

Rotate Garden Crops.

It Will Not Do to Have Cabbage or Beets in the Same Spot Every Year—All Gardens, Too, Should Have a Cover Crop in Winter.

Messrs. Editors: We give too little attention to the rotation of vegetable crops. Because the vegetable plot is small, or because a certain piece of ground is particularly well adapted to some crop, one kind of vegetable is grown year after year on the same piece of land. Eventually something happens, and we find that for some reason or other we cannot grow that particular vegetable on that plot or field any more. Diseases, perhaps, creep in, at first unnoticed, a little this year, a little more next, gradually increasing in its ravages until the whole crop is lost. It may be yellow sides or club root in cabbage, drop in lettuce, or mildew on cucumbers. But whatever it may be, one of the best plans for decreasing the ravages of diseases among vegetables is to grow them in a fresh, clean seed-bed if they are to be transplanted and put them on a new piece of ground.

Rotate With Crops Not Allied to Each Other.

In arranging a rotation of our vegetables, we must not overlook the fact that many vegetables are very closely related, and generally speaking, a disease which attacks one crop will also attack its near relatives. Certain diseases, for instance, which attack the tomato will also attack the Irish potato and egg-plant, and if a tomato crop has been killed out by disease on a certain piece of land, it would be folly to turn round and plant the same ground in egg-plants. Of course, many diseases may be controlled by spraying, but there are many on the other hand which work on the roots of the plants or gain entrance to them from the soil. Such diseases cannot be controlled by spraying.

Much that we have said about diseases will apply equally well to insects, and bearing in mind this question of diseases and insects, we may set down in certain groups the different vegetables which are closely related.

- (1) Cabbage, cauliflower, collards, brussels sprouts, turnips and radishes.
- (2) Beans and peas.
- (3) Celery, carrot, parsnip, parsley.
- (4) Beets, spinach, chard.
- (5) Tomato, egg-plant, potato, pepper.
- (6) Cucumber, cantaloupe, watermelon, squash.
- (7) Lettuce, salsify.

Make One Crop Enrich the Soil for Another.

There are other reasons, however, why we should rotate our vegetables. The crops differ in their food, or we might say their fertilizer or leaf parts require a great deal of ammonia, while the root crops draw heavily on the potash in the soil. We may also use our beans and garden peas to enrich the land, just as we use cowpeas and clover, because they belong to the same group of plants and will collect nitrogen from the air, this first being stored on the nodules on the roots and later being returned to the soil. Then if we can arrange our crop of beans or peas in the rotation in such a way as to have them enrich the land for a following crop, so much the better.

We must not lose sight of the fact also that our vegetables differ considerably in their root development and in the depth to which they penetrate. Some get their plant food almost entirely from the surface soil, while others go much deeper and secure a part of it from below. Alter-

nate deep root crops with shallow rooted ones.

Have Some Crop Growing All the Time.

When a vegetable crop is not growing on the ground a leguminous crop of some kind can be planted to good advantage. These crops are beneficial in many ways, and it is best to follow nature closely in this matter and have some crop growing on the land all the time. To grow good vegetables the land must contain plenty of humus (partially decayed vegetable matter) and plant food in abundance. In no way can the necessary nitrogen be added so cheaply as by growing crops of cowpeas, vetch, burr clover, red clover or crimson clover on the land and either turning them back into the land or by growing these same crops, converting them into hay, feeding this to live stock and putting the stable manure back on the land.

Cover Crop to Prevent Leaching.

Cowpeas fit in well in cold frames after lettuce or cucumbers, and after cantaloupes, watermelons, and Irish potatoes in the open field. Even if the crop cannot be allowed to make its full growth because of having to get the ground in shape for autumn work, they should be planted. Their roots penetrate deeply into the ground, opening and loosening it up (subsoiling it) and bringing up plant food from under layers of soil. In no way can the ground be put in such excellent mellow condition for a vegetable crop as by sowing it in cowpeas or some other legume. For winter cover of lands not otherwise in use, crimson clover, burr clover and vetch are excellent and will not only enrich the soil by the plant food and vegetable matter which they add, but will prevent the leaching of much plant food from the soil. Plant food is lost in large quantities from all our soils in winter, particularly in the warmer sections, by a simple process of leaching. A cover crop of some kind should be used to hold and retain this food.

By all manner of means bring these crops into use to cover up our temporarily unoccupied vegetable lands.
H. HAROLD HUME.

GROWING LARGE ONIONS FROM SEED.

The Right Kind of Seeds and Fertilizers—How to Sow, Transplant and Cultivate.

Messrs. Editors: There is no vegetable better suited, or more extensively grown in all localities North and South, than the onion. And no vegetable varies in amount grown per acre as the onion. It ranges from a few bushels to as high as 2,000. Neither does any respond so well to good, loose, moist soil and close attention in maintaining clean culture. It will grow in winter if the temperature is only below freezing, and in summer it revels in the hottest sunshine, all above the ground except the large, long cluster of roots, drinking the moisture from below. Withal it is a disinfectant, has medicinal properties, and with some it is relished as a diet.

How to Sow and Prepare for Transplanting.

Now we will proceed to tell how to grow it from the little black seeds. Take New Opal or Prizetaker seeds, and sow one ounce to 10 square feet (not 10 feet square—90 square feet difference) under glass in January or first half of February. When the

plants are the size of a goose-quill, transplant them to the open ground. Any land well suited to other vegetables will grow onions, but for best results the land should be loose, moist, and rich, and also free from grass and weed seeds. There is no crop on which guano can be used to perfection better than the onion, as stable manure has a tendency to introduce seeds of all kinds. Rows should not be over two feet for hand culture and not over three feet for horse culture. These are made with small shallow furrows and the fertilizer drilled in, preferably a week or ten days before we intend to set, as the caustic potash has an immediate tendency to injure the tiny rootlets. Two small furrows are now run on each side making a slight elevation; this is firmed down with a small hand-roller. The land is now ready for the plants.

Fertilize Highly and Cultivate Closely

We should bear in mind the vast importance of a thorough preparation before planting. The onion also requires a fertilizer rich in potash and nitrate of soda. This can best be obtained by buying the chemicals and mixing at home.

An application of 100 to 150 pounds nitrate of soda as a top dressing when the bulbs are about half grown is a decided benefit, and pays wonderfully. Onion roots have a close range and are sustained by near-by food. The cultivation should be shallow and frequent and the dirt should never be thrown toward them. The bulb will grow much faster and to a larger size on top of the ground

entirely. This method is best suited for growing large onions to sell dry, but the sets are best suited for growing the green bunch onions for the early spring market.

The method of growing onions from sets will be told in another article.
W. L. KIVETT.

Guilford Co., N. C.

Why not win one of our cash prizes to-day?

Buggies, Carriages, Hacks, Wagons!

Write C. C. Townsend & Co.,
Greensboro, N. C.

For their large catalog, and you will find their prices as low as any factory in the United States, and the freight will cost you less than if ordered from a distance, and you can't have to wait so long. Write to-day. They have them from \$25.00 up.

Easy Money

in Sprayed Fruit Trees.

Try our Pumps.

Sydnor Pump & Well Co.,

(Incorporated),

Dept. C., Richmond, Va.



Light SAW MILLS

Lath and Shingle Machines

SAWS AND SUPPLIES, STEAM AND GASOLINE ENGINES

TRY **LOMBARD**, AUGUSTA, GA.

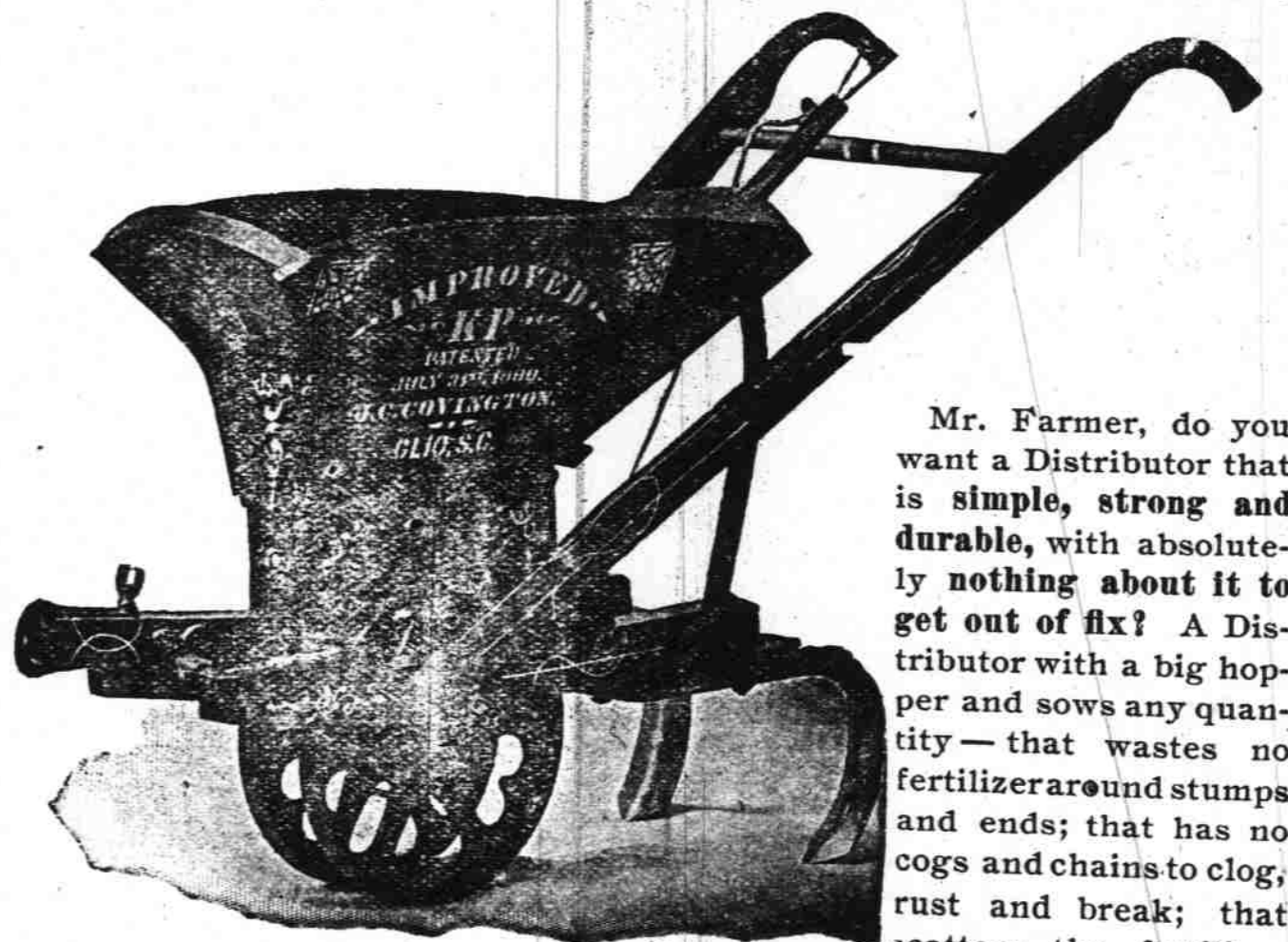
STRAWBERRY PLANTS

Send \$1.80 for 1,000 plants. True to name first-class.

12 apple, peach or plum for \$1.00.

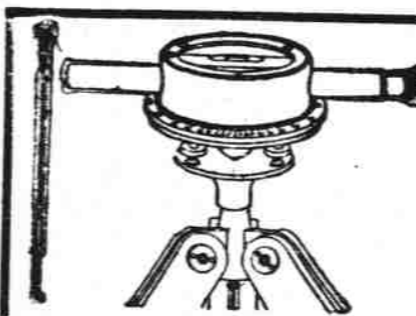
John Lightfoot, Dept. 14, Chattanooga, Tenn.

The K. P. Guano Distributor.



Mr. Farmer, do you want a Distributor that is simple, strong and durable, with absolutely nothing about it to get out of fix? A Distributor with a big hopper and sows any quantity—that wastes no fertilizer around stumps and ends; that has no cogs and chains to clog, rust and break; that scatters the fertilizer over furrow, instead of putting in small stream in the bottom? **The K. P. is it.** Absolutely guaranteed to be as represented. If not for sale by dealer, have him write to N. Jacobi Hardware Co., Wilmington, N. C., Coleman-Wagner Hardware Co., Charleston, S. C., J. D. Weed & Co., Savannah, Ga., or

Clío Implement Co., Patent Owners,
CLIO, S. C.,



FARMERS OF NORTH CAROLINA!

Do you want to know why more than 8000 Farmers have bought

The Bostrom Improved Farm Level With Telescope for Terracing, Irrigation and Drainage and recommend it to be the best one made? Write for list of names, Treatise on Terracing and descriptive circulars—Free. Price including Tripod and Rod \$12.50. Expressage prepaid to nearest station, cash accompanying order.

Bostrom-Brady Mfg. Co., 128 Madison Ave., Atlanta, Ga.



APPLES and PEACHES

Standard Fruits. Plant Harrison quality trees. **BALDWIN** apples always—then select from **Jonathan**, **Winter Banana**, **York Imperial**, **Yellow Transparent**, etc. We offer 100 varieties. All seasons, over half a million trees. **RAY** peach for the leader, a great favorite. **Elberta**, **Crawford**, **Carman**, all good varieties. Finest climate in the world for growing peach trees. We pack for safe delivery everywhere. The **HARRISON** free catalog will show you the best. Write for it.

Harrison's Nurseries, Box 83, Berlin, Maryland.

