NATURE'S LESSON.

BY MRS. L. H. SIGOURNEY.

"Mountains whereon grow roses and lilies, whereby I will fill thy children with joy."—Esdras.

When thou walkest in the fields,
Father! with thy listening son,
Point him where the mountain's head
Hath it's towering grandeur won;—

Where the lofty groves aspire,
Where the solemn forests nod,
And upon their living arch
Raise his plastic mind to God.

When thou walkest by the way,
Mother! with thy little one,
Where the sweet, wild roses grow,
Where the uncultured lilies run,

Show her how their colors grow,
How their baby-blossoms start,
Till their fragrance and their bloom
Touch the rapture of her heart;

Tell her then, that He who spread
All these bounties in His love,
Seeks His children thus to train
For a higher bliss above.

PEAR BLIGHT.

The following article, copied from a late number of the *Southern Cultivator*, written by one of the most enthusiastic and experienced pear-growers in the country, will be found interesting, particularly at this time, when there seems to be a general failure of the pear trees among us. It would appear that, in regretting the unfortunate fatality that has thus far disappointed our hopes of raising the pear upon our own soil, we are by no means alone.

Whether the views herein expressed will prove true relative to this altitude remains to be seen; but the principles set forth are reasonable and scientific. Until it shall have been fully tested, however, we shall exercise all diligence in doing what we can and in encouraging others to use their utmost endeavors in propagating the pear from the seed, improving and carefully treating the same, that peradventure we may finally succeed—and partake of pears raised in the mountains of Deseret, tho' in other localities apparently better adapted, in point of soil and climate, to the culture of that delicious fruit, it should exist only in name:

EDITORS SOUTHERN CULTIVATOR:

The blight seems to be a peculiar disease, almost confined to the species *Pyrus* proper, as the quince and pear. The appearance of blight, which we remark upon other trees, is not exactly the blight, but the work of insects or the immediate result of frost or excessive heat. It is confined to a few branches, and has a character altogether distinct from the pear blight.

I have been forcibly brought to the conclusion that the pear tree is not fully adapted to the climate of the United States. It is not found there in its wild and primitive condition. It escapes the injuries of most all the insects preying upon other fruit trees, which would not be the case if it were an indigenous product. It keeps its leaves only for a part of the summer—and here, in the south, sends out new shoots sometimes till the middle of October, and as often as three times during the summer. Only part of my varieties keep their leaves steadily—the balance seem to be puzzled and uncertain, and have no regular periods beyond the first (March) and the second (June) shooting season. Blossoming as late as in the present month of October, is not uncommon; but confined to some varieties. Summer blossoms upon the same varieties are not rare in the north; and we have second blooming even in Europe. All things considered, and, despite my preference for the pear, as a fruit, I must repeat again that the pear tree is the most fastidious, artificial, whimsical tree of all our fruit tribe.

Till we shall have not only southern seedlings, but a succession of generations of southern seedlings, and good luck in hitting upon the most healthy and vigorous family or variety, we cannot expect as much from the pear as we do from the peach and apple tree. Seedlings come up freely, but die by the hundred, as well in Rochester and Boston as here in the south. Those which escape will make the best parents for succeeding, and of course improving generations. The blight affects the seedling or stock often more than the variety grafted upon it, as I found in many cases where the stock had sent out one or two shoots just below the graft. These shoots were often struck entirely or partially by the blight, while the grafted part of the tree remained sound.

That the blight is not the work of an insect, is my present conviction: that it denotes and shows a weakness or unfitness to resist certain climatic influences, is my conclusion, based upon long and careful observation, and this is the case as well at the north as at the south. I can only add that I have prevented the further extension or development of incipient blight (for there is a blight which I call instantaneous, and another which comes by degrees and sets in slowly), by calling the sap to the sick spot, by means of longitudinal incisions, compelling the tree to go the healing process, by the expansion of its bark, and a fresh supply of sap. I found, moreover, that in larger trees the blight was mostly connected with some hidden, interior lesion, or disease.

I have scarcely any blight among my trees planted sound and young, and which have started fairly. In severe cases, I invariably cut down the branch or tree below the blight.

I hope to be enabled to say more (if I live) about the blight in another year from now; but I must take my remarks from a neglected though young orchard in my vicinity, as I had not over half a dozen blight cases in 18,000 or 20,000 pear trees in my place, and not so many in my son's nurseries close by; and I do neither expect nor wish to study the case in our grounds.

It is easier to describe the blight than to find out any remedy for it, unless we look for a preventive in the general management of the tree, and all the accessory conditions of soil, locality and climate. I cannot repeat it too often—pear trees do not grow everywhere in all conditions, in neglected soils, etc. Some varieties are more hardy, and will bear neglect and "adverse circumstances," but as a general rule, and as exotics, they want care and some skill to keep them in good condition.

I have alluded before to the unsteadiness of the pear tree in its periods of resumed vegetation. Here it seems to me, is one of the greatest causes of the blight. It is not rare to see a pear tree send out blossoms and leaves in October and even in November. The sap must be, of course, active and filling up all the vessels. Suppose a sudden frost setting in, those vessels will be strangled, the sap corroded, and, although the tree does not immediately show the signs of the havoc, its next effort to grow and blossom will bring out the extent of the evil.

The atrophia, or paralysis, when slight, can sometimes be overcome by prompting the sap to rush to the spot, by means of incisions (lengthwise), by cutting down down part of the injured leader (as for a limb, that must be in all cases removed), and in the most desperate cases, that is when the tree has been struck to its very heart, by removing the blighted parts with the saw or the knife, a few inches below the black, as far down as we can find a healthy, bright green liber and bark. The least brown, dull color left, will prove a poison to the remainder of the tree, and finally will kill it to the very root.

I do not pretend to say that frost or a sudden and violent check of vegetation is the only cause of the blight. I only judge from experience that it is the most common. Such a stop or check, although not always producing the blight (in some varieties it will not), is, in all cases, a serious drawback to the growth of the tree. In such cases, and with such varieties, as with many old sorts of the apple, the heart only is affected, and death is mediate, not immediate. In apples we call it the black, and that comes out only when the heart of the lignum is going to utter decay.

Supposing this to be as I always, long ago found it to be the case, all we can do is to prevent the anomalous starting of the sap late in the season. We can (in some measure) prevent that. A tree that starts well, and under all favorable circumstances, in March, and again in June or July, will have exhausted its powers of vegetation, and accomplished what it was destined to do.

A neglected tree will resume the work whenever some favorable circumstances of climate, late cleaning, late pruning, etc., calls it into new life, and to renewed exertions.

In a soil not drained, or too shallow, or too flat and level, every drop of rain, every variation in the atmosphere will tell, while a well planted, subsoiled or underdrained tree, will resist those slight influences.

Suppose a well planted tree of a good hardy variety, in a well-drained soil, rather on a slightly rolling or uneven ground, well cleaned from weeds, and treated, not with stable manure, but with limes, ashes, phosphates, etc., and left untouched, unpruned, after the month of July. Do you think such a tree could easily be blighted? I have seen thousands in the well drained and highly enriched grounds of Wm. Reid and Prof. Mapes, and not a single blight have I found there, in the space of six years; not even among the old varieties. My conclusion has been, of course:

1st. Good treatment.

2d. Underdraining or thorough and deep subsoiling.

3d. Application of only such manure as will make healthy, firm wood—carbon and not water. Those are, as I stated before, concrete manures, rich in wood-forming matter.

4th. Judicious pruning, and no more pruning after July; pruning always making a call to a new flow of sap, as all processes of healing and restoration in all living organisms.

Although these remarks are already too much extended, I beg to add a few facts in conclusion. In 1838, while residing in Europe, I had a lane of fine chestnut trees (planted in 1833) in a most thriving condition. We had no frost till the 6th of January, but foggy, damp weather. The result was that most all the trees, but especially the chestnut and quince trees started, and commenced the ordinary process of spring vegetation, swelling of buds, formation of roots, etc. In the night of the 6th of January, a sudden, keen frost set in; and, at the 8th, we had 25 deg. below zero! The consequence was, that my 200 chestnuts, and all my quince trees were blighted from top to root. In the Nurseries, chiefly in the best sheltered localities, thousands of pear trees, besides all the quince stocks, were lost, destroyed. This was the blight at wholesale, and applied to other trees than the sensitive pear trees; but blight it was, in all its features and results.

The second fact is this: In one of my orchards, where a small spot had a substratum of very rententive clay, I found, after a heavy rain, six or eight holes half filled with water, which kept there till two days afterwards, while all the ready-made holes had drained themselves naturally. I had no time to underdrain that small spot, being in a hurry to finish that orchard. The result was three blighted trees this year and three or four growers; not another tree among the 3,000 in that orchard was blighted.

Certain varieties are more exposed to blight, and almost sure to get blighted once in a while; if not all over, at least in some of their limbs. Neglected trees first; old and special varieties, secondly. The Bartlett, Vicar, Glout Morceau, Madeline, Jargonelle, are among the blighters. A hundred or two among the more recent varieties seem to bid defiance to all causes of blight. Will they be so forty years hence? But, what is the cause of blight among one year's seedlings? Here is a poser. Evidently it is not the frost of the preceding winter; they were "not" out by that time. It is then the influence of a dry, absorbing atmosphere; of extremes of temperatures during twenty four or forty eight hours of the summer days and a cool night or two.

Let it be what it may, the conclusion will always be the same. As with imported stock and exotic flowers and plants, let us take more care and precautions, and study the habits of those foreigners more closely. If blight is scarce or unknown (among the larger trees; I say nothing of one year's seedlings,) in well drained, well manured soils, is not there the clue to a prevention? As with other evils, let us be contented with the results of tried experiments, and we can afford, while enjoying the fruits of our labors, to enquire more minutely into the more proximate or remote causes of the disease. But, by all means, let us make deep soils, and resort to high and judicious cultivation. As with the human family, sound and real diets and improvements will prevent many diseases.

L. E. BERCKMANS.

Decline of Agriculture.

But few people are aware of the immense falling off in the staple agricultural products of the older States, as exhibited by the census reports. New England, for instance, in 1840, raised over 2,000,000 bushels of wheat, but in 1850 she yielded but 1,000,000—a decline of 100 per cent. in ten years. The population in the meantime had considerably increased. There has been a considerable decline, undoubtedly, since 1850. The four States of Tennessee, Kentucky, Georgia and Alabama, which raised 12,000,000 bushels of wheat in 1840, raised but 5,000,000 bushels in 1850.—The number of sheep in the State of New York had decreased so that there were nearly 300,000 less than there were thirty years ago. Within a period of five years the decrease has been nearly fifty per cent., while the decrease in the number of horses, cows, and swine is above fifteen per cent. In 1845 the product of wheat was 13,391,770 bushels. It has steadily declined since, and the product of the past year did not exceed 6,000,000 bushels.

The older sections of our country are becoming mroe and more dependent upon the granary of the northwest for their supplies of leading agricultural products. Their land is getting worn out and unproductive, and the people are turning their attention to manufactures and commerce.

The opening of new Territories, soon to become States, in the West, is the greatest of blessings to the old Atlantic States, not only as relieving them of considerable population they can well spare, but as assisting to keep down the price of agricultural products to a reasonable figure.

Almonds Growing on Peach Trees.—A correspondent of the San Francisco *Bulletin*, writing from San Rafael, Marin county, says:

Yesterday I rode over to De Long's magnificent Novata ranch. The great attraction was to view the nursery. It covers 125 acres and contains 17,000 apple trees and 10,000 grape vines, besides all varieties of California fruits; 9,000 apple trees had been sold out during the winter.

The query whether almonds would grow on peach trees was recently very seriously put in one of the city dailies. It was urged that peaches are a failure on the sea coast, and that almonds being imperishable and very merchantable and profitable, it was very important for nurserymen to know if the almond can be successfully engrafted upon the peach tree. Well, it can. Three years ago, Mr. De Long grafted a portion of his peach trees with hard and soft-shell almond clippings. The second year the fruit appeared, but did not mature—the trees were too young. The third year the trees bore heavily a fine almond. It is thought the hard-shell almond does a trifle the best. The graft must be inserted into the root of the peach tree.

We are not aware that the almond has here as yet been root-grafted into the peach. Probably it might succeed better than those which we have had budded on the peach stocks.

Cultivating Roots.

In order to succeed in the culture of roots, the ground should in all cases be well prepared; that is, plowed or dug deep and made loose and mellow. If a good portion of manure has been applied the year previous, the better.

In most cases the best method of planting is to sow the seeds in drills, eighteen inches or two feet apart, to admit of a free space for watering without saturating the plants, which is often done, especially when sown broadcast.

During the growing season the ground should be often hoed to keep it loose and admit the water freely. A good rule is to loosen the ground every second time of watering, when it is moderately dry. The ground should never be allowed to become dry and hard before hoeing and loosening.

Hungarian Grass for Horses.

A gentleman of some experience furnishes the following in answer to queries in reference to this grass as food for horses:

One year ago the past summer, we raised four acres of it; cut it when the seed was about half ripe; cured it nicely; stacked, and fed our horses and colts with it, while it lasted—during a considerable portion of the winter. It was very sweet and fragrant. Horses ate it as though they liked it, also other stock. Our horses did well, kept sleek and smooth with one half their usual allowance of corn. No signs of stiffness, although worked hard the past season. They are still nimble as colts.

Our neigbor, Niles Borop, raised a large lot of it a year ago last summer; wintered his horses—six or eight, last winter, almost exclusively on it. He informs us he never had his horses do better; fed but little if any grain; they kept fat. He was so well pleased with it, he sowed over twenty acres last spring, and lost nearly all of it by the chinch bug. He let his get ripe enough for seed before cutting. He thinks it better than cut earlier, for horses. His calves kept on it, he says, thrived the best he ever had any; their hair looks sleek and glossy.

The seed of this excellent grass is abundant and may now be obtained by all who wish. Relative to its culture we refer our readers to what we printed last spring.

There exists a diversity of opinion relative to the use of this grass for horses. Will some of our friends who have fed it to their horses inform us of their experience.

Horses and Cattle in the World.

Goodrich's new book on Natural History has the following estimate of the number of horses and cattle in the world. It will be seen by a comparison of the tables, that the United States possess one-eleventh of the whole number:—

The general estimate, says Mr. Goodrich, has been 8 to 10 horses in Europe for every hundred inhabitants. Denmark has 45 horses to every hundred inhabitants, which is more than any other European country.

Great Britain and Irelaad have	2,500,000 horses.
France has	3,000,000 "
Austrian Empire, exclusive of Italy	2,000,000 "
Russia	3,500,000 "

The United States have 5,000,000 horses—which is more than any European country; the horses of the whole world are estimated at 57,420,000.

A very extended view is also given of the bovine animals, and especially of the ox kind, tracing the origin of the different breeds, with ample notices of the qualifications of each. In respect to them we have also copious tables showing the number of domestic cattle belonging to the different countries of the world—From these estimates it appears that—

Russia has	20,000,000	domestic animals.
Great Britain and Holland	8,000,000	" "
Austria	10,000,000	" "
France	8,000,000	" "
United States of America	22,000,000	" "

The whole world is estimated to contain 210,000,00. It is supposed that one third of them are killed annually, so that we have about 70,000,000 carcasses, weighing 20,000,000,000 lbs., 70,000,000 hides, 140,000,000 horns, and 280,000,000 feet, annually to be converted into beef, tallow, leather, combs, manure, &c,

Insects not the Cause of Disease.—Mr. Chas. Waterton, of Walton Hall, England, presents some interesting facts in support of the con-