

only two eggs instead of three when making cakes, and the cake will be considerably improved. The best proof I can offer of this is that in New York, Indian Runner eggs regularly command ten cents a dozen over the market price of hen eggs.

They are easy to raise, easier still to care for, being subject to practically none of the poultry ills. With a two-foot fence to hold them, a pail of fresh water and feed twice a day, there is no reason why anyone who loves feathered company should be without them.

Leeds Co., Ont.

W. A. STAEPER.

The Medium-Sized Hen Produces the Eggs.

From observation, Prof. W. R. Graham, is led to state that as a general thing the heavy-laying hen is not the biggest hen of her breed, but more of a general-purpose chicken, not too large nor yet too small, but having heavy-laying propensities well developed. There is a reason for this. The bird that lays the most eggs usually matures early, commences laying early, and consequently does not reach as great size as the slow-maturing, heavy bird does. It is a fact that bred-to-lay Barred Rocks are not, as a rule, as heavy as Exhibition strains. The same seems to hold true of Wyandottes and even of Leghorns. We sometimes wonder whether or not it is profitable to raise too large a bird. As a general thing we believe the bird which matures early will make his owner more money and will suit the market better. The bird which matures at an early age will be just as heavy at a certain age as will his slower maturing brother of the same breed, provided that age is that at which most of the birds are killed and sent to the market. The slow-maturing bird, killed young, is never plump, while the more rapid-maturing cockerel rounds out at an earlier age and fills the bill just as well or better. Why not, then, encourage the medium-sized type of hen if she will lay more eggs, and if cockerels from her sell as well on the market and mature earlier, thus making gains more economical for the feeder?

HORTICULTURE.

Producing Cucumber Plants and Making Them Bear.

EDITOR "THE FARMER'S ADVOCATE":

Among the early vegetables that command a good price and that are in strong demand, yet not difficult to grow, is the cucumber. The one important point in growing cucs. is to keep them growing, consequently it is advisable not to plant them too early.

We plant about the 20th or 25th of April. Cucs will take almost unlimited quantities of manure in the field, but it must be given in limited supply in the hot-bed or greenhouse in its earlier stages. Here we are using more small greenhouses with cold frames than hot-beds, but the same results can be had with either. We mix about one-third well-rotted manure and two-thirds light soil, sifting both before planting the seed.

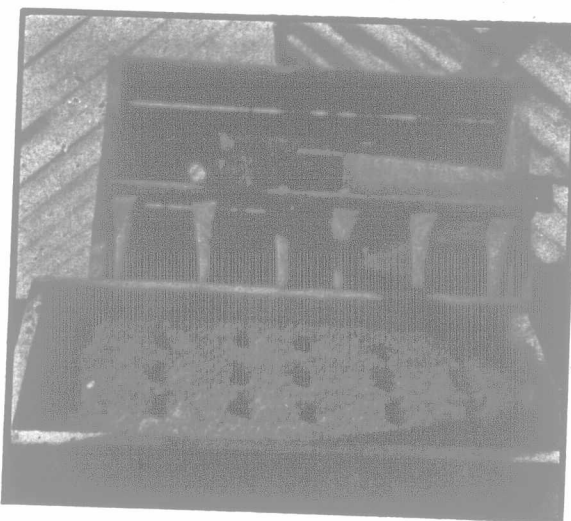
Much loss in cucs is made certain if a poor variety of seed is used. That does not mean seed of poor germinability or small production, but it means seed of varieties that are not the right color, with perhaps another qualification of being a good shape. By all means get a White Spine. These cucs will remain white, not yellow, in the spines or strips, and even when they are ripe they will not turn yellow. There is a strong prejudice among housekeepers against yellowish cucs, because they think they are likely to be bitter, and perhaps there is something in it. For this season's work we have purchased a field variety of White Spine, and another variety known as Perfection Forcing. Almost all the seed houses now carry the White Spine, and it is merely a choice between the strains, and we can only find that out by experimenting. We are experimenting still on the field variety.

We plant the seed in trays or flats 12 by 24 by 4 inches, filling them a little over half full of the sifted soil and manure in the quantities mentioned above. Get the soil level before seeding, otherwise there will be little pockets formed in which water will lie after sprinkling. We plant the seed in drills made with a stick, a lath, pressed edge down, will give about the right size of a trench. Seed in the hot-bed or greenhouse should be buried as deep as it is thick, that is, have as much soil over it as the thickness of the seed. When the seed is in the drills, or trench, cover it with sand, pure sand is what we use. After pressing the surface with a block, sprinkle with warm water and cover with a piece of old grain sack. Be sure to press the soil firm, for no seed can get a root firmly enough attached to the soil if it is not in firm ground. If the soil has a good proportion of sand in it so much the better, for the sandier the soil the larger will be the root system developed. Yesterday I was transplanting some peppers and to day some cauliflower. The peppers were in ordinary soil, and the cauliflower had a big proportion of sand. The peppers had a long tap root and very little side shoots. The cauliflower are the bunchiest little plants I ever grew, and their roots were all over hunting for the nourishment. Many of the peppers wilted, while the cauliflower are as stiff and straight as they were before moving. Then there is this advantage in sandy soil, one can water the seedlings almost every day without running the risk of having them "damp off."

Just as the tip of the true leaf appears between the seed leaves is the time to transplant. Wet them well the night before and transplant in the morning, setting the plants about two inches apart. If you can use trays so much the better. Use sifted soil and manure to the proportion of about three of soil to one of sand and two of manure. Get the soil level in the trays or bed, then make little holes about one-inch-and-a-half deep to receive the seedlings, dig the seedlings out with an old table fork and set them in the holes pressing the soil firmly around the roots. Set them so the seed leaves will be resting on the surface, to have the stalks up in the air weakens the plant. If the sun is out bright we cover the plants with newspapers to be sure they will not wither. If they have had enough water and are not very warm, say not above 65 degrees, for the first 24 hours they will not wilt. A cuc must be kept growing from the time the seed is in, for the moment it stops growing it becomes a runt. It is better to put the seeds in a little later than to have to check them or hold them back. We find every check makes them that much weaker.

When the leaves begin to touch we transplant again. This time if we have them we use flower pots or paper pots, but if not we use the trays. This time we give them considerably more space in the trays, for we find that it does not pay to transplant more than we have done up to this stage. For this transplanting we are not so particular to sift the soil, but we watch for anything coarse in the soil, like old pieces of corn stalks that may have come in through the manure.

After the first transplanting and a few days, generally two, after watering we take a table fork and stir the surface of the trays not too deeply. This we find



A Tray Ready for "Cucs."
Note the hole maker at the top.

is better than watering often, the leaves keep a deeper green and grow much healthier. Two waterings and one careful stirring will not take as long as four waterings, and is much better even though we know that cucs are water hogs.

About six or seven days before we intend to set them in the field we pinch off the end of the vine. This induces the vine to throw out branches, and to give it that tendency is a good thing. If the plants are in trays we take a table knife and cut the plants into blocks, which is an easy matter if they are kept in lines in the trays as they ought to be in order to give them all a fair chance and to make it easier to work the soil. Each plant has then a block of soil about it and will not need to be disturbed very much when planting in the field. Those in the pots will, if turned upside down, drop right out, and are better for not having the knife passed around them.

Anything in greenhouse or hot-bed work that will tend toward evenness in development of the plants should be made use of. We keep the soil in the trays the same depth by levelling off with a strip of wood the ends of which rest on the side of the trays and allow the centre to drop down only so far into the tray. With all the soil in all the trays the same depth evaporation takes place about the same in each tray, and they will require about the same amount of water on the same day. That is why we prefer to plant seeds in trenches, the seeds have each the same chance to sprout, and the seedlings have a chance to develop evenly, so that when the largest are ready for transplanting the smallest will not be so very much smaller.

In the field when we are short of manure we plow a furrow where we wish a row of plants to go, then turn around and go back up the same furrow, throwing the soil out on both sides. The rows are five feet apart, and the plants four feet apart in the row. After the furrows are open we take a load of rotted manure and put a forkful between each plant, or rather leave spaces for the plants to go in. It does not pay to plant anything on top of manure, even though the manure is well rotted. We find that the plants dry out in the sun, and the hoeing they get will only aggravate that condition. It would be far better to plow a furrow and fill it with manure, and then put the plants in another furrow plowed alongside of that. We pick off the first few cucs that show on the vines, and ship as picklers, as the first ones are liable to check growth. The mature cucs are better picked early in the morning and plunged into a tub of cold

water before packing. The cucs are ready when the blossom end is nice and firm. Our packing case holds two tiers of 12 or 15, making 2 or 2½ dozen per case. The number of dozen is then stamped on the end of the case.

British Columbia.

WALTER M. WRIGHT.

The Relation of Precooling to Marketing.

In the year 1911 there were 1,322,709 people living in the three Prairie Provinces. What the increase may be, as shown by the next Census in 1921, it would be idle prophecy to say, but the fact remains that there exists, and will exist, in that broad expanse of country a large market for tender fruits. The question is who will supply it, Ontario or the United States? Ontario needs it badly enough, and should make some effort to win it for herself. This can only be accomplished through reliable packs, concerted salesmanship, and precooling. Distance is an obstacle which Ontario growers must overcome. Precooling will aid. Then again the price problem arises. When a large bulk of the production is diverted from the Eastern to the Western Provinces the price will be better in the East, perhaps, or the returns will be more satisfactory than those accruing from shipments to the West. To effect the distribution so all growers will profit according to the quality of their products, rather than according to the destination of their fruit, some extensive organization is necessary in every district where tender fruits are grown on a large scale so the returns can be meted out on a pro-rata system. The equity of this method is apparent.

Precooling systematically executed by a large organization in the tender fruit districts would extend the market wonderfully. Considerable can be accomplished by the extensive independent growers and the small co-operative associations, yet they should get together on this matter in years of heavy production and agree to precool and ship a certain percentage of their tonnage West. That would alleviate the stress east of the Great Lakes and make things more satisfactory generally.

The time has not yet come when the growers are required to consider precooling in connection with strawberries, but with cherries, plums and peaches it is a different matter. Edwin Smith, manager of the precooling plant at Grimsby, reported at the last annual meeting of the Ontario Fruit Growers' Association that the precooling of cherries has been a success, and that Early Richmonds will stand a shipping test of ten days nearly as well as the Montmorency. There is no doubt regarding plums. They readily respond to the treatment and carry well. So far as the precooling and shipping of peaches are concerned it has been demonstrated that the practice is feasible and can be successfully carried on. The difficulty lies in that the California, Washington and British Columbia peaches are first on the Prairie markets, and have acquired a reputation. The shippers of the Niagara District have verified Mr. Smith's reports with regard to the success of precooling. What is required now is a get-together movement and an extension of the facilities for marketing Ontario's crop of tender fruits to the best advantage.

THE APIARY.

Re-Queening.

EDITOR OF "FARMER'S ADVOCATE":

When a beekeeper has thirty or more colonies of bees, and intends to re-queen all his colonies, it will pay him, I think to raise his own queens. Of course, it necessitates a considerable outlay the first season for equipment, but with a little care in handling and caring for it, the same outfit will last for several years.

The first move to be made by the beekeeper, who intends queen-rearing on a small scale, is to prepare his outfit. I will try and give a few hints, in the preparing of an outfit, that will perhaps benefit some beekeeper. The apiarist should buy or make his mating-boxes, etc., in the winter or early spring before the busy season opens. If he prefers, he can make at home the queen mating nucleus boxes if he uses care and has the proper measurements, but for the inexperienced, I advise buying the outfit from some reliable firm.

A small outfit will consist of about two or three frames for holding queen cages. These are sometimes called queen nurseries and hold about thirty-four queen cages.

A number of queen cages must be at hand, the use of which will be seen later. Besides these articles, a number, the quantity to be decided by the number of queens to be raised, of queen mating nucleus boxes must be provided. These are used in the mating yard when the virgins are being mated to pure drones.

The colony or colonies to be used for the rearing of queens must be strong. As soon as the spring opens up start them breeding by feeding them. When the brood-chamber is full of bees and brood put an extra set of combs above. If they do not appear to be as strong as desired give them frames of hatching brood. About nine days before it is time to begin queen rearing, put a queen-excluder between the two bodies. Nine days after place the brood chamber containing the queen, on a new stand, leaving the bodies without brood or eggs on the old stand with all the field workers. Into this hive put a frame of eggs from the hive con-

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