

Cost of Pear Production Can Be Cut by Increased Yield Through Irrigation

Study by Aldrich Shows Valley Costs
Too High in Comparison With
Other Producing Regions

CHAPTER II Value of Irrigation in Increasing Fruit Size

To show the practical value of increased yield, resulting from increased size of fruit, I have analyzed yield and cost figures for the Medford Experiment station during 1932. The cost of operating plot and a large pear orchard was \$154 per acre. Our average yield was 261 packed boxes per acre. Using our harvesting cost of .09 per box and determined at \$3 per acre, I have determined the operating cost per acre from the yield and other operating cost per box was calculated.

Effect of increased yield per acre upon reducing costs.	Yield in 1932 (Packed Boxes, per Acre)	Cost of Operation Per Acre	Per Box
Frequently irrigated	499	\$189.52	\$.38
Irrigated early only	488	179.84	\$.37
Irrigated once only	258	155.75	\$.61

The "frequently irrigated" plot yielded 499 boxes per acre, with an operating cost of \$38 per box. "Irrigated early" plot yielded only 377 boxes per acre, and the operating cost was higher, being \$48 per box. The plot receiving "one irrigation only" yielded 258 boxes per acre, which resulted in an operating cost per box of \$.61. Thus the increased cost of irrigation and harvest in the plot where available soil moisture was maintained in large amounts by the increased yield, giving reduced operating costs.

However, this past year very large fruit was not as popular on the market as medium sized fruit; so that the very large fruit from the "frequently irrigated" plot had a lower market value than the medium sized fruit from the other plots.

Estimated auction prices on fruit from each plot.	Gross Return or Auction Price	Net Return	Cost of Operation Per Box	Net Loss
Frequently irrigated	\$2.08	\$.27	\$.38	\$.11
Irrigated early only	2.20	.39	.48	.09
One irrigation only	2.22	.41	.61	.20

From the packout for each plot, and from typical auction prices for each size, the average auction price per box was calculated, assuming that the fruit had been sold on auction according to its size. It is evident that the relatively small fruit produced by one irrigation brought the highest average price. In this connection it must be borne in mind that the trees in all the plots were carrying only a moderate crop. If the crop per tree had been heavy, the fruit would have grown at a slower rate with the fruit on the "one irrigation" falling to reach the most profitable size and the fruit in "frequent irrigation" not growing too large. However, in spite of the higher average return for the fruit from "one irrigation" plot, the operating cost was even higher, as compared with the "frequently irrigated" plot, and the loss to us was almost twice as great for the plot receiving one irrigation as for the plot irrigated frequently. If our operating costs had been lower or the prices higher, the frequent irrigation, as compared with one irrigation, would have resulted in a greater profit, rather than a reduced loss. Under this season's marketing conditions frequent irrigation early was as profitable as frequent irrigation all season.

In view of the greatly increased vigor in the frequently irrigated plots, as compared with the other two plots, I feel certain that in 1933 this plot will show increased returns which we could not measure in 1932. All effects of irrigation cannot be observed in one year, as I shall point out later in discussing the Klamath experiments.

Importance of Leaves
Thus far it has been shown that with large amounts of available soil moisture the fruit grew more rapidly than with smaller amounts of moisture. To fully understand our results we had to learn why. To understand our new behavior more thoroughly, observations were made of the effect of the available soil moisture upon leaf activity. We know that leaves manufacture (out of water from the soil and carbon dioxide from the air) the sugars necessary for fruit development and for branch growth. The carbon dioxide used by the leaves is taken in through little holes, called stomata. It is only when these holes in the leaves are open that the leaves can take in sufficient carbon dioxide to manufacture the necessary sugars for growth. By studying with a microscope these stomata, the hours each day that they were open were determined. It was found (I refer again to slide 2) with the greater amounts of available soil moisture, these stomata were open longer each day than with lower amounts of soil moisture. It appears that the larger amounts of available soil moisture kept the leaves working more hours each day, and with the longer daily period of activity by the leaves, more sugars went to the fruits, to result in more growth.

This relation between leaf activity and fruit growth is, it seems to me, very important. It explains why, with a given moisture content in the soil, larger fruit is obtained with the smaller number of leaves per fruit. Although growers have recognized this fact and thin their fruit to increase the number of leaves per fruit and thereby insure good size, the importance of leaves is often forgotten.

The importance of leaves in getting size is well shown by the 1932 results in the Klamath orchard experiments. (Slide 5). Plot E had, in general, more available soil moisture than Plot D. The trees in Plot E had about the same amount of crop as the trees in Plot D. In other words, the trees in both plots had a similar number of leaves per fruit. However, Plot E produced larger fruit than Plot D. Why? Because there

pruning and light thinning (which is now practiced in the valley); (2) light pruning and heavy thinning (which may be more profitable), and (3) either light pruning together with light thinning (with frequent irrigation), or heavy pruning with heavy fruit thinning (with very light irrigation). These three systems will be tried with (1) frequent irrigation, (2) moderate irrigation, and (3) very light irrigation. From these nine plots we can determine to what extent irrigation can be substituted for the more expensive operations of pruning and thinning.

Willow Springs

WILLOW SPRINGS, Feb. 3.—(Sp1.)—February 9 the Willow Springs Thursday club will hold "home coming" at the home of Mrs. W. K. Parker. All present and former members are urged to attend.

Guests Thursday at the Earl Holt home were Rev. and Mrs. J. C. Carver and family and Mrs. Wilson of Medford.

Frank Vickery is seriously ill and has been confined to his bed for some time.

Ray Owe of Portland is a guest at the Oscar Blackford home.

Sam Anderson returned last Friday from a short business trip to Portland. Miss Rose Jones was a guest at the Anderson home during his absence.

Mrs. Sarah Chelson of Grants Pass is a guest this week at the Alex Benson home.

Lola and Vida Blackford, who have been seriously ill with the flu, are improving.

A number of ladies of the neighborhood met Wednesday at the home of Mrs. Roy Nichols for Bible study. W. K. Parker is repairing the damage done by the fire at the Clyde Richmond home.

Boosted For Cabinet



Illinois democratic leaders have started a movement looking to the appointment of Bruce Campbell of East St. Louis as attorney general in the new Roosevelt cabinet. (Associated Press Photo)

Dairymen Told Of Battle For Milk

SALEM, Feb. 3.—(P)—Delegates of the Oregon Dairymen's association today heard Mrs. Ada T. Mayne outline the successful campaign being waged to place milk on the diet of school children and adults. Reports of the legislative committee and election of officers was scheduled for late in the day.

Rogue River

ROGUE RIVER, Feb. 3.—(Sp1.)—At the January 21 meeting of Idle Oak Grange it was decided to move to the I. O. O. F. hall where they will be able to keep more comfortable, as the Community hall is cold. The meeting February 4 will be held at the new hall. A very good crowd was out, despite the bad snow and cold. Refreshments were served.

Rogue River high school teams, boys and girls, were defeated by the Central Point teams here last Friday.

John Paula was a business visitor in Medford Saturday.

Mr. and Mrs. Grant Taylor and son Jimmy, who have been here nearly a year, where Mr. Taylor has run a garage, left Sunday for Ocean-side, Cal. Mr. and Mrs. Walter Combs and children have moved into the house vacated by the Taylors, and Mr. Combs will run the garage.

Henry Henderson received the sad news last week of the death of his father in Vancouver, B. C. Among those visiting Medford

Tuesday were W. F. Jones, Lee Hugg, R. C. Cummings, F. Cummings, Marshall Joe Shultz, Bill Eads and James Whipple.

Mr. and Mrs. Reed Carter and Charlotte and Mr. and Mrs. James Wiley were dinner guests Sunday at the home of Mr. and Mrs. Jack Stewart at Wimer.

Dr. Ogle of Grants Pass was called up Evans creek Sunday to treat Mrs. Dan Neathamer, who had a heart attack.

The relief store, located in the Sam Mathis store building, will be open Wednesday and Saturday instead of Wednesday and Thursday, as stated before.

George Martin, rural mail carrier, had the bad luck to break his car Thursday, trying to pull through the deep snow up Pleasant creek.

Mr. and Mrs. Perry L. Walt of Saddle creek and Mr. and Mrs. Frank Greenwood of Evans creek were dinner guests Tuesday at the J. Whipple home.

quilt for sale, but owing to the bad weather the program to be held February 1 was postponed.

Mr. and Mrs. McVey arrived Sunday from California and will make their home in the house they purchased on Broadway.

Mr. and Mrs. Day of Grants Pass spent Sunday at the home of Mr. and Mrs. A. T. Mellvain's.

An epidemic of colds is going the rounds now. Mrs. Alma Mellvain is real sick, also Mrs. Lloyd Smith.

Another dance was held here Saturday and a large crowd attended. Another will be held in two weeks.

Oregon Weather
Fair tonight and Saturday but with valley fogs; gentle, changeable winds offshore; fair Sunday.

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Persistent coughs and colds lead to serious trouble. You can stop them now with Croomolion, an emulsified creosote that is pleasant to take. Croomolion is a new medical discovery with two-fold action; it soothes and heals the inflamed membranes and inhibits germ growth.

Of all known drugs, creosote is recognized by high medical authorities as one of the greatest healing agencies for persistent coughs and colds and other forms of throat troubles. Croomolion contains, in addition to creosote, other healing elements which soothe and heal the inflamed membranes and stop the irritation and inflammation, while the creosote goes on to the stomach, is absorbed into the blood, attacks the seat of the trouble and checks the growth of the germs.

Croomolion is guaranteed satisfactory in the treatment of persistent coughs and colds, bronchial asthma, bronchitis and other forms of respiratory diseases, and is especially helpful in building up the system after colds or flu. Money refunded if any cough or cold, no matter of how long standing, is not relieved after taking according to directions. Ask your druggist. (Adv.)

You can Continue Our COURSE in "KITCHENEERING"

Though today was the last of our Cooking School sessions at Rialto Theater, you needn't be without the latest kinks in "Kitchenology" during the remainder of the year. We invite you to make free use of our Homemakers' Bureau at all times by mail. Write us on any problem pertaining to cookery at home making. Address Julia Lee Wright, director Safeway Stores Homemakers' Bureau, Box 660, Oakland, Calif., enclosing a large stamped, self-addressed envelope for reply. Our services are entirely without cost to you.

These items are used during the Cooking School Sessions and are featured at our stores at attractive lowered prices

SATURDAY AND MONDAY SPECIALS

FANCY SALMON Columbia River Gold Seal Brand Lb. Can 12c	BREAD FAVORITE, White or Whole Wheat, Best Quality Loaf 5c
PEANUTS Fresh Roasted Lb. 9c	Grape Nut Flakes Try some of these nut like flakes for breakfast. 2 Pkgs. 17c
STARCH Argo Corn or Gloss Lb. Pkg. 7½c	COFFEE Nob Hill, Highest Quality. Kept Fresh in a Flavored-Sealed Bag 3 Lbs. 79c
PEANUT BUTTER Max-I-mum Is Extra Quality. Protect your health Lb. 7½c	AIRWAY COFFEE Full Flavored Quality Coffee. Your Money's Worth and More. The Biggest Seller in the West Lb. 22c
PANCAKE FLOUR Sperry's Extra Quality No. 10 Bag 37c	CIGARETTES Camels are the Fresh Cigarette—the best to smoke 2 Pkgs. 23c
BUTTER Safeway Quality Creamery Lb. 21c	PRUNES Really Fancy Quality 3 Lbs. 14c
EGGS Strictly Fresh, Extras, Inspected 3 Doz. 35c	CORN Valley Pride—Standard White, No. 2 Can 2 Cans 17c
COCOA Rich Ground—a Delightful Drink 2 Lbs. 15c	PEAS Green Giants, Large Tender Salad Peas, 2½c Quality Med. Can 15c
SOUP STOCKS Lentils, Split Pea, or Pearl Barley 2 Lbs. 17c	FLOUR SAFEWAY, Highest Quality. You Save by Buying Quality 49 Lb. Bag \$1.09
OATS Quick Quaker. Save at Safeway Lge. Pkg. 15c	HOT SAUCE Taste Tells; Flavors Your Cooking 3 Cans 10c

FRUITS AND VEGETABLES

RHUBARB Fancy Hothouse Lb. 6c	ORANGES Fancy, for juice—Not the Small size 2 Doz. 29c
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SAFEWAY QUALITY MEATS

Large Fresh OYSTERS Pint 19c	Mild Sugar Cured HAMS Lb. 11½c
Sirloin T-Bone STEAK ..Lb. 9½c	Prime Beef RIB ROASTLb. 9½c
Rib Vegetable SHORTENING ...3 lbs. 23c	Leg or Loin PORK ROASTS ...Lb. 10c
Baby Beef TONGUESLb. 12½c	Pork Veal CHOPSEach 2c

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