A Means of Illustrating Horticulture.

by

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Congress established Agricultural Colleges.

Importance of Horticulture.

- Commercial fruit growing.

Present equipment inadequate for teaching.

- Farmers should be taught.

Twenty acre fruit farm for Agricultural Colleges.

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- Fruits the farm should contain.
- Location of farm.
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- Cultivation.
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Means of Illustrating Horticulture.

The act of Congress, which gave land to each state for the endowment, support and maintainance of a school where the leading object should be to teach such branches of learning as are related to agriculture and the mechanic arts, virtually established an agricultural college in each state.

Horticulture is one of the branches which goes largely to make up agriculture, and it should be the object of such colleges to provide instruction such that those students who wish to become proficient as horticulturists should be given an opportunity to do so.

I know of no such place at the present time where a person can go and learn commercial fruit growing, so that he will be competent to take charge of a place, either for himself or some one else without the costly experience all successful fruit growers have had to pass through. Such information, when gotten only by experience, paid for by himself, is costly, for it often takes years of cultivation and patience as well as money before one can find out that a certain variety is of no value as a money maker.

In most of the Agricultural colleges, the present equipment seems to be inadequate for such teaching. But if a thorough course of practical scientific work could be provided, after its completion one would be ready to go into the practical vocation of growing fruit.

If the farmers of this state were taught how to grow their own fruit, many thousands of dollars annually, which now go to California or other fruit growing states would be saved, besides getting a better article making home more attractive and improving things in

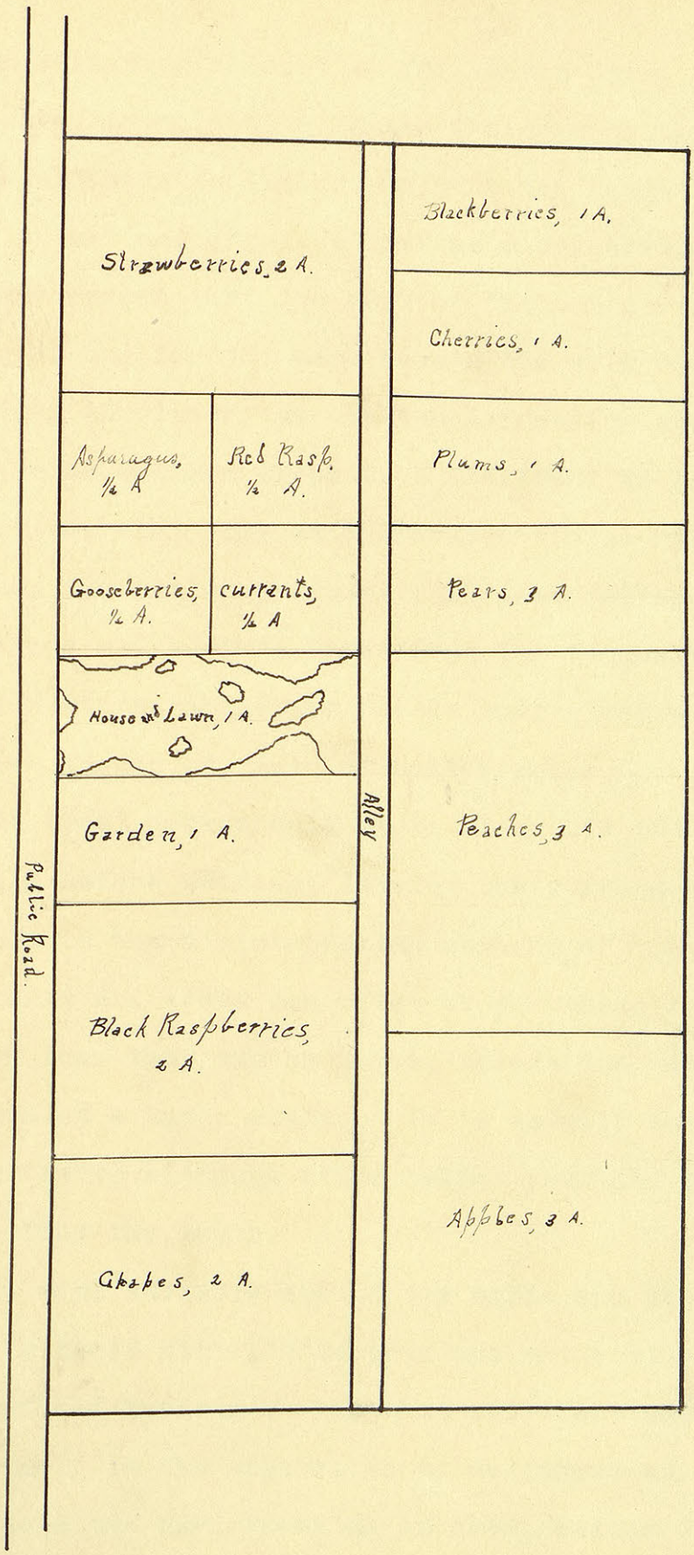
general.

Suppose the agricultural colleges should take twenty acres of land and plant it as would be done if an experienced fruit grower were to plant it for commercial fruit growing. This would furnish a grand means of illustrating this branch of horticulture to the student; while, if so desired, other plots of ground could be used to illustrate landscape gardening, growing of fruit for home use, the specialty of growing of commercial apples on a large scale, or, for experiments which can not at present be considered.

It is the twenty acre fruit farm as a means of illustrating horticulture that will be considered in the rest of this article; not that it is the most important branch of horticulture, but the one which is best adapted to a large proportion of the people.

The grounds should be laid out and planted as conveniently as possible, and so as to produce the fruit at the least possible expenditure of labor. If the ground is plotted in some such manner as as that given in the plan on the next page, the cultivation of a certain fruit can be done at one place and at one time, instead of having to run all over the farm as is often the case. The plan is laid out so as to have something to sell most of the year round, and also in regard to convenience in gathering the fruit. It provides for one acre of garden, one half acre of asparagus, two acres of strawberries, two acres of black cap raspberries, one half acre of red cap raspberries, one half acre of currants, one half acre of gooseberries, one acre of blackberries, two acres of grapes, one acre of plums, one acre of pears, one acre of cherries, three acres of peaches, three acres of apples and one acre for lawn and buildings.

Plan for A Twenty Acre Fruit Farm.



In selecting a location for such a farm, an ideal soil is a sandy clay loam, with a gentle drainage to the north; and if it has previously been in timber, so much the better. A northern slope is never as hot and dry in summer as a southern or western slope for the same reason that the rays of the sun strike the surface more at an angle; and for the same reason the soil remains in a more dormant condition in winter; as continued freezing and thawing found on a southern or western slope is a detriment to fruit growing plants.

A sandy clay loam is preferable to the rich, black loam of the bottoms; the latter produces luxuriant foliage, but the growth is more sappy and suffers worse from the fungus diseases and from severe winters; while the former soil gives a more even growth and a larger amount of fruit of better color.

The first work should be to clear off the rubbish, and plow deep the fall before setting, leaving the surface as much exposed as possible to the disintegrating actions of the winter.

Plants and trees can often be purchased from the nurserymen cheaper than they can be grown, unless one makes a practise of growing them on a large scale. It is usually better to patronize the home nursery, although often better pear and peach trees can be obtained from the South.

The most suitable age of the apple and cherry seems to be two years, planted with little pruning; while with peaches and pears, one year old trees give the best satisfaction. They should be ordered early in the winter, to be delivered as early in the spring as possible after hard freezing is over, healed in ready to plant at the first opportunity.

The next work will be as soon as the ground is ready to work,

which consists in disking, marking off and digging holes for the trees. The holes should be about twenty inches in diameter and twelve to fourteen inches deep and filled in with surface soil until the tree, when planted, will be only slightly deeper than it stood in the nursery.

All broken or bruised roots should be pruned off, and with the peach and pear trees the top should always be pruned to a straight stick and headed back so as to be only two feet above the ground when planted. This may seem harsh treatment, but the writer once carried on an experiment to determine this point with the following results. A part of the trees were planted with no pruning at all, other with part of the top removed and the remainder pruned to a straight stick as described above. In the first case, that is those not pruned at all were slow in putting out, the shoots slender and spindling, making only a three to six inch growth with a tendency to turn yellow in summer and shed their leaves, while those in the third case, they early sent out strong stocky shoots, which grew to a length of eighteen inches making a well balanced head close to the ground. Those in the second case, seemed to be about half way between.

This close pruning causes the stock to send out shoots near the ground which are easily removed by rubbing down while tender with a gloved hand from where the top should begin.

In planting, the tree should first be "mudded", then while one man shovels in the surface soil another tramps the dirt firmly about the roots of the tree which leans toward the south west.

The cultivation consists in keeping a soil mulch over the surface by means of the disk, the twelve tooth cultivator, and the hoe until the first of July, when the field is seeded to Whipperwill cow peas.

The sowing of cow peas is a benefit in several ways. First, it enriches the soil by adding nitrogen. Most plants are unable to assimilate the free atmosphere nitrogen, but all leguminous plants can, by means of bacteria, which form tubercles on the roots. Second, it adds humus to the soil. Third, it ripens up the wood of the trees for winter; and fourth, it places the soil in better physical condition, which with the thorough cultivation given in the early part of the summer, unlocks the potential potash and phosphoric acid, that is, changes it from the insoluble to the soluble form. The soluble potash and phosphoric acid unlike the nitrates, if not used by the plant for food, reverts back to the insoluble form, and is not lost by the backing.

Roberts states that there is enough potash and phosphoric acid in the soil to last several centuries. If this be the case, then by thorough cultivation to render it soluble and the free use of cow peas to supply the nitrogen, much of the money paid out for fertilizers can be saved.

In planting the smaller fruits, the land for the strawberries should first be dragged, then marked off with a line and the plants set with the crowns even with the surface. The ground for the raspberries should be marked off with a single shovel plow seven feet one way, and the plants set two and one half feet apart in the row. The blackberries should be treated in the same way, except that they should be planted with rows eight feet apart, and three feet apart in the row.

The following is a list of some of the varieties best adapted to Kansas soil and climate.

Asparagus.

Conover's Collosal.

Palmetto.

Strawberries.

Capt. Jack.

Warfild.

Beder Wood.

Bubach.

Parker Earle.

Clyde.

Gandy.

Black Cap Rasp.

Gregg.

Kansas.

Grapes

Moore's Early.

Concord.

Worden.

Goethe.

Ndágra.

Moore's Diamond.

Woodruff Red.

Red Raspberries.

Thwack.

London.

New Cardinal.

Currants.

Red Dutch.

White Dutch.

Pomona Cherry.

Gooseberries.

Houghtan.

Daivning.

Pearl.

Blackberries.

Early Harvest.

Snyder.

Taylor.

Peaches.

Early Risers.

Mountain Rose.

Old Mixon Free.

Champion.

Elberta.

Reeves' Favorite.

Pickets' Late.

Grapes.

Brighton.

Plums.

Wild Goose.

Arkansas Lombard.

Abundance.

Burbank.

Pears.

Keiffer.

Dutchess.

Garber.

Rutter.

Cherries.

English Morrella.

Early Richmond.

Mortmorency.

Peaches.

Solway.

Sinock.

Heath Cling.

Apples.

Yellow Transparent.

Jonathan.

Missouri Pippin.

Ben Davis.

Wealthy.

Ingram.

York Imperial.

Such a fruit farm in connection with the Kansas Agricultural College would give instructive work most of the year.

The objection might arise that the most important work would come during the summer vacation, when the students were not here, but this would work like the apprentice work, that is, if the work was provided the students would stay during the vacation.

The fall work would consist of pruning grapes, mulching straw-

berries, removing dead trees, etc., while the winter would be the time to remove the old canes from the blackberries and raspberries. Later in the winter, would come the pruning of the peach and apple trees one third of the new growth of the former being removed, or even more if it is known that the fruit buds for the following season are killed, thus inducing a strong growth of stocky new wood.

The early spring would bring all the work common to such a place as clearing up the old wood and rubbish that has accumalated during the past year, and getting the fields in shape for the first cultivation. The wires in the vineyard should be tightened, new posts set where needed, and the vines tied up securely.

Replanting in all the fields should be promptly attended to, so as to keep them up to their full bearing capacity.

With the ripening of the fruits in their respective seasons, would come the most of the work. Fruit, unlike most of the farm crops, is of a more perishable nature, and more skill and rushing is needed to place it in the hands of the consumer in good shape.

A twenty acre fruit farm, properly handled, would furnish more fruit than a town the size of Manhattan would at times consume; but there are many towns in Kansas which would furnish a ready market for berries. These towns now receive many crates of berries from Kansas City, also Kansas City ships many crates to Colorado Springs and Denver. A place situated like Manhattan would have a great advantage over one like Kansas City, for the reason that the distance is shorter and the berries could be picked in the forenoon, placed on the train immediately, and reach their destination in less time and in better condition than those shipped from Kansas City.

Such a fruit farm would, after the first three years, be entirely

self supporting; while the original cost would not be as much as the state now appropriates for other departments. The instructive work furnished by such a farm would be a means of increasing the fruit growing industry in Kansas, there by not only providing a means of making a living, but also giving to Kansas more of that health giving food, fruit.