EXTRACTS FROM THE EIGHTH EDITION

OF

BRIDGEMAN'S

Young Gardener's Assistant,

RELATIVE TO AN

ALLEGED DISCOVERY

ON

"TERRA-CULTURE,"

AS DESCRIBED IN

Senate Document, No. 23, of the Third Session of the 25th Congress,

AND THEREIN ESTIMATED AT

"HUNDREDS OF MILLIONS OF DAYS' LABOUR,"

AND

"Worth more to the Community than all the Discoveries of the Present Age Combined,"

THE

"APPLICATION OF STEAM NOT EXCEPTED."

FOR THE PURCHASE OF WHICH SECRET.

An Application has been made to the 26th Congress, by the Discoverer, for a "Sum equal to five cents from each individual of the United States,"

OR ABOUT

A Million Dollars of your Resources

"Neither do men light a candle, and put it under a bushel, but on a candlestick; and it giveth light to all that are in the house. Let your light so shine before men that they may see your good works."

NEW-YORK:
D. MITCHELL, PRINTER, 265 BOWERY.
1840.

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Extract from page 23.

Previous to the commencement of our Catalogue, it may be necessary to remind the reader, that the directions which follow, are founded on the results of practical experience in the vicinity of NEW-YORK CITY, where the soil is generally susceptible of gardening operations towards the end of March. These directions may, however, be applied to all other parts of the UNITED STATES, by a *minute observance* of the difference in temperature.

In the extreme Northern parts of the State of New-York, as well as in all other places similarly situated, the directions for the beginning of April may apply to the latter end of the same month, with very few exceptions.

In our SOUTHERN STATES, the directions for APRIL, which may be considered as the first gardening month in the EASTERN, WESTERN and MIDDLE STATES, will apply to January, February, or to whatever season gardening operations may commence in the respective States.

Extract from page 355.

In page 23 it has been shown, that the directions accompanying our catalogue may be applied to all the varied climates of the United States, by a *minute observance* of the difference in temperature.

It may be here observed, that the soil is susceptible of cultivation three months earlier in the remotest South, than in the coldest part of our Northern territory; the calendar therefore for March, may be applied to the middle of January in the warmest climates, and the middle of April in the coldest; some exceptions to this rule must, however, be taken in the Southern States after the Spring months, for the following reasons:

1. As warm weather South is of longer continuance than in the North, plantations of those species of vegetables denominated tender in page 19, may be made in the open garden from March to August.

2. Extreme heat being detrimental to the cultivation of many half-hardy vegetables, such as Broccoli, Cauliflower, Cabbage, Celery, Lettuce, Radish, Turnips, &c., these can only be cultivated perfect in Spring and Autumn; the latter crops, therefore, should not be planted until August or September; see note to article Broccoli *41, also 57, 62 and 92.

3. Many of the half-hardy class, as also those designated *hardy* in our table, may be cultivated throughout the Winter months, by forwarding such as are required for early Spring use, after the Summer crops are taken off. See table, explication, &c. page 19 to 22, also page 103.

In the Eastern, Western and Middle States, the annexed calendar will answer in the order it stands, by applying directions to the beginning of the first Spring month,, in the warmest climates, and to the latter end, in the coldest climates, bearing in mind that where the Summer is short, the main crops must follow the early, in quick succession, with a view to their maturity before Winter.

* It has been proved by repeated experiments, that the Purple Cape Broccoli succeeds better in our climate than any other variety; and, also, that if Broccoli or Cauliflower plants be retarded in growth by extreme heat, they seldom arrive at good perfection. It is, therefore, important that the time of sowing the seed of Cape Broccoli be so regulated as to allow, say six weeks of the summer, for the plants to grow in, previous to their being transplanted, and about seven or eight weeks between then and the commencement of cool autumn weather, which is essential to mature them.

If seeds be sown much before the middle of May, or so early that the plants arrive at full growth in the heat of the summer, and thereby become stunted, they generally button, instead of forming perfect heads of flowers, and are consequently of no use but for cattle. In some of the Southern States, late planting of Broccoli and Cauliflower succeeds better than early, because the winters are calculated to mature these vegetables, from their not being subject to injury by *slight* frost, in a late stage of their growth

Extract from note, page 57.

Some Gardeners raise Egg-plants in the same frame with Cabbage and such other half hardy plants as require air every mild day; by such management, one or the other must suffer for want of suitable aliment—*Heat* being the principal food of tender plants, and AIR that of the more hardy species.

TO THE

PEOPLE OF THE UNITED STATES OF AMERICA.

FELLOW-CITIZENS:

An application having been made to your representatives in Congress, to vote a sum equal to five cents from each individual in the United States, OR ABOUT A MILLION DOLLARS OF YOUR RESOURCES, to the promotion of an improved system of "*Terra-culture*," as described in Senate, document No 23, of the third session of the 25th Congress, I hereby direct your attention to a few extracts taken from the applicant's preamble; copies of which have been forwarded to each member of the 26th Congress, in session, November 30, 1839.

From the Poughkeepsie Eagle, Saturday Morning, January 25, 1840.

PRESERVATION OF FRUIT TREES, PLANTS, &c GREAT DISCOVERY.

To the Hon. Perry Smith, chairman of the United States Senate Committee on Agriculture of the 25th Congress. "With the consent and by the advice, on the 23d inst., of the chairman of the United States Senate Committee on Agriculture of the 25th Congress, I forward to each member of the 26th Congress, the accompanying document, dated the 14th inst; the object is *to show you some of the proof* that a discovery of vital importance to civilized man has been made, which in several letters from different members of the present and last Congress, is valued at HUNDREDS OF MILLIONS OF DAYS' LABOUR, AND WORTH MORE THAN ALL THE DISCOVERIES OF THE PRESENT AGE COMBINED—THE APPLICATION OF STEAM NOT EXCEPTED."

"For what purpose would all the owners of the public lands more freely or gratefully consent to give one hundreth part of those lands, or the proceeds thereof? Would they not be grateful to those members of Congress, who assist in giving the owners of the public domain the desired information, and reverence them as benefactors of human kind."

"For the honour of the republic, for the honour of the age, and for the interest and comfort of the living, as well as the unborn, let not that discovery which may cause two seeds to ripen where one now does, which prevents the premature death of all cultivated trees, which has been searched for in vain during the history of all civilized society, die with the discoverer for want of the action of the United States Congress."

Our patriotic discoverer "claims the following five discoveries as his, besides other discoveries which are stated in his memorial to the 25th Congress:"—

1st. "That various diseases, universally supposed to be destructive to plants, are only symptoms that a particular error in cultivation has been committed; and that many other injurious effects have been produced by the same error, which are attributed to other causes."

2d. "That the error is UNIVERSALLY COMMITTED, to a greater or less extent, throughout the States, and that he has seen an excess of it wherever he has been, which is in the Atlantic States, from Georgia to Massachusetts inclusive."

3d. "That the PEACH AND NECTARINE are more easily injured by the error than most other Fruit Trees, and the *cause* of their being more easily injured by it; and that this error causes them to be barren, or short-lived."

4th. "That the application of two known laws in Nature demonstrate the reality of his discovery and its application to the whole vegetable kingdom; and that by them, his discovery, (if publicly known,) must be perpetuated, and his practice more easily introduced; and that by these two laws the occasional success of common remedies is explained."

5th. "That the said error is the obstacle which has discouraged experimenters, and lamentably retarded improvements in the science and practice of agriculture; and that he has discovered facts and made himself acquainted with knowledge sufficient to reduce them to practice."

We are further informed, "that it is neither climate, nor soil, nor insects, nor worms, that are the cause of many of the disastrous effects that have been attributed to them, but that those effects are produced by error in cultivation, which diseases the smallest plant or largest tree."

Our modest and patriotic fellow-citizen admits in the course of his preamble, "that the practical part of his discovery IS SO EXTREMELY SIMPLE and economical, that it costs no more to prevent the diseases than it does to produce them; and that it is so different from the established theories and habits of the people, THAT UNLESS A LARGE AMOUNT BE APPROPRIATED, many will be unwilling to try it, and therefore the PUBLIC GOOD seems to require that a large amount should be appropriated." He moreover asserts, that "there are two known laws in Nature, by which the reality of his discovery, and its application to the whole vegetable kingdom, are demonstrable in *less* than thirty words."

That this invaluable *secret*, whatever it may be, is not strictly speaking a new discovery, is demonstrable by numerous living witnesses which have inhabited the fields and forests of the old world for over a thousand years; and our discoverer freely admits, and in very emphatic language, that there are thousands of trees in our own country on which, what he terms "the common error," has never been committed; and also, that several of the fifteen gentlemen to whom he communicated his secret, *confidently forever*, have some such trees on their own domains.

Hear him—"The Senator from Missouri, (Mr. Linn,) said, that the most flourishing and healthy Peach tree in his possession had never had what I call the common error in cultivation committed upon it."

"The Senator from Pennsylvania, (Mr. McKean,) said, that he had long supposed that what I call the common error, was an error, but that he had no idea of such extensive evils arising from it."

"The Senator from Maryland, (Mr. Spence,) said, that in his district it was a universal custom to commit what I call the common error in cultivation, on the fruit trees, and that it was as common to have no Plums perfect and free from worms, excepting on a few of his, on which the error had not been committed for twenty years, if ever; and those few (four) continued to bear abundantly annually; that he had no recollection of ever seeing an imperfect wormy Plum on either of these four trees, but that he had never supposed that to have been the cause of their perfection."

The Senator from South Carolina, (Mr. Calhoun), to whom I am indebted for pointing out one symptom of the error, and for a valuable suggestion in the culture of plants, said, "while examining the defective trees around the Capitol, that the principle when exhibited was very plain and simple, that it was philosophical, and in his opinion it could not be neglected without injury to the health and growth of trees and plants, and deserving of public patronage."

"The Vice President of the U. S. (Mr. Johnson,) said, that my discovery was perfectly consistent with the laws of Nature; and, (when observing a few trees near the Capitol, which had been injured by the error, and were recovering,) further remarked, that my theory was essentially correct and obvious to the most superficial observer."

"The member from New-York, (Mr. Jackson,) said that he had reared an orchard on which he had carefully avoided an excess of what I call the common error, and that it had been admired as the most flourishing and fruitful orchard in the neighbourhood; and that he had recently seen a field of Indian corn, which yielded more than one hundred bushels of shelled grain to the acre, in which an excess of the error had been avoided, while the success was attributed to quite a different cause."

From the preceding extracts, it is evident that this inestimable treasure lays near the surface; and from the disclosure having been communicated to rational and intelligent minds, it is preposterous to expect that those gentlemen *can*, in the pursuit of their rural avocations, act directly contrary to knowledge and sound judgment; they must, therefore, necessarily and unavoidably communicate the *secret* by their example, which will eventually disseminate, in proportion as mankind take an interest in the merits of the alleged discovery.

But lest the full benefits of this invaluable remedy should be withheld from the community for want of the action of the United States Congress, I have submitted an exposition *of my views* of the particular points adverted to in the preamble, which may be found under the heads, Nectarine, Peach, and Plum, pages 311, 319 and 337, of the eighth edition of the Young Gardener's Assistant; and I would furthermore remind my readers, that the directions heretofore given in this and previous editions of the work, are in strict accordance with the same doctrine; and that although the error alluded to is admitted to have been very generally committed, I am not aware that any writer has ever taught or encouraged the error, either direct or indirect; I confess, however, that I have been induced to expatiate on this *malpractice* in horticulture, from the subject having elicited the grave consideration of enlightened legislators of these United States.

And lest these my voluntary disclosures should prove to have no bearing on the alleged discovery, I would prepare the public mind for its reception by an exhortation to TEMPERANCE AND MODERATION, as the *only safe course* that can be considered applicable to the cultivation of all the varied species of plants, which comprise "the whole vegetable kingdom." In articles, pages 19, 134, 146 and 217, I have shown that the various species of plants which occupy our greenhouses, gardens, and fields, *require each their peculiar aliment*—they having been collected from all the diversified regions, climates, and soils through earth's remotest bounds; they consequently comprise natives of mountains and rocks, as well as of plains, valleys, and water courses. The most essential aliment for natives of warm climates and dry soils being HEAT, artificial means are used in cool seasons, and unpropitious climates to produce it. Natives of temperate climates require salubrious AIR, hence they are cultivated to the greatest perfection in our Northern States in Spring and Autumn; and in our Southern States in the Winter; see page 355, and natives of humid climates, as also amphibious plants in general, require a more than ordinary share of MOISTURE, and grow best in wet soil; but these THREE ELEMENTS collectively constitute the food of plants in general, and should be judiciously imparted to the various species, in due proportions according to circumstances. See pages 41, 54, 57 and 358, for a more concise view of this subject. I have also shown, that the roots of various species of plants require each their peculiar aliment, which is not to be found in all descriptions of land; this is demonstrated by roots of trees being frequently discovered spreading beyond their ordinary bounds in quest of salutary food.

Although it has been admitted that excessive deep planting of trees and plants is injurious, and in many cases fatal to their very existence, it does not follow that *all* annuals and biennials are injured by the same means; on the contrary, the earthing up of particular species of plants in a late stage of growth is calculated to promote early maturity, which

constitutes the most essential art in gardening for the market; because the earliest crops are always the most profitable. It is moreover a necessary practice in climates where the seasons for gardening are short—as without such practice, many kinds of vegetables could not possibly be matured in due season for gathering before Winter.

I would here take the opportunity of proving this last position, by reminding the reader that the effects of deep planting, the Peach tree for instance, is discoverable soon after the error is committed, by its fruit ripening prematurely, and this is often the case for a year or two prior to its final decease, and should operate as a salutary lesson against planting *perennial* plants and trees too deep.

In conclusion of this article, which is intended as an appendage to my works on gardening, I would urge gardeners and cultivators to consult the operations of Nature in all their rural pursuits; and with a view to aid them, I subjoin the following rules, which are further illustrated under the different heads:

1. In transplanting fruit trees, let the collar, or that part from which emanate the main roots, be near the surface. A medium-sized tree may be planted an inch deeper than it was in the nursery bed; and the largest should not exceed two or three inches, see pages 311, 319, 337 and 367 of the Young Gardener's Assistant, eighth edition.

2. In the cultivation of such plants as are transplanted, or grown in hills or clusters, as Indian Corn, &c. keep the earth loose but level around them in their early stages of growth, by frequent hoeing, ploughing, or cultivating; and to promote early maturity, throw a moderate portion of earth about the roots and stems at the last or final dressing.

3. In the sowing of seeds, remember that IN UNITY THERE IS STRENGTH, and that from the germinative parts of a seed being weak and diminutive, it cannot be expected to perforate through the soil, solitary and alone. To insure a fair chance, plant your seeds moderately thick, and thin out the surplus plants while young. In planting seeds in drills, which is the most eligible plan, the size of the seed and strength of its germ should be considered; large seeds, producing vigorous roots, require deeper planting than diminutive seeds, producing delicate roots and slender stalks.

4. In the choice of compost for exotic or greenhouse plants, imitate the native soil of each peculiar species as nearly as possible, by a judicious mixture of *maiden earth*, loam, sand, leaf, swamp and rock mould, decomposed manures, and such other composts as are recommended under the different heads. Remember, that although strong manure is essential to the growth of some plants, it is poisonous to others. PURSUE, THEN, A MEDIUM COURSE. From your soil not being too stiff or too light, too rich or too poor, too cool or too warm, too close or too porous, if not positively salutary and congenial to all, it must render the situation of each endurable. I again repeat, that temperance in the use of aliment, is as essential to the welfare of the vegetable family, as it is to the health, happiness, and longevity of mankind.

T. BRIDGEMAN.

New-York, March 4, 1840.

☞ Since this address has been in press, I have seen another article in the *Poughkeepsie Eagle*, dated February 29, 1840, wherein our modest and patriotic discoverer gratuitously pronounces *his knowledge* as superior to that of "*all Botanical and Agricultural known Writers!*" As I have anticipated the merits of this second *valuable* discovery in my books, I have nothing more to say than to remind the reader, that this uncalled for attack on the brethren of my fraternity, fully justifies not merely the publication, but the most general circulation of these my voluntary disclosures.

Extracts from Fruit Department.

CALENDAR FOR MARCH.—*Page* 366 & 367.

In transplanting trees, care should be taken that the collar, or that part from which emanates the main roots, be not inserted too deep in the soil, as this injures the bark, and consequently impedes the natural circulation of the juices. A medium sized tree may be planted one inch deeper than it was in the nursery bed, and the largest should not exceed two or three inches,

* * * * * * *

ARTICLE NECTARINE.—*Page* 311.

This is an important precaution, and should be attended to at the time of transplanting all descriptions of trees and smaller plants; because *deep planting* prevents the essential circulation of the juices of plants in their regular and natural courses, and consequently causes disease and premature death; and it must be admitted, that from the circumstance of this fruit being generally raised on standard trees, and in a light soil, our cultivators are apt to plant too deep; and thus act contrary to sound judgment and philosophy, with a view to save the trouble and expense of staking or otherwise supporting their newly planted trees, which precaution is absolutely necessary to their preservation, even in less tempestuous climates, and in stiff as well as in light soil.

Saltpetre, dissolved in the proportion of one pound to five gallons of water, and applied around the stems and roots of trees, as recommended for plants in general, page 12 of the general remarks, is, in my opinion, one of the best remedies for the destruction of various kinds of insects; it is moreover allowed by modern and learned physiologists to contain the most essential nutriment to all descriptions of trees or smaller plants, when judiciously used. Other remedies are recommended to be applied for the destruction of these insects around fruit trees, besides those previously mentioned; as dissolved potash, coal tar, sulphur and lime-mortar mixed, vinegar, soap suds, &c. Culture, upon correct principles, will, however, in general operate not only as a radical cure, but as a preventive to all defects in trees and plants; which to be healthy and productive, should be so managed that the sap and nutrimental juices can circulate through every pore which Nature has designed for their perpetuity.

* * * * * * *

ARTICLE PEACH.—*Page* 319.

As the failure of this fruit of late years has elicited considerable discussion and observation, which increases in interest annually, I hereby offer an exposition of my views on the subject, by a comparison between vegetable and animal matter, which I humbly conceive bear a striking assimilation to each other. If the reader should deem my arguments as visionary or speculative, I would remind him that the grave importance of the subject fully justifies this or any other attempt at elucidation.

Having in page 311 shown the error of deep planting all descriptions of trees and plants, I would here observe, that a tree brought into a state of disease, by which the circulation of its nutrimental juices is impeded, and its bark injured, is very similarly situated to a timber post inserted in the soil; which, every one knows, will rot between earth and air, however sound its other parts may be.

In venturing a comparison between vegetable and animal matter, I would first refer the reader to page 281, where I have shown that a Chestnut tree has been known to live over a thousand years; and that its timber, cut in proper season, is supposed to be in durability, commensurate with the age of the growing tree. It is also recorded in history, that animal subjects preserved on the Egyptian principle, have been known to keep as long as the most durable timber; WHILE DAILY EXPERIENCE DEMONSTRATES that corrupt animal and vegetable substances, not only become a prey to the most noxious insects and reptiles, but will GENERATE THEM in incalculable numbers.

It is also evident, that a tree deprived of its functions or means of growing luxuriantly, is in a similar situation to a diseased animal. If disease be not checked before the juices of the tree become putrid, it will not only die, but will contaminate the earth in which it is planted, to the destruction of its neighbouring inmates of the garden or field. All experienced nurserymen admit this to be the case with diseased Peach trees, and some have actually abandoned their Peach orchards, and chosen fresh ground for new plantations.

It is precisely the same with smaller vegetable plants. A diseased Cabbage, for instance, by its excremental and corrupt juices being spent in the ground, will render the cultivation of the same or allied species a casualty; and daily observation teacheth that young and thrifty plants often fall a prey to worms and reptiles which were generated by a previous crop.

It is moreover evident, that all those enemies of the vegetable family feed on the SAME DESCRIPTIONS of vegetable matter which first generated them; hence the Peach insects feed on its fruit in embryo, as well as in a state at, and even beyond perfection; the Cabbage worms prey on plants of the same genera or species; and I have no doubt but the *cotton worms* prefer the same description of vegetable matter which gave them birth, and that when these insects and reptiles cannot obtain the parts which are the most palatable to them, or congenial to their nature, they will feed upon diseased trees, plants, or any other matter which contains similar juices or nutriment. I again repeat, that the best security against their depredations, is health and soundness. A good sound healthy tree, planted and cultivated upon correct principles, may be justly considered as invulnerable to the attacks of insects and reptiles, as any species of healthy animal creature in existence.

As I have been more familiar with the cultivation of vegetables than fruits, I would state further my views relative to the Cabbage tribe On New-York Island in the vicinity of the city, it is customary with gardeners to cut their Cabbages generally as they are required for market, and often to leave their roots standing; these by some are ploughed under, where they not only feed, but generate their peculiar species of insects. Some gardeners take their roots and leaves to the cattle yard or dung heap, and return them back to the garden the ensuing season in the shape of manure. As a consequence of such practice, good Cabbages are very seldom obtained, even after a routine of other crops, for two or three years.

With a view to illustrate the evil of deep planting. I would observe further, that when Cabbage plants are transplanted in proper seasons and on good fresh soil, they generally prove uniformly good; whereas if it should happen, as it sometimes does, for want of suitable weather, that the plants cannot be transplanted until they get crooked and overgrown, so as to require deep planting to support them in the soil. Such plants, like diseased Peach trees, decay first in the bark, between earth and air, and then from being deprived of a natural circulation of the vegetable juices, die, and discharge their putrid matter

in the earth, to the destruction of such other plants as may be inserted in their stead. I have frequently known a land of Cabbage plants filled up half a dozen times, and the crop at last scarcely worth gathering, whereas could the plants have been set out while dwarfish, and inserted their proper depth in the ground, the cultivator would have been rewarded a hundred fold.

I dislike tautology, but cannot avoid repeating my humble opinion, that *deep planting* and injudicious culture are the causes of most diseases and failures of fruit trees; and in this way I account for Peaches being less plentiful than they were, when left almost to Nature, which was the case I am informed in the beginning of the present century. That this malpractice in horticulture is very general, the most superficial observer may discover, by comparing the thrifty growth of those trees scattered by Nature in our highways and byways with many of those aided by the art of man. If any of my readers should require proof of my assertions, I can show them from the window of the room where this article was composed, scores of living, or rather dying, evidences of the evil of deep planting.

ARTICLE PLUM.—*Page* 337.

Cobbett attributes the scarcity of Plums in New-York to neglect. In his American Gardener, paragraph 320, he asks, "how is it that we have so few Plums in America, when the markets are supplied with cart-loads in such a chilly, shady, and blighty country as England?"

* * * * * * *

I would answer this query by informing the reader, that the inhabitants of our parent country, with a view to derive the full benefit of the Sun's rays for the cultivation of Plums, Peaches, Nectarines, and such other fruits as require extra heat, train their trees against walls, fences, or trellis-work; and from their having these means of support, gardeners have no inducement to plant them deeper than is necessary; whereas, from the circumstance of the American climate being sufficiently warm to ripen those fruits on standard trees, they are generally so cultivated. Many persons, to save the trouble of staking, or otherwise supporting their trees, plant them too deep, and thus defeat the operations of Nature. That this is a prevalent error, has been shown, pages 311 and 319 to 322, to which the reader is referred for a more concise view of the subject.

Vegetable Department.

EXTRACT FROM PAGE 6.

☞ The reader's attention is solicited to the elucidation, relative to the varied climates to which our directions are calculated to apply. This exposition particularly concerns such gardeners as cultivate land in a temperature different to that in the vicinity of New-York city. ☜

This elucidation may be found at the back of the title of extracts. ☞

☞ It is presumed that the annexed table and explication are at once calculated to demonstrate the fallacy of applying ANY ONE RULE to the cultivation of the productions of *all* the varied climates and soils which comprise our kitchen garden alone, which moreover form but a *small part* "of the *whole* vegetable kingdom." ☜

EXTRACTS, &c.

TABLE AND EXPLICATION.—*Pages* 18 & 19.

*** In order to aid the novice in gardening, the following brief classification of such species and varieties as comprise our catalogue of vegetable seeds is submitted, and it is presumed that the connecting links, and explication of this table will not be altogether uninteresting to the experienced gardener and seedsman.

CATALOGUE.	Hardy.	Half Hardy.	Tender.	Quick in germinating.	Medium in germinating.	Tardy in germinating.	Capable of being transplanted.
Artichoke,	— —	—0—	— —	— —	—0—	— —	—0—
Asparagus,	—0—	— —	— —	— —	—0—	— —	—0—
Beans, (English dwarfs)	—0—	— —	— —	— —	—0—	— —	—0—
Beans, (Kidney do.)	— —	— —	—0—	—0—	— —	— —	— —
Beans, pole,	— —	— —	—0—	—0—	— —	— —	— —
Beet,	— —	—0—	— —	— —	—0—	— —	— —
Borecole or Kale, &c	— —	—0—	— —	—0—	— —	— —	—0—
Broccoli,	— —	—0—	— —	—0—	— —	— —	—0—
Cauliflower,	— —	—0—	— —	—0—	— —	— —	—0—
Cabbage,	— —	—0—	— —	—0—	— —	— —	—0—
Carrot,	— —	—0—	— —	— —	—0—	— —	— —
Celery,	— —	—0—	— —	— —	— —	—0—	—0—
Corn Salad,	—0—	— —	— —	— —	— —	—0—	— —
Cress,	— —	—0—	— —	—0—	— —	— —	— —
Cucumber,	— —	— —	—0—	—0—	— —	— —	— —
Egg Plant,	— —	— —	—0—	— —	—0—	— —	—0—
Endive,	— —	—0—	— —	—0—	— —	— —	—0—
Indian Corn,	— —	— —	—0—	—0—	— —	— —	— —
Leek,	—0—	— —	— —	— —	— —	—0—	—0—
Lettuce,	— —	—0—	— —	—0—	— —	— —	—0—
Melon,	— —	— —	—0—	—0—	— —	— —	— —
Okra,	— —	— —	—0—	— —	—0—	— —	— —
Onion,	—0—	— —	— —	— —	—0—	— —	— —
Parsley,	—0—	— —	— —	— —	— —	—0—	— —
Parsnip,	—0—	— —	— —	— —	— —	—0—	— —
Peppers,	— —	— —	—0—	— —	—0—	— —	—0—
Peas.	—0—	— —	— —	— —	—0—	— —	— —
Pumpkin,	— —	— —	—0—	—0—	— —	— —	— —
Radish,	— —	—0—	— —	—0—	— —	— —	— —
Salsify,	—0—	— —	— —	—0—	— —	— —	— —
Spinach,	—0—	— —	— —	— —	— —	—0—	— —
Squash,	— —	— —	—0—	—0—	— —	— —	— —
Tomatoe,	— —	— —	—0—	—0—	— —	— —	—0—
Turnip,	— —	—0—	— —	—0—	— —	— —	— —
Herbs in general,	— —	— —	—0—	— —	— —	—0—	—0—

In explication of the table, it may be necessary first to premise, that in the classification, as respects different seeds germinating, it is conceded that if some of those denominated medium were put upon an equal footing with some of the class denominated quick-growing, they would vegetate in about the same time. For instance, Peas would sprout as quick as Kidney Beans in equal temperature; but Peas, being hardy, are generally planted a month earlier in the season. If Beans were planted at the same time, they would rot for want of genial heat necessary to their germinating.

Many of the species denominated medium and tardy, require considerable moisture to produce vegetation; when not attainable, tardiness of growth, and sometimes total failure are the consequences; judicious gardeners however, generally obviate difficulties of this nature, by sowing such seed at the most favourable seasons. Those who delay sowing Carrot, Celery Leek, Parsley, Onion, Parsnip, Spinach, &c. until dry Summer weather render themselves liable to disappointment and loss thereby.

As some gardeners are apt to attribute all failures of seed to its defectiveness, I shall, in the hope of convincing such of their error, offer a few observations under each head of the table.

The first and second classes, denominated hardy and half hardy, are subjected to risk in unpropitious seasons, from unfitness of the soil to promote vegetation, rendered so by cold rains and variable weather. If sprouted seed survive a severe chill, it is the more susceptible of frost, to which it is frequently subjected early in the season. Some species of plants that in an advanced stage of growth will stand a hard Winter, are often cut off by very slight frost while germinating, especially if exposed to heat of the Sun after a frosty night, or while in a frozen state. Cabbage, Carrot, Celery, Turnip, and many other growing plants, which survive the ordinary Winters of England, are here classed as half hardy, for the reasons above stated.

The third class, or most tender species, frequently perish from excess of rain. Lima Beans, for instance, have often to be replanted three or four times in the month of May, before any will stand. Melons, Cucumbers, Egg Plants, Tomato Plants, &c. are also often cut off by variableness of the weather; indeed it is unreasonable to expect natives of tropical climates to thrive or even live in a climate adverse to that in which nature first produced them, unless protected or nursed in unpropitious seasons, as recommended under the head forcing vegetables. Those who plant tender things in open gardens early in the season, must reconcile themselves to loss in the event of unfavourable weather, instead of throwing blame on the seedsman

The fourth class, embracing such species and varieties, as from their nature are apt to vegetate quickly, are very liable to be devoured by insects before they make any show on the surface. Turnip seed, for instance, will sprout within forty-eight hours after being sown; and under favourable circumstances, most of the species of this class will come up within a week; but if insects attack the seed beds in dry weather, a total loss of crops will be the consequence. Every experienced farmer is convinced of this fact, by having frequently to sow his turnip ground three or four times, before he can get any to stand.

Sometimes a sudden shower of rain will cause plants to grow out of the reach of insects, but every good gardener should have his remedies at hand to apply to seed beds in general, and especially to those in which plants are raised for the purpose of being transplanted.

Those *species and varieties*, embraced in the *fifth and sixth columns*, often take from two to three or four weeks to vegetate in unfavourable seasons. Some plants are retarded by cold, others by excess of dry weather; and at such times, seed may fail to vegetate for want of pressure. In the event of drought after heavy rains, seed and young plants often perish through incrustation of the soil, and from other untoward circumstances, which can neither be controlled nor accounted for, even by the most assidu-

ous and precise gardener. It must, however, be conceded, that failures often occur, through seed being deposited too deep in the ground, *or left too near the surface;* sometimes. for want of sufficiency of seed in a given spot, solitary plants will perish, they not having sufficient strength to open the pores of the earth, and very frequently injudicious management in manuring and preparing the soil will cause defeat.

I have been induced to expatiate, and in the *seventh range of the preceding table,* to designate such plants as are generally cultivated, first in seed beds, and afterwards transplanted for the purpose of being accommodated with space to mature in, with a view to answer at once the thousand and one questions asked by inexperienced cultivators, at my counter.

Extracts from Flower Department.

ANNUAL FLOWERS.—PAGE 134.

Some seeds germinate in two or three days after being deposited in the earth; other species will not exhibit signs of vegetation under as many weeks. These and other distinguishing features arise, in a great measure, from their having originated in diverse soils and climates. Natives of cool or temperate climates and moist soils, are generally tardy in germinating when cultivated in a warm climate and dry soil, for want of a due share of their most essential aliment, MOISTURE; and natives of warm climates and light soils, require artificial culture in cool seasons, and unpropitious climates; in order to their being accommodated with their natural and most important aliment, HEAT. AIR is also a more necessary aliment to some species than to others, but these three elements collectively, constitute the food of plants in general. It may be also observed that the adaptation of plants to a soil congenial for them, is of the utmost importance; as plants cannot thrive well, when improper food is absorbed by their roots.

BIENNIALS AND PERENNIALS.—PAGE 146.

The remarks preceding our catalogue of Annuals, will with few exceptions, apply to that of Biennials and Perennials; and it may be observed further, that the circulation of the sap in roots and stalks of plants, is influenced by like causes, and subject to the same vicissitudes as the germination of seed, which principle is exemplified by some plants of various species putting forth their leaves and flowers at a later period than others in the same location, as if waiting for nature to replenish the earth with food adapted to their respective requirements; which by the gradual changes from cool to temperate and from that to warm weather, is effected to that degree as to enable all the various species of plants, collected from every climate and soil under the Sun, to reward the industrious cultivator, by a gradual exhibition of their fascinating blossoms, and a distribution of their odoriferous sweets, throughout the three propitious seasons of the year, *i. e.* Spring, Summer and Autumn.

To raise your flowers, various arts combine;
Study these well, and fancy's flight decline.
If you would have a vivid, vigorous breed,
Of every kind, examine well the seed:
Learn to what ELEMENTS your plants belong,
What is their constitution, weak or strong;
Be their physician, careful of their lives,
And see that every species daily thrives;
These love much AIR, those on much HEAT rely,
These without genial MOISTURE, droop and die.
Supply the wants of each, and they will pay
For all your care through each succeeding day.

T. BRIDGEMAN.

New-York, March 4, 1840.