

AGRICULTURAL.



THE EARLY BLUE-BIRD.

MRS. L. H. SIGOURNEY.

Blue-bird! on yon leafless tree,
Dost thou carol thus to me,
"Spring is coming! Spring is here!"
Say'st thou so, my birdie dear?
What is that in misty shroud,
Stealing from the darkened cloud?
Lo! the snow-flakes gathering mound
Settles o'er the whitened ground,
Yet thou singest, blithe and clear,
"Spring is coming! Spring is here!"

Strik'st thou not too bold a strain?
Winds are piping o'er the plain,
Clouds are sweeping o'er the sky
With a black and threatening eye;
Urchins by the frozen rill,
Wrap their mantles closer still;
Yon poor man with doublet old,
Doth he shiver at the cold?
Hath he not a nose of blue?
Tell me, birdling—tell me true?

Spring's a maid of mirth and glee,
Rosy wreaths and revelry;
Hast thou wooed some winged love
To a nest in verdant grove?
Sung to her of greenwood bower,
Sunny skies that ne'er lower?
Lured her with thy promise fair,
Of a lot that ne'er knows care?
Prithce, bird in coat of blue,
Though a lover—tell her true.

Ask her, if when storms are long,
She can sing a cheerful song?
When the rude winds rock the tree,
If she'll closer cling to thee?
Then, the blasts that sweep the sky,
Unappalled shall pass thee by;
Though thy curtained chamber show,
Sittings of untimely snow,
Warm and glad thy heart shall be,
Love shall make it Spring for thee.

SEEDLING FOREST TREES.

The following carefully prepared article, from the pen of Andrew S. Fuller, read before the Farmer's Club of the American Institute, contains so much correct information relative to the nature and growth of our native American forest trees and is at once so interesting and important to every American farmer and citizen, that we transfer it to our columns.

The peculiar interest it must possess for the inhabitants of these valleys, where, but a few years since, a green tree was esteemed as an oasis in the interminable desert, must be our apology (if any be required) for the insertion of this lengthy article, to the exclusion of our usual variety of pertinent and seasonable articles.

The advantages that would accrue to the people here and the profits to be derived from the cultivation of forest trees has been frequently presented, that, if possible, some qualified person or persons might be induced to engage in such an enterprise; but hitherto little more has been done than to raise shade trees, chiefly the locust.

So far, so good. We now want to see the different varieties of the maple, the ash, the elm, the oak, the hickory, the beech, the chestnut, the black walnut, etc., grown extensively, for timber as well as for shade and ornament.

To set about raising forest trees for wood and timber seems at first thought to be a novel undertaking; but there is in reality nothing more supernatural or beyond our reach, nor is there any more skill and labor involved in raising forests for timber and the uses of art than there is in the raising and propagating of fruit trees for the gratification of the palate.

The vast and stately forests which, but a few years since, densely covered a great portion of the Eastern States, have been mercilessly leveled to the ground; the fine timber trees whose number once seemed beyond calculation are becoming exceedingly rare and, if no effort is made to replenish those forests, the supply of timber will ere long become inadequate to the demand. This matter is now becoming one of series import in many parts of the Eastern States.

To cause the desolate field to become a forest, probably, would involve no more labor than the replanting of forest trees where those forests had been cleared by the onward march of "civilization"—hence we urge, upon our horticulturists and all others interested, with increased assurance of the practicability of the project, the immediate procuring of seeds and the starting of a growth of forest trees.

Without further comments now, we submit the article for the perusal of our readers:

The attention of every civilized nation but our own, has been given to the importance of growing forest trees as a source of national wealth. This has been considered a question of so much importance in European countries, that some of their best literary talent has been employed in giving to the world all the information that could be gathered upon the subject. Among many volumes we note the following:

As early as 1613, Arthur Standish wrote a work exclusively on growing forest trees for timber and firewood. John Evelyn's third work, 1664, was on planting and propagating forest trees.

In 1676, Moses Cook wrote a small work entitled "The Rearing and Ordering of Forest Trees." This is quite a curiosity in its way, nearly every chapter ends with what the author evidently thought was poetry. We make one quotation from chapter eight, as it may be applicable to ourself:

Thus have I guessed but whether right or no—
The critick's lash I'm sure to undergo;
I to the ingenious practitioner direct
These lines, which hope with him to gain respect;
For learned men oft-times mistaken are,
When fools guess right the unawares.

I have laid a copy of this work on the secretary's table for the inspection of those who are curious in such matters.

The Earl of Haddington wrote a treatise on forest trees in 1760.

One of the best works of Richard Weston was written in 1770, on forest trees.

William Bouchen, in 1775, also wrote an excellent work on forest trees. This is one of the best works extant; although not large, he enumerates 150 varieties, with directions for growing them.

The preface to his work is one of the best we have ever met. It shows up the humbugs of his day, and is equally applicable at the present time.

In 1777 James Anderson wrote his "Thoughts on Training of Timber Trees."

Marshal Humphrey, in 1785, wrote a work, which was published in New York, called "The American Grove."

Lieutenant Emerich, in 1789, wrote "The Culture of Forest Trees."

William Pontey, in 1800, wrote "The Profitable Planter;" also, in 1805, "The Forest Planter."

Dr. Patrick Graham, in 1814, wrote on "The Woods and Plantations of Scotland."

Robert MacWilliams published in 1818, "The Culture and Diseases of Forest Trees."

The above are all the works in English that we have been able to obtain that have been written upon this subject up to the year 1820.

A portion of many other books previous to this were devoted to this subject. Several works have appeared in England and this country within the past thirty years upon forest trees, among which we might mention "The North American Sylva," edited by J. J. Smith, of Philadelphia; also D. J. Browne's "Trees of America." They give us but very little that is new in the art of cultivation, but considerable in the way of describing new varieties.

In the Report of the Smithsonian Institution for 1858 will be found a very complete catalogue of the native trees of the United States which gives botanical name, the common name, the height in feet, the range of country where found, and also the region of their greatest abundance. For presenting such a catalogue, this Institution is deserving of the thanks of the public at large, and particularly of such associations as the Farmers' Club and the American Institute, as it shows in a condensed form the resources of our country as to its timber, and gives ready-to-hand statistics that have heretofore existed only in the scattered pages of the writings of different botanists. What remains to be done is for some one who has leisure, ability and inclination, to select from this catalogue those trees that will in the future be the most valuable for timber, fuel, fruit, or shade, and give full and easily comprehended directions for their culture from the seed. Such a work would be of untold value to our country in future generations, and would prove an enduring monument to the writer.

We are inclined to believe that one great reason why more forest trees are not planted, is because it is generally supposed that it requires land in such a state of fertility that it would be more profitably employed in raising other crops. This is a mistake. If there is strength enough in the soil to start the tree, after the first year it will take care of itself, its leaves when decomposed making more manure than the tree will require. Poor, sterile soil planted to trees will not only support them but become rich. There are many situations where a single tree would not thrive, as on the prairie, a bleak hill-side, a barren plain, or near the sea, but where many are planted and rise together, they protect each other and grow without difficulty. While we have no desire to see extensive tracts of fertile arable lands, particularly near large cities, devoted to wood, we do wish to see the barren, naked, sandy, rocky, bleak and unproductive lands of which we have millions of acres, converted into valuable forests. Such things have been done in other countries and can be here.

In the forest of Mar (in Scotland), on the estate of the Earl of Fife, many fir trees are from 100 to 120 feet high, and from twelve to fifteen feet in circumference, though the greater number of them grow on the side of hills so encumbered with rocks that we can scarcely perceive soil enough to have nourished the seed, much less a tree of such dimensions. About 1767 the Earl of Fife planted on the rocks of Alva, oak, beech, elm, larch, red cedar, birch and other trees. So inaccessible are these rocks, that to plant the trees the men were put into baskets and the plants with them, and thus lowered down the face of the precipice by means of ropes, and when they found any moss on the shelves or fissures of rocks they planted the young trees. During his lifetime he planted about 10,000 acres of land to trees. While we do not recommend planting in poor soil in preference to rich, or do not see it profitable to plant in inaccessible places, we mention these facts to show under what difficulties trees will grow.

We will give but one more instance of planting, and to this, as there was a lady in the case, we desire particular attention.

The sixth Earl of Haddington, in a work in the form of letters to his grandson, published in 1773, says: "When I came to live here (in 1770) there were not above fourteen acres set with trees. I believe that it was a received notion, that no tree would grow here on account of the sea air and the northeast wind, so that the first of our family who had lived here, either believed the common opinion or did not delight in planting." He continues: "I had no pleasure in planting, but delighted in horses and dogs, and the sports of the field; but my wife did what she could to engage me to it, but in vain. At last she asked leave to go about it herself, which she did, and I was much pleased with some little things, which were well laid out and executed. These attracted my notice, and the Earl of Mar, the Marquis of Tweedale and others, admired the beauty of the work and the enterprise of the lady." After his lady had planted several ornamental clumps in the shape of wildernesses, she proposed to plant a field of about 300 Scotch acres, called the Muir of Tymningham, a waste common of very little value. From this all her ladyship's friends as well as her lord tried to dissuade her, but in vain; she planted this likewise. In 1707 she began Benningwood. The prejudice of the country being still against her, they continued to deride her, telling her it could be of no use. Success, however, always give her encouragement. The next was a large tract of ground mostly dead sand, with very little grass, and very near the sea. Here her ladyship participated in the common prejudices, and thought it would be of no use, but as a gentleman from Hamburg being there on a visit, told her he had seen timber growing on such land, she immediately formed the resolution of putting it to the test, planted sixty seven acres of it, and the trees grew to the astonishment of all who saw them. Thus her ladyship, to the honor of her sex and benefit of her lord and her country, overcame the prejudices of the sea and the barren moor being pernicious, and of horses and dogs being the best amusement for a nobleman, converting a dashing son of Nimrod into an industrious planter, a thoughtless spendthrift into a frugal patriot.

His lordship goes on to say, the next was a field which he had often let to tenants, who could do nothing with it; and further, that he had a great deal more wasteland, and intended to plant it all. These woods were of all the usual sorts of timber; fir, beech, chestnut, larch, etc., but oaks were the favorite, and succeeded extremely well in every sort of soil.

"Thus can good wives, when wise, in every station,
On man work miracles of reformation;
And were such wives more common, their husbands would endure it;

However great the malady, a loving wife can cure it;
And much their aid is wanted, we hope they'll use it
fairly,

While barren ground, where wood should be, appears in every parish."

The Germans and French have many works upon this subject, and perhaps no nation has expended more money, or prize more highly the American forest trees, than the French. They can show at the present time more and better trees that are natives of this country, planted in the streets of Paris, than we can in any ten cities of the United States. Although we have voluminous works, describing and giving the author's opinion of the merits of each native tree, yet none seem to call the attention of land-owners to the fact that they are letting the opportunity pass for laying the foundation of honor to themselves and wealth to posterity by planting our native forest trees. Perhaps it is owing to the fact that we possess immense forests, that will supply our cities for many years to come with timber and fuel.

But it must be recollected that the next generation, and, perhaps, some of this, will see the day that forest trees can be grown near our seaboard for less, and of better quality (as has been done with the locust), than they can be transported from our inland forests.

Many kinds of the most valuable timber now used in the arts are becoming very scarce, and, consequently, command a high price. If some remedy is not soon found, we shall have to pay still more for a poorer quality.

Our forests of white oak, black walnut, and black cherry are disappearing very rapidly, and there seems to be no thought of replacing them; this should not be, for thousands of acres that were once covered with these valuable trees are now but barren wastes, for it is not all of the land that is cleared of its timber that is cultivated with farm products.

Our forests have been thought inexhaustible; they have been leveled with the earth by the owners without giving a thought to those who may come after them. The maxim of our countrymen has always been, "He who lives the longest must haul his wood the farthest." It is generally thought, among the farmers, that only nurserymen, who are skilled in such matters, are capable of growing forest trees with success. If this is the case, it is only because they have given a little more attention to the subject. It is as simple a process to grow forest trees as it is a field of grain.

Every farm in the country where land is cheap should be surrounded by a belt or several rows of forest trees, not only for protection from the cold winds, for ornament and shelter for the birds, but for profit. We are aware that the shade of such trees will lessen the product of the land so shaded, but we are, nevertheless, of the opinion as stated.

In no place in the world is such a thing needed more than on the Western prairies; but sowing a field with tree seeds is a rarity in those sections as well as elsewhere.

We would respectfully recommend those who desire to read further on this branch of the subject, to the works we have named, which should be found in the library of the American Institute. If they are not there, the library committee should take notice, and act accordingly.

We stated, at a previous meeting, that we could grow maple seedlings one year old for one dollar per thousand. We have done so, and on land the yearly rent of which was fifty dollars per acre, and yet at a profit. Some two years since we raised, on one eighth of an acre, 40,000 trees, at an expense of \$18, not including rent of land. If we can grow them under such circumstances, at such a price, why can not our farmers do so at less cost, where the value of their land is merely nominal?

In growing maple from seed it should be born in mind that all the varieties do not ripen their seeds at the same season—in fact, some do not produce seeds at all in this country—therefore each kind must be treated differently. The red maple (*Acer Rubrum*) and the silver maple (*Acer dasycarpum*) ripen their seeds here the first of June, and if they are sown as soon as ripe in good soil, they will make trees one or two feet high the first season.

The seeds should be sown immediately after gathering, as they do not keep sound but a short time.

We sow them in drills or beds one foot wide and three or four feet apart—covering the seeds only one half inch deep. They will germinate in four or five days unless the weather is very dry.

They should be hoed frequently, and all weeds pulled out from among the plants. Transplant the following spring, if they have made a good growth; if not, and they are not too thick, they may stand another year in the seed-bed. Then they should be transplanted into rows four feet apart, and set two feet from each other in the rows. All side branches should be removed, also the tap-root, which should be cut off at least one half of its length—this will compel them to throw out a new set of roots near the surface, and induce them to make a much more rapid growth than they otherwise would. If the soil is rich, they will make trees fifteen feet high and three inches in diameter in four years after transplanting, at which time every other tree should be taken out. When they become too thick, take out again, until they have room to grow to large trees. They should be pruned annually, in winter or midsummer, only leaving a sufficient number of the upper branches to elaborate the sap and keep a healthy growth.

They should also be well cultivated between the rows; keep down all grass and weeds; the more the soil is cultivated among them the better.

As this plan is applicable to nearly all forest trees (only varying the periods of transplanting according to the growth of each variety), we will give a statement of just what can be grown upon an acre.

When taken from seed-bed, plant in rows four feet apart, and the trees two feet distant in the row; this gives 5,445 per acre; in four years we take out one half, which gives us 2,722 young trees for hoop-poles, or whatever other use they can be applied to make the most profit and leave the same number of young trees standing.

In three years, if they are trees of rapid growth, they should again be reduced by taking out every other row, which will leave 1,361 in three or four years after, we should take out every other tree standing in the rows, which will leave them eight feet apart each way, or 680 upon an acre. What the trees are worth that have been taken out, and what the 680 are worth, will depend upon what varieties they are, and what kind of a market you have for what you wish to sell them.

There are certainly very few varieties in a section where wood is scarce of which the trees taken out at different periods of their growth will not pay all the expense of cultivation, interest on land, stock invested, and leave the balance net profit.

The sugar maple (*Acer Saccharinum*), which is one of the most valuable for fire-wood, furniture, etc., as well as for sugar, ripens its seeds in autumn. These do not germinate until the spring following. They may be sown as soon as ripe, or mixed with moist sand and kept in coxas in the cellar, or out doors, as freezing does not injure them. Sow and treat them same as silver maple. It is not so rapid a grower, and consequently, should not be thinned so often.

The European maple (*Acer Pseudoplatnus*), the Norway maple (*Acer Platanoides*), and several others, ripen their seeds, and should be treated the same as the sugar maple.

There are several varieties of maple which are used for ornament only; some of them have not produced seeds in this country; but the silver maple is of such a rapid growth, it makes a good stock on which to graft these fancy varieties. The Norway is one of the slowest growers of all, although one of the best for ornament; as it costs but one cent each to work them on the silver maple, it pays the grower to treat them in this manner, rather than to wait for them to grow upon their own roots.

The American elm (*Ulmus Americana*) is one of the most noble ornamental trees, and is much used in the arts, and is of very rapid growth.

The seeds ripen about the first of June, and they should be sown as soon as ripe (in fact, this rule is applicable to all forest tree seeds); a portion will germinate the same season, but a greater portion will not until the following spring. The seeds are very small and delicate; they should not be covered more than one half inch deep. If the weather is dry, cover the seed-bed with some litter, such as hay or chaff, just enough to shade the ground and keep it moist.

William Boucher says, in his time, that the American elm had been but lately imported into Scotland, but that he had grafted it successfully on the different varieties of the European elm.

It would be folly for us to graft it upon any other variety, as it is the most rapid grower of all. He says, further, that he has sold English elm for a guinea each that he had grown from seed. They were 24 years old, 18 inches in diameter, and 40 feet high.

Here is a sample of what men were doing in Britain a hundred years ago. William Forsyth, in 1789, while urging upon the English noblemen and proprietors of lands the importance of removing their forests, says that he hoped that Great Britain may never be under the dangerous, as well as disagreeable necessity, of trusting the safety of her seamen upon anything inferior in texture and less durable than the hardy English oak. These sentiments should be our own, only changing American for English oak, for the superiority of our white and live oaks is acknowledged throughout the civilized world.

The American white oak (*Quercus Alba*), the strongest of all the native oaks, should not be neglected. Its value is well known to our ship builders, as well to those who build docks and piers in our harbors and rivers. It is easily grown from the acorn, sown in the fall, covered very thinly with earth, and then covered with leaves.

The live oak (*Quercus Virens*) will not thrive in the Northern States.

All the varieties of oak, chestnut, black walnut, horse chestnut, and similar varieties, seem to possess seed that contain an element which produces several kinds of fungi when they are excluded from the air, either in very wet or dry situations, and from several experiments which we have tried with these, we have found that they germinate best where they can be kept continually moist, but yet in contact with atmospheric air.

We have succeeded best with these coarse seeds or nuts by sowing them in the fall upon the surface of the soil, then sifting on earth enough to fill up the spaces between the seed, leaving their upper surface even with the soil; then give them a covering of two or three inches of leaves. This mode gives the air an opportunity of reaching them, and they are protected from the changes of the atmosphere during the winter and spring months. These varieties have long, perpendicular, fleshy roots, resembling small parsnips when young, having but very few fibers, except at the lower end, and generally considered very difficult to transplant. But if they are root-pruned in the seed-bed one season before transplanting, they can be removed with very little risk; besides, it will improve the growth very much.

This is easily done by plowing a furrow along-side, turning it from the row, and within five or six inches of it; then pass a sharp, thin spade under the trees, cutting off the lower end of the tap root six inches or more from the surface, depending somewhat upon the length and character of the root.

When the grower has plenty of land it is better to sow the coarse seeds, such as black walnut, hickory, etc., in single drills; if sown thus they can be root-pruned with very little difficulty, without plowing a furrow, by passing the spade down within three or four inches of the row at an angle of 45 degrees.

The different varieties of the hickory (*Carya*) deserve special attention, and ought to be planted extensively, as there is no other tree that is in greater demand from the time it is large enough for hoop-poles up to a size for timber or fire-wood. 30,000 to 50,000 hickory hoop-poles can be grown upon an acre in five or six years, and when cut down the root will throw up another set in less time than it took for the first crop. The question is, will it pay?—the proprietors of suitable land must answer. The hickory has always been considered very difficult to transplant, but if properly grown none are more easily removed. All that is required is to root-prune them in the seed-bed, let them remain one or two seasons, then transplant into nursery rows, and root-prune again before planting; always cut the lowest roots. In two or three years they should be taken up and pruned again, cutting off none but broken roots, and those that have taken a downward direction.

If this plan is followed, they can be transplanted any time up to 20 years old, with perfect safety. It will not be necessary to root-prune only when they are grown for the purpose of transplanting for street or lawn trees.

The pecan nut (*Carya Olivaformis*), which we have in our markets, is one of the hickory family, and it should be planted by some of our Eastern farmers in orchards for the fruit. It bears abundantly when quite young, and its fruit commands a good price. All the young trees are wanted by the cooper.

The white ash (*Fraxinus Acuminata*) is another rapidly growing tree. The value of its wood is well known. None are more easily grown. Sow in fall, as directed for the maple.

The locust, white-wood, larch, cherry, beech, cypress, and many more of the deciduous trees, are worthy of our attention for the value of their timber, which can be made available in a few years from their seed. But there is another class which may be designated as the ornamental, of which millions are now, and will be wanted in our cities to embellish streets and parks.

Some of the evergreen trees, perhaps, may be grown even for timber, at a profit; but we want more experiments in this branch of industry in this country before we decide upon its importance.

We hope the American Institute will soon purchase that long talked of experimental farm, where agricultural and horticultural experiments can be carried on under the management of the Board of Agriculture, who will have no object in keeping facts from the public. This farm should be located in some place convenient of access, within fifty miles of New York. No better opportunity for purchasing land for that purpose will ever come than at present.

Upon this farm every experiment from which valuable results could be expected, should be tried. Then we could have facts gathered from actual experiments, that would be of incalculable benefit to the country and honor to the American Institute. This farm can be made self-sustaining. All surplus articles can be sold for enough to pay for all articles retained and losses that might occur in cultivating.

If a tract of a hundred or more acres were purchased in some locality where land can be had cheap, so soon as operations were commenced all the adjoining land would immediately rise in value. This would, in return, increase the value of the farm.

From the reports of our officers it seems that we have made no money from our annual exhibitions, and that the only source from which we have made money is upon the real estate owned by the Institute. As this is the case, why may we not with safety attempt the carrying out what we are informed was the original design of the founders of this Institute, that is, an experimental farm.

Raising Figs.

"A Boy Subscriber" in Crawford co., Pa., writes to the *American Agriculturist*: "A neighbor of ours in eating some purchased figs three years since, saved and planted the seeds. They sprouted, and he presented me with one of the trees. It has grown well, but it has not borne any fruit. What shall I do to make it bear?"

In reply to which the editor says:—"Your tree is scarcely old enough yet. You would not expect apples the third year from seeds."