

**SECOND THOUSAND  
ANSWERED QUESTIONS IN  
CALIFORNIA  
AGRICULTURE**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649147137

Second thousand answered questions in California agriculture by E. J. Wickson

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Second Thousand

Answered Questions

in

California Agriculture

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By E. J. WICKSON

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of "California Fruits and How to Grow Them," "California  
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ers, Shrubs, Trees and Vines," Etc.

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*A Sequel to "One Thousand Questions in California  
Agriculture Answered."*

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PACIFIC RURAL PRESS  
SAN FRANCISCO  
1916

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## PREFACE

The earlier publication of this series, entitled "One Thousand Questions in California Agriculture Answered," met a keen demand and an edition of five thousand copies was sold in less than two years. In order that those who find that book useful may have additional information as soon as possible, it has been thought best to publish answers to another thousand questions before undertaking a revised edition of the first thousand. This book is therefore in no sense a revision or republication of its predecessor. Particular care has been taken that nothing in this volume shall be a duplication of the preceding one, and the reader therefore needs both of them, twice as much as he needs either of them.

The compiler is thoroughly gratified that this branch of his work is found to answer so good a public purpose and he cannot refrain from stating that the way to secure just such information from week to week is by subscription to the Pacific Rural Press.

E. J. WICKSON.

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## PART I. FRUIT GROWING

### Trees Do Not Grow Up.

*A friend is setting twenty acres of walnuts, and is going to head them two feet from the ground, so that when they reach maturity the head will be four feet from the ground. Have you found this to be so or would you rather head them at four feet to begin with?*

Your friend is wrong in the head. A tree does not grow up from the ground. Unless some one shifts the ground in cultivation or otherwise, the head draws nearer to the surface because the branches enlarge in diameter. That is, the center of each branch remains just where the bud, from which it grew, started on the stem; the lower side being nearer the ground, therefore, by one-half the diameter of the branch. This amounts to a great deal with trees which reach such size and thickness of limb as the walnut and fig. If you wish the lowest limb something less than four feet start the limb at four feet and the under-side of it will draw nearer to the ground later.

### Growing Fruit Trees in Alfalfa.

*How shall I plant alfalfa in a young orchard? The ground was leveled before trees were planted, but will require checking now to control the water. If I throw up border checks along the tree rows will this work any injury to the trees from being in the ground that much deeper?*

It depends upon the kind of soil and how much deeper. It is less dangerous in a light soil, but if there is much dirt shifted around the tree it usually does harm. In such a case the tree should have been planted a little higher, and yet not so high as to be liable to injury on a dry levee. But trees in alfalfa should usually have a cultivated strip to themselves, at least while young, the levee being turned up three or four feet from the trees.

### Sour Sap in the Root.

*My peach trees put out a few leaves and then within a few days the leaves turned brown and dry before unfolding. Some of the trees set out last spring died. The trees planted two years ago are first showing it now.*

There has been too much water standing in the soil. It has destroyed the root-hairs and they could not furnish sap to keep up the growth which started from the sap in the main roots and stems. Cut back the trees, and those not too badly injured will start again later,

if the tree is able to re-establish its connection with soil-moisture by the growth of new root-hairs. The prevention for such a condition is under-drainage so that there shall be no water standing in the soil. The two-year-old trees were not hit before because there was not rain-fall enough to fill the soil with standing water.

#### Root-Action After Transplanting.

*A neighbor, while I was planting some peach trees, said I was not pruning the roots sufficiently. He took a tree and pruned off all the roots and rootlets except three or four of the largest ones, and these he cut back. He said the rootlets would not survive the transplanting, and only served to keep the earth from being packed well about the main roots. Was he right?*

The finer roots and rootlets, like threads and strings, are often worthless, as your neighbor says. They might better be cleared away, but, because of the work required, they are usually allowed to remain. Roots one-eighth of an inch in thickness there is no object in removing, if the planting and earth-pressing about them is being carefully done. Your neighbor is a little too radical, but trees will grow his way if moisture is ample. In our climate and in our soil which favor surface drying more than the humid climate, where this root-docking originated, it is better to retain longer roots in transplanting—merely making a new cut at the ends of them as they come from the nursery. This applies to what may be called average moisture conditions at planting. If the conditions of heat and moisture are ideal, and if the rootlets have not dried during transportation, they do not die but may be first to start growth. We once took up a June-bud peach, planted a month before, and found that the first new rootlets were starting from the string-like roots and nothing had put out from the larger ones.

#### Treatment of Trees After Submergence.

*A prune orchard on peach root was covered with seepage water some three months and now some 500 trees are dead, and the remainder look very badly. What can I do for the remaining trees, what killed the ones that died, and would they have died had they been on myrobalan root?*

The trees were killed by water standing in the soil. The peach is quite subject to such injury. The myrobalan root resists it—although we do not know exactly how much submergence it will endure. There is no treatment for trees suffering from standing water except cutting back the top to reduce the evaporation and thus enable the injured roots to re-establish themselves, if their injury has not gone too far. Prevention of injury can be secured by under-drainage of such lands.

#### Disinfecting Tree Holes.

*I have blown out about 40 stunted Bartlett pears as the roots and stumps were badly decayed. I desire to replant with Grovenstein apples.*

*Can I disinfect the holes without transporting too much water (as copper sulphate solution)? The bottoms of the holes are filled with manure, and as soon as ground settles will fill with new soil.*

Probably a good whitening of the hole with air-slaked lime, before putting in the new soil, will do as much good as anything. We should count most upon the use of good soil from a distance. Put a good deal of soil between the roots and the manure. We would prefer to put the manure on top after planting. If your blasting shattered the old subsoil so as to furnish better under-drainage the apples may come through all right. Otherwise they will follow the pears probably, after awhile. Rotten root is usually the result of planting in a place naturally defective.

#### Replanting After Crown Gall.

*I have an old peach orchard full of crown gall or black knot. Would it be safe to plant to new orchard without disinfection and is any particular variety of fruit trees immune from this disease?*

Work the land deeply, getting out and removing all root-fragments and replant on lines between the old rows with trees free from knots and sign of their removal and watch the crowns and main roots by uncovering once a year the base of the trees—cleanly cutting away and Bordeauxing the wound, if any knots are found. Peach and almond roots are most subject; cherries, apricots and plums next; pears and apples least—according to our observation.

#### Replanting Apples and Pears.

*I have taken out an old orchard, and desire to set it out again. Would it be advisable to set pears and apples again in the same soil?*

It is practicable providing the soil is good and suited to apples and pears as shown by the trees you removed. It would be better to manure well and run the land in alfalfa, beans or peas for two or three years or even to some other cultivated crop with deep plowing but it is not necessary to do so. Get out all the old roots you can and plant the new rows midway between the old rows, if the old distances were right.

#### Manure and Tree Planting.

*Which is the best way to use manure in setting out trees: to dig the holes about three feet and then fill about ten inches of manure and about one foot of dirt? Or just dig the holes as you want them and then mix the dirt and manure well together and fill the hole with it?*

As a rule it is not a good thing to put manure in the hole with the tree—either below it or mixed with the earth in filling. Of course, if the manure is thoroughly decomposed, it may be put below as you suggest and covered with dirt, but unless you are irrigating there will be danger of the soil becoming too dry. If the manure is not decom-