

VERSIFIED FARMING PAYS IN OREGON

In No State Are Natural Conditions Adapted to Wider Range of Vegetables, Grasses, Grains and Fruits

Multiplicity of Products Keep the Soil Enriched and Ward Off Possibility of Crop Failures.

MOST promising of recent developments in agriculture in this state is the trend toward diversified farming. More intensive culture of the soil means a multiplicity of products and frees the farmer from reliance upon a single crop. It adds to the independence of the Oregon farmer, for it makes the returns from his land certain every year. Should the prices for one crop be low or the yield unsatisfactory from any cause, he has the satisfaction of knowing that the yield from his remaining acres will balance the account.

This movement toward intensive agriculture throughout this state means a great deal when viewed with an eye to the future. Instead of the steady cropping of the soil by planting the same seed year after year, and thereby exhausting the land until it will bring forth only a small part of what it would yield if but intelligently cultivated, the soil when diversified farming is applied will show no diminution in its yield year after year. The rotation of crops and the varying of farm products means a bright future for the agricultural development of Oregon.

In this section, particularly, conditions are ideal for intensive agriculture. The soil is a remarkably strong one that will grow almost anything that thrives in the temperate zone. It is to conserve the fertility of the Western Oregon soil that the diversified methods are being taken up. When the Willamette valley was first settled, wheat and other grains were the chief crops, and in fact almost the only products of any consequence grown in this section. So far has the gospel of diversification progressed that today extensive grain farms are becoming exceptional, most farmers raising enough grain only for their own use.

Dairying and horticulture have become the dominant industries of the farmers, although stockraising, hop culture, poultry-raising and the growing of potatoes, onions and other vegetables are important activities. This eight counties of the Willamette valley are highly favorable to general farming. Many small tracts are, it is true, devoted to the orchards or the hopyard, but the state of the average farm is being steadily decreased and more intensive methods applied. For not only does the diversification of crops conserve the fertility of the soil, but it makes each acre more productive. Under these circumstances smaller farms produce the same income as larger acreage under the old system of agriculture.

This means the increase in population of the same territory, which is a larger number of homes and all the benefits that follow a prosperous, thickly-settled farming community. In this way the isolation and loneliness that are the greatest drawbacks to farm life are dispelled. Towns and near-by neighbors replace the scattered ranches. Run mail delivery, good roads, telephone communication and other modern conveniences come as a matter of course when the farmers live on small tracts and make the most of their land.

For this is what diversified farming is. It means making the best possible return from the land, which is the capital of the farmer. Hogs must be kept, and chickens are as profitable in one part of the state as another. Legumes must be grown to return nitrogen to the soil. Livestock should be raised in proportion to the facilities of the farmer, growing crops for feed for them. Goats and sheep are invaluable in clearing off brush land, thus aiding the farmer in adding to his tillable acres.

The dairy farmer can raise hogs with profit by feeding them on separated milk and clover, field peas and root crops. Kals has been successful in did crop that, fed with manure, gives the dairy cow green feed throughout the winter, when pasturage is short and unsatisfactory. Kals does not light frosts of Western Oregon, and is



ONIONS GROWN IN HIGHLY PRODUCTIVE BEAVER DAM SOIL, WASHINGTON COUNTY

ALTHOUGH NOT A CORN STATE, OREGON HAS SPLENDID FIELDS OF THIS CEREAL



WILLAMETTE VALLEY WHEAT FIELD SHOWING HEIGHT OF GRAIN.

a succulent food at all times. Nothing could be grown that gives cattle a better ration or is a more satisfactory milk producer. Alfalfa is also successfully grown throughout Western Oregon, and is valuable as a food for cattle. In too acid soils, land plaster, sprinkled on the ground, will be found to offset the unfavorable conditions and assure a good crop of alfalfa.

Diversification of farm products means enhanced farm values for land intelligently tilled and cared for responds gratefully to the kindly treatment in big crops and better increased yields reward the farmer hand-

somely for intensive husbandry and the rotation of crops. If his land is planted to clover one year, another to grain, then again to root crops or hay, the farmer will find his bank account increasing and his barns fairly bursting with the year's harvest.

But with the same field in the same crop year after year, the owner of the land need not assign his decreasing revenue to untoward weather or crop conditions. He has but himself to thank for his small gains. Let him diversify his crops, till his acres in a scientific manner and seek to grow those crops suited to his land and he will

attain a prosperity he never knew before. This is the trend of modern agriculture, and intensive farming is making great progress throughout Oregon. Its greatest advance has been made in the Willamette valley, the oldest settled district of the state, but there are steps being taken toward the same end in the eastern part of the state, where wheat is the chief crop and half of the land lies idle each year, only half of the farm being planted to the cereal, for the remainder must lie idle one year in summer fallow to produce its best yield. Agriculture has been started already to grow a different crop on

the land that would otherwise produce nothing during the idle years, and this movement is certain to result in much good. Farmers generally throughout

the state are taking up the diversification idea and are succeeding far beyond what would be possible under the old system.

OREGON IS ONE OF THE MOST PRODUCTIVE HOP DISTRICTS IN THE WORLD.

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Energetic Women Make Their Own Livelihood in Agriculture, Horticulture and Stockraising.

By Emma Seale Marshall.

OREGON is an earthly paradise for the energetic woman, dependent on her own resources for a livelihood, who is not afraid to undertake a line of work considered by some people to be outside of woman's recognized sphere.

There is scarcely a section of the state in which successful women farmers, poultryraisers and even stockraisers are not to be found. The equable climate, fertile soil and adequate water supply make such ventures easy of accomplishment, and because of the demand, financially successful.

Cases might be cited where women have specialized upon raising certain vegetable, onions, for instance, or a certain variety of string beans, planting their whole five or ten acres to this vegetable, and by careful cultivation and business methods of marketing have realized returns far beyond their expectations.

Berry culture, whether strawberry, raspberry, blackberry or loganberry, is exceedingly lucrative and within the ability of any woman who is not afraid of sun or soil. Other women have made a success as orchardists, even to the extent of marketing and evaporating the product of their trees.

Another undertaking which appeals to the woman who loves to watch the growth of tender plants, is the raising of hot-house lettuce and other salad vegetables which are always in demand.

The citing of individual cases often furnishes more conclusive proof than general statistics. The following instances are within the knowledge of the writer: In Eastern Oregon is a small stock farm, where three young girls do much of the work when the hired help takes advantage of circumstances to go to town for a "little time." To see these girls round up a bunch of cattle is worth going a long distance.

Several years ago a widow was left with an orchard of young cherry trees, burdened with a heavy mortgage. As nothing seemed to offer an immediate opportunity for a living, she determined to carry out the plan of her husband and devoted herself to raising cherries to make a cherry orchard pay, and was so successful that in four years the mortgage was liquidated and her future assured. This is but one instance in many that might be related and equal results may be secured from any other fruit.

A woman in the Willamette valley adds materially to her income by keeping a herd of Angora goats, finding a ready market at good prices, for the fleeces. Another woman, with an invalid husband, who is unable to do any but the lightest housework, and a daughter of about 17 years, makes an excellent living from a vegetable and berry farm of four acres lying about four miles from Portland. She hires a neighbor's boy to do the plowing, but she and her daughter accomplish the planting and cultivating and the picking and marketing of the produce. The older woman drives into town twice a week and serves a regular route of customers. Often she is unable to supply the demand. In addition to her berries and garden truck, she takes orders for eggs and chickens.

Nearly all the work enumerated above can be performed by women, but for the heavy labor, such as plowing and hauling, men are always to be obtained, and it frequently happens that work is exchanged; that is a woman may assist a neighbor in the picking of packing material, and in return for his labor with plow or wagon.

During the proper seasons strawberry picking, fruit packing, hop-picking and cranberry gathering offer a remunerative chance for the woman who is willing to do such work, and in Oregon women and children from many walks of life engage in this pleasant labor in the open and find upon these seasons as real holiday outings.

VAST WATER POWER UNUSED

Unharnessed Energy of Oregon Streams Affords Means for Great Industrial Development in Future.

By John H. Lewis, State Engineer.

THE unused water powers of Oregon are the equivalent of 10,000,000,000,000,000 of coal is annually wasted. This is nearly equal to the total value of the anthracite output of the United States. To harness these streams and convert their energy into useful mechanical power will require: First, a demand for power; second, a thorough knowledge of the behavior of streams and of geographic conditions along same; and, third, laws which will not only protect the investor, but also the rights of the public in this great natural resource.

The public interest is concerned wherever there is a state, and grows more pressing as the population grows. Especially is this true with respect to the public interest in water. A stream which is used at present for no other purpose than for power development may later be entirely diverted during the summer for irrigation purposes. Again, the demand for domestic water supplies by our growing cities may eventually require that rights to water for irrigation purposes be extinguished and the water converted to a higher use. The demand upon our non-navigable streams to supply the necessary water for navigation is another use which should be overlooked. The various uses to which streams can be put at different stages in the development of society conflict to such an extent that the development of one use to give way to a higher use, as occasion demands.

Under our present lack of system in developing these various uses, and the chaotic condition of legal rights, much controversy and financial loss will eventually occur. With some comprehensive plan outlining the development of our water resources much of this confusion can be avoided in the future. It is high time that some plan for the protection of both private and public rights is adopted by this state. "Property of every kind is held subject to those regulations which are necessary for the common good and general welfare. And the Legislature has the power to define the mode and manner in which one may use his property." (103 Maryland, p. 411.) "It is sometimes difficult to fix the boundary stones between the private right of property and the police power of a state. . . . But it is recognized that the state, as quasi-sovereign and representative of the interests of the public, has a standing in court to pro-

tect the atmosphere, the water and the forest which its territory, irrespective of the assent or dissent of the private owners of the land most immediately concerned." (206 U. S., p. 245.) "each river system from its headwaters in the forest to its mouth on the coast is a single unit, and must be treated as such. With navigable waters under the control of the United States and their non-navigable tributaries controlled by one or more states, the adoption of some comprehensive policy appears impossible. In a few of the more progressive Western states. After eight years before the Supreme Court, and the expenditure of \$200,000, Kansas was unable to compel Colorado to discontinue the use of water from the Arkansas River for irrigation purposes, to the apparent damage of the power and navigation interests in the lower river. Some general policy of control will doubtless result from the present conservation movement. This will be secured, most likely, through the adoption of uniform state laws, supplemented by Congressional action.

According to the Oregon Conservation Commission report, the total undeveloped water power, so far as any information is available, amounts to 2,317,000 horsepower. Assuming that only one-half of this can be economically developed, the average value of the water power is 1,158,500 horsepower. This is about four times the present power developed at Niagara, and far beyond our present market demands. This amount of power would cost \$70,000,000 per annum to produce with steam plants, using coal at \$4 a ton. With our abundance of raw material and convenient transportation facilities, the opening of China and completion of the Panama Canal, the demand for cheap power will rapidly increase, and it is therefore of great importance to the public that these powers be preserved for those who will put them to beneficial use.

One of the striking features brought out by the Conservation Commission's summary of Oregon's water power resources is that the Deschutes River is capable of furnishing, at low water stages, over 1,000,000 horsepower. This statement is based on actual stream discharge measurements and the assumption that 90 per cent of the fall will be utilized and power generated by water wheels of 90 per cent efficiency. This wonderful stream flows for over 140 miles through a narrow rock-walled canyon, so that its enormous power can be economically developed at immeasurable points. The question confronting us is: 20 years hence may, and probably will, be public control of electric power charges. At present electric power charges are not based upon cost of production, but are made merely with a view to displacing steam or other form of power. In large steam plants in the Central and Eastern States, we are informed upon good authority that the cost of coal forms 60 per cent of the total cost of electric current. The total annual cost of steam power per brake horsepower ranges from \$40, where produced at plants of 1000 H. P. capacity, to \$180, where produced in ten H. P. plants. The efficiency, figured on the 24-hour basis, with coal at \$4 a ton, an increase of 50 cents per ton for coal will add \$5 and \$12.50, respectively, per horsepower to the cost as above reported, making the total cost per horsepower per annum \$43 and \$152.50, respectively.

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Owing to the high first cost of installation, as compared with steam or other power, and the many uncertainties in the matter of power market, the lack of stream flow data, and uncer-

tain water-right conditions, development of water powers will be slow unless encouraged by the enactment of beneficial laws.

In the matter of marketing power, it may be necessary, in the near future, to fix, by legislation, not only the maximum power which may be developed, but also the minimum charge for its use. It is believed that the regulation of electric power charges, and prevention of rate discrimination will, in time, become more serious than the present problem of railway rate discrimination. We have reached the point in river transportation where regulation of the minimum charge is of more importance than the maximum charge. Steamboats owned by the large railway companies can afford to run at a loss for long periods in order to kill off competition. Then by inadequate prices, or increased rates, the public is compelled to pay railway rates for all shipments. Some evidence has already been observed in the employment of similar tactics to kill off or secure control of independent hydro-electric power companies.

The question of water rights is, perhaps, the greatest of the many uncertainties in connection with water-power development, all of which engender in other less hazardous pursuits. The question of water rights is, perhaps, the greatest of the many uncertainties in connection with water-power development, all of which engender in other less hazardous pursuits. The question of water rights is, perhaps, the greatest of the many uncertainties in connection with water-power development, all of which engender in other less hazardous pursuits.

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EXPLOITING STATE IN EAST

Systematic Plan of Community Advertising Is Generally Adopted to Attract Homeseekers to Oregon.

By William McMurran, General Passenger Agent Harriman Lines in the Northwest.

THE situation in the Pacific Northwest, and especially in Oregon, as it pertains to the development of the country, is of peculiar significance.

In its various aspects it is of fascinating interest. This is largely due to the character of the country, its almost limitless resources, which today are only beginning to be fully understood even by those who have given the matter careful attention. It is also due in part to the awakening that has taken place in every section of Oregon, and which is destined, it seems, to mark a new era in the history of the state. It is an astounding fact, to be accounted for as the reader may desire, that since the establishment of the first American Government on the Pacific Coast, in 1852, there has been a lack of real appreciation of the advantages of this section and a consequent failure to let the world know the conditions of climate and other advantages which the Pacific Coast possesses. California may, perhaps, present a notable exception in this matter, as there has been a tendency to regard the state for many years as a land of real appreciation of the advantages of this section and a consequent failure to let the world know the conditions of climate and other advantages which the Pacific Coast possesses.

This criticism is also less true of Washington than of Oregon, which has been accused of being satisfied with conditions as they are, and having been unwilling to do anything to change them. If the intensity of the struggle for existence determines the character of the people or their desire to make progress, this may in some measure account for the situation which has confronted Oregon for the last 40 years. It is a fact that conditions of soil and climate render it possible to make a living in Oregon on the Pacific Coast with comparative little effort. There is none of the rigors of winter to contend with which characterize the sections from which Oregon originally received the largest percentage of its population. This past conservatism or inertia, or what you will, on the part of Oregonians has been one fruitful cause of the slow settlement.

In connection therewith can undoubtedly be traced back to the Lewis and Clark Expedition, held in Portland in 1905. As an advertising proposition it is perhaps not too much to say that the money spent on this exposition accomplished more than any other equal expenditure of money of which there is possibly any record. We do not refer of course here to the immediate effects of the Exposition, although they are exceedingly gratifying. The great work which has been accomplished by the Lewis and Clark Fair was in bringing our own people to a realization of what could be accomplished by telling the world what our possibilities are. Three years and a half have passed since the Exposition closed its doors, and today we are just beginning to realize the significance and extraordinary success of the undertaking.

In the settlement and development of a country, there is no organization which has a more vital interest than the railroad company, the railroad is the first beneficiary, and the longer he stays, the more he develops his business affairs, the more he will travel and the greater will become his shipments. It is, therefore, not only of immediate interest to the railroad to aid in the development of the country, but, rightly considered, it is perhaps the most vital thing which the railroad has to do; for not only are dividends largely dependent upon this one thing, but through it the railroad may assume a most desirable role which it is perhaps not too much to say, has been somewhat neglected in the past. The peculiar conditions which had confronted Oregon culminated about two years ago, and a great change came over the state. It is only proper to give the credit to Medford, Ore., as having been one of the first cities in this state to realize the psychological value of the situation. At that time a plan was presented to Medford whereby it could control the movement of the supplies of the Southern Pacific Company. The plan was adopted and out of this has grown a very extensive community proposition, which has practically the state, although its natural resources revolutionized the publication of community literature. In fact, so successful has the movement become that Oregon has easily taken first place among all the states in the Union in the publication of high-grade literature as well as in the

volume of the output. Other states are following the example of Oregon and other railroads the example of the Southern Pacific and Oregon Railroad & Navigation Companies.

The plan as now carried on contemplates a very thorough publicity campaign for each community, and involves a labor of 30 important features. The entire burden is lifted from the shoulders of the community and placed upon the railroad, each feature of the proposition, however, being subject to the approval of the community organization of each community before the same is executed. The "key-note" of the plan is co-operation in the spreading of the word, and all arrangements have already been made for the publication of more than 1,000,000 copies of high-grade literature on Oregon. These figures do not include the literature issued by the community direct to reinforce the co-operative plan of the Southern Pacific and the Oregon Railroad & Navigation Companies, as originated and executed by the Sunset Magazine Homeseekers' Bureau. If we include all forms of literature which will be issued as a result of the plan, the pages of the Sunset Magazine which will be devoted during two years to Oregon and the Pacific Northwest, and other forms of advertising which is called for through the community plan, the aggregate amount of literature which will be published in Oregon in the next two years is so enormous a number that it is impossible to comprehend it.

Now that the work of advertising Oregon has been so completely and so auspiciously begun, it is pertinent to remind those vitally interested in the success of this movement that nothing permanent can be accomplished by a spasmodic effort. The publicity work should be carried on indefinitely and with greater and greater energy not only because it has resulted in bringing homeseekers to this section, but equally because of its important effect upon the community. Indeed we may go so far as to say that had the extensive campaign undertaken by the Pacific Northwest been a complete failure, so far as bringing homeseekers to the Pacific Northwest is concerned, it would still be justifiable on account of its desirable effect upon the community themselves, and in demonstrating to the great interests of the state the value of co-operation in the up-building of the commonwealth.