

ACCLIMATION OF PLANTS.

A sensible and eloquent writer in the *American Journal of Geology*, has, in a paper upon the "Acclimating Principle of Plants," treated the subject in an interesting manner, and illustrated it by referring to many instances where plants have actually adapted their growth and habits to a great extent of country and diversity of latitude. His views are calculated to be particularly interesting in the meridian of the United States.

"Plants," observes the writer referred to, "have directly no locomotive powers, but indirectly, they have, in a great degree, the faculty of changing their places, and consequently, their climate. The embryo germ, wrapped in a kernel, or seed, is virtually a plant, ready to germinate when thrown upon its parent earth, and affected with heat and moisture. It is in a most portable shape, and can be transplanted with ease to an unlimited distance. Nature, in many instances, super-adds to seeds, wings, down, feathers, and chaff, by which they become buoyant, and are carried by the winds of heaven, by the storms that sweep the forest, and by the streams and currents of rivers, and the ocean, to an immense distance, and through many degrees of latitude! They become finally deposited in a genial soil, and at once remove, or through a succession, they occupy extensive regions. Nature manifests her great care of the embryo, by coating some of her seeds with shells, which protect them from the attacks of insects, and the action of the elements; others have bitter, narcotic, or poisonous qualities, which forbid animals eating them; and many of them are filled with oily, or resinous matter, which resists, for ages, and even centuries, the action of the elements, unless acted upon by the proper degree of heat and moisture. By such qualities they endure, and await a suitable time and conveyance to their destined place, in order to extend and vary their families.

Birds also convey the seeds of plants in their crops, over a wide extent, before they become triturated and digested; and when these winged carriers die or decay, from accident or age, the seeds are deposited, and take root in some distant land. Animals also convey them in their stomachs to a considerable distance, and pass them uninjured by the powers of digestion.

Man, more provident than all, to whom plants are necessary, whose support, whose comforts, and whose pleasure connect him with them, carries their choice seeds, slips, and scions, far and wide. His interests foster their growth, his attentions enrich their products, and his skill and science preserve their existence, and adapt them to their new condition. In an unimproved community, man's wants multiply; he has occasion for the more varied and rich fruits; more abundant and luxurious clothing, and furniture of vegetable growth; odours to regale his senses, vegetable flavours to pamper his appetites, and all the medicinal plants to heal his various diseases, and invigorate his shattered constitution. He attaches himself to agriculture and horticulture: plants become his companions; he carries a creative resource into those departments, and by his attentions, forms new varieties and excellencies, unknown to the wild state of vegetable existence. Such are the means nature has provided for the propagation and extension of plants; such are the indirect locomotive powers they possess. We must no longer, therefore, consider vegetables such inert and sluggish beings.

Human care, and the providences of nature, have given to many plants a great extent of climate and latitude, an enlarged growth, and an increased and improved product. Let us bring together such instances as are within the

knowledge of all, and which ought to stimulate our cultivators to greater efforts.

The valley of the Euphrates was doubtless, the native region of all those fine and delicious fruits which enrich our orchards, and enter so largely into the luxury of living. We thence derived all the succulent and nutritious vegetables that go so far to support life; and even the farinaceous grains appertain to the same region. The cereal productions began in that same valley to be the staff of life.

Our corn, our fruit, our vegetables, our roots, and oil, have all travelled with man from Mesopotamia up to latitude 60 degrees, and even further, in favourable situations. The cars of man have made up for the want of climate, and his cultivation atoned for this alienation from their native spot. The Scandinavians of Europe, the Canadians of North America, and the Samoides of Asia, are now enjoying plants which care and cultivation have naturalized in their bleak climes. Melons and peaches, with many of the more tender plants and fruits, once almost tropical, have reached the 45th degree of latitude in perfection, and are found even in 50 degrees. Rice has travelled from the tropics to 35 degrees, and that of North Carolina now promises to be better than that of more southern countries. The grape has reached 50 degrees, and produces good wine and fruit in Hungary and Germany. The orange, lemon, and sugar-cane, strictly tropical, grow well in Florida, and up to 34 degrees, in Louisiana, and the fruit of the former is much larger and better than under the equator.

Animal plants grown for roots and vegetables, and grain, go still farther north in proportion, than the trees and shrubs, because their whole growth is matured in one summer; and we know that the development of vegetation is much quicker when spring dries open, in countries far to the north, than in the tropics. In England, and on Hudson's Bay, the full leaf is unfolded in one or two weeks, when spring begins, although it requires six or eight weeks in the south. Nature makes up in despatch for the want of length in her seasons, and this enables us to cultivate the annual plants very far to the north, in full perfection. The beans, pumpkins, potatoes, peas, cabbages, lettuce, celery, beets, turnips, and thousands of others, seem to disregard climate, and grow in any region or latitude where man plants and cherishes them.

The fig is becoming common in France; the banana, pine apple, and many other plants, have crossed the line of the tropics, and thousands of the plants, valuable for food, clothing, and medicine, and such as are cultivated for their beauty, fragrance, or timber, are extending their climates, and promise much comfort and resources to man. Plants lately introduced, whose cultivation has not run through many ages or years, have acquired but little latitude in their growth, and show but little capacity to bear various climates, because time has not yet habituated them to such changes, and human care has not imparted to them new habits and new powers.

Nothing can be effected by suddenness in acclimating plants; too quick a transition would shock them; it must be a very gradual process, embracing many years, and many removals. The complete success that has attended the plants first named, the earliest companions of man, proves this. In the more recent plants, success is exactly in proportion to the length of time that a plant has been in a train of experimental culture.

The most striking method of testing the effect of climate on plants, is to carry suddenly back to the south, such as have been extended far, and become habituated to a northern climate. Such plants have so much vigour, and the habit of a quick and rapid growth so firmly fixed on them, by a long residence in the north, that when suddenly taken to the south, although the season be long and ample, they continue from habit, to grow and mature quick, and obtain the name of rare-ripe; because they do not take half of the time to mature, that those of the same family require, which have never been so changed. Gardeners give us early corn, peas, fruit, and turnips, by

getting seed from places far to the north, and cotton growers renew the vigour of the plant by getting the most northern seed. This practice is common in the case of most plants, and is founded on the supposition that plants do, and can acquire habits.

The fact supported in the first number of the *American Journal of Geology and Natural Science*, "that plants are most productive near the northern limit in which they will grow,"—that they bear more acid or fruit, and have more vigor of constitution, offers much encouragement to agriculture. This proves that it is not a meager, stunted existence, devoid of profit or productiveness, that we give to plants, by pushing their culture far north, but a strong and healthful growth, one that repays the labour and attention, by a greater product, belongs to more southern situations.

Every view that we can take of this interesting subject, every fact within our knowledge, which drawn from the actual state of cultivation, or from physiological investigations into the habits, nature, and construction of plants, goes to show that plants do become acclimated, both by the natural and artificial way, to a great extent. Enough has been witnessed to prove that plants have a habit of conformation, that does accommodate itself to circumstances, and have capacities more extensive than are generally ascribed to them; that enough has been realized to encourage further efforts, and give us hopes of much future benefit.

ADVICE TO FARMERS' DAUGHTERS.

A female correspondent of the *Tennessee Agriculturist*, last year wrote several communications under the signature of Lucy, containing much wholesome advice to farmers' wives and daughters, and we find she has resumed her labors in an address to Farmers' Daughters. Her communications of last year were greatly admired and extensively copied, and we think our own readers will concur after reading the subjoined, which is the first of her series, that it is destined to find as much favor with the intelligent as did her former one.—*American Farmer*.

TO FARMERS' DAUGHTERS.

The desire of information is necessary order to the acquisition of it, and as books are one of the principal sources from which derive our most valuable knowledge, I will tell you about them, and a few other matters evening. A taste for reading should be cultivated by all young persons. I consider a fond for useful books one of the greatest blessings. Without this, there are so many hours that away heavily and idly, and for which no account can be rendered in time or eternity. In bad weather, I have seen young ladies loiter about, not knowing what to do with themselves, because they could not go out to visit or to work.—The case is so much altered, when you sit down with pleasure to a good book, and regardless whether it rain, or the sun shine read on, determining to improve the dark of life by laying up those stores of knowledge so much needed in after time. You derive pleasure not only from the reflection, I improved the time. I have learned something I did not know before. It is of great importance that you have the right kind of books. Many young persons read, and it would be better for them if they were ignorant of the alphabet. They read for present excitement, and of course, novels are the only books which they have an appetite. It is my opinion you had better not read at all, than read with a passion for them, for it generally amounts to a passion. Girls who read many novels, their common sense and healthy action of their dream over the love-sick eloquence of heroines, the beauty, bravery, and noble living of the heroes; all the great events that related are pondered over, until the common affairs and duties of every day exist as tasteless and disgusting, and they are then