

HORTICULTURAL.

THE ROSE FAMILY (Rosaceae).

The best authorities divide the family into sub-families, or tribes, varying in number from three to ten.

One of these—the Almond or Plum family—is easily recognized by its simple drupe, or stone fruit. Here belongs the almond, much like its neighbor, the peach. In the former, the edible part is the seed in the center; in the latter, it is the fleshy part outside. With these are associated the nectarine, apricot, plum or prune, and cherry. The sap of all becomes a gum quite like gum Arabic. The leaves and kernel yield a deadly poison called prussic acid, the quantity of which, in some of them, has been very much diminished by cultivation. The timber of black cherry is valuable for furniture.

The Rose family proper, consisting of herbs or shrubs, is not so easily defined, as it contains a much greater number and variety of plants than either of the others. It includes the type of the whole family—the rose already referred to, the meadow sweet (*Spiraea*) and others of less value for ornaments. In India and Persia, a delightful but costly perfume—an essential oil called the attar of roses, is extensively distilled from the leaves and flowers of several species of rose. It is said to require 10,000 rose bushes to yield three drachms of pure attar. Delicious fruits which we should miss, if now deprived of them in their season, are produced by this family—strawberry (*Fragaria*), blackberry and raspberry (*Rubus*). An astringent principle pervades the leaves, and roots, and fruit of the family.

I venture to briefly mention a subject which is of much interest to the philosophical botanist of the present day. I refer to the morphology or form of the fruit, or other parts. The edible part of the strawberry is a fleshy receptacle (upper end of flower stalk) much enlarged. The true fruit is the part often called seeds. Dr. As Gray would take a boy's cap to illustrate this. Imagine the outside of the cap covered with the seed like fruits, and made fleshy, and we have the strawberry. Push it down wrong side out, and we get the rose-hip or fruit. The edible part of the raspberry differs from the blackberry, in coming off the end of the stem; so we eat the thimble-shaped mass of little peaches. To the botanist this is an exceedingly entertaining and profitable study, however fanciful it may seem to those not familiar with the subject.

We pass to the *Apple Family* (*Pomaceae*). They are trees or shrubs. None of them are natives of the Southern Hemisphere, nor of Africa, except the northern part. The most valuable are the apple, pear, quince, medlar and service-berry. All things considered, the apple is the most important fruit in the Temperate Zone. Collections have already been made of more than fifteen hundred kinds of apples, and they are still rapidly increasing. The timber of the apple tree is hard and fine grained and almost equal to boxwood in value. Hawthorn is sometimes used for hedges.

We have seen that the grasses are chiefly valuable for their farinaceous grain and nutritious pasture and fodder. The roses are foremost as a fruit family. They are celebrated also for their ornamental flowers, and to a more limited extent for medicinal properties. "Throughout the civilized world undisputed precedence among flowers has been conceded to the rose in all ages and by universal consent. In the sacred writings, by classical authors, by the poets of all countries, including our own, from Chaucer downwards, this queen of flowers is the epitome of beauty and fragrance, the emblem of refined sensual enjoyment."

This royal flower gives the name to the large family to which it belongs. They are mostly confined to the North Temperate Zone—the region which contains nearly all civilized and enlightened nations upon the globe. The whole family includes about twelve hundred species.

Roses and grasses do not appear to reach far back in the geological ages. There is good negative evidence that they were created only a short time before the appearance of the beasts of the field which are so useful to mankind. They are peculiar plants of the later period. The great Designer never makes an error. Sheep, horses, and cattle were not introduced until the earth afforded good pasture, and man not before a good supply of fruit, grain, beautiful flowers, and animals valuable for domestication.

W. J. B.
*Rev. C. A. Jones, in Treasury of Botany.

MAKING FRUIT TREES BEAR.

For the past two years, I have heard much, direct and indirect, of a new process of bringing fruit trees into bearing, at the will of the grower. I was disposed to believe that there was a great deal of humbug in the matter, mixed up perhaps with some little truth, so that the pill would be swallowed by a long suffering, fruit-growing community. The panacea for the fruit-raising public, of late, have been so plenty that I must acknowledge being a little skeptical of all specialties in this line. Nevertheless I am willing to see and hear, reserving the right to form my own opinions.

Geo. B. Judd, of Burnett, Wis., has called upon me two or three times, to talk fruit; and at last exacted a promise from me to visit his orchard. In fulfillment of that promise I gave him a call to-day. He took me to his orchard which looks as fine as any I have seen in this locality. His trees are thrifty and well cared for, and vary in age from two to three year old grafts just set, to trees ten inches in diameter. He showed me some of his largest trees, Tallman Sweet and others, that had been very badly infested with bark lice. An examination with the microscope showed the lice nearly all dead, and their scales loosening their hold upon the bark, the trees this season already, having made a growth of five or six inches, from terminal buds. Another year he thinks will rid the trees of every louse. He says there is no use in having lice, if people will only tend to their trees, according to directions that he lays down. We hope he will succeed in waking up some of his laggard neighbors, as we saw every evidence of their trees having the life blood sucked out of them by this pest. His directions will go far towards the destruction of this pest, I am willing to believe, for they correspond with my experience and observation.

But Mr. Judd's great hobby is "making fruit trees bear." He rides it with a hearty good will, and I am not willing to say, without reason, after the observations I made on his premises.

"Here is a tree that bore full last year; now you see one half only is in bearing; not a blossom bud on the other half." "Here is a tree that bore full last year; this year, only a little limb is in blossom; you know the reason? Here it is! I fixed that half of the first tree, and this limb on this one last year in June. See here! Here is where I done it. I caused it to produce blossom buds for this season. Here is a Northern Spy. Two years ago, I fixed this large branch—one-third of the tree. Last year it bore me nearly five bushels apples, sold at two dollars per bushel. Don't it pay? Last year you see I fixed this portion of the tree. See! It is full of blossom buds; not a bud on

any other part of the tree." "Here is a young Northern Spy, six years set. Last year I fixed this limb as you see; see the load of blossoms. Not one on any portion of the tree not operated on. See for yourself."

After this manner he took me from tree to tree, piling "fact upon fact," until it was impossible to doubt that the man had some basis for the claims he makes of inducing trees to bear a crop of fruit.

L. L. FAIRCHILD.
ROLLING PRAIRIE, WIS., JUNE 7, '69.
EARLY WILSON BLACKBERRY—CLARKE RASPBERRY.

I was much pleased with Mr. D. B. Wier's interesting article on the small fruits in your last issue, especially as he takes back some of the hard things he had said of the Early Wilson.

It has stood the last two winters here well, and from his article I would infer he finds it some harder than the Lawton, which I believe to be the case. The ends of the branches in the winter would look as if they were somewhat injured, but have started well nearly to the terminal buds.

The Wilson shows greater productivity; the berry large and handsome, and so firm that it may be shipped a great distance. Its earliness will make it desirable here, they being about all ready for market here last season when the Lawtons were quoted at 40 cents per quart in Chicago.

In flavor they were not as good as a well-ripened Lawton, but I think the consumer will prefer them to the latter, as growers will be able to ship the Wilson when fully ripe, which is an impossibility with the Lawton, it being so soft.

I noticed the Illinois State Horticultural Society, in their proceedings last winter, pronounced it a humbug, and condemned it on account of its trailing habit. This would look to me as if they had pronounced upon it with but one year's experience. With me, after the first season, the canes are perfectly erect and strong, but yet pliable; could be easily laid down and covered in the winter, if necessary. Its freedom from suckers will make it very pleasant to work.

On the whole, I think the Early Wilson will be a complete success here, and we have already gone into it in earnest. I can count some twenty acres already planted in my immediate neighborhood, and I have no doubt we shall see a great many acres planted in the next two years. The Clarke raspberry, also, promises to be a success here, having wintered well the past two seasons. It also stood the extreme heat of last summer on our light sand, without flinching a leaf.

If it proves as productive as it promises, it will supercede the Philadelphia, being of much better color and flavor. When the fruit is ripe I will endeavor to post you again. Pom.
St. Jo., Mich.

FOLLOWING NATURE.

[An Essay before The Alton Horticultural Society, by HON. W. C. FLAGG.]

One of these days, when I have nothing better to do, I intend to follow the illustrious example of Lord Campbell, who wrote a little book to prove that Shakespeare was educated a lawyer; only that I shall endeavor to prove that he was educated a gardener. I may say, in confidence here, that I shall quote such texts as the following:

"Go bind thou up yon dangling apricots,
Which, like unruly children, make their sire
Stoop with oppression of their prodigal weight.
Give some supportance to the bending twigs."

"We at the time of year,
Do wound the bark, the skin of our fruit trees;
Lest, being over-proud with sap and blood,
With too much riches it confound itself."

(Justifying G. Washington's and Mr. Hilliard's use of the hatchet to induce fruitfulness.)

"All superfluous branches,
We lop away that bearing boughs may live."

These, and other passages, I shall bring forth as proofs; but I shall rely more yet upon the following, which I make the text of my present essay.

"You see—we marry
A gentler scion to the wildest stock;
And make conceive a bark of baser kind
By bud of nobler race. This is an art
Which does mend nature—change it rather; but
The art itself is nature."

We hear much loose talk in horticultural matters about "following nature." One man proposes to follow nature by omitting cultivation; another by abolishing pruning; another by mulching, and so on; justifying some very diverse and curious practices by that ambiguous expression.

In this essay I wish to call attention to one or two propositions, qualifying, and taking exception to this mode of thought and practice.

I. In horticulture we do not seek the conditions nor the results of nature. Instead of scattered trees growing irregularly, we want great masses regularly planted, for convenience in cultivation. Instead of vigorous trees, we want fruitful trees; and in place of the small and acid fruit of the fields and forests, we desire the large and luscious monstrosities of the garden and orchard. "It is evident," says Dr. Warder, in his work upon apples, "that very often the conditions of a plant and its products, which we most highly prize, and towards which all our efforts in its culture are directed, are really departures from the natural and healthful status; in other words, what we covet, is really a state of diseased and abnormal action."

II. Hence, it is evident that we cannot say "follow nature" in horticulture, except in this sense: that we must know the laws of nature, and obey and violate them according to the object to be accomplished. In propagation, we learn to observe the law of relationship in grafting the apple upon the apple and not upon the pear; and again to violate it in grafting the pear upon the quince, in order to threaten life, which tends to fruitfulness. In transplantation, we learn that fibrous-rooted plants recover themselves most easily, and seek by frequent removals to induce roots of that character for the benefit of the tree in its final and permanent planting in the orchard. In cultivation we stimulate an excessive growth to obtain early maturity; and in pruning, we sometimes endeavor to induce stronger growth of wood; or again to threaten life and induce the formation of fruit buds.

These illustrations might be continued at great length; but perhaps I have given enough to show that the art of Horticulture is the wise application of natural sciences and hardly in any sense an imitation of the prodigal and costly methods of nature. Nature is extravagant; as in view of her large landed possessions, she can afford to be. She can devote rods of ground to growing an inferior and sour crab apple tree, such as we read of in "John Brown." But the thrifty fruit grower on his forty and eighty acres of land must husband his space and make every rod blossom and fruit. His art must "mend nature." Nature don't care whether she gets a crop or not. She has no debts to pay with the expected fruit. But the horticulturist has "his young barbarians at their play" whose nature at some expense, he hopes to train and rear into something higher and nobler; and this food and raiment make profits needful, and, as all men should, he must produce or create these

MOUNTAIN SPROUT WATER MELON.

In most localities, if not all, melons will need to have been planted before this time. When in just the right condition, we don't know anything nicer than a good mountain sweet on a hot sultry day; nor do we believe with anything like moderation, any injury will result from the eating; at least one thing is certain, those who grow them or the children around them, are pretty apt to eat about all they can get at, and we believe such folks are about as healthy as the average. When sown it is usual to have more plants come up than is required to finally stand for a crop, then they should be thinned out,

profits by yearly care and toll. He then read the following report which embodies facts which may be of great importance in future, and which we believe appear in print for the first time:

Apple Blossoms.

The subject is sentimental and poetic; but I have been taking notes of the color and relative time of blooming of the flowers on the different varieties of apple trees. I submit the following notes, taken May 1st, and would be glad to elicit further information on the same subject:

1. The following varieties have the blossom—
White:
English Golden Russet.
Fulton, bloom sparse.
Gravenstein, do.
Large Red Siberian Crab.
Newtown Pippin.
Red Astrachan, bloom sparse.
Sine qua non.
Tocco?
2. Yellow Siberian Crab—3 late, 6 early.

3. The following have the blossoms nearly white:
American Summer Pearmain.
Benoni.
Early Harvest.
Henshaw?
Jersey Sweet.
Kirkbridge White.
Large Yellow Bough.
Sauer Rose?
Totosky?
10 Williams, favorite?—2 late, 8 early.

4. The following have the general appearance of being red, but a reddish cast to the color is a little difficult to decide as we approach neutral ground:
Ben Davis.
Br. Bont Belleflower.
Coles, Quince.
Domine.
Duchess of Oldenburg.
Early Strawberry.
Fall Conchus.
Fall Pippin.
Fulton Strawberry.
Green Russet, or Winter Sweet.
Jonathan.
Kewick Codling.
Nick a Jack?
Ramo.
Roman Stem.
Shockley?
Smith's Cider.
Sons of Wine.
Sweet Queen.
Sweet June.
Tallman's Sweet.
Vandevere.

5. Yellow Belleflower, about divided between late and early.
6. In the following, the colors seem to show nearly equally:
Hoop's White Pearmain.
2 Taylor's Garden.
7. In the following, red predominates to such an extent as to give a reddish cast to the color of the blossom. This is the largest class.
American Golden Russet.
Autumnal Swaar.
Belmont.
Bethlehemite.
Carolina Red June.
Chandler?
Cogswell Pearmain?
Cooper.
Early Pennock.
Esopus Spitzenberg?
Fallwater.
Fall Wine.
Gipin.
Hawley.
Hocking.
Hubbardston Nonsuch.
Lady Apple.
Limer Twig?
Milam.
Missouri Pippin.
Ortley.
Peck's Pleasant?
Pomme de Neige?
Primate?
Red Canada.
Soudard Crab.
Swaar.
Tewksbury Winter Blush.
Trenton Early.
Willow Twig.
31 Wine. About two-thirds late apples.

8. The following have a marked shade of red in their bloom:
Common Wild Crab.
Hawthorn.
Maiden's Blush.
Wine Sap. Two late, two early.

9. The following seem to be the late bloomers:
(a) The following were hardly opening their blossom buds on the date above mentioned:
Buckingham, on young trees.
Common Wild Crab.
Druid?
Northern Spy.
Rawle's Janet.
Rome Beauty.
7. Woodfield Seek-no-further? (Trees bought as such, but they resemble Rawle's Janet.)

(b) The following seem rather later than most varieties in blooming:
Bethlehemite?
Porter.
Soudard Crab.
Trenton Early.

If it is asked, What does all this come to? I answer, that if correct, these observations go to show:

1. The safest advice to plant in low or otherwise frosty localities. This we well know before of the Rawle's Janet, Northern Spy and Rome Beauty, but here seems to be a prospect of enlarging the list.

2. It may afford some aid in identifying varieties by furnishing other characteristics.

3. It may aid in tracing the origin of varieties. It will be noticed that the Russian and other varieties of a probable oriental origin have the blossom white, or nearly white, as descended from some common, and perhaps, peculiar, species, as has heretofore been suspected from their common peculiarities of foliage.

4. It shows, or tends to show, that varieties with white blossoms are generally early ones.

5. That varieties with red blossoms are mostly late varieties.

6. That the color of the blossoms, in a majority of cases, though the rule has many exceptions, indicates the color of the apple, white apples having white blossoms and red apples red blossoms.

SEEDLING FRUITS.

The growing of seedling fruits in the West is attracting increased attention, and the subject is worthy the consideration of all fruit growers. A gentleman who was present at a late meeting of the Dubuque Farmer's Club, sends us the following report of an essay by Judge King, and the discussion that ensued.

The proceedings are highly interesting. There being no other business before the meeting, Judge King read the following interesting paper on fruit growing in the West:

Gentlemen of the Farmer's Club:—In the fall of 1853, Mr. Senis Heugle, of this city, procured a rotten pear, of the White Doyenne variety, from a grocer and planted the seeds. Three of them germinated the following spring. Two years thereafter the plants were removed, and transplanted to where the trees are now standing.

So rapid was the growth of two of the seedlings, that the fifth year, 1858, the owner had the satisfaction of eating pears from them.

The other seedling referred to received an injury which retarded its growth. It has, how-

ever, borne fruit for the last five or six years.

The larger trees have not failed to produce a fair crop each season. They measure about one foot in diameter, have large spreading tops, limbs clean and smooth, are hardy and perfectly healthy, never having suffered the loss of a twig by disease.

The location is unsuited to the pear, yet those seedlings are probably worth all the imported pear trees in the city. The fruit of each tree is unlike the other, and each ripening its fruit at different periods.

It will pay any gentleman interested in matters of this kind, having business in that part of the city, to call upon Mr. Heugle, residing on Iowa, between Sixth and Seventh streets, east side, and examine the trees in question. Mr. Heugle and wife are of the early settlers of Dubuque; are courteous, affable, and intelligent Germans.

Seedling fruits, grown in the Northwest, including grapes, are much better able to withstand the sudden changes of our climate than those imported, as nature, with but few exceptions, adapts the seedling to the climate and soil in which it grows.

Very many imported and American pear trees are short lived, if transplanted in Iowa, Wisconsin and other portions of the Northwest. There are, however, some slight exceptions, such as the Docteur Capron, Flemish Beauty, and a few other varieties. To illustrate more fully: The Newtown Pippin, Spitzenberg, and Swaar, were produced from seeds, planted by the early Dutch settlers near Esopus, on the Hudson river. These seedlings are among our best American apples, when grown in their native soil and climate; but when removed, even to western New York, the fruit becomes quite deficient in flavor, and west of the Mississippi is decidedly poor.

The Baldwin is a fine, beautiful apple in the New England States, but almost worthless in the West.

And so of hundreds of other varieties—good where they were produced as seedlings, but elsewhere of little value. There are, however, a few exceptions, in the apple, to the general rule, as in some other fruits.

A limited number of varieties will produce tolerably well over a large extent of country: Such as the Red Astrachan of Belgium, Red June of Carolina, Kirkbridge White of America, Kewick Codling of England, Sops of Wine—foreign; Fameuse of Canada, Duchess of Oldenburg of Russia, Hawthorn of Scotland, Ribston Pippin of England, Fallwater and Keim of Pennsylvania, Tallman Sweetening of New Jersey, White Winter Pearmain of New England, Wine Sap and Northern Spy of New York, Willow Twig of America, Yellow Belleflower of New Jersey, and Rawle's Janet of Virginia.

Twelve years ago, I repaired to the nursery of Mr. Longworth, two and a half miles from Dubuque, where he had growing hundreds of seedling apple trees, about large enough to bear. I purchased fifteen, selecting the smooth bark and clean limbed trees, and transplanted them in the fall. Five proved to be fine winter apples and good bearers. One was a rampant grower, and bore a small sour russet apple; the branches were cut off, and grafts inserted, taken from one of the seedlings referred to. The tree at the present time, is fine and thrifty. Another proved to be a late, sweet summer apple, medium sized, of a beautiful golden color.

The residue were removed, and other trees have taken their places. The seven seedlings, partially described above, to all appearances are as hardy as an oak, and have paid better than twice the number of any of my imported trees, if the Red June is excepted.

In order to cope with our more Eastern neighbors in the production of apples, we must resort to the mode adopted by the early Dutch settlers at Esopus, New York. They planted seeds taken from choice apples, grown upon young, thrifty trees.

Others might pursue Dr. Van Mon's theory. His experiments were, however, mostly confined to the production of fine seedling pears, in which he was eminently successful. In some instances three year old pear trees produced fruit. A detail of his plan would be too lengthy for a paper of this character.

The people of Northern Illinois, Wisconsin, Minnesota, and Iowa should strive to emulate in the production of good fruit. True, we have not the mollifying influence of large bodies of water to soften our climate in winter; but that fact should only stimulate us to greater exertions.

The people living immediately on the east side of Lake Michigan have a climate mild enough to raise apples, pears, peaches, cherries, and plums to great perfection.

The Traverse Bay region, nearly opposite Green Bay, Wisconsin, and in latitude about 45° north, is eminently adapted to the cultivation of the peach, owing to the proximity of deep water and the regularity of abundant winter snows.

What would become of the hundred beautiful nurseries, situated in the vicinity of Rochester, New York, some of them the largest in the world—the pride of that handsome and wealthy city, and triumph of the United States—if it were not for the softening influence of Lake Ontario upon the climate in that region of country?

Trees from other States grow there with impunity or exemption from injury or loss.

Mr. Charles Arnold, horticulturist, who resides at Paris, Canada West, is producing some of the finest seedling and hybrid grapes and raspberries in the country. His location, although so far north, is like Rochester, influenced by large bodies of water.

The people of northern Iowa, not living in quite so favorable a country for the production of fruit as the country referred to, yet, with a little well directed perseverance, can, doubtless, grow as good seedling apples for this country as did the early settlers of Esopus, New York, the latter being as remote from large bodies of water as that of Iowa.

Let us earnestly recommend each nurseryman, farmer, gardener, and amateur cultivator of fruit, having ground to spare, to plant this, or next spring, say 500 seeds, taken from winter apples, grown on young, thrifty trees. Cultivate with care, in good mellow ground, at proper distances; check their growth slightly the fourth year by shortening the extreme points a few inches.

In from five to seven years the seedling trees will generally bear fruit. It is but reasonable to suppose that one-fifth of each 500 trees would be, to their different locations, what the Newtown

Pippin, Spitzenberg, and Swaar apples were to the region of Esopus, or, in other words, one-fifth of the seedlings thus grown, would, in all probability, produce fine, hardy, summer, fall and winter hybrid apples, adapted to their different locations. Pursue this plan and Iowa, Illinois, Wisconsin and Minnesota will ere long team with apple rich and luscious.

This seedling theory, as stated above, is true of other fruits. And the one that shall be so fortunate as to produce the seedling of hybrid wine grape, early, hardy and prolific, and at the same time comparatively indifferent as to the soil and location, will deserve the name of public benefactor. I feel quite confident such a grape, ere long, will be produced, from the rapid improvement being made in grape culture.

The Judge's paper induced interesting commentary and corroborative remarks from the members.

V. J. David related that, but a day or two before, on the cars going west, he had met an Illinois farmer, of De Kalb county, Mr. John Thrift, whose experience sustained the Judge's position. Twenty-five years ago he removed to his present residence in Illinois, with a brother-in-law. Both commenced to make farms on the then frontier of civilization. He planted seeds from fruit procured at Providence, R. I. The brother-in-law set out grafted trees, a process he has continued from time to time up to this day, and with only tolerable success. Mr. Thrift, from his seeds, has now an orchard of seventy-five bearing trees, twenty-five years old and fifteen years in bearing. They produce twelve varieties, some of them "good" and some "best."

Two are summer apples, four fall, and the balance winter apples. Mr. T. not being an expert, could not give comparisons. One variety resembles "Steele's Red," some are green mottled, one yellow, and four are russets. His trees bear uniformly, are not troubled by any disease, and are the envy of his neighbors. He offered to send specimens of his fruit to the Club next fall.

Judge King alluded to Mr. Heugle's seedling pear trees, and stated in that connection that he had planted nine hundred pear trees on his place from the best nurseries, and of that number but one was living, a Flemish Beauty, and even that was sickly. He had no doubt if he had turned his attention to seedlings he would have a different story to tell.

Mr. Starr said Mr. A. Spencer, of West Dubuque, had twenty seedling bearing apple trees on his grounds, twenty years old, which produced good fruit.

Mr. Bush said he had seedling pear trees, but they had died, as well as his grafted trees.

Mr. Hetherington said he had one seedling pear tree presented to him by Mr. Nolte. It was the only one of many pear trees he had set out on his place, that was living, or free from disease. The seedling tree resembled the White Doyenne. He had planted one thousand grafted pear trees, and their history was the common experience of all attempts in this section. The seedling theory struck him favorably. He believed if it had been first adopted in Iowa, it would have saved ninety-nine hundredths of the money, and not cost one-tenth of the labor.

A member related that Mr. R. Nolte planted eleven seeds from one large apple. They all grew and are now bearing. A few of them bear a rather inferior apple, but the most good, even reaching best. The apples are all different, none resembling the parent. Some are sweet, some tart, some are summer, some fall, and some winter.

Mr. Bush said some years ago, he planted three seeds of the Red June apple. Two of the trees are in bearing; the other is not. The two that bear produce white apples, one sour, the other sweet; both good apples.

The Club decided to encourage the planting of seeds, in order to raise native fruit. If every farmer, gardener and amateur would plant fifty, a hundred or a thousand seeds, it was thought we should not complain that Iowa has no fruit of her own, but have fruit to spare. A few years, say five, would tell, if any of a hundred seedlings proved good; and if one or more did, the worthless ones could be grafted with the good, and none of the hundred would be lost.

FARMERS, RAISE YOUR OWN TREES!

As the time for budding is near at hand, I thought as it was raining to day I would pen a few thoughts to the PRAIRIE FARMER family.

Am I not my brother readers will just send a few minutes or hours as the case may be, sometime from the last of July till the first of September and put in a few buds of pear, plum or cherry, they can raise such varieties as they want, and be certain that they have the genuine kind they want.

Budding is one of the easiest and most simple ways of propagating fruit trees, and also many kinds of ornamental trees known. But how few farmers think they can do it; they think no one except a nurseryman can bud.

All you have to do is to take a sharp knife, some twine and cions containing the buds you wish to insert, go to your stocks you wish to put them in, split the bark down from one to one and a half inches; make an arc across about one-third way from the top of cut just through the bark; raise the bark carefully, take the bud off the cion by cutting about one-fourth of an inch above bud, and cutting down carefully taking a little wood with it, about three-quarters of an inch below bud; clip off leaf, leaving the stem to hold to; put it under the bark where you raised it; wrap it with twine above and below bud, just tight enough to hold it in place, and you are done.

Budding should be done after buds form on the end of the twig and while the bark will peel freely.

You can put cherry on common Morello sprouts. I have May Duke and Early May, two years' growth from bud on Morello, that now have ripe cherries on them.

Pear on apple, peach on peach or plum, and plum on plum or peach, as you may have them.

If you wish any further instructions, you can get books at the PRAIRIE FARMER office that will explain all you wish to know. They also have cuts that will show you exactly how to do all the work.

PETERSBURG, ILL.

BARK LICE.

I have been watching the oyster-shell bark lice for the year past, and will give you the result of my observations.

In June, 1868, after the eggs commenced hatching, I applied soft soap, and soap water of different degrees of strength; I found that one quart of soap to five quarts of water was strong enough, and killed them entire where the wash could be applied, even two weeks after they had hatched. The proof of the experiment was, there were no eggs in the scales, as late as November last.

However in this vicinity, all experiments are worthless except for the purpose of ascertaining facts. The natural enemy of the bark louse has taken the matter in hand and cleaned them out. On examination of thousands of scales, I find them tenantless. Another insect has pierced one end of the scale, and devoured the eggs, without an exception, so far as I have seen.

For the name of this enemy please inquire of Mr. Riley.
MADISON, WIS., June 7th.
T. D. P.

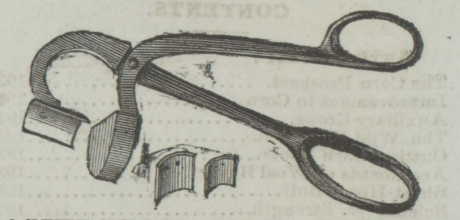
LICE ON SNOWBALLS.

How I Killed Them.

Last year the lice nearly ruined our bushes. We tried soap suds, powdered Hellebore, and various other remedies, all of no avail. The leaves this year all curled up and were covered with lice on the under surface. I thought I would make one more effort to save them. I took New York Independents and thatched them over. On top of these threw a soldier's India rubber blanket, and over the whole spread a carpet, inclosing the bush clear to the ground. Took a basin with coarse smoking tobacco, starting it well to smoking, and set on the ground under the covering of the bush. This raised a dense, sickening smoke that penetrated all the foliage. After leaving for half an hour, an examination showed the pests all dead. With the microscope you could see their defunct carcasses of all sizes from the knit to the perfect insect.

ROLLING PRAIRIE, WIS. L. L. FAIRCHILD.
N. B.—It might be the New York Independent that killed them—instead of the tobacco.

HURD'S PATENT



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