

**HOW TO GROW AND MARKET
FRUIT; PRACTICAL
EXPLANATIONS
AND DIRECTIONS FOR MAKING
FRUIT TREES PRODUCE PROFIT**

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How to Grow and Market Fruit; Practical Explanations and Directions for Making Fruit Trees
Produce Profit by Harrison's Nurseries

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WE FEEL that acknowledgment should be made to the following men for the help they have given in making "How to Grow and Market Fruit" complete and reliable. From their constructive criticism of the manuscript we have been able to get many valuable points. We thank them here, and the use and appreciation of the ideas they supplied will be permanent commendation of their knowledge of fruit growing and their courtesy.

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Example of good air-drainage. Exposure to south and east, yet orchard ideally located. Owned by W. J. Lewis & Bro., Pittston, Pa. (Photo by W. J. Peck.)



Pear trees and grape-vines along road. Any fruit trees or vines good for this. Practice utilizes otherwise waste space. Should be copied everywhere.



Cowpeas planted in rows for combined soil improvement and pea crop. Applicable to any farm. Young apple trees in Harrison's Nurseries.



Clean cultivation. Clean, whitewashed bark, low, open heads, in Hood River orchard.

To WIN AMBITION



Clean cultivated orchard in Delaware. Higher heads not so desirable as lower ones.



Splendid care of young trees, and effective Norway Spruce windbreak (Pennsylvania)



Young orchards should be cultivated clean. Acme harrow will do the work well.



Where help and time are scarce, plowing and leaving alternate strips is good practice.

Harrison's Service to Growers

YOU probably know that our nurseries comprise about two thousand acres in young fruit trees and strawberry plants, and that we own, or have interests in, bearing orchards of apples, peaches, pears, etc., which cover four thousand acres and contain two hundred thousand trees.

The orchards are scattered here and there over four states. Our bearing trees are on mountain land and low land, on all slopes, in all kinds of soil. Every kind of disease and every sort of "bug" by which fruit trees are affected has to be fought, and every known method of cultivation, fertilizing, protecting, pruning, picking, packing and selling can be found in use—at one time or another—in our orchards.

Starting as many young trees and plants as we do, planting and caring for as many orchard trees as we have, we get a practical working knowledge of how to grow fruit. We work out the thing from planting seeds to receiving the checks for the fruit. We know just what our fruit costs. What is said here is the most practical kind of hard-won knowledge.

To decide the merits of a cake, eat a piece of it. Our cake has been more than sampled. We have eaten a big piece of it—have even made a steady diet of it for thirty years. It is delicious and wholesome. This proves that our materials are right, our recipe good and our methods correct; *for we have succeeded in growing good trees, and in growing and selling choice fruit*—succeeded beyond what most men think is possible. Our young trees have come to be the standard for this country. Our orchards pay big.

Three or four years ago the thought came to us that our experiences ought to be interesting and valuable to a large number of growers and planters of fruit. So we started Harrison's Service Bureau, and invited our friends to ask questions. Soon, however, so many questions were asked that nearly all of our time was needed to answer them personally, and for this reason we designed the first edition of "How To Grow Fruit," published year before last. This book contained a digest of what we had to say about the common processes of fruit-growing—and letters answering most of the queries received.

Our success with "How To Grow Fruit," the story, has been as marked as in propagating fruit trees and in growing fruit. So we have decided to go a step further and give the public a book along the same lines. This book we call "How to Grow and Market Fruit," and it now is in your hands. It will anticipate most of your questions, we think, and it may tell you things you would like to know, but which you have not asked about, for it outlines "how we do it" in most of the processes and methods of fruit-culture. Should, however, a situation arise which is not provided for in the book, our stenographers are "on the job," and we urge you to write fully for a personal reply.

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The Fourteen Essentials

READ the entire book. Every chapter, and almost every paragraph, is related to every other chapter or paragraph, as each phase of fruit-growing is related to every other phase. The index will direct you to all the pages on which any subject is mentioned. Where a tree, orchard or plant is mentioned in the following pages, the discussion often embraces any or all kinds of fruit plantations.

Fourteen elements, or conditions, are necessary for growing all fruit. Each kind needs certain special treatment, yet if any of these fourteen elements or conditions are lacking, the result is failure, complete or partial; when all are present, and the few special attentions are properly given, tremendous crops are reasonably certain year after year—crops of highly colored, richly flavored, juicy, firm and flawless apples, peaches, pears, plums, cherries, quinces, grapes or small fruits.

The maker of wagons, watches, shoes or other articles must have machinery and tools, oil, fuel, power, a supply of raw material, and other essentials—a factory and an organization. An orchard is a factory; the product is the fruit. By having the essentials, we can make fruit. The greatest difference between a wagon factory and a fruit factory is this: We can make any style of wagon and use any method, but in producing fruit we must choose the size and characteristics desired from among a few dozen varieties, and secure the finished product by following nature's plans.

Growing fruit is easy, and almost any one can do it, yet it is more complicated than wagon-making or watch-making. The fruit-grower is forced to adopt or originate ideas and methods which fit the conditions; he cannot make the conditions fit the idea or blueprint. This requires study, observation, judgment, work, skill and perseverance. Without these the fruit-grower must fail; with them, he can make of fruit-growing something better than he could make of anything else in the world.

The fourteen requirements of a fruit factory are suitable soil, nitrogen, potash, phosphorus, lime, decaying vegetable matter and water, light and warmth in the right proportions, the absence of enemies, the right varieties, good trees, good marketing and *personally applied know-how* on the part of the grower.

Every process described here is intended to help the producer secure some of these vital elements with the least possible labor and cost. *That* is the fruit-grower's problem; his degree of success depends upon how he solves it, no matter what kind of fruit he grows or in what quantities.

Things Needed by All Fruits Alike

WHILE each kind of fruit requires special treatment, certain primary conditions are necessary for all. Methods which produce these conditions with apples, for instance, are equally good for the peach orchard or the strawberry patch. That which is right for one fruit, within these limits, is right for all.

Of these conditions, the first to be considered is the getting and keeping of plant food and of moisture, which requires three-fourths of all the effort expended in orchard culture. First, we shall consider the question of moisture—of both too much and too little water.

TOO MUCH WATER

A fruit tree will not yield if water stands about its roots—if it has “wet feet.” There must be good drainage to lower the level of stagnant water in the ground. This is understood so generally that nearly every one avoids low or swampy lands, or underdrains them thoroughly before setting out trees. Because it provides quick natural drainage (ignoring the other reasons), sloping land is better than level land for orchards.

Good natural drainage is greatly to be desired, but seldom is found. Even where it is markedly good, the use of tiles will give results which warrant putting them in. Generally speaking, only the highest, steepest land should be left without drainage. Flat lands nearly always need underdraining, and sloping or rolling land often has a close, hard subsoil which keeps water standing near the surface, at the roots of the trees.

While land may be dry enough in ordinary seasons, in the wet season the extra amount and quality of fruit due to underdraining often will exceed in value the entire cost of installing the drainage. On hillsides, the underdrains frequently will prevent washing. In any land, the space around a seepage spot or spring may be the most fertile in the field, and the only way to make this available is by draining.

By giving each place the drainage it needs, you can make conditions uniform throughout the orchard, adapting the entire area to the same cultural methods. If some spots are hard and sour, while others are loose and dry, they must be given different fertilizers and cultivation.

No matter how rich in plant food a soil may be, too much water will render the food useless for trees. Wise folks may say the land is too sour or too cold, or needs this or that. No matter what the name of the trouble is, you cannot get fruit from land that is too wet. Here are some of the reasons:

Before plant food can be taken up by the roots, much of it has to be prepared by bacteria. The best known of these are the legume bacteria, without which the clovers, peas and