



A Four Acre Raspberry Patch, that Produced over 9,000 Boxes of Berries

The bushes in this raspberry patch, owned by Grover C. Murdoch, of Simcoe, Ont., were two years old last season, and produced almost \$1,000 worth of fruit. The rows are seven feet apart, and the bushes two feet apart in the row.

the subject and of those that influence or bear on that subject. We now have not only books on every phase of fruit-growing, but also on varying viewpoints of each phase. Thus we have several books on "The Soil," a combination of which sifted through our own experience gives us a wider knowledge of the principles of soil management. Formerly changes in the soil were supposed to be due to chemical action; now we know that they are largely influenced by those living organisms in the soil termed bacteria. Bacteria do not all work for our good; hence it is to our interest to study these so that we may encourage those that are beneficial by such action as lies in our power to this end, and to neutralize or destroy such that are detrimental to our interests, and a very good book on this subject may be found in Lipman's most excellent work entitled "Bacteria in relation to Country Life." Then we have books on fertilizers which tell us of their history, source and action, and how they may be used to advantage. A study of plant physiology teaches us the behavior and response of plants under our conditions, and our progress rests largely with an intimate knowledge of the relation of the growth of the plant to the condition under which it is grown.

The fruit grower must ever bear in mind that it is only through a complete comprehensiveness of all of the natural forces tending to his weal or woe that he can hope to attain that larger success for which we all strive. Emerson says in his "Essays" that "there is no limit to the chapter of our resources. We have keys to all doors"—primarily our success rests with each individually. We must gather in the knowledge that others have attained, sift it through our own experience, and by test select that which is to benefit us and apply it to our own

individual affairs as circumstances permit.

In conclusion, let me say that we should do no action blindly. If it is pruning we should study the why and wherefore and remove no limb without a definite aim in view—the same rule should bind us in all our work. Then, though success is primarily attained through the individual effort, we must not forget the collective effort—cooperation. In cooperation we organize our buying and selling to our own good and the general welfare of the community.

A Profitable Raspberry Patch

G. C. Murdoch, Simcoe, Ont.

From four acres of red raspberries last season I sold almost one thousand dollars' worth of fruit. The bushes were set out in the spring of 1910 in rows seven feet and nine feet apart alternately and twenty inches apart in the row. In a large patch this is an advantage when getting out the old wood, as a team and wagon can be driven down the nine foot rows and have the brush thrown on from the seven foot rows.

The bushes were hoed and cultivated the first summer and made a fine growth before fall. In August the bushes were cut back to two feet and in October the bushes were strong and the canes large and they wintered well.

In the spring of 1911 the ground was hoed and cultivated and kept clean all summer. In spite of the severe drought of that season we picked four thousand eight hundred baskets from the patch. The old wood was removed as soon as the crop was off and the new canes cut back to about two and a half feet and not over four canes left in a hill, three was the average.

Last spring they were hoed and cultivated, and during the dry spell of June they were cultivated twice a week. We

took nine thousand baskets from them last season, and in August took the old wood out and cut the plants back as usual.

I believe in taking the wood out as soon as possible after the crop is off. It gives the new bushes a chance to form thick canes that will bear the weight of heavy snow and it also removes insects and borers that are working on the old canes before these have a chance to attack the new wood. Next spring, and yearly thereafter, these bushes will receive a liberal dressing of barnyard manure. As they were set on rich ground they have not needed it yet. We did not cultivate them again last fall, as we wanted all the new shoots that came up between the rows for new plants next spring, as we intend to set out ten acres of them next season.

Tile Draining in Winter

Joseph Tweddle, Stoney Creek, Ont.

Tile draining is the one thing most needed on the average Canadian farm, but the great shortage of labor leaves no possible chance to attend to this work except in winter. It does not appear to have occurred to the average farmer that it is possible to do this work in winter, but as a result of careful study, I have been able to continue the work till mid-winter and find it possible under ordinary circumstances, to operate throughout the entire winter.

It has been our practice to lay out the drains and plough out a deep double furrow before winter sets in. Having the surface well drained I proceed to protect the drain from freezing by covering it with a little coarse manure, of which a good load will protect a long stretch of ditch. This class of work, owing to the vigorous exercise, is not uncomfortable in moderately cold weather. It is very healthy and provides work for the winter months thus enabling the farmer to keep a better class of labor.

A good strong sub-soil plough is used after the ditch has been opened. It stirs up the subsoil to a depth of ten or twelve inches. This is done by going two or three rounds with a good steady team, using a six or eight foot double tree, which makes it safe for the horses, and prevents damage to the ditch. This provides for the use of unskilled labor under the farmer's superintendence in shovelling out the loose earth. Repeat the sub-soiling and shoveling until the desired depth is secured. This makes a very cheap method of carrying out the work.

I have succeeded in cutting four and a half feet deep by lengthening the chain from the horses to the plough making a ditch not over eighteen inches wide at the surface and four to six inches at the bottom. This has been done in the wet