be potted for a week or ten days into small sized pots and kept partialty shaded.

If the leaves look dry and are getting yellow, pinch them off—it will do good to do so; and remember the moister the atmosphere they can be kept in, until they have recovered from their dry and confined ride, the more great will be their growing.

An impromptu greenhouse could readily be constructed that would be just the thing for them.

For example, take any box deep enough to hold the plant after potting and set them into, then get some panes of glass or an old window-light and lay over the box, having first sprinkled box, plants and all, to induce a humid atmosphere. Keep quite close at first and moist; the plants if not utterly dead will soon show signs of vigor, by looking plump. After two or three days give a little air, increasing gradually till the top can be taken off altogether. Pretty soon new growth will commence, and the plants can then be planted into the open grouud if wished. E. S.

THE AMERICAN ELM.

Concerning "What Trees shall we Plant," for timber as well as ornament, a recent letter from Rockford highly recommends the *Ulmus Americana*. We do not doubt his statement in reference to its worth, especially as it corresponds with that of Dr. Lapham in his report on the Forest Trees of Wisconsin. He says: "The wood is tough, close grained, and much valued by carriage makers and others for bending into carriage and wagon bows, and into plow handles and other purposes." As an ornamental tree we never heard its merits disputed. By many it is styled the finest native ornamental tree which our forests afford. It is the queen of the forest. It claims this high rank for its rapid growth, its hardy nature adapting it alike to high land or low, rich or poor, loam or clay. It has beautiful leaves, a large majestic trunk, with graceful drooping branches. In most places it has but few enemies; by far the worst of which is the ax of the woodman.

Having lived in Southern Michigan and in Central New York, our experience as to the value of this tree for timber more nearly accords with that of Michaux. That it is a second-rate material for wagon hubs; its bark, when peeled and soaked in water and pounded, is used, to a limited extent, for the bottoms of common chairs. To these uses our personal observation enables us to add one more. The large trunk and limbs are likely to become hollow and make excellent dwellings for raccoons and hedgehogs. Many is the elm we have been induced to help cut down because, in the snow or mud, more coon tracks were seen to point towards the tree than from it.

In clearing off heavy timber from the forests nearly every kind of tree can be used to some purpose. The elm was the last to be utilized. It was cut in pieces; two spongy, soggy logs were rolled side by side, and another on top; a few "chinkings" added, and a fire applied would cause them to steam, and fry, and hiss, and slowly burn for a week. Large trunks are rarely worked into fire wood, because they are hard to split and make an inferior fire even when seasoned. They are worthless for fence rails or posts on account of rapid decay. We have seen a few attempts to use them for fence boards. Two nails to each post will not keep a board in place. It warps and twists the fence out of line, tips the posts so the boards become too short to reach. Every fifth or sixth length will have a gape where the boards have shrunken and torn loose. The effort to make them into planks for bridges, and sluice-ways and stable floors, succeeds no better. They bend and stick up like snake heads with every sunny day. This would especially be an objection on the prairies, as big stones cannot be found to place on the ends to hold them down.

We have seen poor barrels made of staves cut from this elm. Where it turns up by the roots and falls across streams, it is useful as a foot bridge; but if it falls across the fence into the field, it makes a bridge for sheep to get out of the pasture or into the meadow.

An overgrown patriarch on the low lands is now and then left after the other trees have been removed. This dies of exposure in a few years, scattering its limbs and bark over the corn and grass which are cultivated about its base. For some years, however, it stands the storms and serves to conduct the surplus charges of lightning safely to the ground. Sundry small game find it a handy place of refuge when too closely pursued by dogs or hunters. Here the squirrels can hide away during the heat of the day and save themselves long, perilous marches to the distant woods.

Our experience has been mostly confined to large trees grown in dense forests, on low, wet land. We know the timber is more valuable, like that of *Ulmus racemosa* (rock-elm,) when it grows in more exposed localities and on dry ground, but even here we hardly think it ranks as a first class tree for useful timber. W. J. B.

PROTECTION TO ORCHARDS.

Under this head a very important question has been started by "Rustic," followed by "Subscriber," and as the opinions of others are desired I will give my experience. Although not very extensive, I will give it as far as it goes.

My orchard is situated on a very dry exposed position—clay subsoil—yet it has not failed to bear a crop for the last eight or ten years, and the trees are in a healthy condition. 1868 was a very good test in this part of the county. That year, there was but few apples produced, but my little orchard bore a heavy crop. It also produced well last season. There is an orchard a few miles from here, situated on the highest point of the prairie, and I have heard a number of old settlers remark that it has never failed to produce a crop since bearing. So far as my observation goes I agree with friend "Rustic."

Our winters are getting to be very changeable. Perhaps there is a week or more of warm weather. If well protected the buds will begin to swell, but of a sudden there is a very severe freezing, (as was the case last winter;) the consequence is that the buds are more or less injured. There is danger also of the bloom starting out two soon in the spring and getting caught by severe frosts.

"Subscriber" might feel very comfortable on the sunny side of a wind-break, while the genial rays of "Old Sol" were pouring down on him, opening the pores and penetrating his system and almost starting the perspiration—that far would do very well. But let one of these sudden changes come along, when in a short time it is cold enough to freeze the "horns off the cows," or a heavy frost fall during the night; considering the open state of his body, he might not feel so well the next morning. In my opinion the same will hold good in regard to our fruit trees. Comparing the nature of fruit trees to that of our own, is an excellent one, as the rule might work well to advantage.

MARION CO., MO. J. R.

PHOSPHATES FOR PRAIRIE LANDS.

An inquiry in the last number of the PRAIRIE FARMER with regard to the value of concentrated fertilizers as above, encourages me to anticipate what I have promised to say on this point, with regard to the cultivation of the peach in Delaware on the Rational System and its results. Upon the principle that unless sought for, such information is worthless, or worse than useless, and a temptation to many to imitate certain animals that are said to prefer corn to "pearls," "the million" form such exaggerated notions of "fertilizers" that unless they supplement all sorts of bad tillage, and even pruning and climate, the author is pronounced an imposter and swindler—or an aider and abettor of such. My impression is that prairie lands are not relatively deficient in phosphates; it is derived from the fact that my colleague, the late Dr. Charles Frick, of Baltimore, gave me a sample of prairie soil to analyze, many years since, as one of the results of his tour in the west. But this may have been a "specimen" rather than a fair "sample," viz.: such as was the basis of the last Agri'l Report of the chemist at Washington on "Jersey Greensand" or Potash Marle. It was my favorite hobby that potash is *the* manure for *all* trees, but when I complained of a very indifferent lot of small peach trees for which I was compelled to pay a very large price (13½ cents each) in 1865, the nurseryman advised me to manure them with phosphates; nevertheless I neglected his counsel as I thought it empirical and expensive. Moreover I knew that phosphates "would pay" when drilled, even in small quantities, with the seed wheat or even as a top dressing in the spring, especially if confined exclusively to the parts of the field where the wheat had survived the winter.

When my trees were large enough to forbid the further cultivation of corn between the rows, (having made the corn pay for the cultivation and the potash manure used thereon,) I supposed that no more was required, especially as my last crop of corn stalks were nearly double the size of the first, and such as the land never before yielded. Under these circumstances I invested $75 in the best "Peach Blows" from Nova Scotia, and planted only two rows between my peach trees, manuring each hill with a compost of super-phosphate, prepared as near as possible by the formula of Wilson, of Rhode Island, which he reports has produced 100 bushels of corn on an acre of Seekonk plains there, so called by the Indian aborigines on account of its sterility. The result was that I did not raise one bushel of potatoes as large as the seed, nor perhaps as many merchantable potatoes as I planted, and my boys assured me that the hills were full of the fine roots of the peach trees. I was so incredulous about this upon viewing what they called peach roots, that I paid no attention to the matter, especially as it resembled in color and appearance, cocoa matting; but subsequently I became convinced that it was really a mass of fine fibrous roots, and that the adjacent peach trees had actually robbed all my potatoes in like manner.

Consequently I obtained two varieties of the best super-phosphates I could then get, one from Wilson and the other from Crossdale, in order to test the appetite of my trees for this particular "soil plant food." During last spring I threw a deep furrow to each row of my trees as near as possible with two horses; and only on two sides, north and south, or in opposite directions of the rows or varieties—which by the way is an important idea, as I may explain—with seven reasons. Two rows across the center of the orchard, embracing a large gum tree as their mark, and they alone, were manured last year, a shovelful on each side of each tree where the furrow was thrown up.

Thus far no appreciable effect has resulted neither in the appearance, size or quantity of the fruit last year nor in their persistence in retaining the foliage late in November, after all other orchards were bare, though younger; and this leads me to suspect that the manuring I previously gave them during three years, and the Seekonk compost was a sufficiency last year to co-operate in proportion with the extraordinary dry season. Whereas this year it may prove that these two rows may excel all others, and thus indicate a similar application to the whole orchard. My own practical application or experience as an amateur farmer since the war seems to indicate a preference for the rational in contrast with the empirical system; at least on this farm of about 250 acres, about one-third in fruit now, was destitute before, while under the care of the best practical farmers in this state. As I sold therefrom last year a little more than what my grandfather paid for the whole farm at public auction, and from this orchard on the previous year more than it ever paid in rent, and double the money rent of the whole farm, while all other orchards in this county failed except perhaps two similarly manured, the cautious and rational use of concentrated fertilizers as above, is therefore advisable on the prairie or any other locality.

DAVID STEWART, M. D.

PORT PENN, DELAWARE.

MISS. VAL. GRAPE GROWERS' ASSOCIATION.

Reports of the Wine Committee.

Dr. L. D. Morse, chairman of the common Concord and red wines, reported they had awarded the premium of $25 for White Concord to Dr. Claggett. The sample of red from A. & F. Starr was nearly as good.

CONCORD WINES.

Dr. Claggett	92⅛
J. Mallenkrodt	75
S. H. Long, Alton	80
Cliff Cave Wine Co	80
Cliff Cave Wine Co	75
C. Paffrath	85
A. & F. Starr, Alton	90
Augusta Wine Co	85
Bluffton Wine Co	85

NORTON'S VIRGINIA.

G. E. Eisenmeyer, Illinois	87⅜
Cliff Cave Wine Co	
E. A. Thompson, Ohio	
A. Burtin	65
Dr. Claggett	60
E. R. Mason	80
Bluffton Wine Co	76⅜
Golden Bluff Vineyard	

CATAWBA WINES.

E. Baxter, Nauvoo	83⅛
A. Engleman, Shilo, Ill., 1866, graded	83
A. Engleman, Shilo, Ill., 1867, graded	84
A. Engleman, Shilo, Ill., 1868, graded	74
Golden Bluff Vineyard	73⅛
L. Winter, Bellville, Ill., graded	73⅛
A. Barton, Nauvoo, Ill., graded	75
Best Catawba, by Golden Bluff Vineyard, Ill.	
Second best, J. Mallenkrodt, Missouri	

CONCORD (One bottle each.)

A. & F. Starr (white,) graded	81½
A. & F. Star (red,) graded	70
J. J. Squires, De Soto, Mo., graded	77⅜
E. Baxter, graded	75
E. Krausnick, graded	61⅜
C. Braches, graded	76⅜
A. Engleman, graded	71⅜
E. A. Riehl, Alton, graded	60
E. Will, Hopewell, Mo., graded	81⅜
Golden Bluff Vineyard, graded	80
Dr. Claggett, graded	70
Louis Winter, St. Clair Co., Ill, graded	63⅛
E. A. Thompson, Cincinnati, graded	66⅜
Bluffton Wine Co., graded	50

IVES' SEEDLING.

Bluffton Wine Co	

IONA.

Dr. Claggett, sealed	75

TAYLOR'S BULLET.

A. Engleman, graded	80

DELAWARE.

Golden Bluff Vineyard, Warsaw, Ill.	80
E. A. Thompson, Iowa	80

MERAMEC.

E. A. Riehl	70

WILDER.

E. A. Riehl	63⅛

GOETHE.

E. A. Riehl	62

RENTZ.

Cliff Cave Wine Co	80

HARTFORD PROLIFIC.

Cliff Cave Wine Co	78⅛
Bluffton Wine Co	65

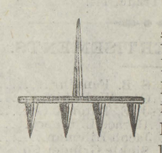
HERBEMONT.

Louis Winter	87

CLINTON.

E. Baxter	68⅛
Golden Bluff Vineyard	79
E. R. Mason, Missouri	79

FOOT DIBBLE.



We find many engravings in your valuable paper, of labor saving implements, but I have never seen one that would lessen the back-aching labor and increase the speed of planting apple root grafts. I have used the Foot Dibble for their purpose and find that it will do both. It is easily made. The piece in which the teeth are inserted, is 28 inches long, 1½ inches thick, and 2½ inches wide; length of teeth, 8 inches; distance apart, 8 inches. The teeth should taper from 1½ inch to a point. Length of handle to suit convenience.

The handle should set a little aside from center, to make room for the foot, for it must be pushed in the ground evenly. I have always used wooden teeth which work well, but hollow iron or steel teeth may do better. This implement in the hands of an active man, with a boy to drop the grafts and sufficient number of men with hand dibbles to tighten them, will plant many more than with the hand dibble alone.

MORGAN CO., ILL. E. BURROWS.

MR THOMAS COUTRET has sent the Indianola (Texas) Bulletin a cauliflower raised in his garden in that city, the solid head of which weighed nine pounds. There were several larger, one of which, entire, weighed fifteen pounds.