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Horticultural.

"Changes Effected in Pistillated Varieties of Strawberries by Fertil.zation."

Editor Willamette Farmer:

The above heads an able article in the Rural New-Yorker of May 10, 1884, by J. B. Rogers, of Milburn, N. J. The views of the author, though new to the masses, are not new to pomologists and horticulturists generally; for, in their daily experience it is found that pistillate plants do better, and are often almost entirely changed in size, color, quality and even form by the stamens of different hermaphrodites. As proof of this, among my strawberries are beds of the Finch, Glendale, Jucunda, Big Bob—a worthless sort—and Jersey Queen, in alternate rows. The Jersey Queen and Big Bob are pistillate varieties, and both are easily fertilized. East of the Jersey Queen are, in beds, the Miner, Warren, and Duncan, west are Jucundas and Glendales. East of the Big Bob, between it and the Jersey Queen is Finch's Prolific, and west of the Big Bob are Sharpless and Wilson. Thus these two pistillate varieties were in proximity of these various hermaphrodite kinds; and, as a consequence, must have received the pollen, more or less, according to distance, sunshine, wind and bees, for the pollen must be carried or blown from the stamens of the hermaphrodites to the capellum of the pestillates.

The pollen is contained within the cells of the anthers, and is a dust-like substance. When the anthers burst the pollen escapes, and is easily blown some distance, especially when the sun shines brilliantly, and falling on the stigma descends the style to the ovaries, and thus fertilization takes place. The pollen is electric, and positively charged; the pistil, or rather the stigma, is also electric, but is magnetic, attracts or absorbs the pollen, and these are the means used to an end. The means used are the process, the end the product, fruit or seeds.

Now, in picking these two pistillates—Jersey Queen and Big Bob—we observed many berries half made up, seemingly abnormal. The Jersey Queen near the Jucunda were the largest, and most productive. Near the Glendale were sour and smaller. The Big Bobs near the Sharpless, where they were anything at all, were the finest. Near the Finch sour, smaller, less, little, worthless. So, too, the Manchesters—pistillate—fertilized by the Miner, were soft little things. Impregnated by the Sharpless were very fine, indeed. The Golden Defiance, pistillate, fertilized by the Bidwell has nothing like as fine berries as when by the Marvin. The Golden Defiance is late, the Bidwell early; but the Marvin is late, similar to the Golden Defiance. Here then seems to arise another idea. Should not the two—pistillate and staminate—be alike in size, growth and time of ripening? "Similis simili gaudet." So, too, "Similia similibus curantur."

In all ages, throughout the Faunal world, the male has been observed to have an immense influence in impressing his progeny. If, then, this is true in Faunal, why not in the Floral world? If the "stamanate"—male—"has no influence on the pistilite"—female—in plants why, I ask, the dissimilarity? Why this abnormality? If "like beget like" in the one phase of life why not in the other?

Men assert "the staminate has no influence on the pistillate." I deny it, and challenge the proof. Does not corn mix even across a river? The pollen from the tassels will blow hundreds of yards and fall on the silks of a different kind and others mix a white with a yellow or other color. The cucumber will mix with the muskmelon. But why enumerate? The case is to explain.

The strawberry is affected, more or less, by the kinds used as fertilizers This we have noticed for many years. The stronger, as a rule, governs or controls the weaker. Hence, the stamens being heavily charged with vitality, possessing all the qualities constituting that berry, as the Sharpless, of course, the pollen mingling with the ovules and the ovary of the pistils has, to a greater or less extent, a controlling influence. Clearly, then, if we wish to improve a fruit or an animal, we must select those males having, in a remarkable degree, the pre-requisites we desire to spring from the female, either of the Flora or Fauna. Equal care must be exercised in the selection of the female parent or we fail in our improvement. This reason, by judicious care, on both, and immense labor, I grew strawberries weighing two ounces.

"Palma non sine pulvere."

A. F. DAVIDSON.

Orchard Pruning—Hints for Beginners.

The fruit trees have shed their leaves. The sap, which hitherto supplied their life, has deserted them to their fate, and gone down into winter quarters in the roots. The upper part of the tree is left thereby in a sort of dormant state, wherein, with least risk and most advantage, the pruning of the orchard may be undertaken. At this season of the year there are always [illegible] days when the ground is too wet either to plow or plant, which can be advantageously applied to this most needful, but too often much-neglected operation. It is generally supposed that any man who can wield a hatchet or saw is competent to perform this job. There was never a greater mistake, and the ruin of many a fine orchard before now has proved to its unlucky owner the fallacy of such a doctrine. and taught him at least to properly prune an orchard requires both knowledge and skill on the part of the pruner. There is a right way and a wrong way in this as in other things. There is a reason why, for every clip of the intelligent pruner's shears, and even to a man worthy of weilding these shears, there are trees now and then which have been neglected or badly pruned, whereof it requires a mighty deal of nice consideration to enable him to decide just what branches to take off and what to leave on to bring them into proper and profitable shape. It is, indeed, no easy job to "revise and correct" an abused orchard, and it frequently requires the thoughtful planning and pruning of several consecutive years to accomplish the desired end. It is well, therefore, when one has found a man who thoroughly understands this business, to employ him, year after year, upon the same trees, that he may have time to carry out his plans, which can really be only well begun in a first year's pruning.

Let us look into the principles of this pruning business, for they are so plain, and the reason for them so obvious, that we feel inclined to put forth a pruner's primer, or catechism, for the benefit of the thousands of young orchardists scattered throughout the country who have all their experience yet to gain upon this subject, and to whom a few timely hints now may save years of trouble hereafter in the treatment of their trees. Our catechism should proceed somewhat on this plan:

What is the chief end of an orchard tree?

To bear good fruit.

Very well. Now, what shape of tree is best adapted to this purpose?

That which is trimmed into a round, compact head.

Why?

Because in this shape the tree is less apt to part or split from overweight of long, unbalanced branches, and the harvesting thereof is a much easier matter than if the tree had been left with its boughs sprawling around in every direction, and rivalling those of the Lombardy poplars in their height.

What, then, should be the object of the pruner?

To keep the tree clipped back into that symmetrical, globular form, which will best facilitate these ends.

How is this to be accomplished?

By pruning, always with that end in view; for it should be remembered that no fruit is borne on the new year's growth, but on that made the year before; and if the proper trimming has been neglected at that time, one may be obliged to sacrifice a large part of the next year's fruitage to atone for their previous neglect.

How, then, shall one proceed who is anxious to establish an orchard in the shortest possible time, and upon the best approved principles?

Procure from some reliable nurseryman a choice lot of fine, healthy, two-year-old trees, straight as an arrow from root to top; plant them twenty feet apart, using every possible care in the preparation of the soil, and spreading the roots evenly with the hand in all directions. Then water them well and settle the earth firmly around them with the pressure of the foot, on all sides, to prevent any possible "air chambers" being left about their roots. Next, as the first step in the future pruning of the tree, cut off the top with a sharp knife at the height from which the future branches of the tree are desired to start, say at four feet above the ground.

Why at four feet? Why not lower?

Because this height will permit the cultivation of your orchard (which should always be kept clean and free from weeds or other growth of any kind) to be done by horse power, which would be impracticable by and by, if the limbs branched nearer to the ground.

What is the next step?

With the coming of spring the young tree will burst forth into buds, from the root clear up to the top. Rub off with the hand, whilst yet but a tendr green tip, every one of these buds but the three nearest the top. This rubbing off prevents a loss of sap expending itself upon useless wood and the formation of ugly wounds by and by if these shoots are left to absorb the vigor of the tree until they require the knife to remove them. By the end of the season your tree will have become a stout standard, branching into three long prongs.

Why were but three buds lef tto form the future tree? Why not more or less?

Because experience has proved that the triple crotch is the strongest form of tree growth. Had you left two or four buds, dividing the tree into two equal divisions, in their aftergrowth their weight would always have been apart from each other, and in some year of heavy fruitage your tree would have split in twain, losing you the time as well as your reward for the care bestowed upon it; whereas, the three limbs interlock their strong fibres around each other, and give a triple strength to this foundation of your future tree, which insures it against any such after catastrophe.

Shall we not leave these three prongs their full growth, so as to taste the fruit of our tree in the coming year?

No; work for the year beyond that; clip them back to half their length, when from each will spring three other lateral shoots, as in your first year's pruning, giving you nine limbs in your second year instead of the three you would have had, besides placing your crop upon short, stout branches, where it has greater security from sudden gusts of wind. In the next season clip back your nine shoots to half their growth, as you did the three of the previous year, and under your careful training your tree will grow on in beauty, symmetry and strength, and thereafter repay you a hundred-fold for all the care bestowed upon it; nor ever require the dangerous experiment of taking off limbs the size of a man's arm here and there, with the consequent loss of sap, to bring it into proper shape.

Is the process of pruning alike beneficial to all trees?

No. Some endure the operation much better than others. Our experience has been that cherry trees are particularly averse to pruning of any kind, and seem, from the exuding gum, never quite to recover the taking off ot a large limb, even though the wound was instantly covered with a coat of shellac dissolved in alcohol, which preparation we keep on hand to use for this purpose when such amputations are unavoidable. Peach trees, on the other hand, seem to renew their youth and vigor all the more for the pruning they receive. Indeed, without this, a peach tree only lives from eight to ten years, when, by constantly renewing its growth, pruning off the old and letting the new wood take its place, they have been known to thrive for thrice that time.

But suppose one comes into possession of an old, neglected orchard. What then?

Put it into proper training as soon as possible, for the sooner this end is attained the sooner you will reap your reward. Take, for nistance, an old, neglected apple tree, which has had no clip from the pruner's shears since the day it was planted (and one may see a sample of these in almost any drive of a mile throughout the country); have your saw, shears and shellac all ready. Now stand back from the tree and take a good look at it from all four sides, through an imaginary circle held up between yourself and the tree. Have the center of the circle exactly over the trunk, and let it include the main average of the tree's circumference. Note, now, what limbs extend beyond that circle, and take them off at once. Step back again. Go all around the tree, applying the circle on all sides, and shear off all the straggling boughs to the limits it proscribes. This being done, take another good look at your subject. Wherever you see limbs interlapping, crossing and interfering with each other, cut them out, coating over the wound with shellac, if it be a large one. Condemn at once all old, half-dead or diseased wood, leaving as far as possible only new and healthy stock from which to train your future tree, thinning out even those where they are too thick, for there must be free ventilation for both sunlight and air throughout the tree to enable it to bring its fruit to perfection. Do not be afraid to trim severely in this case for fear your tree will not be able to bear, in the next year, a crop sufficiently large to satisfy your desires. Herein lies the fault of most all orchardists. They let their trees bear too much, losing in quality every time more than they gain by the increased quantity the tree attempts to bring to perfection.

The result of this short-sightedness tells upon the fruit-grower's pocket materially when he comes to dispose of his crop. The small, stunted apple from the overloaded tree, being a drug in the market, finds no purchaser, and fails to repay even the cost of picking, to say nothing of boxing and shipping; whilst the large, perfect fruit from the well-pruned tree, where it has had a chance to develop all its lusciousness, will always be in active demand, command the highest price, and pay a fair profit to the producer.—Rural Press.

The French Camp Mines.

The Silverton Appeal says that Al. Woodington, a well-known resident of the Waldo Hills, has found the old French Camp mines, in hunting for which much time and money has been spent. In searching for them he followed the description given him by an old Indian woman living on French Prairie. He started from Mt. Jefferson, and when his eyes fell on a frying pan and an old broken shovel he knew that he had found what he wanted. By prospecting in the placer bed he filled two phials with yellow dust and returned home. He has since staked off a claim and feels satisfied that he has struck the true business. The locality of these new mines is about twenty-five or thirty miles from the Molalla mines, and about sixty miles from Silverton, just north of of Mt. Jefferson, and on or between the headwaters of the North Santiam and and Molalla rivers.

Crops in the Big Bend Country.

The results of this season's farming in the Big Bend Country prove conclusively that that region will in the years to come be the great agricultural centre of Washington Territory, and justifies all the flattering newspaper descriptions of the vast section that have been published, says the Spokane Falls Review. Early this year there was a heavy travel to the Big Bend and a great many farms were located, but the early spring was phenomenally dry, and a large per cent. of the settlers became discouraged and abandoned their claims. The drouth did not last long enough to permanently injure the crops, however, and the timely and abundant moisture that extended throughout Eastern Washington has insured an immense yield wherever the soil has been cultivated.

Clackamas county, has 4626 children drawing school money. Only four counties in the State have more children than Clackamas, Marion, Linn, Multnomah and Umatilla. The amount to be drawn from the irreducible fund for this county is $3469. The number of school children reported in the State in 1883 was 69,076, showing an increase during the year of 4791, while the amount distributed shows an increase of $7047.05, or at the rate of 75 cents per scholar, to that of 70 cents per scholar in 1883.

New hay $20 per ton at Olympia.

Correspondence.

Informated Wanted.

LOCKPORT, Ind., July 24, 1884.

Editor Willamette Farmer:

I want to ask you a few questions about Oregon and Washington Territory. I want to know about Willow creek, Umatilla county, Oregon, if there is any good government land to take up there; is there any timber; is the water good? Please send me a copy of the Heppner Gazette. I want to know something about the Palouse Country, Washington Territory; I want to know where I could find a good part of the country to farm in—that is with limited means. I moved to the Willamette valley last winter and liked it, but my wife could not stand the wet climate, and I came back to Indiana. I am not satisfied and want to go back. I want you to let me know the best place to come to, in your opinion. I think the western part is too wet for good health. My trip cost me $500. Last winter I was in Portland, Salem, Albany, Corvallis, Eugene and Glendale; so you see I have seen some of Western Oregon. Please give me your views of Eastern Oregon and Washington, and oblige an old ex-soldier. T. M. BLACK.

REPLY.—To begin with, we will not take upon ourselves the responsibility of encouraging anyone to come to Oregon. We like it, and that is no reason others may. The Willow Creek Country is a good location; land was plenty there a year ago, but now good claims are the exception rather than the rule; yet there remains considerable good tillable land to be pre-empted or homesteaded. The climate is good and healthy; crops turn out well. Our friend says he has been in the Willamette valley, so we need say nothing about it. The man with limited means should go to the Big Bend, Palouse, Umatilla, and other such sections, where land is cheap and crops return income soonest. Those who have means come to the Willamette valley and invest in improved farms and make a handsome living off of them. Our season last year was wet but salubrious, and when his wife could not keep her health when it was such, he had best stay where he is. We fear our friend expects to find a magnificent farm laying in wait for him. Farms must be made—the U. S. Government furnishes the "cloth" and the inhabitant must "cut the pattern and sew it up." Eastern Oregon is decided a healthy country, and land is to be had for the taking, but those who are considering of pre-empting land must act soon or their chances will be slim for procuring a home free.—EDITOR.

Weather Report for July 1884.

EOLA, August 1, 1884.

Editor Willamette Farmer:

During July, 1884, there were 8 days during which rain fell, and an aggregate of 2.29 inches of water, 9 clear, 7 fair and 7 cloudy days other than those on which rain fell.

The mean temperature for the month was 61.62 deg.

Highest daily mean temperature for the month, 68 deg. on the 30th.

Lowest daily mean temperature for the month, 55 deg. on the 16th and 17th.

Mean temperature for the month at 2 o'clock P. M., 70.36 deg.

Highest temperature for the month, 82 deg. at 2 P. M. on the 30th.

Lowest temperature for the month, 52 deg. at 7 A. M. on the 17th.

The prevailing winds for the month were from the north during 16 days, south 5 days, southwest 10 days.

During July, 1883, there was no rain, 4 clear, 2 cloudy and 25 smoky days.

Mean temperature for the month, 66.82 deg.

Highest daily mean temperature for the month, 74 deg., on the 6th and 23d.

Lowest daily mean temperature for the month, 59 deg. on the 15th and 28th.

T. PEARCE,