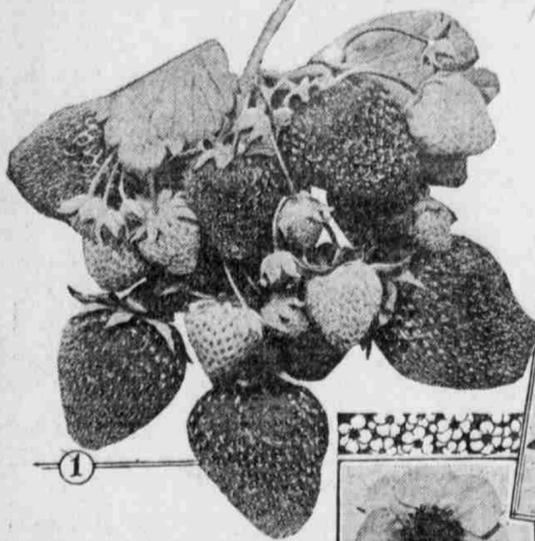


SEX IN STRAWBERRIES VITAL FACTOR

HOW TO RAISE BIG CROPS

By W.H. BURKE



GREAT many persons who are trying to grow strawberries do not know that there is a question of sex in the plants. This is also true of many nurserymen, and scores of growers are disappointed every year because the plants they buy do not bear fruit.

The male plant in strawberries is what is known as the staminate or bisexual, a perfect flowering plant. The female plant is known as the pistillate, and unless it is planted along with the bisexual, or male plant, so that they can be pollinated they will yield no fruit.

In the illustration it will be seen that in the center of the bisexual flowers the pistils are surrounded by anthers, or bulb like protrusions, which are filled with the flower-like substance called pollen, which is carried to other pistils all over the patch, and this fertilizes them and thus every blossom becomes a berry. The illustration shows that none of those anthers appear on the pistillate flowers.

We explain this matter fully so that every one may understand how necessary it is that one always should set bisexual plants, and that where the pistillate varieties also are chosen they should be so arranged that the pollen of the bisexuals will reach the bloom of the pistillate plants. In order that complete pollination may be secured, we advise the setting of pistillate varieties between rows of bisexuals of the same season. Or, one may set the pistillate varieties between bisexuals of an earlier and a later season.

In arranging the plants, if you desire to do so, you may set one row of pistillates, or two rows, or as many as three rows of pistillates, between the two rows of bisexuals, as pollen will be easily carried over several rows of plants. As pistillate varieties frequently are the heaviest of yielders.

Let us consider at the outset the matter of soil, and let it be understood that strawberries will grow successfully under as great a variety of conditions as will potatoes or turnips or cabbage, or any other of the commonest sorts of vegetables or grains. In a word, your soil is just the kind of soil in which to grow strawberries whether it be sand, sandy loam, clay loam, clay, black prairie soil, or volcanic ash.

The Soil a Feeding Trough. Indeed, the soil may be likened to a feeding trough. It doesn't make any difference whether you feed the hogs from an oak trough or a pine trough—the result would be identical in either case. The soil is only a medium through which the plants receive their food.

Therefore, the important thing for the grower to do is to see that his soil, whatever its nature, is properly supplied with the elements necessary to the feeding and growth of the plants. Once we get this thought clearly in mind the whole matter of crop production is simplified, and each grower may be confident that his soil will do just as well as anybody else's soil if it be in the proper condition for the sustenance and development of plant life.

Barnyard manure is one of the strawberry grower's most valuable assets. Therefore, he should give great attention to conserving this fertility and seeing to it that it is properly applied to the soil.

After the manure is spread comes the breaking up of the soil. In doing this work be careful to see that every particle of hard soil is worked up and into as mellow a state as it is possible to get it. The depth to which one should plow depends upon the nature and formation of the soil.

Where the soil is deep one may go as deep as eight inches, but in shallower soils the depth should not exceed from four to six inches.

For our present purpose we shall consider the three soils most common the world over, namely, those in which clay predominates, those having a sandy nature, and the so-called black soil. In the mere matter of furnishing plant food to these soils the methods we have referred to will do for all of them, but from the mechanical point of view the treatment will be quite different.

How to Treat Sandy Soils. In the case of soils where the sandy quality predominates the surface should be rolled and thoroughly com-

- 1—A Single Stem of the "Kellogg Prize Variety," a Pedigreed Plant Which Has Produced at the Rate of 12,000 Quarts Per Acre.
- 2—Pistillate, or Female Blossoms.
- 3—Bisexual, or Male Blossoms.
- 4—Patch of Pedigreed Plants Four Months From Setting.
- 5—Good Example of Row Planting, "Early Osage" Grown in New York.
- 6—Indiana Woman Raises \$160 Worth of Strawberries From One-half Acre.

packed so that the plants may rest in a firm and close fitting garment of earth. While it is true that the roots of plants must have air, it also is true that they must not be given too much air, and unless the loose, coarse sand or sandy loam is compacted either by rolling or floating, the roots will be over supplied with air. However, rolling never is done if the soil is at all wet. To do so means the caking of the surface, which is one of the things always to be avoided.

Just the reverse treatment is true of clay soil so far as compacting goes, for it is the nature of clay to compact itself, and instead, therefore, of rolling the soil, we need to pulverize it thoroughly before the plants are set and stir it frequently while plants are growing in order that the process of decay of the vegetable matter in the soil may be normally maintained. Therefore, cultivation should be deeper in clay than in sandy soils. As a rule, cultivation should be at least four inches deep.

Having your soil in perfect condition, the next essential for big red berries is perfectly developed plants. If you have purchased plants of a high quality from a reputable source, you may with confidence go forward with your work, and it is important that you make all the conditions comfortable for the plants and as encouraging to productiveness as it is possible to do. One of the important things to this end is the removal of all buds and blossoms from each plant during the first season of its growth. When this is done all of the strength of the growing plant goes into the development of massive roots and crown systems, and upon these depend the quality and character of the fruit yield. Therefore, be sure to check the plant's tendency to fruit while it is yet young by pinching off each fruiting stalk. One man will easily do this work on one acre in half a day.

Then there is the necessity of removing surplus runners. By surplus runners we mean those young plants that develop after you have formed your system. If your system is the single hedge row, then you will permit two runner plants to grow and will layer them directly in line with the mother plant. If you have adopted the double-hedge-row system, you will allow each mother plant to mature four runner plants, and these runner plants will be layered X fashion, the mother plant forming the center of the X. Or if you desire to grow your plants by the hill system, then you will allow no runner plants whatever to form, but the mother plant itself will be encouraged to develop a great fruiting system. The fewer runner plants the more vigorous the mother plant will be, of course, as the production of the runner plants draws heavily upon the physical resources of the mother plant.

Now you have the ground thorough-

ly prepared and your plants in hand, and we have reached the important operation of setting out the plants.

Use the dibble to make the opening in the soil and to close over the roots of the plants, just as you would do if you were setting a tomato or a cabbage plant, and the work will be done neatly and with dispatch.

Cultivation should begin as soon as possible after the plants are set in the ground, and this should be repeated every eight or ten days thereafter if the weather remains clear. Whenever it rains, however, you should be in your strawberry field as soon as soil conditions render it possible to do so. But never cultivate the soil before it will crumble when disturbed. Soil conditions always should determine the time of cultivation. One thing that never should be neglected is the tendency of the soil to form a crust. Here are some of the desirable results of cultivation: Cultivation prevents the crust from forming on the soil's surface and destroys all weed seed while they are in the germinating stage. Continuous, vigorous growth is obtained only when the digestive organs of the plant are in a healthy condition. To keep the digestive organs in a healthy condition we must keep bacteria active. To keep bacteria active we must supply them with an abundance of air; and to supply air we must cultivate. Cultivation forms a dust mulch, a dust mulch retains moisture, moisture dissolves plant food, plant food makes active roots, active roots build up a big foliage, a big foliage makes perfect digestion, and perfect digestion develops a heavy fruit bud system and keeps up a continuous, vigorous growth.

When the Season is Over.

Let us add that the grower should never fail, at the last cultivation in the fall, to run a narrow furrow down the center of the spaces between the rows, so that all surplus water from heavy rains or melting snows may quickly drain away. Make this furrow from four to five inches deep.

Some growers prefer to cultivate their plants by the hill system. Others like the single-hedge row, and still others, the double-hedge row. There are some growers who still continue to grow plants by the narrow-matted row, but this is something I never advise. The grower should consider his market when setting out his plants. If he is near a large city and has a trade that is willing to pay fancy prices for fancy fruit, there is no doubt but the largest results will be secured from the hill system. If one's plot is limited as to size and all the work is to be done with a hoe, we advise setting plants 15 by 15 inches apart. This calls for 27,750 plants to the acre.

Where the fields are extensive and the grower is to cultivate with the horse, rows for the hill system should

be made 30 inches apart and the plants set 15 inches apart in the rows. When these distances are observed it requires 14,000 plants for one acre.

The strawberry has few enemies in the way of insect pests or fungus diseases. But this fact should never lead the grower to be unmindful of his duty to be at all times prepared to meet any troubles that may come to him from these sources.

Plants Must Be Mulched.

Mulching strawberry plants is a prime essential to the grower's success, and for several important reasons. One of these, the clean fruit which good mulching insures. Nothing is more distasteful or more unsightly than sandy, gritty strawberries, and the man who puts that sort of fruit on the market will have only himself to blame if he finds he is losing his trade. Clean fruit, well ripened and carefully packed in boxes, is just as appetizing as it looks, and the average man would rather pay 25 cents for a quart of such fruit than to pay ten cents for the inferior stuff so frequently found upon the markets.

Fruit should be so clean as it lies on the straw that no cleaning process should ever be required. As to materials, any kind of straw will produce the desired results, but my first choice is wheat straw; the second choice is oat straw. However, shredded corn stalks, sorghum pomace, coarse grass, marsh hay, or any other material possessing the qualities found in these will serve the purpose. Atlantic coast people use sea weed with success. In the south, where freezing and thawing never occur, the needles of the pine are very generally employed as mulch.

In northern latitudes make the mulch from two to four inches deep between the rows, and anywhere from one-half-inch to an inch over the plants themselves. In the spring simply part the mulch from over the plants, adding it to the mulching already between the rows. Mulch after the first good freeze in the fall, and part the mulching from over the plants as soon as real spring weather comes on.

Preparation for the second crop should receive attention directly after the first crop has been entirely harvested. The first thing to do is to mow off the plants close to the crown. This may be done with a mowing machine or a scythe.

When the field has been entirely cleared of the refuse matter, whether it be burned over or raked off, take a breaking plow and throw a furrow from each side of the row into the center, leaving the plants about six inches wide in the rows. Then go along the rows with a hoe and thin out the plants until the hills are from 16 to 20 inches apart, being careful to remove the weakest appearing plants.

A five-tooth cultivator should be used to level back to place the ridges which the plow has made between the rows. Be careful to see that the soil is drawn all around the roots of the plants which are allowed to remain, and be sure to cover the crowns lightly with soil, doing the latter work with a hoe or garden rake.

This will aid the plants to form a new and vigorous root system, which will develop just above the old roots and below the crown. Cultivation and hoeing should proceed exactly as in the case of the new-set bed. Permit these plants to make runners until all the vacant spaces in the rows are filled. For the second crop I advise either the hill system or the double-hedge row for all varieties.

Sometimes plants in the spring indicate a lack of vitality. Whenever this occurs I advise the use of nitrate of soda for the purpose of stimulating the plants to secure better results.

If in the autumn your plants indicate lessened vitality, give them a good dressing of well-rotted stable manure just before the mulching is applied. The third way of stimulating the plants is, in the early spring, to draw the mulching away from the center of the rows and cultivate.

This work should be done after all danger from frost is past, but this cultivation never should be done while plants are blooming, unless the soil is sufficiently moist to prevent dust from flying. I repeat that the looking after the plants in this way gives a double assurance of success in the growing of strawberries.

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POULTRY



POULTRY FOR THE BOY

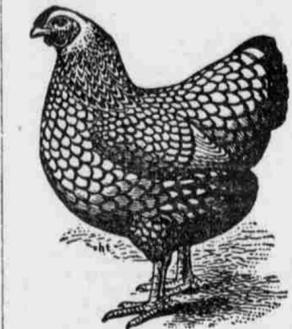
Desirable to Manage Them Separate From Other Fowls.

Plan Given for the Construction of Suitable House to Accommodate Ten Hens and Male—Coop May Be Enlarged.

(By KATHERINE A. THERTON GRIMES.)

The boy who has fowls of his own will want to manage them so as to keep them separate from the other poultry on the farm. The following plan, which is arranged to accommodate ten or twelve hens and a male, has been found very satisfactory. It may be enlarged for a greater number, always remembering that each additional fowl means from five to eight square feet more of floor space.

The coop in question is five feet wide and twelve feet long, giving a floor space of sixty square feet—five or six square feet per hen. It is six feet high at the front, and four feet at the back, and is built from cheap lumber, and covered with tarred roofing. On most farms there are odds and ends of boards enough to put



A Splendid Specimen.

up such a coop, except for the roofing. As no glass is used, the only additional expense will be for nails, hinges, a few yards of cheap cotton domestic, and a little poultry netting.

The door into the coop is put at one end of the front wall. It is not closed with a solid door, but with a frame covered with wire netting, having a curtain of muslin on the inside for use in cold weather. The upper half of the remaining part of the front is also left open and covered with netting, with an inside muslin curtain. In warm weather these curtains are kept rolled up, but in cold weather they are let down over the openings. They should be large enough to cover them well, and have weights at the bottom to hold them in place. If a hen is run in, and a rather heavy slat thrust through the casing thus formed, they will stay in place very well.

The only other openings in the coop are four little square doorways, eight by ten inches in size. If the hens are very large, these may be made somewhat larger each way. One of these little doors should be in each end, and one in each lower corner of the back wall. They are closed with a sliding panel, set in a little frame, which can be raised or lowered by a wire or stout cord. Only one is, of course, to be used at a time.

In the center of the back wall, two feet above the floor, fasten a frame two feet wide and three feet long, carrying two roosting poles. This frame should be hinged to the wall so it can be raised out of the way when desired. Under it, a foot from the floor, make a little platform of boards to catch the droppings. Do not fasten this anywhere, as you will want to take it up to clean it. On the front corners of the roosting frame put legs a foot long, which should rest on this drooping board when the roost is lowered in place. Have both roosting poles the same height, not set so the frame will slant.

On the ceiling, directly above the roost, nail strips of inch boards so as to make a frame the same size, or a trifle larger, than the roost itself. To this tack strips of burlap racking long enough to reach the floor, and wide enough to completely surround the coop when they are dropped in place. At the lower edges put slats to keep them in place, as on the other curtains. On cold nights this makes a snug, and yet not stuffy, sleeping place for the biddies. In the warmer parts of the country this inside curtain will not be needed, but in the colder states it will give ample protection through the winter. It should be rolled up during the day.

The nest boxes—two are plenty—should be placed in the darkest part of the coop. This will be against the front wall, in the corner farthest from the outer door. A box three feet long and a foot deep, with partition in the middle, and doors cut in the ends, makes a good nest when turned bottom side up over a nice deep bed of clean straw.

The ONLOOKER

S. E. KISER

SOMETHING WRONG



They live in style; she has a maid To lace her shoes and hook her waist; His bills are always promptly paid; Her clothes exhibit faultless taste; A butler meets you at their door, Their car is big and swift and strong; They have a million, maybe more— Yet there is something that is wrong.

He has a man to trim his hair And fix his bath and rub him down; He is not forced to do daily bear The strain of toiling hard in town; They travel when and where they please; They seldom are at home for long; While others work they live at ease— Yet there is something that is wrong.

They say it was his wealth that made Her choose him from the willing throng; How suddenly some beauties fade— How often there is something wrong.

He and Byron.

"Your poetry reminds me very much of that of Byron," said the beautiful young woman.

The young bard drew himself up to his full height, threw back his head, stuck a hand between the second and third buttons of his Prince Albert coat and with a satisfaction that he did not attempt to conceal replied:

"It is very satisfying to hear you say so—very satisfying, I assure you." "He also began every new line with a capital."

Nothing for Him to Brag About. "I didn't see you at Sabbath school last Sabbath," said the good man. "Didn't you?" replied little Johnny. "Well, you needn't think you're so blamed smart on that account. There was a whole lot more people didn't see me there, either."

A Picture.

Her eyes are like the violet, Her cheeks are like the rose, And marble never was more white Than is her shapely nose.

Her figure is the supple kind That artists like to draw, But, oh, her voice, alas, is like The filing of a saw.

Preposterous.

"No," said the matinee idol, "I cannot consent to play this part." "Why?" asked the manager. "It will give you a grand opportunity to exhibit your histrionic powers." "But I should have to make up so that I shouldn't appear at all like myself."

His Boast.

"Who gives this woman away?" asked the preacher.

"I do," said the father of the heiress who was being married to a titled forger, "and, more than that, I'm giving one of the biggest bonuses on record with her."

Mere Suggestion.

"Wait a year," she said, "and then ask me again." "Ah," he complained, "you are cruel. What could I do in the meantime?" "Well, if you don't mind you might go on making love to me."

Born for Diplomacy.

"Why do you think Charley Torkington would be successful in the diplomatic service?"

"He always manages to sit between my chaperon and me."

Poetic.

"Oh, Mr. Swayzeleigh is a poet, isn't he?"

"Why do you think so?"

"I just heard him say 'at eventide.'"

The Part and the Whole.

"A part can't be bigger than the whole, you know."

"Every actor who plays leads thinks his part can be."

S. E. Kiser.

Nondescript Fruit.

"This parsnip doesn't taste just right."

"What's that?"

"I say this parsnip doesn't taste just right."

"Well, I never saw a parsnip that hid."