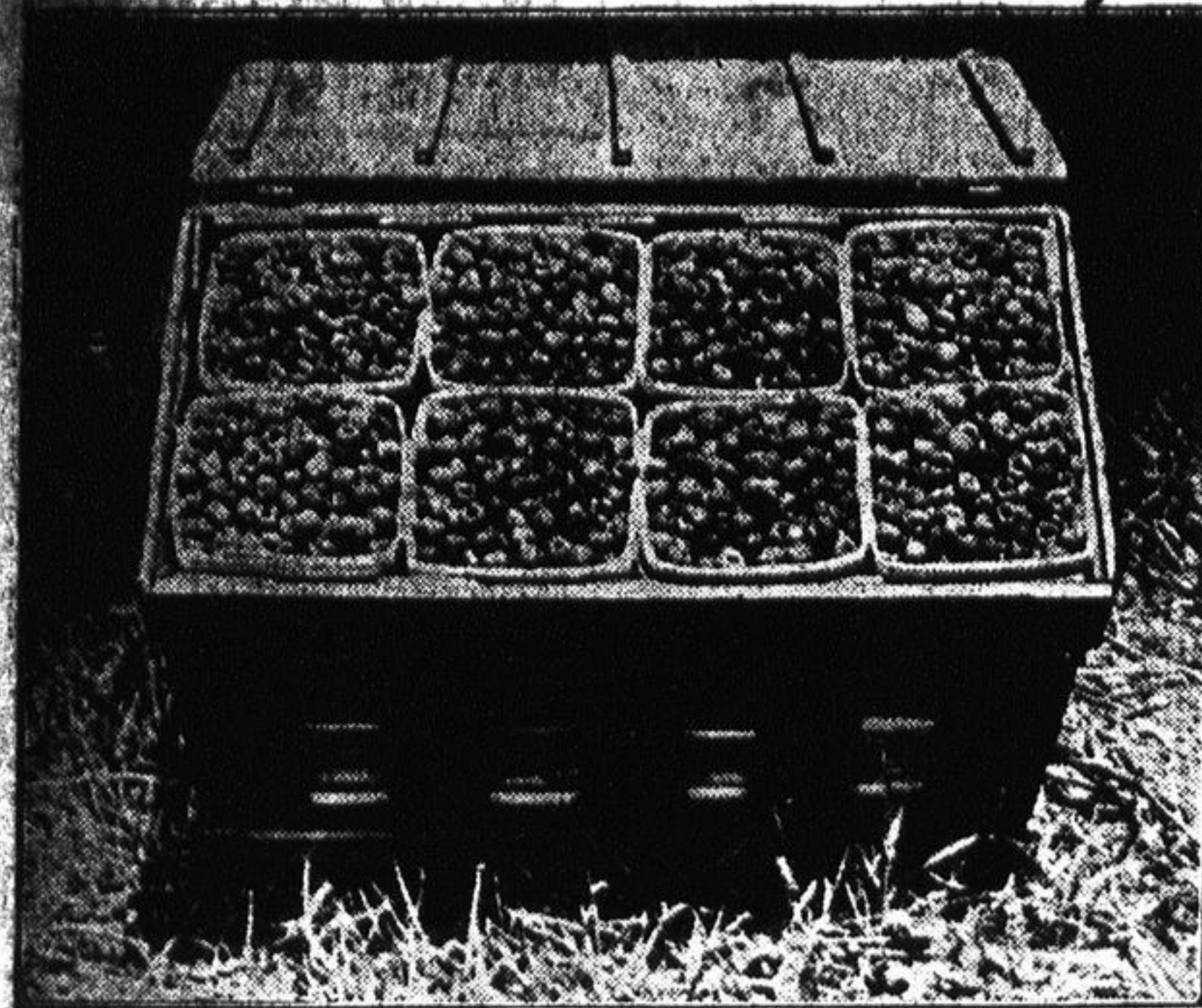


GOOD CULTIVATION OF THE BUSH FRUITS



Crate of Royal Purple Raspberries photographed in August. This is two weeks later than Columbian or any other raspberry. This is a good raspberry to plant for late berries.

(By M. M. EASTMAN.)

When the harvest is completed, cultivation of bush fruits should cease.

The sowing of some cover crop with the last cultivation is a most excellent practice.

Oats and peas, either separate or in combination, answer this purpose admirably. The benefits derived from a cover crop are manifold.

The greatest of these benefits, perhaps, comes in the protection afforded by the growth to the surface of the ground.

It is well known among those who have made a study of soil physics that when left unprotected by a growth of some kind there is a loss both in plant food and in the humus content of such soil.

Hence in so far as is practicable the wise husbandman will keep his land covered with a growth of some sort.

It is not practical to keep a cover crop growing among small fruits through spring and early summer, for the best interests of such fruits requires intensive cultivation through this period of their growth, but with the fruiting season over such necessity ceases.

Unless drought conditions are unusually severe there will be a sufficient amount of moisture in the soil of a bush fruit plantation that has received intensive cultivation throughout the spring and summer to start a vigorous growth of oats or peas, and under ordinary conditions of fall precipitation such grains will attain considerable growth.

The protection afforded by such a growth prevents leaching of intrates, that are continually being evolved through denitrification processes constantly in operation among soil agencies.

Such growth also prevents washing of soil by fall, winter and early spring

QUEEN BEE AND HOW TO FIND HER

It is Her Sole Duty to Lay Eggs, Her Nourishment Being Supplied by Workers.

(By F. G. HERMAN.)

In every colony of bees, whether it be located in skep, the hollow of a tree, or in a modern hive, there will be found at some time of the year three kinds of bees—queen, drones and workers. The queen is the most important bee in the hive. She is the egg-layer, and as such is the mother of the bees in the hive, whether they are workers, drones or queens. Only one queen is, under ordinary circumstances, found in a hive, but occasionally two—mother and daughter—are for a time living together. The queen's sole duty being to lay eggs she has no other cares to claim her attention, in fact she does not even attend to her own food supply. The nourishment needed to keep up the extraordinary egg-laying power she possesses, is supplied by the worker-bees which are for the first fortnight of their existence what may be termed nurse-bees. If a comb be taken out of a movable hive quietly and without disturbing the bees, the queen may be seen surrounded by a cluster of workers.

The queen is a fair and stately bee, differing from the workers both in shape and color, she is longer than a honey bee by one-third, and somewhat longer than a drone, but not quite so big around. The queen is treated with the greatest respect and affection by the bees. A circle of her offspring often surround her, testifying in various ways their dutiful regard, offering her food from time to time, and all politely backing out of her way, to give her a clear path when she moves over the combs. So strong is the feeling of the worker for the queen, that if for any reason she is removed, the whole colony is filled with consternation and dismay. Her death, when it is too late in the season to raise another queen, means the final extinction of the colony. A good queen will consistently lay from two to three thousand eggs a day, or nearly the whole of her own body and will continue to lay in the winter in addition.

raisin, which, in cases of even slightly rolling land, may be the source of considerable loss.

The first spring cultivation will work this vegetative growth now dead and partially decayed into the soil.

Through the processes of decomposition the supply of soil humus is thus replenished, and soil agencies liberate the plant food used in making this growth, when it is at once taken up by the roots of the fruit plants and used in the growth and development of the various parts of such plants which at this season are in an exceedingly high state of activity.

The growth of grain presents a very pleasing picture to the eye throughout the fall season, during which time there is usually not much verdure in evidence.

To the one possessing an aesthetic nature this alone will be ample recompensation for the expense involved.

As soon as the fruiting season is over, it is usually advisable to remove the canes just fruited and burn them. Where there are fungous diseases to contend with the need of this becomes imperative. After this growth has been removed the young canes should be thoroughly sprayed with the Bordeaux mixture. A month later another application should be made.

When the canes have so far ripened that the leaves begin to drop, the growth of young canes may be reduced by cutting away about one-third of the growth made.

Fall pruning has no advantage over spring pruning, perhaps, except that with most growers work is not so pressing at that season as in the spring.

Then, too, where there is loss caused by breaking of canes from high winds and deep snows fall pruning may lessen injury from this source.

POULTRY NOTES

At the beginning of the season the queen lays eggs in the workers' cells. She walks over the combs, puts her head into each open cell as she comes to it as though to discover whether it is occupied or in fit condition to receive an egg. I have looked into an observatory hive for hours and watched how faithfully she goes about her work. The queen only stings other queens, and seeks only to kill her rivals. She may be handled to any extent without fear of being stung. She has also great tenacity of life as well as longevity. She will often continue alive in conditions that have proved fatal to the workers confined with her.

Well-bred queens are good for two full years' work, and the great majority for the third year. A queen hatch in the early part of the season, so that the year of her hatching she does much breeding, is aged and very uncertain her third year. Hatched in mid or late summer she will complete that year, all the next, and make a good colony for the next honey season after that, when she ought to be superseded. Do not expect a queen to do more than two hard summers' service. Many will be good for longer, but not enough to make it profitable to risk keeping longer.

There are no sure rules for finding a queen. It is somewhat a matter of patience and practice. And yet attention to some things will help very much. Go at it as quietly as possible, using very little smoke, as smoke and rough handling will alarm the bees and set them to running, and then you might as well give up the job until another time.

If the bees are Italians, queens can usually be found at least on the third or fourth frame taken out of the hive. A practical beekeeper will first pull out the center frame, and look for freshly laid eggs. Failing to find these he will take out another frame from another portion of the brood-nest. If he finds the eggs, then he has reasonable assurance that the queen is somewhere in this part of the hive. He looks the frames over carefully, and, failing to find her, he takes out the next one, each time following in the wake of the eggs. While it is no sure rule that the presence of freshly laid eggs in any portion of the brood-nest is evidence that the queen is in that part of the hive, yet, especially speaking, she will be found near them.

WELL-PROTECTED HENHOUSE

Layers Require Shelter From Cold Wintry Blasts—Fowls Reciprocate by Producing More Eggs.

It is astonishing how much cold can get into a building through a few small cracks or a broken frame of glass, says the New England Homestead.

We built a henhouse four years ago, and the boards have shrunk so we could see through between some of them. One morning we found the snow had sifted in in little piles all around our choice birds that we are depending on for winter eggs.

We never can bear to see anything suffer with the cold, so we at once bought some patent roofing and covered the house, making all the laps airtight with the cement that comes with it.

Then I got a bag of cement and went all around the wall that the house stood on and painted up every crack and crevice I could find, and my, what a difference it made!

The next morning, although the weather was colder than before, it was like going into a cellar, it was so warm



Prize Winning Leghorn.

and nice. Wife said they sang a different song and seemed to smile at her when she went out to feed them.

We find a few small wind holes in a henhouse will blow all the profits out of our pockets.

We also built a nice scratching shed on the end of the house with large open spaces in front to let in air and sun in pleasant weather and close up with curtains when it storms. The hens seem to enjoy it very much when it storms so they cannot go out. We put a load of nice clean sand in the shed and then a few inches of litter and what fun they do have scratching for grain in it.

QUALITIES OF HOUDAN FOWL

One of Best Table Breeds in United States—Not Recommended as Farm Fowl on Account of Crest.

The Houdan is one of the best table breeds we have. It is also an excellent layer, producing eggs not only of large supply, but of generous size, in the latter very much like the Minorca.

As a farm fowl, however, they are not recommended, for the reason that it is a crested fowl. The young fall easy prey to hawks on account of these crests preventing them from seeing what is above them.

The old fowls, if given a free range, are apt to be caught in a rain storm, and their crests become water-soaked, which generally leads on to roup.—E. V. B.

POULTRY NOTES

Sitting hens should be removed at night.

Brooder lamps should be cleaned every day.

Toe mark the chicks as soon as they are hatched.

For farm use the American breeds are probably the best.

Always test the hen on china or nest eggs before setting.

Cabbages, mangels, potatoes, etc., make excellent green feed.

A well ventilated cellar is the best place to operate the incubator.

Chicks should not receive feed until they are thirty-six hours old.

Proper ventilation and sunlight means a dry house and healthy birds.

Feed the pullets wheat and oats and beef scraps if you have it or can get it.

Duck raising is one of the most profitable branches of the poultry business.

The incubator should be operated according to the manufacturers directions.

Good roosts may be made of 2x2 inch material with the upper edges rounded.

Eggs saved for hatching purposes should not be subjected to high or low temperature.

Get rid of the hen that is never caught on the nest. "By their fruits ye shall know them."

The nests may be placed on the side walls or under the dropping boards. It is best to have them darkened, as the hens prefer secluded places in which to lay.

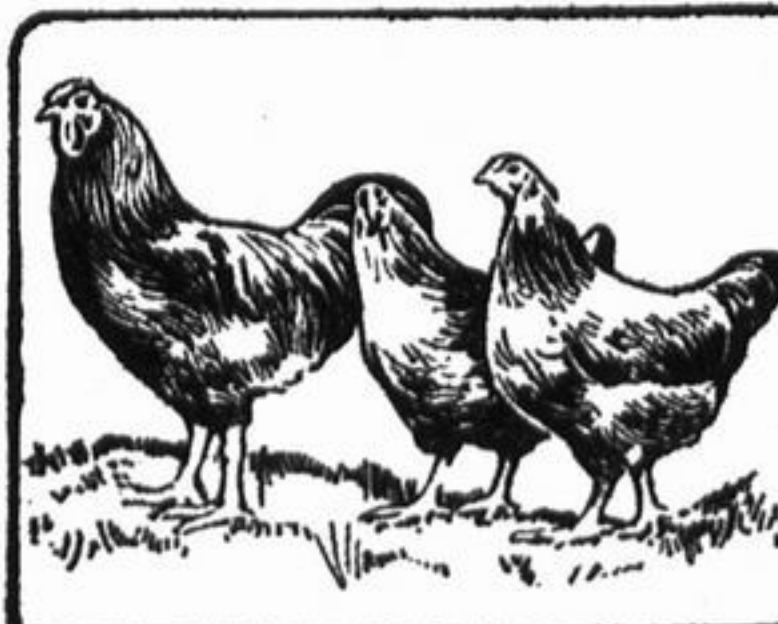
BIRDS FOR AVERAGE FANCIER

Rhode Island Reds Are Rapidly Gaining in Popularity Among Poultrymen for Meat and Eggs.

The average American poultry keeper needs fowls that combine the qualities of good laying and good meat production and that are hardy, writes A. S. Wheeler in Outing. He does not want Leghorns, because Leghorns make poor roasters, nor Cochins, since they amount to little as layers. The Orpingtons, big, handsome birds, have white skin and legs, whereas the fixed American market demand is for yellow.

The flesh of the Plymouth Rock, which is an excellent winter layer, is of coarse texture and Rock hens go broody too hard and too often. Wyandottes don't give quite enough eggs, and those that they do give are irregular in color and shape.

In fact, the absolutely perfect combination fowl has not appeared; there is always some fault in evidence, or



Trio of Rhode Island Reds.

some quality lacking. I think that the breed which comes nearest so far, to the general-purpose ideal is one that not so long ago was despised, but that now is rising to wide popularity, the Rhode Island Red.

The Reds are first of all utility birds; that the best specimens make fine show birds has been fortunate, but their strongest appeal and greatest value is to the average poultryman who wants to get from his chickens a fair meat-and-egg profit, and perhaps a bit of fun and an occasional sale at a fancy price in the show-room.

BUCKWHEAT AS WINTER FEED

Grain is Both Stimulating and Heating, But Should Be Fed in Moderation—Rich in Protein.

(By M. K. BOYER.)

Buckwheat is both stimulating and heating, which renders it an excellent grain for winter feeding; but, being of a fattening nature, it should be fed in moderation.

It contains more protein (egg-producing material) than does corn, but the percentage of digestible matter is not so great, buckwheat having about 62 per cent, and corn 81 per cent.

Buckwheat contains 7.8 per cent of protein and 54.8 per cent of carbohydrates and fat, having a nutritive ratio of 1.7; and corn, 6.3 per cent of protein and 75 per cent of carbohydrates and fat, and has a nutritive ratio of 1.12.

This proves that buckwheat is a slightly better egg producer than corn, being more evenly balanced, but it must be fed in larger quantities to gain that effect.

POULTRY NOTES

Straw and hay make good nesting material.

Pure bred poultry means uniformity of products.

Allow at least two square feet of floor space per bird.

Be sure that the male at the head of the flock is pure bred.

Use insect powder freely to exterminate lice when necessary.

Food has its effect on the quality of both the flesh and the eggs.

You will find the eggs not as fertile if you let the ducks grow thin.

Ducklings should not be allowed to bathe until they are well feathered.

It is cheaper for the farmer to eat spring chicken than to buy fresh beef.

If several hens are set in one room it is desirable to confine them in good nests.

It costs no more to feed a hen that lays 150 eggs a year than one that lays 60.

Overcrowding is one of the worst and most frequent mistakes made by poultrymen.

Given proper care and attention the hen is the most valuable incubator for the farmer.

A hopperful of bran is always seasonable feed and the whole flock should have access to it.

Some of the causes of roup are sudden and extreme changes in temperature, damp houses and drafts.

A small, well kept flock may prove a profit where a flock of twice the size might show a distinct loss.

Plan now to provide comfortable quarters for the poultry during the winter when the price of eggs is high.

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