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1886. A. I. ROOT'S CATALOGUE OF 1893.
SEEDS FOR THE GREENHOUSE, GARDEN, AND FARM.

— AND ESPECIALLY FOR BEE-KEEPERS. —

Fifteenth Edition. Jan. 15, 1893.

PRICE 5 CTS. PER PAPER; 10 PAPERS, 40 CTS.; 100 PAPERS, \$3.50.

Seeds of new or rare vegetables and novelties, we include at the uniform price of 5 cts. per package; but, of course, we are obliged to put a smaller number of seeds into such packages. This will be noticed with the Bush Lima Bean and Snowball Cauliflower, etc. Now, these 5 cent papers are all sent by mail postpaid; but when you order seeds BY THE OUNCE OR POUND, allow postage thus: 9 cts. per pound; 5 cts. per half-pound; 1 cent per ounce. Peas and beans by the pint and quart must also have 8c per pint, or 15c per quart, added for postage; on corn, add 12c per quart for postage. Postage to Canada is NOW just double above rates. One-fourth ounce, pound, or peck will be sold at ounce, pound, or peck rates, unless otherwise specified.

OUR WARRANT ON ALL THE SEEDS WE SELL.

Now, friends, this is a somewhat difficult matter; but I feel free to say, at the outset, that we guarantee the contents of the packages to be what they are labeled, and seeds to be fresh, either our own raising, or purchased of some one having a good reputation, who makes seed-growing a specialty; that is, we warrant them to this extent: If the seeds do not seem to be as represented, we will replace them free of charge; but we can under no circumstances undertake to guarantee a crop nor can we be responsible for the failure of said crop. The matter is so complex, and there are so many circumstances contributing to make success or failure, that I am obliged to put in this latter clause. If the seeds are not accepted with this understanding, we prefer they should be returned. We are practical market gardeners, and are sowing the seeds we sell, nearly every day in the year. If there is any fault with them, we are usually one of the first to find it out.

ASPARAGUS.

Asparagus, Palmetto. Oz. 5c; lb. \$75.
 We have given this new variety a trial beside the Colossal, and it is certainly a stronger and more robust plant.

Asparagus Roots. 2 years old. Palmetto, 10 for 10c; 75c per 100; \$6.00 per 1000. By mail, add 5c for 10, or 25c per 100.

BUSH BEANS.

Henderson's New Bush Lima Bean. ½ pt. 15c; qt. 35c; peck, \$2.50.

In our catalogue for 1889 we pronounced this the most important novelty for 1889. It is a genuine bush lima bean, only that it is much smaller than the pole lima; and is certainly a valuable acquisition to many who can not well go to the time and expense of providing poles. It is exceedingly prolific, each stalk or stem bearing from 50 to 100 pods, under good cultivation. The extra trouble of picking and shelling, in order to get them ready for the table, is the only drawback. We sold them at 10 cts. per pint last summer, month after month.

Kidney Wax. Pt. 15; pk. \$1.50.
 This is an improvement on the ordinary Golden Wax Bean, in giving us larger pods, more perfectly free from rust. This bean is a decided acquisition.

White Kidney, Large. Pt. 10c; pk. \$1.25. Bu., \$4.50.

One of the best to use shelled, when green or ripe. We sell these at 10c a pint, shelled green. We market them in new pint strawberry-boxes.

York State Marrow. The best field bean. Pint, 10c; peck, \$1.00; bush, \$3.75.

POLE BEANS.

Extra-Early Lima Beans. These are fully equal to the old lima beans, and are fully as productive, and from ten days to two weeks earlier. We consider it an acquisition. Price, ¼ pt. 10c; qt. 30c; peck \$2.25.

King of the Garden Lima. ½ pt. 10c; qt. 35c; peck, \$2.25.

These are fully as good as the common lima, and the pods are considerably larger, saving time in picking and shelling, as well as increasing the yield. We get 15 cents per pint for these, when green, shelled. See White Kidney bean above.

All of our beans will be furnished in 5-cent packages; but where they are to go by mail, postpaid, of course

the above packages will have to be quite small. If wanted by mail, add 8c per pt. or 15c per qt. for postage.

BEETS.

Eclipse. Oz. 5c; lb. 40c; 5 lbs. \$1.50.

These have given us the best satisfaction of any thing we ever raised in the way of beets. They are a very quick grower, of excellent quality, and the appearance of the bright smooth scarlet bulbs is fully equal to any thing that has been pictured in the colored plates of our catalogues. In order to get a fancy price for them, start them in the greenhouse, and transplant when of the size of peas, or a little larger. They bear transplanting well, and are exceedingly hardy.

Lane's Improved Sugar. Oz. 5c; lb. 25c; 5 lbs. \$1.00.

The best variety for stock-feeding. It showed a larger per cent of sugar at the Experiment Station than any other analyzed. It is so sweet, that when small, they are nice to eat raw, and make an excellent table beet. Has yielded as high as 20 tons to the acre.

Long Red Mangel. Oz. 5c; lb. 30c; 10 lbs. \$2.50.
 Yields enormously, and is the most profitable for stock, but not so sweet as Lane's improved. Seed is of our own raising, from selected roots.

CABBAGE.

Select, Very Early Jersey Wakefield. Stock seed. Oz. 20c; lb. \$2.50.

Our cabbage seed this year is raised by H. A. March, Fidalgo Bay, near Puget Sound, Washington Territory. Thousands of sample packages were sent out by us in 1888, and friend March's seeds ought to be pretty well known. The Early Jersey Wakefield, of the best selected strain, is fully as early as any other cabbage known, and greatly superior in quality. We have sold single heads at retail at 30c each, raised from plants started in the greenhouse in February.

Henderson's Early Summer. Oz. 20c; lb. \$2.25.
 This comes next to the Jersey Wakefield; and although it is an early cabbage, under very favorable conditions it produces large heads of most excellent quality.

Fottler's Brunswick. Oz. 20c; lb. \$2.00.

This is one of the old staple varieties, and is perhaps planted as extensively as any one variety, from medium to late cabbage. Standing a long time without bursting. Our seed was raised by H. A. March, the same as the Early Jersey Wakefield, and our entire stock is stock seed; that is, it is from the very BEST HEADS that could be selected out of a field of SEVERAL ACRES.

Excelsior Flat Dutch. Oz. 15c; lb. \$2.00.

Pronounced by Brill the BEST LATE CABBAGE. During the past season this has given us the finest heads of LARGE CABBAGE we have ever grown.

Perfection Drumhead Savoy. Oz. 15c; lb. \$2.00.

The Savoy cabbage is handsome in appearance, and richer and finer in quality, and STANDS FROST better, than any of the other varieties. In taste it nearly approaches the cauliflower.

Large Red Drumhead. Oz. 20c; lb. \$2.00.

This is a red cabbage for pickling. The bright red, by way of contrast, will make a load or lot of cabbages attract attention, and there is always more or less demand for red cabbage for pickles. Heads are very solid, and SPLENDID KEEPERS.

CARROTS.**Early French Forcing.** Oz. 5c; lb. 60c.

These are small, but very early, and often bring a good price, because they are the first that make their appearance in the market. Bunched up like radishes, they are very taking in appearance.

Orange Danvers, Half-Long. Oz. 5c; lb. 60c.

Yields well, and is easy to dig. The best sort known.

CAULIFLOWER.**Henderson's Early Snowball.** Raised by H. A. March. $\frac{1}{2}$ oz. 25c; $\frac{1}{4}$ oz. 40c; Oz. \$1.50.

Nice specimens of early cauliflower often bring extravagant prices, and it pays well to start them in the greenhouse, and use hand-glasses to forward them before the hot weather comes on.

CELERY.**Henderson's White Plume.** Oz., 20; lb., \$2.50.

We place this at the head of the list, and especially for early celery. During the past season we had fine stalks on the market in July, and it sold readily at 10c each. The seed was started in the greenhouse about the middle of January. On account of its self-bleaching qualities it is better fitted for early celery than any other.

Golden Self-Blanching Celery. $\frac{1}{4}$ oz., 10 cts.; oz., 20c; lb., \$2.50.

It is different from all others we have seen, in being not only more dwarfed, i. e., shorter, but it is also thicker in fact, the plant, when fully matured, is so thick and stumpy as to create surprise. The variety is also excellent, and the labor of hanking up is not more than that of the White Plume. It is rather an early celery, and should be used soon after approaching maturity.

New Rose. Oz. 20c; lb. \$2.25.

Our verdict is, that it is not only the hardest and best grower among the whole celery family, but, when properly bleached by being put away for winter, it has given us the finest and most delicious and crisp celery we ever tasted. Although it is a red celery when growing, when fully bleached there is hardly a trace of the pink color, but it is a beautiful creamy white. We place it at the head of every thing else for a LATE WINTER celery.

Dwarf Golden Heart. Oz. 15c; lb. \$1.75.

One of the standard sorts for a later crop. The golden tint of the head stalks makes it a very handsome vegetable.

CORN (FOR TABLE USE).

Corn (except Ford's Early and Country Gentleman) we sell at 5c per half-pint package; but at this price purchasers must pay the postage, which is 3c for each half-pint. If wanted in larger quantities the price will be 15c per quart, 75c per peck, or \$2.75 per bushel.

Cory's Extra Early.

Cory's corn has not only proved to be the earliest by ten days or two weeks, but the ears are surprisingly large and fine, and the quality, if cooked at once, as soon as picked, is almost equal to any sweet corn we have. It is quite an acquisition.

Ford's Early Sweet. $\frac{1}{2}$ pt. 8c; qt. 20c; pk. \$1.25; bushel, \$4.50.

Excellent in quality, fine good-sized ears, and exceedingly early.

Late Mammoth Sugar.

This is excellent in quality, and gives ears of mammoth size, and is a wonderful yielder. Besides this, our strain is the SWEETEST sweet corn we have ever grown, and we have tested all the novelties that have been recommended. Our trade has been very large in this kind of corn for eight or ten years past.

Shoepeg.

Here is what the Ohio Experiment Station says in regard to it:

This is the same thing as the Ne Plus Ultra, or Banana. It is the most meaty and delicious corn that I ever tasted. The ears are not large, hence it might not be suitable for market, but it is unsurpassed for home use. I give the different names by which it is known, so that it may be recognized in the different catalogues. W. J. GREEN.

Columbus, O., Nov. 18, 1890.

Burpee also says that Quaker Sweet is the same thing as Shoepeg. We have grown it for three seasons, and heartily endorse all that friend Green says.

Country Gentleman.

We grew this last season from seed of Peter Henderson. It is exactly like Shoepeg, only larger ears. Price same as Ford's Early.

CORN SALAD.**Oz. 5c; lb. 75c.**

Sometimes called Lamh's Lettuce. It is to me a most delicious salad, something like Lettuce, but having a peculiar rich flavor suggestive of cowslips and spring. It is very hardy, and will often stand out all winter. It does splendidly in greenhouses and cold-frames.

CRESS, OR PEPPER GRASS.**Early Curled.** Oz. 8c; lb. 50c.**CUCUMBER.****Early Frame.** Oz. 5c; lb. 50c.

The earliest cucumber.

Improved Early White Spine, or Arlington.

Oz., 10c; lb. 75c.

We have for some years, sold Rawson's, grown especially for greenhouse culture, but of late it seems little better than the above, while the price is about three times as much.

Green Prolific, or Boston Pickle. Oz. 5c; lb. 50.

Wonderfully productive; medium size; dark green; tender. It yields fully twice as many pickles as any variety we ever tried.

KOHLRABI.**White Vienna.** Oz. 10c; lb. \$1.25.

This is a quick-growing vegetable, half way between turnip and cabbage. If the plants are started in the greenhouse, the vegetable may be put on the market at the same time with the very earliest cabbages; and where people once get a taste of it, it is pretty sure to meet with a rapid sale at good prices.

LETTUCE.**Grand Rapids Lettuce.** $\frac{1}{4}$ oz., 10c; ounce, 20c; pound, \$1.75; 5 lbs. \$7.50. This seed is from the originator, Eugene Davis.

This is the best all-purpose lettuce in cultivation. It has been developed from the Black-seeded Simpson, by something like fifteen years of careful selection. It is superior and beautiful in appearance, a strong grower, very tender and crisp. At least fifty large greenhouses are now engaged in raising this kind of lettuce for market, in the neighborhood of Grand Rapids, Mich. For further particulars, see our hook, "What to Do?" etc.

Boston Market (or White-seeded Tennis-ball). Oz., 5c; lb., \$1.00.

The best variety of head lettuce for greenhouse culture, as the heads are small, but compact and handsome.

Henderson's New York. Oz. 10c; lb. \$1.00.

We consider this the best head lettuce for outdoor culture known.

MELONS, MUSK.**Casaba, or Persian Muskmelon.** Oz. 5 cts.; lb. 60c.

A standard variety, of fair size. Last season we had specimens that I called the best melon I ever tasted.

Extra Early Citron. Oz. 5c; lb. 60 c.

Always profitable because of its extreme earliness.

Banana. Oz. 5c; lb. 60c.

I consider this one of the best muskmelons it has been my fortune to taste. They grow from 18 inches to 2 feet long; smooth skin; color, bright yellow. Always sell well on account of their unique appearance.

Emerald Gem. Oz. 10c; lb. 75c.

This is a small one, say from 1 $\frac{1}{2}$ to 2 lbs. The skin is of a deep emerald green, and the flesh is of a salmon color—very delicious. My way is to eat it with a spoon, scraping the melon clear down to the rind. Of course, they want to be well ripened. I believe I should call it one of the most delicious of all muskmelons.

Miller's Cream, or Osage. Oz. 10c; lb. 75c.

We have been testing this for three years past. While the quality, perhaps, is not greatly better than some others, it certainly excels in yield. The meat is very thick, with a beautiful salmon color. The melons are dark green, and never turn yellow. When they are ripe, the stem will pull off of itself. We gather them for market, however, when they separate easily from the vine. It is certainly an acquisition.

MELONS, WATER.**Pinney's Early.** Oz. 5c; lb. 60c.

The quality is very good, but the size is not very large.

Landreth's Boss. Oz. 5c; lb. 60.

A melon that seems to combine more of the good qualities for a large late watermelon than any other.

ONION.**Silverskin, or White Portugal.** Oz. 35c; lb. \$4.00.

A standard variety for pickles, or for handsome bunch onions. Better favored than the dark-skinned.

Yellow Globe Danvers. Oz. 20c; lb. \$2.50; 5 lbs., \$2.00 per lb.

A standard yellow variety. The best of all to grow from seed. It makes a wonderful difference, however, how the seed is grown. Some strains will give nearly double the crop that others will.

Spanish King, or Prize Taker. $\frac{1}{4}$ oz. 10c; oz. 35c; lb. \$3.50.

This is the celebrated onion we see in the stores, called Spanish onion. Its color is nearly white. It is one of the finest-flavored onions grown, but is not a very good keeper. In this region it is better to start the seed under glass in January or February, then plant the small onions out in the field as soon as the ground can be worked.

White Victoria. $\frac{1}{4}$ -oz. 10c; oz. 25c; lb. \$3.50.

We regard it as an acquisition for hunch onions, from the fact that the bulbs when grown in muck, are of a pearly whiteness, and need no peeling at all. If sown tolerably thick, you can pull them by the handfuls. Tie a string around them, switch them in a bucket of water, and they are ready for market. If sown early, we get 5 cts. for a $\frac{1}{2}$ -lb. bunch. These, besides being valuable for hunch onions, when given room and

proper culture (see Spanish King) grow to an immense size. I regard them as the handsomest early onion I have seen.

American Pearl. oz. 35c; ¼-lb. \$2.60; lb. \$5.00. Sets, per qt., 35c; peck, \$2.25. By mail, 10c per quart extra. Sets only sold in autumn.

In September, 1890, Johnson & Stokes were so very positive that sets of the above onion could be planted in the open field in September that I sent for half a peck of sets for trial. They came right up, and grew nicely, and, to my great surprise, wintered without any injury I could discover. In the spring they started to grow at once, and made immense great white onions long before our onions started in the greenhouse had any chance to make an onion of marketable size. We commenced selling them when they were a little smaller than hen's eggs, and kept on selling until they were three or four inches across. Of course, we got large prices for them at such an unusual time of year. The sets may be put out at any time in September, and we think at any time in October, providing frosts hold off. This new way of getting extra early onions was a success with us, also, in 1892, but they do not give like success in all localities.

ONION SETS.

We have those of Yellow Danvers and Silverskin.

Prices of yellow, 3c per quart; \$1.50 per peck, or \$5 per bushel. Silverskin, one-half more than above prices. If wanted by mail, send 10c per quart extra.

Large size (often used for pickles) one-half above prices.

Winter, or Egyptian Onion Sets. Prices, 15c per qt., or \$1 per peck. By mail 10c per qt. extra. This onion does not produce a bulb at all, or at least only a very inferior one. All it is raised for is its long succulent stalks, with a sort of root, or small bulb, on the lower end. It has such an inveterate habit of growing that it grows any time when in the ground or out of it, and, in fact, almost the only place to keep it is in the ground. During August and September the sets may be gathered and sown. You can, with care, keep them over winter. The sets grow in form of little onions, on the top of the stalk, like the old-fashioned onion sets we used to see when we were children. We gather these sets as soon as they are ripe, say about the middle of August; then we sprinkle them in a drill, about as we would peas, say from three to five inches apart.

PARSNIP.

Improved Guernsey. Oz. 5c; lb. 25c; 10 lbs., \$2.00. Fine grained, fine flavored, smooth. The best parsnip we have found yet.

PARSLEY.

Fine Curled or Double. Oz. 5c; lb. 50c.

PEAS.

Alaska. ¼ pt., 5c; peck, \$1.25; bush., \$4.50.

This pea is not only the earliest of any thing we have ever tried, but, strange to tell, it is also of a delicious quality, very productive, and an excellent pea in every respect, except that the pods look ready to pick before the peas inside are large enough to amount to any thing. If you pick them when they look plump and full you will disappoint your customers, and have trouble. Get careful pickers; tell them not to pick a pod until they know by squeezing it that there are good-sized peas inside, and you will then call it, as we do, ahead in quality of any other EARLY pea in the world.

American Wonder. ¼ pt. 5c; pk. \$1.25; bu. \$4. This is a cross between the American and the Little Gem. The vine grows from 6 to 8 inches high. It is the first to ripen among the green wrinkled sorts. On account of its dwarf habit it can be grown very easily under glass.

Stratagem. ¼ pt. 10c; qt. 20c; pk. \$1.75; bu. \$6. This has made its way rapidly in public favor. It is not only of rare excellence in quality, but the pods and peas are so large and fine looking they call attention at once from any thing else in the market. It has given us excellent satisfaction.

Champion of England. Pint, 15c; pk. \$1.00; bushel, \$3.50.

So well known as to need no recommend here.

Peas by mail will be at same rate as beans for postage.

PEPPERS.

Sweet Spanish. ¼ oz. 10c; oz. 25c.

This is not hot at all. Is used largely for pickles, to stuff with cabbage, mustard seed, etc.

Bullnose. ¼ oz. 10c; oz. 25c.

Very large, mild, but considerably hotter than the Spanish.

Cayenne. ¼ oz. 10c; oz. 25c.

Very hot. Fruit about 2 inches long.

POTATOES.

Early Ohio.

The Experiment Station, Columbus, O., says there is nothing earlier.

Early Puritan.

Nearly as early as Early Ohio, and much more productive. Highly recommended by our Ohio Experiment Station.

Lee's Favorite.

This is a few days later than the foregoing, but yields better still. In our locality during 1889 it gave us over 100 bushels from one-fourth of an acre.

Beauty of Hebron.

This is preferred by Terry because it gives as good, or better yield than any other, and comes off early enough to admit of getting in wheat in good time. It is a standard medium sort.

Monroe Seedling.

Here is what T. B. Terry says in regard to them:

Last season we had more perfect tubers in a bushel than I

think I ever saw in any other variety of potatoes. They are strong growers, and do not sprout early; better quality than most late potatoes. I have returned 42 orders in one day since they were at sale for a nickel. T. B. Terry.

Hudson, O., Oct. 22, 1890.

Rural New Yorker.

Mrs. Root gives this her preference for a table potato. It gave us more nice potatoes last season than all the others.

Prices of any of the above: 1 lb., by mail, 20 cts.; 3 lbs., 50 cts.; 1 lb., by express or freight, 10c; 1 peck by express or freight, 75 cts.; 1 bushel, \$2.25. Barrel, containing 11 pks, \$5.00. If potatoes are ordered in the winter, we will do our best to protect them from frost, but purchaser must take all risk. At these prices we make no charge for barrels or packages, but deliver F. O. B. cars here in Medina.

Potato-eyes. Any of the above varieties by mail postpaid, 15c for 10; or 80c per 100.

PUMPKIN.

Early Sugar. Oz. 5c; lb. 50c.

They are much earlier than the ordinary pumpkin, sweeter for pies, and so small in size that we sell them all along in the fall at the rate of two for a nickel. In many places people will pay more for early pumpkins for pies than they will for any kind of squashes.

Connecticut Field. ½ pint, 5c; quart, 15c; peck, 75c; bushel, \$2.00. If wanted by mail, add at the rate of 16c per quart for postage.

RHUBARB.

Myatt's Victoria. Oz. 10c; lb. \$1.00.

Roots, 10c each; 50c for 10; \$3.50 per 100. If wanted by mail, add 5c each for postage.

RADISHES.

Early Scarlet Globe. Pkt. 5c; oz. 10c; lb. 60c.

This is the radish that Vick gives such a beautiful chromo of in his catalogue for 1888; and for forcing in the greenhouse, it is ahead of any other in the way of forcing radishes. They begin to form a bulb almost as soon as the second leaves come out. They are very hardy, and of exceedingly rapid growth.

Wood's Early Frame. Oz. 10c; lb. 75c.

The very best long radish for raising under glass, or for extra early.

Beckert's Chartier. Oz. 5c.; lb. 40c.

A novelty, and one that has given us the greatest satisfaction; of rapid growth and good size, both at the bottom and top. In favorable soil it will grow to a large size, and still be excellent in quality. They are remarkably certain to make a good bulb, and stand a long while without getting corky.

Chinese Rose Winter. Oz. 5c; lb. 40c.

These not only stand cold weather until toward Christmas, but we consider them really a most delicious radish, and the most free from being corky, of any radish known. They are not as strong as radishes ordinarily are, but are of a sweet turnip flavor. Usually sown at the time we sow turnips.

SALSIFY, OR OYSTER PLANT.

New Mammoth. From Sandwich Islands. Oz. 10c; lb. \$1.25.

We have grown this side by side with the common salsify, and we find the roots larger, better shaped, and equally good in other respects; they are, in fact, the quietest question an improvement. Finely grown specimens are almost as large and smooth as parsnips.

SPINACH.

Bloodsdale Extra Curled. Oz 5c; lb. 25c. 5 lbs. \$1.00.

It combines as many of the good qualities as any other.

SQUASH.

SUMMER.

Giant Summer Crookneck. Oz. 10c; lb. 65c.

This squash is as early as the ordinary crooknecks, and in every way equal; but are of such size that one squash will make a dinner, even when soft and tender; and one good thrifty plant will almost supply a family. Our seeds are our own raising, and are saved only from carefully selected specimens.

WINTER.

Hubbard. Oz. 10c; lb. 75c.

We would call special attention to our Hubbard squash. We offer stock seed—that is, seed saved only from the best specimens, such as we would raise seed from another year. There is no better winter squash than the Hubbard.

TOMATO.

Golden Queen. Pkt., 5c; oz., 20c; lb., \$2.50.

This is no special novelty, that I know of, over other tomatoes, except its beautiful golden yellow color; but at the same time the tomato is good-sized, and remarkably smooth and regular. Not so far as the red varieties. Stock seed, our own raising.

Ignom Tomato. ¼ oz. 10c; oz. 25c; lb. \$2.50.

During the year 1889 we sent out about 3000 sample packages of the Ignom tomato; and the general testimony of those who have grown it corroborates the decision of the Michigan Agricultural College, that it is, all things considered, the best, and they gave it a test side by side with over 100 different varieties. There are, however, several kinds

A large part of our seed is our own raising, from carefully selected stock.

(among them Livingston's Beauty) that are rather handsomer in shape, but they are behind in size and earliness. In solidity the Ignotum is behind none; and for slicing up for the table we have never found any thing better.

Livingston's Beauty. Oz. 20c; lb. \$2.00.

This is a production of the same Livingston who brought out the Acme, Trophy, Favorite, and Perfection; but he pronounces this superior to them all. They are better shaped and smoother than the Mikado, but not so large.

Dwarf Champion. oz. 20c; lb. \$2.50.

We have tried to get along without this tomato; but its earliness, uniform size, solid, thick meat, round, smooth shape, and, more than all, dwarf, compact habit of growth, permitting it to be planted as close as 2 by 3 feet apart, commands it so highly that we have concluded to offer it again, though it makes our list larger than we like.

Pear-Shaped Tomatoes. Oz. 20c; lb. \$2.50.

These are handsome for pickles and preserves. They are immense bearers, and of good quality. About the size of hickorynuts.

TURNIP.

Extra-Early Turnips.

We have tested some of these which are advertised in the different seed catalogues; and while we find them some

earlier than the staple turnips, they are, so far as we have tested them, inferior in quality, very strong in taste, and sometimes bitter.

Purple-top White-globe. Oz. 5c; lb. 40c; 5 lbs. \$1.50.

This turnip has given us the best results of any thing we tried; the quality seems to be unusually fine for table use, especially when they are about as large as fair-sized apples. They grow nearly as quick as any other turnip known, and are very handsome. When washed they are almost as white as an egg, with a beautiful purple around the top. They are smooth and round.

Yellow Aberdeen. Oz. 5c; lb. 40c.

We consider this one the best table turnip grown. When cooked it is so yellow that it will sometimes be mistaken for squash.

Breadstone. Oz. 10c; lb. 80c.

During the past season this turnip was so much superior to any of the Swede turnips for table use, that those who ate them at our lunch-room came to me not only for turnips, but for seed to sow next year. The flesh is yellow, and the quality exceedingly rich and delicious.

White Egg. Oz. 5c; lb. 50c.

Very showy and handsome, as well as quite early, and fine quality. In 1890 they sold for 10c more a peck than the Purple-top Globe.

VEGETABLE PLANTS.

These are one of our great specialties, and we are prepared to furnish cabbage, onion, and lettuce plants from the first of March till the first of August; celery-plants from the first of March till the first of September; tomato, sweet potato, and pepper plants from the first of April till the first of August.

PRICES AND VARIETIES.

ASPARAGUS ROOTS.

HENDERSON'S PALMETTO roots, 2 yrs. old, 10c for 10; 75c per 100, or \$6.00 per 1000.

HORSE RADISH ROOTS.

Price 25, 10c; 100, 25c; 1000, \$2.00.* By mail, 25c per 100 extra.

Horseradish is best propagated from pieces of root 2 to 4 inches long; these should be put in the ground at an angle of about 45 degrees, and deep enough so the tip of the cutting will be about two inches below the surface of the ground. They should have about 1 foot of space each way, and it is a good plan to put them in some corner where they will not have to be disturbed, as, when once started, they will take care of themselves, and occupy all the territory you will allow them. Can be planted any time, and do not object to a very wet place.

CABBAGE-PLANTS.

We keep in stock during the months of March, April, May, June, and July, varieties as below:

SELECT VERY EARLY JERSEY WAKEFIELD, HENDERSON'S EARLY SUMMER, 5c per 10; 100, 40c; 1000, \$3.00; 10,000, \$25.00. During May, June, and July, **EXCELSIOR FLAT DUTCH, FOTLER'S BRUNSWICK**, prices same as above. **PERFECTION DRUMHEAD SAVOY CABBAGE, and LARGE RED DRUMHEAD**, 8c per 10; 60c per 100, or \$5.00 per 1000.

Extra-strong plants, double above prices. If these are to be shipped by express, the expressage will be extra, on account of the great weight of the plants.

COLD-FRAME CABBAGE-PLANTS.

When we have these they will be double the price of the plants raised in the greenhouse. During the present season we have only one kind of cold-frame cabbage-plants; viz., extra selected **JERSEY WAKEFIELD**.

CAULIFLOWER.

We have confined our attention to the one kind—**HENDERSON'S EARLY SNOWBALL**. Price of plants, 10c for 10; 75c per 100, \$6.00 per 1000. These will be ready in March, April, May, and June.

Our cabbage, cauliflower, tomato, and celery plants are transplanted once, then we wait for them to make good, strong roots before sending them out. We know this insures your getting much better plants than is possible to produce in a seed-bed without transplanting. All of the above, except sweet-potato and onion plants, will be ½ price if taken from seed bed.

STRAWBERRIES.

With the multitude of new and exceedingly good berries before us at the present date, it is a very hard matter to make a selection of only a few kinds; but, as with garden seeds, I can not consent to cumber myself nor my patrons with a long list of varieties. I am testing most of the new kinds, and I may, perhaps change my list somewhat from time to time, but for the present I have decided to offer for spring planting only **JESSIE, PARKER EARLE, STERLING, BUBACH, and HAVERLAND**. The three last are pistillate, therefore you need at least ¼ of the number of Jessies to put among them—or, say, every third row Jessie. We prefer the Jessie for a fertilizer, because it has such a long season and such an abundance of blossoms. The Bubach furnishes large berries in great abundance; but during a wet season they are liable to rot, as they are pretty soft. The Parker Earle is a large, handsome, very late berry. The Haverland is the most wonderfully productive of any berry I have ever seen at the present writing, unless Parker Earle shall go ahead. The Sterling is T. B. Terry's favorite berry. They're fine dark color, good shape, rather tart, but stand forth remarkably well. Our prices are, 10 cts. for 10 plants; 75 cts. per 100, or \$6.00 per 1000. If wanted by mail, add 5 cts. for 10, or 25 cts. per 100, for postage. To Canada, double the foregoing. We can furnish strawberries from March till November, inclusive.

ONION PLANTS.

I, so far as I know, originated the idea of sending onion-plants by mail and express, and during the spring of 1892 sent out thus more than 100,000. We send them out during March, April, May, and June, and the prices are 15c per 100; \$1.00 per 1000, or \$7.50 for 10,000. Only three kinds are grown, **YELLOW DANVERS, WHITE VICTORIA, and PRIZETABEE**.

LETTUCE-PLANTS.

We can furnish **BOSTON MARKET, GRAND RAPIDS, and HENDERSON'S NEW YORK**. Prices, 5 cts. per 10; 40 cts. per 100; \$2.50 per 1000.

TOMATO-PLANTS.

These will be ready from April first till August first. We have the following varieties:

LIVINGSTON'S BEAUTY, IGNOTUM, DWARF CHAMPION and GOLDEN QUEEN. The above will be 10c for 10; 75c per 100; \$6.00 per 1000; or \$50.00 per 10,000. **PEAR-SHAPED TOMATOES**, for pickles and preserves, 8c for 10, or 75c per 100.

CELERY-PLANTS.

We keep in stock **HENDERSON'S WHITE PLUME, GOLDEN DWARF, GOLDEN SELF-BLANCHING, and NEW ROSE**. Prices, 5c per 10; 40c per 100; \$3.00 per 1000; or \$25.00 per 10,000.

Extra-strong plants, double above prices. If these are to be shipped by express, the expressage will be extra on account of the great weight of the large plants.

PEPPER-PLANTS.

We expect to keep in stock **BULLNOSE, CAYENNE, and SPANISH PEPPER**. The price will be 15c for 10; \$1.25 per 100, or \$12.00 per 1000.

SWEET-POTATO-PLANTS.

Same price as celery-plants; ready May 1st. We can send plants by mail if enough is added to cover postage and packing, which will be 5c for 10, or 25c per 100. To Canada, double the above.

SEEDS OF HONEY-PLANTS.

I have for years had dreams of a honey farm, with acres of flowers of different colors, blooming at different seasons, and keeping the bees away from the stores and groceries when we have a dry spell in the fall. The dream has been partially realized with the Simpson honey-plant, Mollie G. Large's spider plant, and the seven-top turnip, but I am pretty well satisfied it will *not* pay to cultivate these for honey alone. Mignonnette, catnip, motherwort, borage, mellilot, and some others, I have tested, but I am quite sure that none of them have ever paid, just for the honey.

We first give a list of the plants that not only yield honey, but are profitable crops for their other products. If the bee-keeper can not raise these himself, he can often induce farmers round about him to do the same by furnishing the seed free, or (where it is expensive) part of the price of the seed. As an illustration: We have for years been in the habit of furnishing buckwheat seed free of charge to any one who will sow it within a mile and a half of our apiary. Alsike, white Dutch clover, and Mammoth (or Peavine) we furnish at *half* the usual price. Now, then, friends, which is the most important honey-bearing plant, generally speaking in the world? I am inclined to think that basswood (or linden) bears the *largest quantity* of honey, although it is not generally considered quite equal to clover in flavor; for in the honey-markets it usually sells for one cent per pound less than clover. We, however, put basswood first and clover second.

Basswood-trees.	Per 10	Per 100
One foot and under, each, -	.05	.30 \$ 2 00
The above by mail, " -	.08	.35 2 25
One to five feet, " -	.10	.75 5 00

We also have some fine tulip or whitewood trees of the following sizes and prices.

Five to ten feet, " -	1.25	10 00
Ten to fifteen feet, " -	.25	2 00

These will be taken directly from our nursery, and if planted any time after the leaves have fallen, until the ground freezes, not one in one hundred should fail to grow. They can also be sent during the months of March, April, and May, and spring planting is preferable. For a description of the basswood, with engraving, see A B C. Basswoods may be planted along the roadsides so as to answer for shade-trees, and at the same time furnish honey. The bee-keeper can also plant and arrange so as to get them planted for shade along the streets of towns and cities. We can furnish the basswood-seeds if desired; but as they require special treatment I think our friends will be much better satisfied to buy little trees.

Alsike Clover. One ounce, by mail, 5 cts.; 1 lb., by mail, postpaid, 30 cts.; by express or freight, 1 lb., 20 cts.; one peck, \$2.60; $\frac{1}{2}$ bushel, \$5.10; bushel, \$10.00.

This furnishes not only the best honey of any plant in the world, letting the majority judge, but the quality of the plant for feed for cattle, whether hay or pasture, is probably better for milk-producing than any other forage-plant. It can be sown almost any time, but perhaps gives best results for seed, when sown in April or May. About 4 lbs. are required per acre, and it does not blossom much until the second year. Its treatment and cultivation are much the same as for common red clover, but the seed is saved from the first crop. We know our seed to be fresh, and free from dangerous seeds.

White Dutch Clover. Rushel, \$12.00; $\frac{1}{2}$ bu., 6.50; pk., \$3.50; 1 lb., 25c; lb. by mail, 35c.

This differs but little from the ordinary white clover. It has an advantage over alsike, inasmuch as it will scatter itself without any cultivation, and it grows along the roadsides, pastures, and all waste places.

Peavine, or Mammoth Red Clover. Bush, \$9; $\frac{1}{2}$ bu., \$4.60; pk., \$2.50; per lb., 20 c; by mail, 9c per lb. extra.

This yields honey late in the season after all other clovers, and, in fact, after basswood, and in some localities it rarely fails to give more or less of a crop, especially where Italian bees are kept. In other localities there have been complaints made that the bees would not work on it.

Buckwheat, Japanese. Trial packet, 4 ounces; by mail, postpaid, 5 c.; 1 lb. by mail, postpaid, 15 c.; peck, 40 c.; $\frac{1}{2}$ bush., 70 c.; bush., \$1.20. These prices include bag to ship it in. Ten or more bushels, purchaser paying for bags, 9c.

We should place buckwheat at the head of the list were it not for the fact that it often fails, almost, if not quite, to yield honey; and the quality of the honey is always second class and the color is dark. At the present time the Japanese has so far outstripped all other varieties that we have dropped them entirely from our list. It makes a much stronger growth than the old kinds, gives a much larger yield of grain, and also matures its seed a little earlier. During the past season the yield has been so great as to put buckwheat flour as well as grain at a lower price than it has been known before for years. We have an 8-page pamphlet, being a collection of articles from different localities, telling just how to raise buckwheat. Mailed for 5 c., or given free to all purchasers of our seed. Please notice that buckwheat can not very well be sent *ALONE BY REGISTER*, either by mail, freight, or express, without the expense of shipment being more than the value. If you want a peck, or half a bushel, it should be ordered by freight with other goods, unless you are willing to pay more than the seed is worth, in the way of charges.

Alfalfa, or Lucerne. Per bush., \$7.00; $\frac{1}{2}$ bush., \$3.60; peck, \$1.90; pound, 15 cts. By mail, 9 cts. per lb. added.

This is the great honey-plant of Arizona, Idaho, California, and other Western States and Territories. Where it is raised by irrigation in the case of a thousand acres or more there is an almost continuous honey-flow, from spring until winter. In fact, quite recently we have had reports of beautiful honey, not only by the ton, but by the carload. In Sept. 1892, we received from K. A. L. Bond, of Idaho, a carload of the finest combed honey made from alfalfa, ever put on this or any other market. Little patches have, at least

partially, succeeded in the Eastern States. In dry seasons it will succeed, without a doubt; but much rain is detrimental. On our grounds it stands winter without injury, and we have found the roots at a depth of several feet. We furnish purchasers a little circular in regard to its cultivation.

Rape. Oz. 5 cts.; lb. 10 cts.; 10 lbs. or over, $\frac{7}{8}$ cts. per lb.; 100 lbs., \$6.00. By mail, 9 cts. per lb. extra.

Where rape is used for making oil, it often yields a considerable quantity of honey. In most localities, however, it is liable to be destroyed by the black flea, if sown earlier than July. It is sown like turnips, and about 3 lbs. of seed is enough per acre. It may blossom in four weeks after being sown, and stay in blossom four weeks longer.

Raspberry. Price of plants: 10, 40 cts.; 100, \$2.50; If wanted by mail, add 5c for 10, or 25 cts. per 100. Red raspberries are, without doubt, one of our best honey-plants, and the Turner and the Cuthbert are probably as good as any varieties, the former being early and the latter late.

The above are the only plants I know of that can be profitably grown by the bee-keeper; that is, the honey they yield would probably pay, in connection with the profit on the plant for other purposes.

The following plants yield honey, and many of them in considerable quantities; but they are so little used for other purposes that there is little inducement to raise them by the acre; and let us bear in mind that it must take *acres* of any plant to yield honey enough to amount to any thing.

Bee Balm, or Melissa. Oz. 15c; lb. \$2.00.

For further description, see GLEANINGS for November, 1887.

Borage. Oz. 10c; lb. 75c; if wanted by mail, add 10c per lb. extra.

A strong, hardy, rapidly growing plant, bearing a profusion of blue flowers. It may be sown any time, but will, perhaps, succeed best, at about corn-planting time. As it grows tall, and branches out considerably, it should have plenty of room. I know that bees are very busy on it, all the day long, from July until Nov., but I do not know how much honey an acre of it would furnish. It is easily tried, because it grows so readily, and if sown on the ground after early potatoes are dug, you will get a nice crop of fall bloom. Sow broadcast, or in hills like corn. Borage is also used as a salad, or cooked as spinach.

Catnip. Oz. 10c; lb. \$1. If wanted by mail, add 10c per lb. extra.

This has been very much talked about, and we have record of some experiments with an acre or more; but, if I am correct, no one has ever yet seen a barrel of catnip honey. If you wish to try, we can furnish you good seed, that we have tested ourselves. Sow in the fall.

Dandelions. Package 5c; oz. 50c.

I presume everybody can get dandelion seeds and roots without buying them, but for all that, I have much faith in an acre of cultivated dandelions. French thick-leaved is superior for "greens," and by the way our bees take to our "patch" of it, I think it must be superior for honey.

Figwort, or Simpson Honey-plant. Oz. 20c; lb. \$2. By mail, 10c per lb. extra, for postage.

This is a queer tall weed that grows in fields and woods and bears little cups full of honey. It bears honey all the day long from July to October. Very hardy; blooms first year, and after that shoots up from the root every year, but needs planting anew about every three years. The seed sometimes lies in the ground many months before germinating. If sprinkled on the top of damp leaf-mold, packed hard in a box, and rolled hard, being kept dark and damp in a warm place, they will sprout in a week or two. Then give all the light and air possible, but not too much water.

Honey Pea. Per bu. \$1.75; half-bu. $\frac{1}{2}$; peck 60c, packages included. Per lb. 10c; by mail 10c extra. Bu. weighs about 60 lbs.

This is the stock pea of the South, and often yields much honey. It is also used for food.

Horsemint. Oz. 20c; lb. \$2. Postage 10c per lb. extra.

The celebrated honey-plant of Texas.

Lippia Nodiflora. Oz. \$1.

For description see Dec., 1879, GLEANINGS. Give hot-bed treatment.

Motherwort. Prices same as for catnip.

Mignonnette. Oz. 10c; lb. \$1; by mail, add 10c per lb.

This is a great favorite with the bees, and also with those who are raising plants for their bees; but although we have sold considerable of the seed for bee pasturage, I am not sure that any one has ever made it pay in dollars and cents, for the honey alone. The tall varieties seem best suited to the bees, but are not as fragrant. It should be sown in the spring; and as the seed is small, it should have fine clean soil, and be covered lightly. This plant seems to have a rare capacity for standing frost, and bees may often be seen busy upon it clear into October.

Mustard. Common (either white or black), lb. 25c; oz. 10c. Add 10c per lb., if to be sent by mail.

The honey from this is said to be very light, equal to any in flavor, and to command the highest price in the market.

Portulaca. 5c per package.

Best mixed. A bed of portulaca, say a rod square, will show more bees in the working season, for the area, than any other plant I know of; furthermore, a bed of mixed portulacas, equivalent to a square rod, makes one of the handsomest, if not the handsomest of sights, when in full bloom, the whole floral kingdom affords. It does not seem to me that any bee-keeper ought to be without a bed; and I might also say, no lover of flowers can well afford to forego the gorgeous spectacle of a bed of mixed portulacas, especially when the seed is only 5 cents a paper. One paper will cover a square rod of ground nicely. You can have the square rod laid out in artistic beds and walks, if you choose.

Rocky Mountain Bee-plant *Cleome integrifolia*. Per lb. \$1.25, postage 10c extra; oz. 15c.

This is closely connected with the noted Spider plant (*C. pugnans*), these two being the only species of the *Cleome* with us, it is much inferior to the Spider plant as a honey-producer. We have reports from some localities of its yielding large quantities of honey, hence quite a demand for the seed is the result.

Sage, White (*Salvia argentea*). Oz. 35c; lb. \$4.

It is called the honey-plant of California, and belongs to the Labiate or Mint family, the same as Rosemary, Balm, Hoarhound, etc.

Sweet Clover (*Melilotus alba*, or *Melilot*). Per lb. 18c; 10 lbs. \$1.50; 100 lbs. \$12; if wanted by mail, add 10c for bag and postage. This is sold with the hulls on; the Bokhara is hulled.

This has some valuable traits, as standing frost and drouth, but many times and seasons, the bees will hardly notice it at all. About four pounds of seed are needed for an acre. Sow like Alsike. It will grow on almost any barren hillside, but it is a bad weed to exterminate; if, however, it is mown down to prevent seeding, the roots will soon die out. Sow in spring or fall. In the vicinity of Salt Lake, Utah, sweet clover is the main honey-plant, and the quality of the honey is equal, in my opinion, to any honey in the world. The plant lives through the dry-summer in Utah.

Bokhara Clover is the same as sweet clover.

Cerulea, Bee Clover. Oz. 10c; lb. 75c; by mail add 10c for bag and postage.

This latter blossoms in about six weeks after sowing, and bears a small blue flower.

Italian or Scarlet Clover (*T. incarnatum*).

Introduced from Italy and France. The flowers are most beautiful, much resembling a large luscious strawberry. Blossoms first year. Prices same as sweet clover.

Sunflower, Mammoth Russian. Oz. 5c; lb. 10c; 10 lbs. or over, 8c; 100 lbs., 7½c; if wanted by mail, add 10c for bag and postage.

This plant is visited by the bees in great numbers in some localities, while in others it is scarcely noticed; but, as the seeds usually pay all expenses of cultivation, it holds its place as a honey-plant. The mammoth Russian bears by far the largest blossoms, as well as the largest seeds.

Spider Plant. Package 5c; oz. 20c; lb. \$2. Postage 10c per lb. extra.

This plant, under favorable circumstances, yields more honey than any thing that ever before came under my observation. In Oct. 1879, each floweret yielded drops so large that a bee had to make two or more journeys to get it all, and I succeeded in dipping the honey from the plant with a spoon, until I had filled a bottle with it, for experiment. As it yields only this honey early in the morning, and late in the evening, it will go nicely with the Simpson honey-plant. I should think it quite probable that 5 acres of each of these plants would keep 100 colonies busy enough to be out of mischief during a dry fall, when bees are so apt to be robbing. For particulars concerning both plants, see A B C of Bee Culture. The Spider plant is an annual, and should be sown every year. It grows most quickly with hotbed treatment, but will blossom in August if sown in the open ground in May.

Seven-top Turnip. Oz. 5c; lb. 35c; 10 lbs. \$3.00. If wanted by mail, 10c per lb. extra.

This plant, although not equal to the Spider plant and the Simpson honey plant, is entitled to a place next to them, because it bears its crop of honey in the spring, between fruit blossoms and clover. It should be sown in Aug. and Sept. It bears no root like the ordinary turnip, but only foliage that is used for greens. Excellent for plowing under.

Yellow Trefoil (*Medicago lupulina*).

A weed or pasture plant, in dry or sandy fields.

Erysimum (False Wall Flower).

Belongs to the Cruciferae or Mustard family, and comprises but three species.

Spring Vetches or Tares (*Vicia sativa*).

Seems to be a cross between the Pea and Clover, partaking of the peculiarities of each, and belongs to the same family, Leguminosæ. Does not yield honey with us.

Any of the above seeds will be sent in 5c packages, to those who would like just a few to try.

MISCELLANEOUS IMPLEMENTS FOR GARDENERS, FARMERS, Etc.

TRANSPLANTING-BOXES FOR SEEDLINGS.

EMPTY SEED-BOX FOR EARLY PLANTS.

To give drainage and strength, we have the bottom made of slats only three or four inches wide, and only ½ inch thick. They are nailed on crosswise, as you will notice. Such light stuff would not be strong enough if put on lengthwise of the box. The sides of the box are 1½ x ½ inch. These are very easy to carry about, and answer just as well for small plants. From one of these boxes, we, in the spring of 1886, got 7500 celery-plants. After the first leaf had formed they were taken up and planted into similar boxes, as shown below:

A BOX OF WHITE-PLUM CELERY-PLANTS AS IT APPEARS WHEN FIRST TRANSPLANTED.

Price of seed-boxes, as shown, made complete, 15c each. Price of stuff in the flat, in lots of 10, 85c; 100 in the flat, \$8.00.

You will observe that there are 10 rows of plants, and 30 plants in a row, so it took 25 boxes, with 300 plants to a box, to contain just what grew in one single seed-box.

TRANSPLANTING-FRAME.

The above is made by stretching a piece of poultry-netting over an iron frame. This is then laid over one of the plant-boxes shown above, and the plants are put in the center of each mesh. Celery-plant seedlings we put two in each mesh—a plant in each sharp corner. This spaces them properly, without any effort, and lays out the work so that even a child may learn to transplant seedlings, and do it well and rapidly. Price of transplanting-frame, suitable for the above boxes, 25 cts.

We start cabbage, cauliflower, and celery plants, in the fore part of February; tomato-plants from the middle to the latter part. If they get too large before the weather is suitable to set them out, shear off the tops and let them grow out again. This will have the effect of making a strong root.

MOSS FOR PACKING PLANTS AND STARTING SEEDS.

By taking a very large stock we are enabled to offer the nicest moss we have ever got hold of, at the extremely low price of 25¢ per bushel. This is packed in two half-bushel baskets that would cost you 10 cents, leaving the moss only 15¢, or we will send you a peck postpaid for 20¢. This is ready to use for packing purposes, but if you want to use it for sowing seeds you must get it real dry, so the fibers are brittle and will break fine, either by sifting it or rubbing it between the hands. We can furnish it all nicely sifted ready for use for 10¢ per quart postpaid. You can often save several times the cost of a quart in starting a single packet of celery seed.

TRANSPLANTING TUBES.

We use these, particularly for putting out strawberry plants in very dry weather; but they may be used for any sort of vegetable plants. By their use I can put out a thousand strawberry plants, and not have one fail; and I will do it during the very driest time in July and August. Where it is necessary to get as many plants as possible of some choice variety, these tubes are a very great help. Set them over the plants; place your foot on top of the tube, and grow it down into the ground about half its depth. Lift it up—plant, earth, and all; throw it into the wheelbarrow, then wheel them to your newly prepared ground. Set the plants down just a little deeper than they stood originally. When this is done, fill each tube with water; and, as soon as the water has soaked down, use it to make the soil around the plant like soft mud, and slip the tube off. Lift the leaves up and put a mulch of soft earth around the plants, being careful not to cover the crown, and your plant will often grow better than it did before you moved it. Price of these tubes, 25 cts. for 10; \$2.25 per 100; \$20.00 per 1000. If shipped before the seam is locked together, they will pack in much less compass. In this shape we ship them for \$2.00 per 100, or \$15.00 per 1000.

NEST OF TRANSPLANTING-TUBES, MADE OF GALVAN-
IZED IRON.

Where you wish to move a whole hill or melons, cucumbers, or squashes, or other large plants, transplanting-tubes made of galvanized iron, large enough to go around a whole hill, are used. To prevent the soil from dropping out, slip a spade or shovel under them while the hill is being moved. We can furnish a nest of these, comprising five different sizes, as shown above, for 50 cts.

GALVANIZED WIRE CLOTH.

Four and eight meshes to the inch. Per sq. ft., 10c; 10 ft., 85c; 100 ft., \$7.50. Suitable for outlets to earp-ponds, sieves, drying fruit, etc. By mail, 10c per square foot for postage.

BOXES FOR STARTING SQUASHES, MELONS,
CUCUMBERS, ETC.

During my visit to Arlington, in July, 1886, I noticed that the squash-growers had a plan for getting Boston Marrow squashes in the market very early. It is by means of the boxes shown in the adjoining cut. These, as you notice, are made so as to nest one in the other, occupying but little room when stored away, or drawn out on the wagon. An 8x10 glass slides in the top. These boxes can be used for putting over hills of early potatoes in March and April; and when the potatoes are out of danger the

boxes will do good service in forwarding squashes, melons, and cucumbers. After all danger of frost is past, the glass may be drawn out, but the box is left on, as a protection against bugs. If the bugs are very bad, however, you will have to tuck on these cloth. The striped bug will *crawl through* mosquito bar. As the glass is to move loosely, it is not a very long job to slide them all back when the weather is mild, and close them up again at night, when frost comes. If the earth is banked around the lower edges, it makes quite a miniature cold frame. I was astonished while at Arlington to see squash-vines fully a month ahead of the usual time; but I was told these boxes were the explanation of it. Don't fail to have a big lot of good manure under every box (see our little book, "Gregory on Squashes"). Prices of these little boxes without glass, in the flat, 10 ets. each; 85 ets. for 10, \$7.50 per 100. Glass to match, \$2.50 per box of 50 square feet. There are about 90 lights in a box.

THE BUG-PROTECTOR, AND HOW TO MAKE IT.

After the season of frost is passed, we prefer, for a bug-protector, the wire-cloth basket shown above. They are made of pieces of wire-cloth 18 inches square, and the wooden form on the left of the cut shows how they are made. We can furnish these made up, for 5 ets. each; 48 ets. for 10; \$4.50 per 100. Smaller sizes, for single plants, 4 cts. each; 38 cts. for 10; or \$3.50 per 100. Small ones can be sent by mail in lots of 10, at 25 ets. for postage on the 10.

PAPER SEED-BAGS.

Large size, to hold ounces, \$1 50 per 1000, or 20 ets. per 100. Medium size, to hold ordinary packets, \$1.35 per 1000, or 18 ets. per 100. Small size, for very expensive seeds, \$1 15 per 1000, or 15 ets. per 100. If wanted by mail, add for postage, 5, 8, and 10 ets. per 100 respectively. The same printed to order (not to exceed 50 words), 25 ets. per 100, or \$1 00 per 1000.

PYRETHRUM ROSEUM.

(Persian Insect-Powder.)

This is not only a pretty plant for the flower garden, but the flowers, gathered and dried when in full bloom, and then finely powdered, furnish us the Persian insect powder, of which so much has been said. Wilt, as it has been the surest thing to kill all sorts small insects, laying them out dead in even a few minutes, of any thing we have ever got hold of. It will also kill the green fly in greenhouses. When used in the insect-powder bellows, shown below, but a very little of the powder is required.

INSECT-POWDER BELLOWS; PRICE \$1.00; SIZE 6x18
INCHES.

With the above instrument you can kill every fly in any room of the house, within an hour. Of course, the doors and windows of the room should all be closed. In painting new houses in the summer time, when flies are troublesome, the instrument is worth more than it costs, for this alone. It is not at all poisonous or injurious to human beings.

Price of the powder, all ready for use, one ounce, 5 cts.; $\frac{1}{4}$ lb., 15 cts.; 1 lb., 50 cts.; 10 lbs., \$4.25. Price of the seeds, one packet, 5 cts.; one ounce, 40 cts.; 1 lb., \$5.00. By mail, 18¢ per lb. extra on powder, and 9¢ on the seeds.

TOBACCO DUST.

This is sprinkled over the foliage, and on the ground around lettuce in the greenhouse or on melon and other vines just as they are coming up and is one of the best and cheapest in-

$$\begin{array}{r} 56 \\ 221 \\ \hline 1126 \end{array}$$

secticides known. One lb. by mail, 25 cts.; 5 lbs. by express or freight, 3 cts. per lb.; 10 lbs., 2½ cts. per lb.; 25 lbs. 2 cts. per lb. 100 lbs., \$1.75.

PUTTY-BULB.

For setting glass for greenhouses, for repairing sash, etc. This is a rubber bulb, with nozzle, for running liquid putty along where the glass lies in the sash. No person who has half a dozen sash should be without one. Full instructions for preparing the putty, with each. With a little different arrangement the above makes the nicest kind of powder-gun for using a small quantity of pyrethrum or insect powder. In ordering, please state which purpose you wish it for. Price 15 cts.; postage 6 cts.

GOODS ESPECIALLY FOR POULTRY RAISERS. PURE BONE MEAL.

Coarsely ground, expressly for poultry. Per lb., 5 cts.; 5 lbs., 3 cts. per lb.; 10 lbs., 2½ cts. per lb.; 100 lbs., 2½ cts. per lb.; by the barrel, shipped from factory, 2 cts. per lb. Fowls will eat this almost as greedily as corn; and it not only furnishes material for egg-shell, but it gives them considerable animal matter besides. Excellent for laying hens. It is sure cure for thin-shell eggs.

Bone meal ground fine, for gardening purposes, same price as the above.

NEST-EGGS polished wood, each 2c; 10, 15c; 100, \$1.25. Postage 3c each.

Sunflower Seed, Mammoth Russian, per lb., 10c.; 10 lbs., 80c; 100 lbs., \$7.50.

BOOKS ON GARDENING, FARMING, &c.

Figures on the left hand indicate amount of postage to be added when books are to be sent by mail.

I have indicated my opinion of the books by characters as follows: Books that I approve I have marked with a *; those I especially approve, **.

5 | Tile Drainage, by W. I. Chamberlain..... 35
Just out. Fully illustrated, containing every thing of importance clear up to the present date.

The single chapter on digging ditches, with the illustrations given by Prof. Chamberlain, should alone make the book worth what it costs, to every one who has occasion to dig in rods or more of tile. There is as much science in digging as in doing almost any thing else; and by following the plan directed in the book, one man will often do as much as two men without this knowledge. The book embraces every thing connected with the digging of ditches, and is written by a man while he was engaged in the work of digging the ditches and laying the tiles HIMSELF, for he has laid literally miles of tile on his own farm in Hudson, O.

5 | Tomato Culture..... 35

In three parts. Part first,—by J. W. Day, of Crystal Springs, Miss., treats of tomato culture in the South, with some remarks by A. I. Root, adapting it to the North. Part second—by D. Cunningham, of Conneaut, O., treats of tomato culture especially for canning-factories. Part third,—By A. I. Root, treats of plant-growing for market, and high-pressure gardening in general. This little book is interesting because it is one of the first rural books to come from our friends in the South. It tells of a great industry that has been steadily growing for some years past; namely, tomato-growing in the South, to supply the Northern markets. The little book, which is fully illustrated, gives us some pleasant glimpses of the possibilities and probabilities of the future of Southern agriculture. Though it does not grow to any considerable extent, you will find the book brimful of suggestions of short cuts in agriculture and horticulture, and especially in the line of market-gardening. Price 35 cts. By mail, 40 cts.

3 | A B C of Potato Culture, Terry*..... 35

This is T. B. Terry's first and most masterly work. The book has had an enormous sale, and has been reprinted in foreign languages. When we are thoroughly conversant with friend Terry's system of raising potatoes, we shall be ready to handle almost any farm crop successfully. It has 48 pages and 22 illustrations.

3 | An Egg Farm, Stoddard**..... 45

No matter whether you raise eggs on a large scale or a small scale, you can not afford to miss reading friend Stoddard's book. I do not mean to say that it is a new thing, but it is a fiction—not even Robinson Crusoe, that so thoroughly fascinated me as these chapters in regard to raising poultry on a large scale. The work has 42 pages and 42 illustrations.

7 | Farm, Gardening, and Seed Growing*..... 90

This is by Francis Brill, the veteran seed-grower, and is the only book on the subject of seed-growing that tells how market-gardeners and seed-growers raise and harvest their own seeds. It has 166 pages.

2 | Rats: How to Rid Farms and Buildings of them, as well as other Pests of like Character..... 15

This little book ought to be worth dollars instead of the few cents it costs to any one who has ever been troubled with these pests, and who has not! It is written in such a happy vein that every member of the family will read it clear through, just about as soon as they get hold of it. It contains a complete summing up of the best information the world can furnish. Price 15 cts.; postage 2 cts.

2 | The New Celery Culture..... 15

This summing-up of this new industry amounts to this: You fix your ground just as rich as you can possibly get it, with stable manure, chemical fertilizers, or any thing else that will do the business. Then put your plants 12 inches apart each way, and give them water enough to make them boom right along from the word go. The idea is somewhat new; but enough succeeded in 1892 to demonstrate that, like the new onion culture, it promises great possibilities. Price 15 cts.; postage 2 cts.

5 | The Silo and Ensilage, by Prof. Cook, new edition, fully illustrated..... 20

Three thousand copies of the first edition of this little book were sold in about eight months, and friend Cook has now gotten out a new and enlarged edition, fully illustrated with excellent engravings. The pictures are worth alone to me a good deal more than 25 cts. The whole matter is treated in friend Cook's happy way of making things plain.

3 | Maple Sugar and the Sugar-bush, by Prof. A. J. Cook..... 35

The name of the author is enough of itself to recommend any book to almost any people; but this one on maple sugar is written in Prof. Cook's happiest style. It is profusely illustrated, and all the different points in regard to making the very best quality of maple syrup and maple sugar are fully explained. All recent inventions in apparatus, and methods of making this delicious product of the farm, are fully described.

10 | Fuller's Grape Culturist*..... 1 40

This is, perhaps, the most systematic, comprehensive, and thorough work on grape culture now in print; in fact, friend Fuller here tells us how, by easy steps, to make any grapevine come into the world, and make a pleasant, orderly appearance; and he makes it as attractive as a piece of fiction; and the best part of it is, that you get great crops of beautiful grapes during almost any kind of season. We have tried the system, and know whereof we speak.

10 | Farming for Boys*..... 1 15

This is one of Joseph Harris' happiest productions, and it seems to me that it ought to make farm-life fascinating to any boy who has any sort of taste for gardening.

10 | Gardening For Pleasure, Henderson*..... 1 40

While "Gardening for Profit" is written with a view of making gardening pay, it touches a good deal on the pleasure part, and "Gardening for Pleasure" takes up this matter of beautifying your homes and improving your grounds, without the special point in view of making money out of it. I think most of you will need this if you get "Gardening for Profit." This work has 246 pages and 134 illustrations.

12 | Gardening for Profit** New Edition..... 1 85

This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get only one book, let it be the above. It has 376 pages and 138 cuts.

10 | Gardening and Farm Topics, Henderson*..... 75

15 | How to Make the Garden Pay**..... 1 35

By T. Greiner. This is a new book, just out, and it gives the most explicit and full directions for gardening under glass of any kind in the world. Those who are interested in hot-beds, cold-frames, cold-greenhouses, hot-houses, and other structures of any kind for the growth of plants, can not afford to be without the book.

8 | Gardening for Young and Old, Harris**..... 90

This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparing your ground; and this matter of adapting it to young people as well as to old is brought out in a most happy vein. If your children have any sort of fancy for gardening it will pay you to make them a present of the book. It has 187 pages and 46 engravings.

5 | Gregory on Cabbages; paper*..... 25

5 | Gregory on Squashes; paper*..... 25

5 | Gregory on Onions; paper*..... 25

The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost anybody, whether they raise squashes or not. It strikes at the very foundation of success in almost any kind of business.

5 | The New Onion Culture*..... 30

This book is by T. Greiner, and it gives full particulars of the plan of planting onion seed in a greenhouse/hot-bed, or cold frame, and planting the onions out in the field at the time we usually sow the seed. The author thinks that 2000 bushels of the large tropical onion can by this method be raised on an acre.

10 | Irrigation for the Farm, Garden, and Orchard, Stewart*..... 1 40

This book, so far as I am informed, is almost the only work on this matter that is attracting so much interest, especially recently. Using water from springs, brooks, or windmills, to take the place of rain, during our great droughts, is the great problem before us at the present date. The book has 274 pages and 42 cuts.

5 | A B C of Strawberry Culture*..... 35

The above book by T. B. Terry, with some additional remarks by A. I. Root, is at the present time, creating an enthusiasm and interest in strawberry culture never known before. It is a book of 114 pages and 52 engravings, and it is fully up to the times.

10 | Money in the Garden, Quinn*..... 1 40

10 | The New Agriculture, or the Waters Led Captive*..... 40

This book created quite a sensation three or four years ago; and when I lately saw its bright and vivid pictures, I had not all been realized. I think the book contains much that is new. It is a large nice book, and it was originally sold for \$1.50. I purchased 100 volumes when it was first issued; but as it has not sold very well, I now offer them at 40c each.

8 | What to Do, and How to be Happy While Doing It, by A. I. Root*..... 75

The above book tells the reader how to find the best and best occupation for those scattered all over our land, out of employment. The suggestions are principally about finding employment around your own homes. The book is principally upon market-gardening, fruit culture, poultry-raising, etc. I think it is worth the price, not only to those out of employment, but to any one who loves home and rural industries. Price in paper covers, 50 cts. Eight cents extra by mail.

A. I. ROOT, Medina, O.