

THE BEND BULLETIN

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HARLES D. ROWE.....EDITOR

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FRIDAY, MARCH 29, 1937.

STUDIES IN IRRIGATION.

The Bulletin commences this week the publication of a series of articles on "Irrigation in Fruit Growing," written by E. J. Wickson, M. A., professor of Agricultural Practice, University of California, and Horticulturist of the California Experiment Station. The series will include a discussion of the relations of irrigation and cultivation, adequate cultivation, adequate moisture, retentive soil, deep soil, when is irrigation desirable, effects of insufficient moisture, when shall water be applied, winter, summer and fall irrigation. Each topic is treated in its relation to successful fruit growing, and will prove of great value to irrigators in the Bend country, inasmuch as many of them are now planting orchards and vineyards of no small size. Trustworthy information, obtainable at the very beginning of the fruit industry in this section, is doubly valuable as it helps to procure the adoption of proper methods from the start.

Later The Bulletin expects to publish, under its irrigation department, some very interesting and instructive articles on "Evaporation Losses in Irrigation and Water Requirements of Crops." These articles will treat of the influence of cultivation after irrigation, influences of soil mulches in checking evaporation, the advantages and disadvantages of shallow and deep irrigation, and later a few experiments as to the amount of water needed for barley and wheat. This series will close with "loss of water by evaporation and means of checking it."

Other good things under the irrigation department in store for readers of The Bulletin will be articles on alfalfa growing, irrigation of strawberries, and reports from various experiment station work, perhaps a little more than has already been printed in this department on the construction of small irrigation ditches, and many other interesting irrigation notes from week to week, as time and space permits.

It is the intention to make this irrigation department the most valuable feature of The Bulletin. With that object in view, any articles giving results of different methods of irrigation that have been used in this section, written by upper Deschutes valley people, will be gladly received. Undoubtedly there are those who have derived much valuable information from their own experience. The result of their work, published in The Bulletin, would be of great value to many. Let us have more of such articles.

PROTECT SETTLERS' INTERESTS.

Governor Chamberlain and the other members of the state land board are acting in a praise-worthy manner in their action to force the Columbia Southern Irrigating Company to fulfill its contract with the state and furnish the settlers on its segregation an adequate irrigation system. That is what the company contracted to do. It and its predecessors have collected no small sum of money from purchasers of its ditch lands, have induced settlement thereon, and should be forced to "make good" or step aside and let some other company carry on the work of reclaiming the fertile lands of this excellent project.

During the last year there has been much complaint by the settlers

against the company, and those in a position to know have claimed the company was not acting in good faith, that there was trickery and underhand methods being employed. Hence, the decision of the land board to force the company to a proper fulfillment of its contract receives the commendation of many in this region. It indicates that the board is working for the people's interests and that the rights of the settlers will be amply protected.

In this connection it is only fair to caution the public not to get the two companies, operating in this section under the Carey Act, confused in their minds. The company in trouble, the Columbia Southern Irrigating Company, has its segregations on the west side of the Deschutes river and obtains its water from Tumello creek. The other and larger company, The Deschutes Irrigation & Power Company, operates on the east side of the Deschutes and diverts its water from that river. There is no complaint lodged against this latter company and everything is harmonious between it, the settlers, and the state land board. With the two companies operating in practically the same section this distinction should be clearly borne in mind. The Deschutes Irrigation & Power Company, with its segregations surrounding Redmond and Bend, is living up to its contract in good faith.

PAYMENT OF POLL TAX.

There are those living in the Tumalo section who object to a recent order of the county court that requires a cash payment of the poll tax, claiming that they should be allowed to work out this tax. The Bulletin has been asked for information as to whether such an order is valid and can be enforced. It refers its readers to page 275, Sec. 39, General Laws of Oregon, 1903:

SECTION 39. Every male inhabitant of this state over 21 years and under 50 years of age, unless by law exempt, shall annually pay a road poll tax of \$3.00, which shall be collected in cash by the road supervisor of the district in which any person liable therefor resides.

This act is now in force unless it was amended by the last legislature. The Bulletin is not now in possession of any information to that effect. It is thus seen that the county court is only obeying the law when it requires a cash payment of poll tax. This may work a slight hardship on those better able to work out the tax, but there is no other alternative.

There's NEWS in The Bulletin.

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Problems That Confront The Irrigator.

Irrigation in Fruit Growing

From Farmers Bulletin No. 116, issued by the U. S. Department of Agriculture.

INTRODUCTION.

Throughout a considerable area of the United States irrigation is indispensable to the growth of fruit. Throughout a greater area irrigation is essential to the growth of fruit of the highest quality and market value. Throughout a still greater area the availability of irrigation is a surety against occasional losses of crops and injury to trees and vines through drought. There are no data for accurate definition of these particular areas, but it is a fact, never so generally appreciated as at the present time, that the fruit grower in all except a few of the most humid regions of the country may look upon a water supply, available for use when desired, as an element of great value and an assurance of safety in his business enterprise. Evidently the so-called "arid West" is no longer to stand alone in proclaiming the advantage of irrigation. Wherever fruit crops were injured or lost by the long drought of the summer of 1899 there may be found testimony of the benefit which would have accrued if the grower had been ready to regulate his soil moisture by irrigation. For this reason the art of irrigation is becoming far more than a sectional question in this country, and the knowledge of it which has been gained by a half century of experience in one section becomes of direct practical advantage in nearly all sections. The time has come when fruit growers everywhere must understand the elementary facts, at least, of the relation of irrigation to fruit production and of the development, distribution, and use of water in horticultural enterprises.

It should be an inspiring reflection to an American that he need not seek abroad for the best irrigation methods in the growth of fruits. The irrigation pioneers of the far West ransacked the whole Mediterranean region of Europe and Africa and farther India for example and suggestion and found little which American insight and ingenuity could not improve. The result has been that during the last decade commissioners from nearly all governments having possessions suitable for fruit production have made personal examination of American methods and have commended them for superior capacity and efficiency. It is not contended that America has the greatest irrigation enterprises of the world. Such comparison is beyond the scope of this writing. - But for irrigation enterprises as applied to fruit, it is claimed that there are none so great nor so rationally and effectively methodized as those of this country. For all these reasons it is thought that the farmers and fruit growers of the United States may be interested in a general statement, in as compact a form as possible, of the relations of irrigation to fruit production, and of irrigation methods, as they have been demonstrated by Pacific coast experience, to the end that recourse to irrigation, wherever it may be found desirable, may be facilitated and promoted.

IRRIGATION WITHOUT CULTIVATION.

A brief historical illustration is instructive, as showing how conceptions of the necessity and desirability of irrigation in fruit grow-

ing may change and how ill placed is any prejudice for or against irrigation as such. The Spanish missionaries who entered California from Mexico in 1769 established fruit gardens and vineyards with irrigation facilities at about 15 points along about 400 miles of the coast region of the state. They laid off their plantations in old Spanish style and proceeded upon the assumption that fruit could not be grown in California without irrigation. The few adventurers, sailors and trappers who came to the state during the first half of this century adopted the missionary view of the case, and most of them, having neither energy nor ambition to develop and distribute water, lived upon beef and beans with such occasional indulgences in wine and fruits as they could get from the missions. There were a few who emulated the example of the padres but were content to accept their methods of frequently running water through permanent ditches to the uncultivated orchard or vineyard. This was the first conception of irrigation as essential to the growth of fruits in a country with a rainless summer.

CULTIVATION WITHOUT IRRIGATION.

Soon after the gold discovery and the arrival of Americans in multitude, it was seen that tillage of the surface soil prevented evaporation to such an extent that fruit trees and vines could make great growth and bear heavily with such moisture as was conserved in the soil from the rainfall of the wet season. It was a great surprise that trees could do this even though no rain fell for several months, and a sharp reaction from the old Spanish conception of constant irrigation resulted. It was then claimed that irrigation was unnecessary and that thorough surface cultivation during the dry season would produce better fruit than irrigation. This was the second conception, viz, that irrigation was not only not essential, but was an injury to fruit even in a country with a rainless summer, and that regions which would produce fruit without irrigation enjoyed a very superior natural endowment which could hardly be overestimated. For many years the conflict between the advocates of irrigation and nonirrigation continued. Meantime experience was teaching valuable lessons. It was found that in some soils and situations the nonirrigation policy failed to secure satisfactory crops of good fruit and that a properly regulated irrigation practice succeeded in doing it. It has required nearly a quarter of a century of trial and discussion to arrive at the true, rational and practical demonstration of the matter, which is that an ample moisture supply, available all through the growing season, is necessary to the best work of the fruit tree or vine, without regard to whether that moisture comes from rainfall or irrigation; that irrigation or nonirrigation may be right or wrong according to the conditions of soil or season or rainfall or the kind of tree. They may be both right and wrong in the same locality in the same month. The long process of inquiry, experiment and observation by which this conclusion was reached involves propositions of universal applicability, the demonstration of which is of importance to operators in both arid and humid regions and affords a motive for the present discussion.

(To be continued.)

ALFALFA SEEDING.

In Late Summer or Fall For Regions South of Chicago.

Where thirty-six inches of rain or more falls alfalfa should be seeded in August or early in September in the northern states south of a line drawn east and west through Chicago. This has been proved to be true for eastern Kansas, Iowa and Illinois and is probably true all through the section named clear to the Atlantic ocean. The rainfall is good; the land has been under cultivation for many years and is well filled with weed seeds. Under these conditions spring seeded alfalfa has a hard fight with weeds, crab grass and fox tail and in a majority of cases is either beaten or the stand is thin. With fall seeding an early crop can be taken off, the alfalfa seeded and three or four crops of hay gathered the next year, no time being lost. The loss from winter killing and

heaving out is much less where alfalfa is sown in the late summer. It should be sown early enough to make eight to ten inches of growth before the ground freezes. In every instance known to the writer of a trial between fall and spring seeding the fall seeding has given the thickest stand, the strongest plants and the heaviest yield of hay the next season after the seeding. Where an early crop of potatoes or garden truck can be taken off in time the ground should not be plowed, but leveled, and the surface fined. This makes an ideal seed bed. Early oats and small grain can be cut for hay or harvested for grain, if they ripen in time. The ground should be plowed at once and well harrowed each day as fast as plowed. After the plowing has been finished fit the ground for alfalfa and wait for a good rain. After this comes the row again and then sow.—H. M. Cottrell in Rural New Yorker.

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