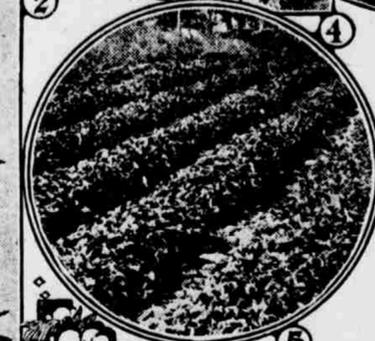
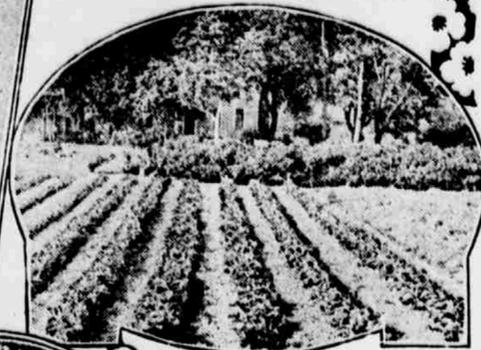


SEX IN STRAWBERRIES VITAL FACTOR

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 a great 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 deeply 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 is also 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 do at 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 mantle, a dust mantle 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. Wherever 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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TREATING SHEEP SCAB

Dip Made of Tobacco or Coal Tar is Preferred.

Warm Water is Better Than Cold, as Former Cuts Grease and Allows Solution to Get to All Parts of Animal's Skin.

Dipping in a reliable dip is the proper treatment for sheep afflicted with sheep scab.

Use a dip made of lime and sulphur, tobacco and sulphur, or one of the coal tar dips.

Remove all sediment from the lime and sulphur dip, as it injured the wool.

Tobacco dips should never be boiled.

For a general dip a tobacco or coal tar preparation is to be preferred to lime and sulphur, as a lime and sulphur dip has little effect in destroying the sheep tick or louse.

A fresh solution should be used for the second dipping. This is absolutely essential if the lime and sulphur or the tobacco and sulphur are to be used.

Mix the dip well in the vat.

It is better to use warm water than cold water in dipping sheep, as warm water cuts the grease and allows the dip to get to all parts of the skin of the animal.

The correct temperature for a dip is from 100 to 105 degrees Fahrenheit.

Sheep can be dipped in the winter if warm days are selected for that purpose.

If the sheep are badly afflicted with scab, the thick scabs should be softened previous to the dipping of the sheep by pouring some of the dip on these places and rubbing them with some smooth instrument, or the scabs



can be softened while the sheep are being dipped, by rubbing the thick scabs with a brush. Care should be taken, however, not to draw blood, as on coagulation it will protect the mite from the dip.

Lambs do not need to be dipped for so long a time as older sheep, as their wool is short. They are also more delicate in constitution, hence cannot stand the dipping as well as older sheep.

Always water sheep before dipping, otherwise they may drink the dip which is sometimes found in little puddles in the dripping pens.

Each sheep should be held in the dip from two to three minutes, and the head quickly immersed once or twice just before the sheep leaves the vat.

A sheep in moderate length of wool and allowed to drip thoroughly after being dipped will carry away from two to three quarts of the dip. A sheep after being shorn will carry away about a quart of the dip.

The question should not be, how many sheep can be dipped in a day, but how well can they be dipped.

If scabby sheep are taken direct from a pasture and dipped, they should not be returned to that place for a period of 30 days. Heavy rains are said, however, to disinfect open fields. If the sheep have been housed in buildings prior to the dipping, these buildings should be disinfected before the sheep are returned to them.

Purchase no proprietary dips except those having the approval of your state agricultural department. Use all proprietary dips exactly according to directions.

Best Crop Farm.

The boys and girls of the farm interested in farm life and agriculture mean more to the country than profitable crops of wheat, oats and live stock. If the young people are interested in farm life it means they will take charge of the work of the farm and become useful and valuable citizens. They have no desire to move to town and lose themselves in the city. They recognize the beautiful side as well as the profitable side of farm life. Too much attention cannot be given to the boys and girls. They should be made partners with mother and father, and their every question relative to plant and animal life answered. In this way they will see deeper than the surface, and will take pride in the work they are doing.

Growing Table Vegetables.

Plant several kinds of beans to determine which succeeds best in your soil.

Plant an abundance of beets to allow for greens.

Sweet corn planted every two weeks will give a long succession.

Start cucumber seeds in the house or a cold frame.

To Clean Plumage.

The plumage of a white fowl can be cleaned of stain by washing with a clean white or transparent soap that is free from much alkali. Make a strong lather and use your hand and a soft hair brush. Stroke the feathers downward, from the head to the tail.

STARTING OF SEEDS INDOORS

Soil Must Be Kept Warm and Moist, but Not Too Wet—Avoid Crowding of Plants.

Shallow boxes or flats are considered best for starting seeds indoors, but pots do not take up so much room, and are less unsightly, so for starting just a few seedlings or to try choice seeds we often use a pot, writes Lulu G. Parker in the Farmer's Wife. We have started pansy and other seedlings often in the big pots in which runner plants or clematis, or other things which do not shade the soil, are growing.

The soil must be kept warm and moist, but not wet. For this purpose a piece of glass over the top of the pot will help to hold the moisture, but this glass must be tilted up somewhat in order to let in some air or the soil will sour and the seedlings mold or damp off.

Sift the soil for the top layer and cover the seeds about twice as deep as the seed is thick. Press the soil firmly over the seeds with the palm of the hand or a little board before giving water so that they will not be washed out. For very fine seed it will be a good plan to spread a damp cloth over the soil and then sprinkle the water on the cloth until the seeds begin to sprout.

After the seeds begin to sprout they must be kept in the lightest window and never allowed to get too dry or to grow too crowded.

The rest depends upon the seed itself, therefore always buy from a reputable seedsman.

PROFITABLE WEIGHT OF PIGS

Should Not Be Fed After Reaching Age of Nine Months—Money in Young Animals.

Experiments made for the purpose of determining the economic weight of a pig show conclusively that he never should be fed beyond eight or nine months old, and the largest profit is found, as a rule, in a weight not exceeding 200 pounds. What is known as the food of support, says a writer in the Farm and Home, plays a very important part in the profit or loss of large weights.

Suppose, as many farmers say, that a pig is not to be killed until he reaches 300 pounds. He must take from his food an increasing amount each day to support or maintain the weight already gained, or else he drops back. The experiments indicate that 2 per cent. of the live weight in food must be taken each day to support that live weight.

If the animal weighs 300 pounds this amounts to six pounds of food daily, or over 40 pounds per week, and as the only profit is the food that is applied to make new weight, it results that over 40 pounds of food are consumed per week from which no profit whatever is reaped. It follows that the most money can be made from young hogs killed at a medium weight.

MOWING MACHINE IS UNIQUE

Object is to Provide Bars That May Adapt Themselves to Unevenness in the Ground.

The Scientific American in describing a mowing machine invented by A. J. Anderson of 22 Greenwich street, New York, says:

"This machine is self-propelled and is provided with new and useful means for controlling the cutter bar frame. The principal object is to provide a machine having a plurality of bars thereon, the frame carrying the bars being more or less loosely constructed whereby these bars may adapt themselves to unevenness in the ground when the machine is in use.



Mowing Machine.

A further object is to provide means for removing the cutter bar driving mechanism out of operative position in order to permit the machine to be run over the ground with the bars inoperative. The illustration herewith represents the machine in a side view.

Egg Type in Hens.

Many poultrymen claim there is an egg type in fowls and that they can pick out the good layers as well as the poor ones in a flock. This claim is based on the theory that certain peculiarities of form or shape, such as long body, wedge shape, broad rear, small head, etc., indicate good laying qualities. Experiments have shown that hens with long as well as short bodies were indifferent layers, and conversely good layers have been found with short bodies, as well as long ones. So far as tests have gone, theory does not hold good.

Mixture for Laying Hens.

A splendid mixture for laying hens is equal parts of cracked corn, wheat and oats, which should be scattered in the litter so that the birds will be compelled to take exercise by scratching for it.

Brooding Chicks.

A poultry authority says: "While much may be said in favor of hens for hatching, it is rarely profitable to depend upon them for brooding chicks when considerable numbers are to be raised."