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CARROTS & CABBAGE,

THEIR CULTURE COMPLETE.

How to Raise One Acre of Cabbage as
Cheaply as Two of Corn.

THEIR CULTURE IN FULL.

How to Transplant Cabbage, Beets,
Tobacco, &c., in a Dry Day, without
Watering.

A VERY SIMPLE COMPOSITION, WHICH WILL DOUBLE
THE BULK OF HEADS.

THEIR CULTURE COMPLETE.

EVERY MAN HIS OWN BAROMETER,

&c., &c.

HOW TO GET RICH FROM FIVE ACRES.

BY H. A. COOK,

Hillsdale, Col. Co., N. Y.

FOR SALE AT 37 PARK ROW, N. Y. (Room 10).

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TEN YEARS' EXPERIENCE

IN RAISING

CARROTS AND CABBAGE.

BY

H. A. COOK,

Hilledale, Col. Co., N. Y.



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INTRODUCTION.

Having observed from early youth by the little garden bed that carrots were a greatly productive crop, and the most nutritious root that I grew, I desired to try their cultivation on a large scale.

The idea seemed to be indelible on my mind, and as soon as age and circumstances would allow I essayed to gratify my desire. My great obstacle was Mr. Weed, which was bound to get ahead of my carrots; but being somewhat indefatigable in my energies, I gave close application to years of experiments in devising a plan how I should raise them without such a heavy tax upon the back, which seemed to almost "crack" under the old system. I first saw that I must be careful in selecting my seed, then I must devise a plan to force it, and then seek a plan to sow it (seeing that I could not sow it with a drill), then I must devise a different mode of cultivation, and lastly a plan to gather them more easily.

After having reduced my experiments to a system, and found that I could raise them with less than half the expense of the old way, I conceived the idea of putting

my plan of raising in the form of a pamphlet, and disclosing it to the world. While raising carrots I also experimented on cabbages, and found them also to be a remunerative crop. The success which I reached in raising them I attribute to a composition which I apply to the roots, so that they may be transplanted in a dry day instead of a wet one, thereby leaving the ground mellow ; my entirely new mode of culture, and, lastly, my valuable composition (which is simple, cheap, and in the reach of all) for the heads, which augments the crop by half at least. Here, reader, I will leave you to peruse the following pages.

TEN YEARS' EXPERIENCE

IN RAISING

CARROTS AND CABBAGE.

I estimate that I can raise one acre of carrots as easily as two acres of corn. Upon keeping a close account in the year 1864 of my expenses in raising an acre of 500 bushels, I found it to be \$50, aside from interest of land. At least he who will follow the instructions of the following pages may raise them at a cost of 10 cents per bushel.

Kind of Soil.—Should be the same as for corn. Loose ground, even, quite moist, will raise the largest carrots in a dry season, while a sandy or quite gravelly soil will do the best in a wet season. It is best to select a somewhat dry loom for the carrot patch.

Plow the ground in autumn to kill all grass and weed roots, simultaneously destroying many weed seeds, and level the plot well that it may be more easily leveled in spring. Manure should also be plowed under in the fall, that most of the weed seeds which it contains will be rendered lifeless by the action of the winter's frost. Hog manure composted with swamp muck is the best. If from necessity you must manure in spring, look to it that your manure has no weed-seed in it.

Never put carrots two years in succession upon the same ground, for they seem to be very exhausting to a certain ingredient of the soil necessary for their growth, and only applicable to their nature ; however, not rendering the soil futile for almost any other crop, or apparently not diminishing its strength more than an ordinary corn crop.

Kind of Seed.—The long orange is the best for nearly every purpose, although the white may grow as many bushels. Always get new seed, which you can designate by its being a lively green. Old seed is of a yellowish hue, and is much longer sprouting (a fact common to all old seeds).

Sowing.—Sow as early as the dryness of the ground will admit—if it is done in April the larger will be the crop—but by all means *never work in, or be found on your ground when it is wet*, if so, you will certainly be sorry. Make it your rule never to be on your patch when the dirt adheres to your hoe.

Reader, if you adopt the plan of these pages, please remember *their italics*. By sowing early—if you are a farmer—your weeding will be done before haying, and the carrots will be ripened to dig before the usual heavy fall rains come on. Carrots that have ripened before digging seem to have more solidity, and are not so watery as those which are sowed late, and consequently dug when growing. Hence we must draw the inference that early sowed carrots are worth more for feeding, as with any vegetable that ripens before gathering. These latter remarks are applicable to the 42d^o of latitude. Plow deeply, as they will root as deeply as you plow, if the soil extends as far. Level the ground that you may cover the carrots more uniformly, and that in tilling you

may not work the dirt from the carrots in the higher places, consequently leave the root protruding above ground, nor choke those in lower places by working the dirt into the hollows. Never ridge the drill for carrots, for in tilling you necessarily work the dirt away, and my experience is, that carrots will not thrive best except the upper end of the carrot be allowed to keep a level with the surface of the ground.

Harrow the last time in a contrary direction from which you design to sow. It pays well to handrake the ground before sowing. If the ground is sideling make your drills directly up and down the slope, that in tilling you may not work too much dirt upon the upper side of the carrot.

Now make a hand dray with thills and four prongs, or teeth, with the bottoms inclining backward (because if so, it will run more steady), and two feet apart. Make the bottoms of the teeth a little wedge shape—quite blunt.

Now draw a line across your patch, and let one prong of the dray run close to it. Returning, let one prong follow the last mark back, straightening the crook. Set the line anew every time around within two inches of the last mark, that you may the more easily keep your work straight, and all the drills a uniform distance apart, the importance of which will be seen especially at the first time of cultivating, and at the time of plowing them out in the fall, as I shall subsequently show. Do not dray out many marks ahead of sowing, as it is better to have fresh dirt come in contact with the seed. Three or four days before you wish to sow, moisten your seed thoroughly, and set it in a warmish place, say on the mantle-piece, near the stove pipe, stirring it once a day. If a few seeds should have

sprouted a little at sowing time all is well; but be cautious that they do not get too dry before covering. The best carrots I ever raised, and the most easily tilled, were sprouted the sixteenth of an inch at sowing time. If the ground—from the effects of a late rain—has become too wet when you are ready to sow, and your seed is liable to sprout, put it in a bag that it may drain, and hang it in the cellar that the cool air of the cellar will keep it back. Do not keep it there more than twelve hours lest it rot, but bring it to the warm air for another twelve hours, till you think it again has a tendency to germinate, when if the ground is not yet fit to sow, go with it to the cellar again. In this way I have kept it from sprouting for eight days before my ground was fit to sow because of the long rains, when, if I had kept it behind the stove pipe it would have spoiled. In five days after sowing my carrots appeared above ground.

The utility of soaking the seed is this,—the carrots will come up quick, consequently get far the start of the weeds; you can go among them with a horse and cultivator before hoeing, besides saving once weeding and hoeing,—in fine, half the expense of raising is saved by sprouting the seed, or rather swelling it till it is just ready to sprout. With the seed prepared in this wise, probably no crop is more sure to grow and be productive of a satisfactory yield than the carrot crop.

But how shall we sow this soaked seed which sticks to everything so? About an hour before you wish to sow spread it out very thinly in pans in the sun, and wind it till it becomes non-adhesive; but be cautious that you do not dry it back to its original state, lest you kill it; however, there is not much danger of this; now turn a dinner horn (say about two feet

long) bottom up, enlarge the orifice at the lower end that the seed will not clog within it. See to it that your seed is not too moist, else you cannot sift it through the fingers evenly, and it will clog in the horn. Hold the horn with a gill cup full of seed in the left hand. Sift the seed into the horn with the thumb and two front fingers of the right hand. The horn being conical the seed will rattle down its sides and seem to come out as evenly as you could place them with the fingers, if you move along with the horn with a uniform step. If nature has given you a long back you must get a long horn, lest you may not have the "back-ache." Now traverse your drill which you have just made with your dray with the little end of your horn close to the bottom of the drill, especially if the wind blows, sowing with your fingers in the top of the horn, which, after you have become used to doing, you will perform about as fast as you can walk. Have a boy cover after you with a piece of hoop iron, say eight inches long, nailed to a hoe handle. A piece of old cradle scythe is better, being a little sharp. See that he covers all, and none more than a half inch deep. Do not sow much before covering, as the soaked seed will dry too much for its good. About two pounds of seed per acre is required, yet one and a half will do uniformly sown; better to have them too thick than too thin. Sow about four times as much seed as you wish to have if they all grew well, for many will not appear, especially if you have a few lumps or small stones in your ground; besides, in cultivating and tilling you will accidentally destroy many, and, moreover, it is better to have them come up too thick—for then you can pull them out—than too thin, for you cannot transplant them and have them do well. By thus sowing with a horn you can see if you make a mistake, whereas

with a drill you cannot. For this reason I never have or will have a drill; besides, if your seed is a little moist a drill will clog, therefore with a drill you must sow dry seed, which is generally about three weeks "coming up," while the weeds generally will hide the carrots, and it is like finding a honey bee's teeth to find the carrots among the weeds.

With a small boy I can sow one and a half acres per day, and I estimate that is sowing them fast enough. Sow as soon as the ground is plowed, if convenient, to get the start of the weed seed.

After sowing use a heavy hand roller to pulverize the lumps; the morning is the preferable time to use the roller, as the lumps are then moist and break easily. It is said that the heavier (if the ground is dry) they are rolled the better. A friend informs me that this was also proven in England, by a horse rolling upon a carrot patch; it was found that where he rolled the carrots were much larger than elsewhere.

A roller can be made by any cobbler from a piece of log $2\frac{1}{2}$ feet in length. An old thrashing machine cylinder, minus the teeth, makes an excellent roller. When you have done rolling the carrot patch it is then useful for other plots.

Tilling.—Begin as soon as you can see the rows, especially if you have a large piece. Having nearly or quite sprouted your seed before sowing, you will be enabled to take your horse, led by a boy, into the patch, and cultivate them the first thing, as you would corn, for they are now two inches above the weeds. Loosen the dirt deeply. When a plant is young is the time to give it deep tillage, that the fibrous roots can shoot out without obstruction—this should be observed

in all tillage. What would you think of him who did not dig about a tree which he wishes to hastily become large, till its fibrous roots had become all twisted by their strenuous efforts to push through the hard ground? We should at once say that his tree would be dwarfish. So it is with carrots emphatically. A deep culture in all plants till there is danger of wounding the rootlets, which are shooting out into the ground made mellow by the deeply-plunged cultivator or plow, as the first cultivation is far the best. But do not practice the corresponding error of leaving deep cultivation too soon.

Having sowed the rows on a line uniformly two feet apart, and the cultivator, which should have but three teeth, as more will clog, set to the width of eighteen inches, we can now see the utility of having the rows straight. Should the dirt accidentally cover some, let the boy go through the patch with a broom and sweep them a little,—it seems to do the plants good rather than injure them. Go through twice in each row, as once seems to just loosen the weeds so that they grow better than before. You should have sowed them thick enough to allow for what the horse may destroy.

Hoeing.—Procure small square cornered hoes, which are of the best steel, and grind them as sharp as possible. I would no more think of hoeing in my garden without a ground hoe than I would of hoeing without meals, for cutting up weeds with a dull hoe is like cutting grass with a dull scythe—it is the hardest of all work, while with a sharp hoe it is comparatively easy. This is one reason why many dislike to work in the garden. Having ground the hoe, send an experienced man—who should be able to strike almost within a hair's breadth of a carrot and not hit it—to clip out what

weeds he can get at with his hoe, also to thin them as much as possible with his hoe, but not to weed with his fingers, for his back is too long, and his time worth too much. If he understands his business the job of weeding with the fingers is but a small one. Cultivating and hoeing should be done when the ground is very dry.

Weeding.—Weeding should not be done when the ground is very dry, as the weeds are liable to break off to sprout again more than when the ground is moist; however, if your patch is large continue to weed about as fast as you hoe, for fear it will not be done; yet bear in mind never to go on your ground when it is wet. Now employ boys whom you pay by the row—for then, they have a greater stimulus to work—whose backs are shorter than men's, and who, if of the proper calibre, will weed as fast as men at much less cost, and do it easier. Of course they will want the superintendent's eye over them. Thin them at the first weeding to two or three inches asunder. I verily believe I can get more tons of carrots per acre if they are one foot asunder than otherwise, but it is more work to attend them when small, and keep the weeds down. You will observe even at the first weeding that the scattering ones are the largest, conclusively proving that they should be thinned early. In fine, too much cannot be done to them when young, and *it will pay*. Still, I would not have the reader believe that he has a great task to raise them, for I set out in the beginning with the assertion that one acre of carrots can be raised as easily as two of corn. It is useless to transplant them.

Do not go among them with a horse after the bottoms become the size of a man's finger, for if you muss the tops about at that size you are sure to stunt them. Do

not take from, nor add to the dirt about their bottoms, after they become the above size. You will also stunt them (somewhat like beans) if you work among them when wet, which they will show you by their tops falling and turning a pale yellow. When doing well they will stand erect and be of a dark green color. When they have turned yellow in the fall the presumption is that they are ripe and fit to dig. The same is true of nearly all roots.

Should weeds appear after the last hoeing, take a sharp hoe and clip among them, frequently using the hand to pull the weeds, being very cautious not to disturb the carrot.

Now that cultivation is done, see to it that fowls, pigs, or other animals are not allowed to ramble among them, for they will not do well if disturbed. If you even run your finger about the top of the root you will stunt it. No root is so healthy or more sure to grow and do well than the carrot, if the instructions of the foregoing pages are thoroughly adhered to, and they excel all other crops after the root begins to show, in "standing" excessively dry or wet weather.

Digging.—Let them remain in the ground as long as you dare for fear of warm weather, as they will keep best in the ground till quite late; however, if you have a large patch begin in time to secure them before the ground freezes. Choose a dry spell in which to dig them as they are so much cleaner to handle, and being clean are certainly worth more for stock. It is not policy to feed dirt to any kind of stock, yet the more dirt adheres to roots of any kind the better those roots will keep.

Firstly, mow the tops as closely with a scythe as possible, and pile in a convenient place to cover over your carrots after they are dug, for it is necessary to put them in heaps of about thirty bushels, that they may go through the sweating or drying process. Three or four days before putting into the cellar, or hole (so ought you with any root), then cover them with the said tops to keep them dry; still the tops are poor things to keep the frost out—straw is better, unless you wish to sell them, in which case get them off as soon as possible, for they will weigh more when first dug, for after being above ground a little they shrink in weight and size. These tops are very fine for stock as they come at a time when all other field fodder has become dry or frost bitten. I have concluded that an acre of carrot tops is worth as much for my milch cows as the hay that would have grown on a similar piece. Perhaps it would not feed quite as far at the time, but I think it would make as much milk.

Now, after having mowed and raked off the tops, send a boy with a sharp hoe to cut them off again close to the butt end of the root. Take a team with a large plow (which is adapted to turn a furrow directly bottom side up), and run it as deeply as possible along the outside of the first row, with the land side of plow about four inches from the carrot row; after thus passing through the patch, wheel and go back to the place of beginning without plowing. Now, setting the plow at the place of beginning, go through again, keeping at this time the carrot row (which has just been cut off,) a little to the right of the plow beam; perhaps it is necessary for one to lean on the beam. Now you will turn the carrots upon the edge of the last furrow; here you will again see the utility of having the rows straight. Take a potatoe hook (or which is better, an old potatoe hook

which the blacksmith has drawn out to small, long, and round tines) and rake the carrots out upon the top of the ground to dry. Thus proceed with each row, always plowing through twice to a row if the carrots are two feet apart and your plow is small, but if your plow is larger than ordinary two horse land plows, you may succeed in plowing out a carrot row every time the team goes through. If you break or bruise a carrot it will not harm it if they are ripe. A carrot broken into a dozen pieces will keep as well as if it were whole. In this way I have had a man and boy dig and pick up ninety-five bushels in one day, although it was a short day of November.

After they are dug carrots are the pleasantest of all roots to handle, easily "picked up," quite light to carry, and very accurately measured in a large basket.

Storing.—After they have remained in heaps above ground and dried thoroughly, which is the whole secret of having them keep well through the winter, they may be put in the cellar in a large bin with impunity, to be kept till sowing time again, although it is not advisable to have many left after the middle of April.

After they are dried in the heaps they should be hauled over again and buried beneath plenty of straw and dirt, though they need not be secured with manure like potatoes, for it does not hurt them to freeze a little if they may stay beneath the dirt till it has drawn out the frost. From this we might suppose that they would keep in the ground without digging all winter, yet they will not. I suppose the main reason is because one end of the carrot comes to the surface.

Should they freeze in the heaps at digging time before you get them secured, throw some dirt upon them till

the frost is out, or take them to the cellar as quickly as possible, to escape the sun, and likewise put on a little dirt. This page is also mostly applicable to the 42d degree of latitude.

On Long Island carrots are buried without straw, with a little chimney in the centre. Probably this mode of burying will do on a sandy soil, but I think not on a soil of loam.

The value of Carrots.—It is generally admitted that the carrot is the most nutritious of all roots. But the great desideratum has been it takes so much time and patience to raise them, and many have concluded and howled their conclusions abroad, that (because they did not know how to raise them) it was an awful job to raise them, and moreover, they were very uncertain to come up.

No root can be used in so many ways with such grand results as the carrot. Feed them to the horse and he keeps on much less grain and hay, drinks less, his coat slickens (and that which makes his coat shine does him good surely), not so liable to take cold, does not fever up when standing still. To learn a horse to eat them cut a few very fine and mix with his oats.

You can with carrots make as fine butter in winter as summer by feeding them to the cow, or by grating them and squeezing out the juice and putting it in the cream.

Sheep are very fond of them and fatten fast. Hogs will winter well on them, better if boiled. With boiled carrots, and one quart of meal per day, I will make a three hundred store hog so fat, that a man of seventy-five years can catch him in an open field. Then for a fine pie they are first in the catalogue of kitchen vegetables,

likewise for coffee, pickles, soup, &c., &c. A clip from the *Country Gentleman* by this Author :

CARROTS VERSUS OTHER ROOTS.—Your correspondent J. V. K., Seneca Falls, N. Y., wishes a “short account,” &c., about raising turnips, beets and carrots for dairy use. You have appended some useful remarks in answer. Please allow me to add a few more. I have been engaged in root raising to the extent of many hundred bushels each year for several years, both for my farm stock and marketing. I have experimented in French turnips, beets and carrots, and consider the carrot decidedly superior to any other root. Reasons—Beets require as much labor as carrots—no, say you, but you do not know my mode of raising carrots yet—they must needs be transplanted; they wither more after pulling, will not keep as long, are superior for no stock to the carrot; horses do not love them; they will not make yellow butter like carrots; will not make a fine pie like carrots. In consuming them stock is obliged to eat too much dirt; and more, if you would have them keep at all good, you must put them away with much dirt. Not so with carrots, if they are thoroughly dried. These same remarks are also applicable to the turnip, except that they are easier raised than either beet or carrot. But even the beet far surpasses them for milk or fattening; they require cutting, and then seem to hurt the creature’s mouth. Hogs do not like them except boiled, and then are not eager for them, while they can be well wintered with either of the first two. With boiled carrots and one quart of meal per day, I will fatten a three hundred store hog so fat that a man of seventy-five years can catch him in an open field. Besides, carrots are the cleanest root (if dug when the ground is dry, as they should be), and lighter to handle because clean. Therefore, for the aforesaid reasons I have ignored raising other roots besides the carrot, except, perhaps, a few French turnips after some early crop, rather than have the ground go to weeds, and even then I think perhaps it is better to plant the ground to marrowfat beans, unless a few turnips are de-

sired for table use. I have not spoken of field turnips. I always raise what I can of them, for they don't cost much, and are not worth much.

A word in regard to the aforesaid idea that "carrots can be raised easier than any other root." I find that I can raise one acre of carrots as easy as two of corn; or at the expense of ten cents per bushel, believing that the tops for stock will pay for gathering. In abstracting my mode of raising them, I would say, that I consider them the most sure of all seeds to come up, if I can select and manage the seed; that with me I can get them up in five days after sowing two inches ahead of weeds. I can sow one and a half acres a day with a boy. I would not take a drill as a gift. Having so much the start of the weeds, I go among them with a horse cultivator of my own invention. I dig them without handling them till they are ready to put into the cart. In fine I will say, that he who farms without his carrot patch, ought to be classed among the old foggy farmers of the past century.

H. A. COOK.

Hillsdale, Dec. 4, 1865.

How to raise and clean the Seed.—This, too, is very profitable far from cities where good land is cheap, for I estimate with proper care \$200 or \$300 worth can be grown to the acre. Set them out as early as the state of the ground will admit, by the use of a crowbar, about two and a half feet asunder, and hoe them often if you wish nice, plump seed. Weeds should not be allowed to grow among them, as the heads will fall down among them and mildew. They should be tied or poled up, as it will save a large percentage of the heads; never touch the blossoms lest you blast them, and a false head is the result. When they are all brown cut them, and lay them away in an upper chamber till a cold, north-wind day of winter, when lay them upon a tight floor and whip off the seed (if you have but a small lot) with

a pliant stick. Sort out the stalks, then continue to whip the seed till that little fuzz which adheres to every seed is entirely separated, then sieve and blow away the chaff as best you may. Do not attempt to sink them in water, as it will be fruitless. They are very difficult to clean, yet with care it pays largely. I would advise any one to change his seed at least every other year, as they will then grow much more prolific, both as regards raising the root or seed.

How to select good Seed.—New seed is of a deep green color, and should be plump and even in size. Old seed is of a yellowish hue, and dead cast, and is much longer germinating than new seed. In fine, never sow old seeds of any kind, because they are always tardy in sprouting. I have seen carrot seed three years old come and do well, but it was a great task to keep down the weeds, for the carrots were so long in coming to the surface. I never practice buying many seeds from the sixpenny papers found at the stores, for I have no chance to examine them. They are often old seed, or if not entirely so, a large percentage almost invariably is old seed.

A true Saying.—Take care of the weeds, for “one year’s seeding, makes seven year’s weeding.” This remark should ever be fresh in the gardener’s mind.

RAISING CABBAGE.

Next to the carrot crop, I consider that cabbages will, considering the amount of labor, bring the best and quickest returns if managed according to the following pages.

In latitude north of 41° but one crop in a season should be attempted, in which case the "winter drum-head" variety is probably the most profitable, and the most marketable. In more southern latitudes the Sugar Loaf and Early York are probably the best early varieties, which may be succeeded the same season by the winter Drumhead, in which case, the early variety should be started in the fall in a cold frame, and haste must be observed in putting in the second crop as soon as the first will do to go to market. Have your plants ready of a goodly size for the second sitting.

Select strong ground and manure well, but not with hog manure for this will cause many club-footed cabbages. My experience is, that it will effect them thus in a measure even two years after it is put on. Do not work your ground when it is wet. If you are in Lat. 41° construct a cold frame (or, as it is often called, a hot bed) as early as the ground will admit, in which to sow your cabbage seed. Sow in drills that you may till them somewhat, as every plant of whatever kind should be cultivated when young, which is a great defect of most cultivators. I have heard some remark in that latitude that they did not wish to set out their winter cabbage too early, lest some of them burst before gathering time, but it is my observation that he who sowed late

was troubled more with false or loose heads in the fall than with burst heads, while he has the privilege of taking out his heads that get ripe so early as to burst, and either use or sell them. However, I assert that I can make them head if the soil will grow them in time.

Transplanting. — Do not perform this when the ground is wet. *Here* is where I differ from all other cultivators. Do not allow an animal or human being upon the ground when it is wet, if you do, look for hard and lumpy ground when it becomes dry. Stretch a line across your patch; if it is sideling, stretch it up and down the slope, so that when you cultivate the young plants you will not be liable to throw dirt upon them. Now make a thick solution of water, muck, plaster (plaster of paris) and ashes, and draw your young plants (about a half dozen at once) through this solution, when each plant will have a little clump of mixture adhering to it. Do not dip them directly *down* into the mixture, if so the little rootlets will turn up and cleave to the sides, and not be of any use to the plant when set out, when they are very essential to its prosperity. The muck and plaster are both adhesive, drawing moisture and giving strength to the young plant, and causing it to stand as erect beneath the rays of a midday sun as if it had not been transplanted, while the ashes not only give strength to the plant, but have a tendency to keep away the grub that often commits such depredations among the young plants. Do not allow the sun upon the young plants during the process of transplanting, nor take up too many at a time. Let not over a half hour elapse between taking up and setting. Place them in a pan with care that you do not dirty nor break the leaves (as they are the lungs of the plant). Let the

leaves get a pretty good size, as the grub has less time to work at them after they are transplanted.

Now, having stretched your line across the patch, take a sharpened hard wood stick, one and a half inches diameter, two and a half feet long, rather bluntly sharpened, that the dirt will not so easily fill the hole which it makes, and of hard wood that it will not dull easily. Now take your pan of plants in one hand, and stick in the other, sticking holes about two feet asunder, and dropping a plant to each hole, while a faithful boy who is honest to do his duty, and will not curl up the roots, setting just a little deeper than they were in the bed, and pinching the bottom of the hole as well as the top firmly about the root as he sets the plants, the neglect of which will result in the loss of many plants. In this way, in the middle of a hot day, I have set out four hundred plants per hour, when two successive hot days followed, and not over five per cent. of the plants even wilted from the effects of the sun's rays. The ground was free from lumps and loose all about the plants the season through. When gathering time came those which were thus set out had nearly double the bulk of heads in comparison with those which were transplanted when the ground was wet.

The main reason was, the little rootlets had mellow ground to push out into all the season; while lumps and hard ground must abound, especially on loose ground, to some extent, when the ground is wet enough to transplant without the composition. But we will not stop to consider the convenience of transplanting in a dry day rather than a wet one, for what gardener has not been bedaubed with wet and mud from head to foot transplanting cabbage. So much then for our compost

on the roots. With beets, tobacco, &c., this compost gives the same result.

Set the line off again two feet and proceed as before. It is not necessary to have them in rows but one way, that you may go among them with a horse, but that way have them precisely straight, the utility of which will become manifest when you come to cultivate. If the grubs eat them, sprinkle them every third morning while the dew is on with a little dust of ashes—say a teaspoonful. Where one is eaten off take the trouble to dig out the grub, or he is liable to take off several successive ones.

Tilling.—The plants should be hoed a little about the third morning after they are set out, and then scratch about them a little every week—if oftener it's all the better. Stir the ground deeply, at least twice with the plow. Till them in the morning, though a bean never should be tilled in the morning. It is not necessary to go among them with a horse till the leaves become as large as your hand, when stir the ground deeply; deep culture is the great desideratum with any good crop. See to it that you strike the corner of your hoe down deeply beside the young plants, that the side rootlets may be unobstructed in their course. Early cabbage may be planted nearer than two feet.

Heading Cabbage.—The most important part, for a good crop, is yet to be performed. After having tilled them enough, you can yet make half difference in number and bulk of heads. You have hoed often and tilled deeply, which are essential, yea, indispensable to a good growth, while in the meantime the leaves can be forced to curl up and form the head, and not retard the

growth, but, on the contrary, facilitate it. This is done by the use of another mixture of salt and plaster, two-thirds of the former to one of the latter. When the leaves are about half size, and the inner leaves just commence curling, sprinkle in each plant about a teaspoonful of the mixture when the cabbages are damp. In about two weeks sprinkle them again, adding with impunity a little *more* of the mixture. Thus, I estimate you will get \$10 per day for your time in applying it, and \$5 a quart for your mixture, for it is evident to my mind that the crop can thus be increased nearly half. If you choose to have every head lay close to the ground you can do so by commencing with this mixture early and applying frequently, and hilling up the dirt slightly. Let the quantity of the mixture generally be governed by the size of the plant. By a flat culture and withholding the mixture till the cabbage has its height, you may grow tall cabbage but not the bulk of heads.

Cabbage Lice.—During the seasons of 1864 and '65, it being so dry, they were great pests. They are of a slate color, with many legs, greatly inclined to assemblages, and very hardy, for a severe frost does not seem to harm them. If they are very thick upon a head they will greatly deter it from heading, and, being very similar to stock lice, will cause the body to dwindle, and in many cases die from their effects. Wet weather seems to affect them more even than September frosts. However, in ordinarily wet seasons, I think they are not much to be feared. The only way I have ever mastered them was to sprinkle soot or fine ashes upon them when they were damp. The lye of the ashes is more than they can stand. The ashes should be finely sifted that no particles of fine coal, &c., will be found in the head.

Gathering.—Let them stand (your winter heads) till you fear the ground will freeze so hard that you cannot pull them. Two inches of frost (that is, when the ground freezes two inches,) will not hurt the heads if they remain till the ground has drawn all the frost out. If they are pulled ere the moisture of the earth has done this complete they will not keep as well. Winter cabbage will continue to head till late in the fall, if the weather is not too severe.

Procure a crotchet stick with a long handle (willow wood is best, because the lightest) and run it under each head, lift it, and turn the head upside down, hitting the roots with one prong of the crotch to knock off the dirt, but not so hard as to sever the head from the stump. If you wish to retain the root this mode of pulling will be a great saving to the back, if you do not, cut out the heads as you like. But you need not expect them to keep hard long unless the root is retained. The leaves and stumps are excellent for stock, being green at a time when nearly all else is frost-bitten, and will go far in paying for raising the crop—a half acre bearing many side board loads of fine, fresh leaves, as refuse from the marketable heads.

Dig a trench the depth of the length of the stem, in which transplant the loose ones two heads in width and as closely as possible, lengthwise with the trench, placing a board on each side, simultaneously pressing the heads together slightly, and cover with straw and dirt securely from the mice and water. In Spring, if you have not pressed them too hard, these loose heads will all be hard and as fresh as in autumn. Yet it is a question in my mind whether they are not worth as much for the cow as to bury, considering the labor. Do not open

them till the frost has left them, but do it as soon, lest they begin to rot. Like all buried vegetation they will not keep long after being exposed to the air. It will not do to transplant hard heads thus, for they are apt to burst. They should be turned bottom up in the trench and covered as before, in northern latitudes, but in southern latitudes a dirt covering is sufficient, leaving the roots to the air. They should never be thrown promiscuously in the cellar as they will wilt, and then they are poor food. For winter's use put the roots in dirt in the cellar, guarding against mice and rats. A good plan is to put the roots in a tub filled in with dirt, then you have fresh cabbage at any time. In short, properly managed, cabbages are a very profitable crop, still they do not seem to be very exhausting to the soil. Like other garden crops rotation is necessary. *Remember and not use hog manure for cabbage, lest they head in the ground.*

Five acres enough.—Thus with five acres of good land well manured, and planted to carrots and cabbage, tilled and harvested according to the instructions of this pamphlet, any industrious and saving man, with, or without a family, may be on the high road to wealth. At the same time he is not a slave to manual labor, although it will be necessary for him to be alive spring and fall. There are no two crops of vegetables in more demand or more sure to yield a good return for labor. Ten years ago the first man who raised carrots to sell in my town found hard work to sell twenty bushels at the low price of twenty cents per bushel. Now, say for the last two years, a neighbor and myself have found a home market for one thousand bushels at 45 and 60 cents per bushel, although the number of inhabitants have but

slightly increased. The demand is yearly increasing rapidly, till now many farmers think they cannot winter stock healthy (verily they cannot) without roots, and have concluded that carrots are the best root, containing the least per cent. of water, cleanest to feed, and the lightest to handle. Each property alone is very essential. A few fed to the horse each day gives him a slick coat, and that which gives a slick coat gives health, keeps him from catching cold, and saves much grain and hay. Store hogs can be wintered finely with carrots without any grain. A few fed to the cow, or a little juice squeezed into the cream, gives a rich yellowish color to the butter. Sheep fatten rapidly upon them. Cut up to the size of corn kernels and browned, they make an excellent coffee. Boiled, and forced through a cullender, they make a fine pié. For pickles and soup, they are excellent. In short, there is no vegetable that can be used more advantageously considering their cost than the carrot.

Here I need not discuss the value of cabbage, for the oldest inhabitant knows fully of its value as a vegetable, and with the two simple and accessible compositions, mentioned in the foregoing pages, used in transplanting and heading, they are very profitable, for with these two compositions, I aver that I will make twice the bulk of heads per acre to the man who does not use them, providing he does not bestow any more labor than I in tilling.

To make plenty of manure for these vegetables.—This is a great desideratum in raising vegetables. In gardening five acres I think I could make my own manure from that alone, and surely if I could have access to muck, I

would plant say four acres to carrots and cabbage (say I will raise only these vegetables for my selling crop). Now, I should want for mine and family's use, a horse, cow and hog, which I should keep in the following way: I would sow in drills a half acre of corn thickly for fodder, running through it a little with cultivator and hoe, to get some ears for to boil with some carrots for my hog, and some for other uses, perhaps. Now I shall have to buy but very little hay and grain. I have left one half acre for house, garden and some potatoes. Now I will keep my horse and cow in stable and yard. Put in twenty loads of muck under my stables, in my hog pen and barn yard, to catch those valuable juices which are generally lost (and these are the vitals of the soil), throwing in all my waste mould, and thereby make about forty loads of manure, which, applied to the five acres every year, will make it quite rich enough. How many industrious but poor men, with families, are cleaving to New York trying to start some little business in which they may prosper, but can get no chance from the fact that every conceivable opportunity is taken up. How much better to start out and lease (if they cannot buy) even a five acre plot, and go to raising vegetables according to the foregoing pages. Methinks the highway to success and wealth, with economy and health, would surely appear.

Every man his own Barometer.—In connection with gardening, it is very essential that we be able, with a degree of certainty, to foretell the weather, which, in nine times out of ten we may do about as accurately as the mercurial barometer, by philosophizing with nature's laws, and certain time-honored observations called signs of the weather. I will notice some of the

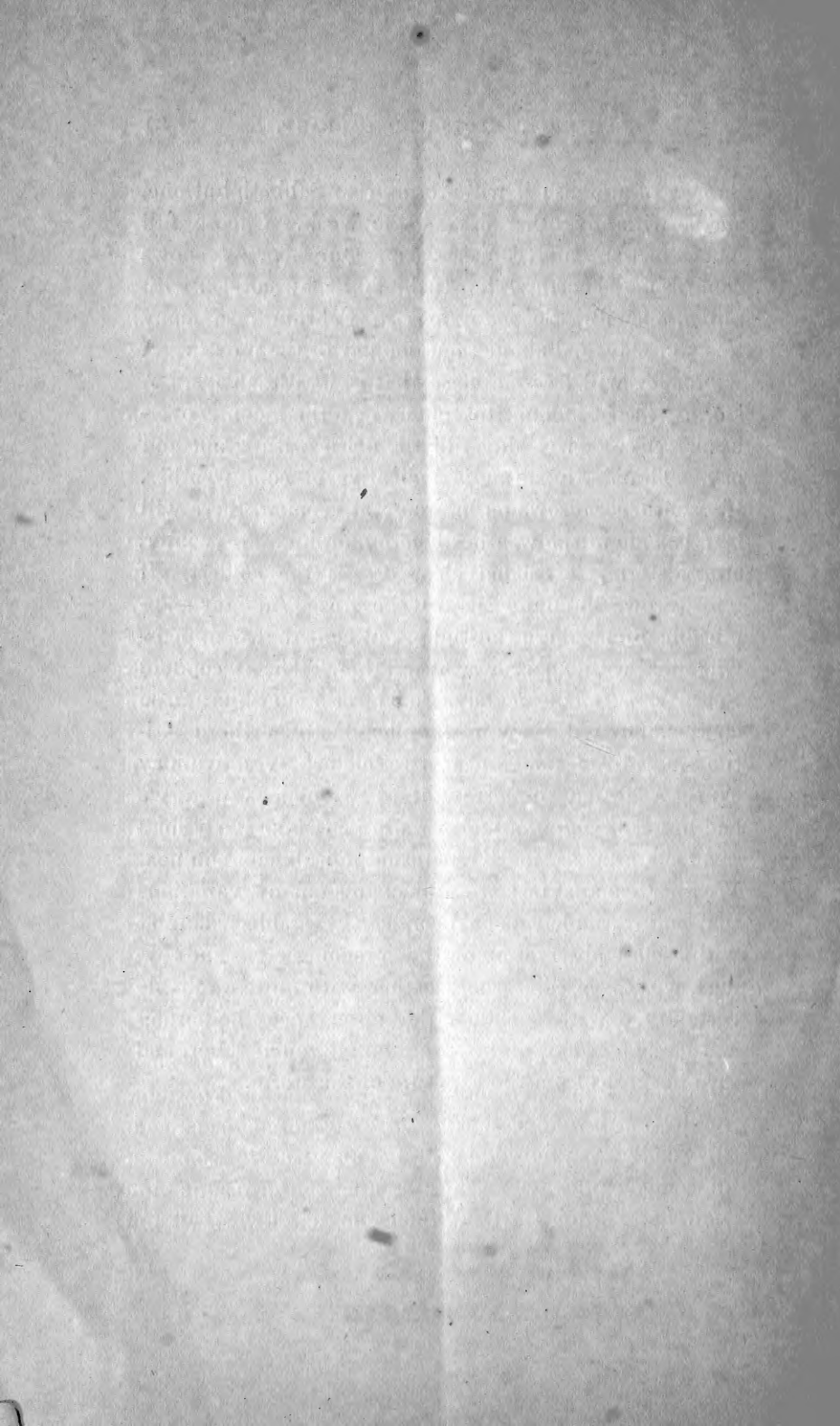
indications of a storm. The clouds look heavy and red in the east at early morn. The smoke settles to the ground. You smell what they are cooking in yonder house. The sun comes forth at sunrise, giving a white light, and soon disappears in the clouds. "Thunder in the morning, sailors take warning." The fowls get on the fence and pick themselves. The ducks skip in the water. Stock is dainty about eating. "The fog runs up hopping—the rain comes down dropping." Tobacco leaves are limber. Circle around the sun or moon—however, if stars can be seen in the moon's circle the storm is in the distance. The sun draws water. A rainbow in the morning. If it rains when the sun shines, look for a three days' rain, and of a surety the next day. The dog eats grass. The stones under the grass and in the cellar are moist. The outside of the tin pail or jug sweats, as we say. You observe the smallest cloud to magnify and grow large rapidly. The leaves of the poplar and cherry trees turn bottom up. Plenty of snakes are seen running about. The partridge drums. The mountains look black. You hear voices and noises unusually plain at a distance. The noise of the car is plain at a distance. Smoke ushers from the stove into the room. After a storm, if it clears in nighttime, we may expect a storm soon again. If the swallows fly near the ground we may expect a storm near at hand. Fish jump out of the water. Water boils away rapidly. The hair of stock looks smooth. We smell the skunk—smell the sweat of horses when riding along; The tree toad hollows. But the best indication of all is the following. If, upon blowing out your candle at night, the spark goes out quickly, prepare for a storm and vice versa. With the majority of these signs before us, and the wind in the South, we had better prepare for a storm.

However, all signs fail in a drouth. But drouths are few and far between. It is not necessary in this place to philosophize upon these indications. Yet if the reader is somewhat posted in natural philosophy, he will have no difficulty in making these indications harmonize with the laws of nature.

With the supposition that we are now in the midst of a storm in summer, we will look about to notice some of the fair weather signs. The sky and sun look red at night. If it rains very early in the morning (not having rained during the night) generally look for a good day. "If it rains before seven it will clear before eleven," is quite a *reliable* saying. Whirlwinds are almost sure signs of dry weather. Now the wind gets in the north, the fog moves southward, and the sun appears but not drawing water. The lark comes forth with her song, and every piece of nature's handiwork seems, as it were, to throw off its shackles of solitude; cognizant that the king of day will reign, however terrible may have been the storm. We need not expect much rain when the moon is overhead, however severe may appear the storm. Thus, by a little careful observation, we may have a miniature barometer in reason's temple, better to be relied upon than all the barometrical mechanism conceived by the wisdom of man.

Weather Sayings.—The direction of the wind at the vernal equinox, thus it will be most of the season. Long icicles indicate deep snows. Three frosts and then a rain. When the wild geese go north spring is about to open, a saying only worthy of notice above the 42d^o of latitude. A dusty summer, a snowy winter, which will only appear in northern latitudes. If winter comes in quietly it will go out boldly. If it storms the first

Sunday of a month it will storm every Sabbath but one, and so with any other day of the week. Choose full moons for fairs and concerts, &c. Our heaviest snows come from the northwest. If the first snow goes off with a rain, all will. So many fogs in February, so many frosts in May, and about the same day of the month. A winter fog will freeze a dog—that is, in a few days. A storm will not amount to much when the moon is overhead. A cold, wet May fills the barn with grain and hay. Thunder in spring is indicative of cold weather. If chanticleer crows on his roost at evening, there will be a change in the weather before morning. In winter, after a storm, the second clear day is the coldest. If grass grows in March, it will be frozen in May—applicable to northern latitudes. When the whippoorwill hollows, expect warm weather. The second of February is Candlemas day. So far as the sun shines in so far the snow will blow in—applicable to northern latitudes. If it clears off near two o'clock P. M., we may expect a fair day to-morrow, if at two o'clock A. M., we had better prepare for another storm. Make ready for a severe storm at the vernal and autumnal equinox. Weather calculations are subject to so many variations that no invariable rule or theory can be established. Yet with a close observation of the foregoing signs and sayings, we may predict the weather with quite a reliable certainty. With such a strict observance the farmer and gardener may often save himself much labor, and save his crops from the exposure of the storm.



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