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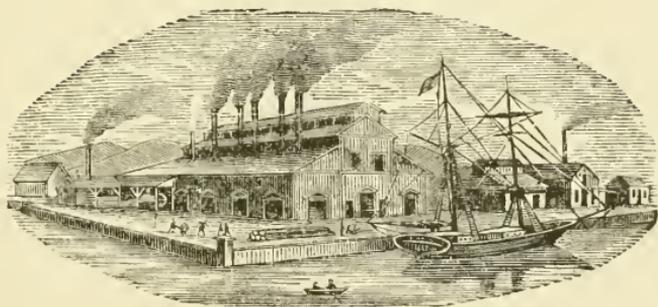
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THE SETTLER'S HANDBOOK TO OREGON



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BY WALLIS NASH

AUTHOR OF

“Oregon, There and Back, in 1877,” “Of “Two Years in
Oregon,” 1881, and of “Farm, Ranch, and
Range in Oregon,” (published by the
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May 1913

PREFACE

After the lapse of twenty-three years passed in the State I venture to publish another book on Oregon. But with a special purpose. The farm, irrigation, fishing, ranch, range, orchard, hop yard and timber resources are dealt with in detail. The mining, manufacturing, and commercial interests of the State are outside its scope. The absence of illustrations will be observed. The cost of the book has thus been kept at so low a figure that it is hoped that its general distribution may be possible. Pictures of Oregon scenes are found in abundance in the booklets and pamphlets issued by the O. R. & N. and S. P. railroad companies, and the booklets prepared and issued by many of the Counties in great numbers. They can be obtained freely on application at the Railroad, Immigration and Real Estate offices.

The aim of this book is to supply practical answers to the questions which always suggest themselves to one interested in Oregon through the general publications referred to.

One pleasant duty is to acknowledge gratefully the labor and interest shown by a number of correspondents in furnishing the information embodied in succeeding chapters. The plan followed was to prepare a list of leading questions, which was submitted to those whom I regarded as experts on the matters involved. The replies were examined, compared, condensed and approved. But this book has been in course of preparation for many months, and many friends, met in the course of daily life and business, must have thought me a most persistent interviewer, and wondered what possessed me to be so minute, not to say inquisitive, in asking about their affairs. To all of them I am grateful, though I cannot set them all down by name. But I think

I must mention with thanks, Dr. Withycombe, Director of the Experiment Station at Corvallis, who has promptly responded to every request; Prof. Geo. Coote, on orchard trees and fruits; and Messrs. J. M. A. Atkinson, Austin T. Buxton, J. A. Rowell, and my old friend Mrs. M. Harris Whitby. Messrs. Geo. Armstrong, Frank Butler, Geo. A. Houek, E. W. Cooper, A. Lyon Watson, J. D. Olwell, A. Brownell, Oregon Nursery Co. of Salem, H. C. Bateham, Disbrowe, J. H. Keating, Geo. D. Culbertson, Henry Nice, George King, C. L. Hutchinson, Wm. A. Laidlaw, L. J. Ralston, Elrod & Moore, Arlington Investment Company, The Causey Real Estate Company of La Grande, McAllen & McDonald of Wallowa, and the Hon. B. G. Leedy, Master of the State Grange.

Since this book has taken its present form several suggestions have been made looking to periodical re-issues brought up to date. However this may be I may be permitted to say that I shall welcome either corrections or accounts of fresh enterprises and improvements which may reach me.

WALLIS NASH.

110 Second Street, Portland.
Dec. 1st, 1904.

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INTRODUCTION

Before deciding on so important a matter as the change of home, occupation, and interest in life involved in moving from the East or the Middle States to the Pacific Northwest, reliable information and full knowledge of the conditions on the Pacific Slope should, of course, be obtained and carefully considered.

Every one has been told that the climate of Oregon is mild, equable and healthful—that the land is fertile, yielding great returns in grain, fruit, cattle and sheep—that, productions considered, in comparison with states East of the Mississippi River, the price of land is low.

This general information may suggest a change. But how hard it is for one who has never yet taken the long journey Westwards to realize enough of the conditions of life in the Far West to feel sure of the wisdom of his course in either going or refusing to go to the North Pacific Coast.

The questions about to be answered are such as have been repeatedly put to the writer during the past two years by all sorts and conditions of men.

The replies are based on a residence of twenty-five years in Western Oregon, on repeated journeys over other districts in the State, on a wide acquaintance with representative men in most of the industries to be described, and on personal knowledge of the conditions of many of the farming operations followed here.

In a work covering as wide a ground as is here attempted some mistakes can hardly be avoided, but the reader is assured that no care or labor has been spared to ascertain and then describe facts as they are in 1904.

It is best to preface the special information to be given

in succeeding chapters by a short description of Oregon—the topography of its districts, their climate, healthfulness, and soil—their shipping facilities and markets—the chief industries as affected by localities.

The Six Districts of Oregon

CHAPTER I

THE SIX DISTRICTS OF OREGON

There are 6 great districts in the state, the total area being 96,030 square miles. These are of unequal size, varying soil, different climate, productions, and attractiveness.

While there is no sharp line of division between the industries and products of the adjacent districts, yet the distinguishing features of each may be stated as follows:

Reading off the Counties in Oregon from the east of the map we see the tier of Counties along the line of the Oregon Railroad and Navigation Company's line. We commence with Baker County, and run Westwards to Wasco where the mountain range of the Cascades is cleft by the mighty Columbia. Baker, Union, Wallowa, Morrow, Gilliam, Sherman and Wasco constitute the wheat, fruit, and stock belt of the Columbia basin and its connecting valleys lying on the North and South. The Grande Ronde Valley is here found. They embrace also the irrigable lands of Baker, Umatilla, Sherman, and Wasco and the far famed fruit lands of Hood River.

This wide district is watered by the Columbia, and by the large and small rivers and creeks, each with its own valley, tributary to the great river and its branches. The Blue Mountains, with their connecting foot hills teem with mineral wealth, as yet but partially developed. But already a large and growing mining population affords ready markets for the farmer's and fruit raiser's products. The soil of the river valleys is an alluvial loam, enriched by the washings of the volcanic constituents of the upper levels. The rainfall varies widely in these Counties. In the U. S. weather records appears an average for Baker City of 12.42 inches for the years 1900-1-2 and for La Grande in Union County 19.27 inches for the two of those years in which

records were preserved. In the fruit region of Hood River the rainfall of an average year is about 38½ inches, and yet by reason of the absence of rain in the summer months irrigation is needed to secure the best results.

Irrigation is being pushed rapidly forward on all the lower lands with remarkable success. It is not only carried on in large undertakings, but the fruit and vegetable raiser of the little valleys leads the water from the upper levels, and turns it "with his foot" on to his garden ground and orchard. A fuller reference to irrigation and its developments will be found in a later chapter. We mark it in passing as one of the important features of this district.

The valleys of these Counties are but a small part of the total area. The wide intervals are made up of bare uplands which are either ranged over by cattle or sheep, or have been plowed up into wheat fields where wheat farming is conducted on a large scale, with novel and improved machinery and full forces of men and horses. Or, such spaces between the valleys are covered with forests of pine and tamarack in their upper elevations, growing less thickly on the lower hills, so far as the Blue Mountain region extends. Many of the wide wheat farms have of recent years been divided up into half section and quarter section tracts. The purchasers have been and are trying to convert the one crop system into one of general farming. It has been found that several varieties of the leguminous plants, notably Canada field peas, grow and produce well. Largely increased quantities of live stock, chiefly of hogs, are now being raised. The climatic conditions, while not as genial as those of the Willamette Valley or of Southern Oregon, are yet exceedingly healthy and far less extreme than in the Middle Western States. This whole district is being fast settled up and land values are everywhere rising. Young orchards are seen, especially where the creeks afford even a small supply of water. The quality and flavor of the crops is excellent. The fruit industry is carried out on a large scale in the many orchards which have been set out

in the lands directly tributary to the Snake and Columbia rivers, and their chief side rivers.

Even in a condensed sketch like this special mention must be made of the Hood River Valley, in the North Western division of Wasco County. This remarkable region is the valley of the Hood River, flowing from Mt. Hood and joining the Columbia just below the town. It covers an area of land which experience has shown is specially adapted to both large and small fruits, and is about 23 miles long by an average width of from 3 to 5 miles. All of it is irrigable land. Various advantages are combined in Hood River. The soil is a kind of light loam, somewhat gritty in texture, having also various volcanic constituents. The climate is bracing but genial and healthy, inviting open air work nearly all the year round. The rainfall would be deemed sufficient in most places but here the settlers will have the best that can be got out of the land, and having found by experience that their fruit gains in weight, color, and appearance by irrigation, and that the value of the strawberries in particular is largely increased by it, they agreed, in the first place, to offer advantages to those prepared to provide water for irrigation. In March 1904, a great onward step was taken by the users of the water combining to buy out the owners of the irrigation system which supplies the greater part of the Valley. Thus the cost per inch of the water has been greatly reduced and the use of the same in perpetuity has been secured.

A more detailed account of fruit raising in Hood River will be found in the chapter on The Orchard. It is estimated that even yet, from two-thirds to three-fourths of the fruit lands in Hood River are undeveloped.

The whole district in question 15 years ago, outside of the fir clad side of the Blue Mountains, was one interminable stretch of wild rolling hills of sage brush and bunch grass, varied only by the sparse settlements of the stock men, and by the pioneer settlements of those brave spirits who were

venturing the experiment of farming in the river bottoms, and creeping little by little up the slopes. Vast herds of half wild cattle and bands of equally wild horses were the real inhabitants. The growth of this country in these few short years is amazing, and even yet it is but half developed.

Sales of several quarter sections of land in Umatilla County have been effected in 1904 at \$2000 each, showing a rise of almost six fold over prices of four years back, and justified by the recent returns from wheat farming in this district. As irrigation facilities are extended and its results seen, such a price will then seem as small as the figures of 1899 in comparison with those of the present year.

Baker County has an area of 1,059,840 acres of surveyed land. To the end of 1903 there were 83,024 tillable and 275,019 non-tillable assessed to individual owners. Union County's area is 1,105,920 surveyed acres—143,773 tillable, 348,949 non-tillable. Wallowa County has 990,720 surveyed, and 52,890 tillable and 205,110 non-tillable. Umatilla County, total 1,912,320 acres surveyed, of this 381,317 tillable, 482,973 assessed as non-tillable. Morrow County, surveyed lands 1,290,240 acres, assessed 136,275 tillable, 459,975 non-tillable. Gilliam County, area surveyed 1,128,960 acres, assessed tillable 143,567, non-tillable 189,503. Sherman County surveyed lands 426,240 acres, tillable 222,633, non-tillable 126,160 acres. Wasco County's surveyed lands, 1,532,160 acres, assessed to owners as tillable 115,044, non-tillable 424,298.

These figures of surveyed lands are found from the U. S. government map, the others from the records of the Counties.

Of course a small proportion of the total is not usable for farming or even for stock raising purposes, but an immense area is there for the incoming settler.

The Oregon Railroad & Navigation Company's line (a Union Pacific property) is the only means of connection of this huge district with the markets of the East and West.

A fuller description will be found later on. The immense volume of the products can be judged from the stacks and piles of wheat sacks at each depot in the harvest months. The regularity of the seasons justifies the farmer in hauling his grain to the railroad station and there adding his sacks to the enormous pile, leaving it there in full confidence that no harm will come to it from weather conditions until its turn comes to be transported to the mills, warehouses and ships at Portland. Trainloads of cattle, sheep, hogs and horses for Eastern points in a seemingly never ending succession prove that though wheat is king, there are other products of this great region to dispute his supremacy. When the kindly spring sun ripens the Hood River strawberries then carload after carload of the abundant fruit is carried far and wide to less genial regions only then getting loose from Winter's grip.

The benefits of railroad transportation are being very rapidly extended to the inland valleys by the stub roads, at right angles to the main line. Thus the new comer can safely fix his home at many miles distance from the main line, if he selects a farm within driving distance from the local depot already established, or about to obtain connection with one or other of the North and South running roads.

THE SECOND DISTRICT

The Second District lies South of these lands, even as far as the California border.

First, are found wheat fields and cattle ranches. Then, Southwards, the sheep ranches, then the irrigable lands of Central Eastern Oregon, to take water chiefly from the Des Chutes River and its tributaries.

Then come the cattle ranches of South Eastern Oregon, with their herds of from one to ten thousand head, driven up to the foot hills of the mountain range for summer feed and wintering in the valleys and the wide lake bottoms. There through the bright frosty weeks they are aided by the

stores of alfalfa hay and of natural wild grass hay, put up each Summer by the ranch men, and either hauled to the stock yards or stacked on the level hay lands of the marshes, lake edges and creek bottoms. A ready market is found throughout this district for all hay not needed for the immediate use of the owner.

In the North Eastern portion of this Second District is the mineral belt of Baker and Grant Counties—the most fully developed and most valuable mining district in Oregon up to this time.

The Northern Counties are the scene of much railroad building and extension—to which reference will be made hereafter. The long processions of wheat wagons and wool wagons to one or other depot of the main O. R. & N. line will soon be gone forever. But the main features of the country are unchanged. For thirty miles in May I have ridden through a sea of bright green wheat, knee high, and vivid—broken only by substantial farmhouses, each with its belt of trees, its young orchard, and home lot. It was in Umatilla County that seeing a large three cornered field of wheat behind the blacksmith shop where two roads met, the question was asked, How long has that field been in wheat and what did it raise last year? The answer came sharply back, "Every year for over thirty years, and it raised over 35 bushels an acre last year."

Returning then Northwards to the Columbia River at the Western edge of Wasco County we enter the narrow slip of Multnomah County and follow the Columbia to its junction with the Willamette. Twelve miles up the Willamette Portland is reached, the chief city of Oregon.

Portland is opening her gates wide to all nations for the Lewis and Clark Exposition of 1905, to which, as the Capital City of the Oregon country added to the Nation as the ultimate fruit of that memorable journey of discovery, she has special claim.

Few, if any, cities stand better than Portland, for natural beauties of position and for business, manufactures and

commerce. Backed by the whole of the great State which is compelled by its topography to pour its treasure into her lap—standing at the Northern edge of the four millions of acres which form the Willamette Valley—supplied with tens of thousands of horse-power by the Willamette and the Clackamas Rivers, which, converted into electrical force even now propel her street cars, light her streets, houses and factories, and drive the wheels of a thousand industries, with a reserve force to fill the requirements of many decades yet to come—offering safe and ample harbor berths for the shipping of the Eastern and Western hemispheres—placed on the direct line between the Orient and the Occident. What greater natural advantages can she ask? Situate like London, at the head of ocean navigation, where the cars and the ships meet, blessed with mild and healthy climate and with an abundant supply of the purest and coldest water, straight from the snow of Mt. Hood, it is no wonder that Portland shows continuous and healthy growth. Her rise of population within the knowledge of the present writer, (from 26,000 in 1879 to 140,000 in 1904) is evidenced by the solid and costly structures of her churches, schools, banks and business blocks, and the tasteful homes of her citizens. Prosperity and progress mark the metropolis of Oregon today.

From Portland Southwards for 135 miles stretches the great Willamette Valley, varying in width from 25 to 40 miles—the garden of Oregon, and indeed of America West of the Mississippi. Nine Counties lie within its natural boundaries, the Columbia on the North, the range of the Cascades on the East, the Coast Range on the West, and the Calipooia Mountains on the South.

Naming the Counties from North to South there will be found Multnomah, Clackamas, Washington, Yamhill, Marion, Polk, Linn, Benton, and Lane.

THE THIRD DISTRICT

This is the Third District in our division. Irrigation is

not needed, as the rainfall varies from nearly 49 inches annually at Portland to about 40 inches at Eugene. But the three months June, July, August receive only 2:32 inches of rain, on an average of years at a point midway in the Willamette Valley. Consequently many of the prudent dairy farmers in these Counties secure themselves by the use of the silo against the comparative dryness of the grass feed during these months. The weather summaries for 1901 and 1902 are given in appendix A for three points, North, Middle and South of the Valley, from the official figures of the U. S. Weather Bureau. The facts appear to justify the boast of any old Valley farmer, "the finest climate in the world, Sir!"

Rainy? Certainly it is, and no one once acclimated would have it otherwise; but the rain comes when it is wanted, and stops in ample time for the ingathering of the bountiful crops, and for long weeks enough for both work and play, for country man and city man alike. Year by year, the seasons are so regular that one hardly stops to speculate on what the weather will be, but proceeds to arrange for work or play in easy reliance on sun shine or rain, as the months pass by.

That the general features of the Willamette Valley Counties should be identical is no wonder to one who grasps the geological history of this favored district.

Here let me pause to acknowledge my indebtedness to Prof. Thos. Condon of the State University, the Nestor of Oregon Geology. His recent book, "The Two Islands," vividly brings to one's eyes the original wide expanse from the Rockies to the Pacific, ocean covered, broken only by the two islands, the one now appearing as the Blue Mountains of Eastern Oregon, the other as the Siskiyous between Oregon and California. The gradual upheaval of the Westward slope of the Cascades and then of the Coast Range of Oregon, was followed, long ages afterwards by the great volcanic outburst which has left us the snowy cones of Mt. Rainier, Mt. St. Helens, Mt. Hood, Mt. Jefferson, the Three

Sisters, Mt. Thielsen, and Mt. Shasta, which, one long chain of mountain sentinels, watch and protect these modern States of the Pacific slope.

But the upheaval of the two ranges, the Cascades, and the Coast Range, left between them the great sea inlet whose waters covered the whole expanse from the Columbia to the Siskiyous. By slow degrees the barriers rose which excluded the ocean waters, and for further long ages a fresh water lake filled the great basin. The waters burst their rocky dams, the Columbia drained the waters covering the Inland Empire of Washington and Eastern Oregon, the Willamette those of its wide Valley. But the fertility of the ages to come was provided for in rich deposits of decaying vegetation, great and small, left by the retiring waters.

The Valley is walled in on both sides by the hills of which basaltic rocks are a chief component. Their gradual weathering and decay under the recurring rain, frost, and sunshine set free the gritty particles, washed down by every creek and rill, which further enrich the Valley soil by the liberated phosphates and keep it porous and open to the gently falling rain of Western Oregon.

From this age long preparation comes the enduring fertility which ensures a home of comfort and prosperity to every man who owns 50 acres of Willamette Valley soil, provided that he on his part devotes to it the same energy and industry which in less favored climes secures but a bare subsistence.

Only in the river bottom and the neighboring lands is the surface of these Counties level. But a mile or two away the gently rolling character appears. Nearer to the Cascades the plain is dotted at wide intervals with "buttes"—the last islands of the great lake which showed their heads above its waters. Their sides, marked by terrace above terrace of sandy rock, show the gradual subsidence which exposed them one stage at a time to the free air. The side river courses through the Valley (and there are many of them) are marked by dark belts of fir timber—the course

of the Willamette itself by masses of soft wood trees, willows, cotton wood, white poplar, bass-wood, white fir, of great height and thickness. But a few years ago this timber was called worthless, nowadays the steamboats tow great rafts to the paper mills of Oregon City every year, and many thousands of feet of softwood are utilized in several of the industries of the city.

While from the Valley proper much of its firs and oak timber has already been cut, yet enough is left for a timber supply of many years to come, and hardly one Valley farm is without its few acres of accessible land where either fir or oak can be obtained for all purposes of the farm and the house. There are yet many hundred acres of grub oak land, generally of soil excellent for either wheat or fruit. Cordwood to burn in the cities has so risen in price that in many instances the value of the wood will either pay for the clearing or go a long way towards it.

Farming industries of all varieties are followed on the Valley or lower foot hills farms. For several years past efforts have been successful in every County to substitute mixed or general farming for the wheat which was king everywhere twenty years ago. In those days the wheat receipt from the warehouse for so many bushels stored was as good as U. S. currency, and many a farm has been purchased by the transfer of wheat receipts with a small sum of money to adjust balances.

The most marked development has been seen in the introduction first of the creamery and just recently of the condensed milk factory. Within about five years over 300 creameries have been called into existence, and most of them have prospered. It is the commonest of wayside sights to notice the cream cans set at the farm gate to be gathered up by the creamery wagon, or to be carried to the nearest railroad depot. The results are seen not only in the largely increased number of calves, hogs, and chickens on the farm, but in the payment off of old mortgages and in the increase of the balance at

the bank. But a few months have passed since the large condensed milk factories at Forest Grove and Hillsboro, in Washington County, 25 miles from Portland were set in operation. These factories in the winter of 1903 and spring of 1904 were paying \$1.50 per 100 pounds for milk, and will very shortly require the product of 12,000 cows—according to present indications.

The large Donation Land Claims of the original settlers are being very fast broken into smaller and more manageable holdings. The habit of life of these early settlers was, in very many instances to be "land poor." That is, to own by taking, purchase, or inheritance many more acres than they had capital to develop or stock to feed on. This method was the fruitful cause of the mortgages, debts, disrepair, and neglect. The results are even yet apparent in so many paintless farm houses, and decaying tumble down barns, and decaying fences which offend the eye in traveling up and down this 135 miles length of productive land. It is a frequent question by the Eastern visitor, "Why in the world with land so good, so evidently fertile, are the buildings and improvements so poor and neglected?" It is a fairly good answer to make, "Suppose that the present owner of that farm had by some means got four or five hundred dollars to spend on fixing up and painting his house, repairing and new roofing his barn, and building over his fences, how much more per acre would you have been asked for the farm, and would have willingly paid? Be content to buy at the low point and do your own improvements, and raise your own values."

With the reserve already made, that every Valley County will produce what any other will, if the farmer turns his efforts to any special end, it may serve to direct intending settlers to their desired haven and home to say that, in addition to what is known as "general farming" followed everywhere, the following named Counties yield excellently well of the special products of the farm:

Multnomah.—Affected by its nearness to Portland, tree

fruit, berries, poultry and eggs, pork, potatoes, onions and other vegetables.

Clackamas.—Also a large percentage of small farms with similar industries. Some hops in the river bottoms. Much timber, both saw timber and cordwood. Many partly cleared farms. Good Land. Land values changing rapidly under the influence of the new electric railroad running from Portland for 45 miles through this County, but still the average price of land is low.

Washington.—On the West side of the Willamette, very close to Portland on its Northwest side. A good deal of timber in the parts farthest from city, railroad, and river. Rich land, dairy farms, well watered and wooded, meadows deep in grass, fine stock, fruit, good farm houses, large barns, prosperous and progressive. Rolling surface. Attractive homes.

Yamhill.—Adjoins Washington on its North side, bounded on the East by the Willamette River. Large areas of rich bottom land in hop yards, vegetables, and small fruits. The uplying lands toward the West in larger farms—all productive, and adapted to both grain, dairying and stock. One of the oldest settled Counties in the Valley. Many small, and some large orchards of winter apples, pears, prunes, and cherries.

Marion.—Lies South of Clackamas on the East side of and bounded on the West by the Willamette River. Much of the County is tributary to Salem, the State Capital: a city now of almost 15,000 people. The productions of Marion County are notably excellent and diversified. To name them is to catalogue all the features of Willamette Valley farms. The Eastern edge of the County runs up into the heavy timber of the Cascades. It is bounded on the South by the North Santiam River, broken into waterfalls and cascades with a hundred water powers. The Waldo Hills lie Northeast and East of Salem, a red soiled district of rich wheat land, well established farms, comfortable homesteads, fine blooded stock. The district between Salem and the small

towns, Stayton, Silverton, Macleay, and so on, to the East, is level in character, dark grey in color of soil, porous in texture, and is characteristic of the Valley. A good deal of timber is found in the Eastern part of the County. The whole County has been well settled for many years, with valuable, well improved farms and successful farmers.

Polk County.—Lies on the West side of the Willamette River, between Yamhill and Benton. Some of the best hop yards in Oregon are in Polk County, and the industry has attained large proportions. It is not confined to the Willamette bottom land, but is spread over many lands within a distance of a dozen miles from the river. Stock of all varieties do exceedingly well. Many of the farms are large, the improvements in houses and barns expensive. This County runs up into the timbered lands of the Coast Range where various saw mills are at work. The County seat, Dallas, is a prosperous, growing town. Some of the best blooded stock in the State, especially in sheep and goats, are raised in Polk County. The Angora Goat Association has its headquarters and annual exhibitions here. More detailed accounts of both sheep and goats will be found in the special chapter devoted to them.

Linn.—Is a very large and important County, bounded by Marion on the North, Lane on the South, the Willamette River on the West and the summit of the Cascade Mountains on the East. Rich in timber and minerals as well as in all the resources of the farm and range—abounding in water power—rich and generous soil. Farms varying in size from 1000 acres to 50—and varying in farming industries as widely as in size. In the level bottoms by the Willamette hop yards abound on the black rich soil, the dry-houses forming a feature in the landscape. The Albany prairie is known over the State for its fertility. Dairying is throughout carried on most successfully. Co-operation among farmers has taken root; the granges are links in the social life of many districts. Co-operative dairying succeeds, and the creamery at Albany owned by and managed on behalf of

the contributory stockholders has proved a success for many years. Albany, the County seat, on the East bank of the Willamette, the crossing place of railroads from four directions, and where the river steamboats also do an important business, has various and successful manufacturing interests, and is growing fast.

Benton.—On the West side of the Willamette, bounded by Polk on the North, Lincoln on the West and Lane on the South. Has very little wild or uncultivated land in comparison with other Valley Counties. The soil is fertile throughout, ranging from the hop yards of the Willamette and Long Tom bottom lands, to the hill pastures, grain and stock farms of the West and North of the County. Corvallis, the County seat, a pretty town of 2200 people, is known by the location there of the State Agricultural College, its Experiment Station and farm. The college proper has now about 550 students, recruited from every County in the State, and a few from a greater distance. Fuller information on this head will be found in the chapter on Education. Benton County has a large number of well improved and valuable farms. On the slopes of the Western side of the County is much oak and grub land, dotted over with many oak trees of large size and value. When cleared it is often found that the value of the grub oak as cordwood pays the cost of clearing. Benton has already received a considerable immigration of Eastern farmers who are bringing Eastern methods of cultivation and habits of life into the Willamette Valley. But there is room for many more. Many large young orchards, of both apples and prunes, have, in this County, supplanted the moss hung trees so often surrounding the homes of the older settlers.

Lane.—The largest of the Valley Counties. Lies South of Linn. It runs East to the top of the Cascades, and this part of the County is largely covered with magnificent forests, with rapid rivers and logable creeks to bring the timber from the mountains to the Valley mills. In the Eastern part of the County are also found mining districts of great

productiveness. The Eastern part of Lane County has many stock ranches. The cattle range through the summer on the upper foot hills of the Cascades, where the timber is interspersed with glades and openings of rich grass. Through the lower lands, where the McKenzie and the Willamette Rivers draw to their junction, much valuable hop ground is found. Many very fine orchards are here seen and the most productive soil. The greater part of the County East of the Coast Range is rolling in surface, adapted to small holdings, as much of the land still needs clearing, though its native fertility well repays the work. Eugene, the State University town is the County seat. A most thriving little city of about 8000 inhabitants and rapidly growing. Lane County farms command higher prices than in many districts, favored as they are especially by soil, climate, good transportation facilities, and increasing population. The part of the County West of the central part of the Coast Range will fall to be described with the Coast region for the ocean is its Western boundary.

A few miles South of Eugene the foot hills of the Cascades stretch Westwards, called here the Calipooia Mountains, and join hands with an Eastward outjutting of the Coast Range. So the Southern boundary of the Willamette Valley is formed. Being neither a high nor rugged and continuous barrier there are many openings, through one of which just South of the city the Southern Pacific railroad finds its way.

This short sketch of the Valley and its component Counties may well be closed with the short statement which follows. The area of land within these 9 Counties is officially stated to be 5,125,979 acres. Deducting the hilly and mountainous regions to the East and West leaves about four million acres in the Valley proper and the lower foot hills. Allowing 50 acres to a family a population of 80,000 families could be supported in comfort and prosperity—that is, between three and four times the number of the present inhabitants.

THE FOURTH DISTRICT

The Coast region of Oregon has a marked character of its own. It commences in fact on the Columbia River where the Willamette joins it—12 miles below Portland and holds similar conditions throughout. Exception should be made, though, of the region immediately at the mouth of the great river. It resembles in its soft moist climate the West coast of Norway, where the boast is that it rains 13 months in the year—and is like it also in the thickness and luxuriance of the vegetation.

The whole tract now in question is shared between timber and dairying, with a good many cattle ranches interspersed. It is a region of surprises, hilly and broken in surface, but sheltering many a cosy Valley with its group of settlers' homes. Its drawbacks are the distance from railroads and large towns, for there are but two railroads in the whole length of Oregon which at this time connect the interior with the Coast. One of these, the Astoria & Columbia River, follows the great river from Portland to its mouth at Astoria, and is extended for some miles down the Coast. The second, the Corvallis & Eastern, reaches Westward from Corvallis to the Coast at Yaquina, and Eastwards for 50 miles into the splendid forests of the Cascade Range.

But the dairying interest has grown to great dimensions. Creameries, and cheese factories have been established at many points on or connected with the bays and estuaries and all are prospering. It has often been remarked that life on the ranches of the tide lands and uplands of the Coast is the easiest and most natural to be imagined. A few acres of clearing on which the house, barn and orchard are found. Fruit free from all pests, berries of fullest flavor, vegetables of unusual size and beauty. Clover and all grasses, potatoes and root crops for the cultivated lands, and tide lands yielding rich, lush, grass all the year round. A few cattle and a little bunch of sheep and Angora goats provide the small funds once a year which pays for the

groceries and clothes of the family, and the taxes, which are almost the only demands recognized as pressing. Clams abound on the tide flats, salmon and salmon trout in their seasons, flounders sea perch and kelp fish, and an occasional sturgeon in the bay help out the family dinner, while the deer are close by in the hills, and the close times of the game laws mean little or nothing on the Coast. Generally one or more salmon canneries are established on the bays, and for two months of the year the males of the family are out each night with the nets on the dark still waters, drifting slowly on the incoming tide. An easy life indeed. Many so find it, and there is room for many more. The timber industry of the Coast Counties will receive attention later on. In this region we include Columbia, Clatsop, Tillamook, Lincoln, part of Lane, Coos, and Curry Counties and part of Douglas West of the Coast Range.

THE FIFTH DISTRICT

It remains to notice the Umpqua and Rogue River Valleys of South Western Oregon. A favored region. An Italian climate and a soil that is second to none in kindliness and productiveness. These wide Valleys lie between the Cascades and the Coast Ranges, with various openings through the latter to the ocean. Valuable minerals are found in each of the ranges, in fact it seems as if nearly the whole soil of Josephine County were impregnated with gold.

A considerable rainfall in the winter months supplies water for the long flumes which convey it to the placer grounds. The working over of the ancient gravel and rock beds of long extinct creeks and gulches by this means is so economical that it is said that 5 cents per cubic yard in gold is a satisfactory return on the capital invested. Needless to say that a far higher per cent is usually relied on. The recent developments in the discovery and working

of quartz veins in the several mining districts of this region do not fall within the scope of this book.

It suffices to say that a large population is being attracted, which is one of the factors which contribute to the rise in values of farming and orchard lands.

It is difficult to call to mind a single industry of the farm, range, garden, and above all the orchard, which does not flourish in these Counties.

The rainfall varies with the elevation of the land. At Roseburg, the County seat of Douglas County, the elevation is 523 feet above tide water, the rainfall on the average of 1900, 1, and 2, is 34.45 inches. At Grants Pass, the County seat of Josephine County, elevation 964 feet, the average rainfall of those three years is 32.97 inches. At Ashland, near the head of the wide Rogue River Valley, the most Southerly town in Oregon, close to the Siskyou Mountains, the elevation is 1940 feet, average rainfall 20.63 inches.

In the Umpqua Valley, in Douglas County, a good many hops are found, dairying prospers, there are many orchards, and much stock is raised of good grade, especially on the Valleys through which the Umpqua River itself finds its way to the Pacific. The soil of the Valleys is the usual alluvial loam, of the uplands the red soil impregnated with iron. The uplands are well, but not too thickly wooded. The sloping foot hills of the Cascades yield much fir and some pine of good quality. On the lower rolling uplands the oak grows to a good size. The Umpqua Valley is well settled, the people are prosperous, and there is much to attract the new comer.

The Rogue River Valley is only less in size than the Willamette Valley, the Harney Valley of Eastern Oregon, and the Umpqua in length, but not in breadth. Both in soil and climate it is not excelled for fruit culture by any region of the Pacific slope for diversity as well as beauty of its products. It yields abundantly in melons, peaches and grapes, as well as in the apples, pears, and prunes for which it is perhaps more widely known. Some years ago

the writer made a journey over these lands from Grants Pass as a center. In one peach orchard an addition of young trees two years old was shown to us. The owner brought us to one youngster with stem not thicker than one's thumb. The three or four limbs extended for nearly 6 feet, and on this baby tree we counted 47 well developed peaches. Its owner apologized for the exhibition, saying that he had neglected to cut the limbs back, and then, seeing the extraordinary show of blossom, left it alone to prove what a two year old could do.

The show orchard is perhaps the Olwell Orchard at Central Point. One hundred and sixty acres, 12,000 trees, eleven or twelve years old. Remarkable for the evenness and uniformity of growth. Every tree seems to be a model, and yet exactly like its neighbor. The fruit, carefully picked and packed, goes to the East and Europe, where the prices are such as to testify to the front rank in all the world that the Oregon apples hold.

The fame of the Rogue River Valley is spreading fast. Various sales of both orchard lands, and young and mature orchards have recently been made. There seems to be nothing in sight to check the upward prices, for such products command their markets without the smallest fear of over-production, large though the area be. The three Counties, Douglas, Josephine and Jackson, have acreages of surveyed lands of 2,096,640, 529,920, and 1,566,720 respectively. And the assessment returns for 1903 give Douglas 93,360 acres tillable and 1,457,971 acres non-tillable; Josephine 18,745 tillable and 316,881 non-tillable and Jackson 87,007 acres tillable and 888,414 acres non-tillable. Making ample allowance for mountains, hills, and the wilder and less desirable regions there are yet here many thousand acres to be brought under the hand of man.

All the region South from Portland to Ashland, is served by the Southern Pacific railroad, which road owns four lines in the Willamette Valley. South of Eugene the main line

of the Southern Pacific is the only means of communication.

A more detailed reference to transportation facilities and developments will be found later on in the chapter devoted to that subject.

THE SIXTH DISTRICT

South Eastern Oregon is divided into two great sections. 1st. The semi-arid rolling hills and plateaus South of the Des Chutes, Crooked River, Harney and Malheur Valleys. Inaccessible from railroads, with a very scattered population, chiefly interested in stock. This whole region is awaiting development. There are no considerable towns. It is known that there are great mineral resources which will be actively taken in hand whenever the transportation facilities are provided. 2nd. The lake region along the California border line. This is an ideal stock country. Great efforts have been made of recent years to improve the breeds of cattle. Thorough-bred sires of great value have been introduced. This region's supply of cattle is driven to one or other of the Southern Pacific Railroad Company's stations in Northern California, chiefly, I am told, to Montague, and there shipped to San Francisco. Large sums of money are invested in these undertakings and outsiders would be surprised at the volume of the banking transactions of this district. The cattle spend the summer generally in the mountains and the winter on the low lying Valleys surrounding the ranches.

The Farm, and its Industries

CHAPTER II

THE FARM AND ITS INDUSTRIES

The succeeding chapter aims at placing the inquirer in possession of facts which will determine how far various sums of money will go in purchasing, stocking, and setting work going on a farm in the various districts and in the several industries which have been described.

The terms and conditions prevailing in this year, 1904, on which such farms can be purchased. The cost of materials for farm buildings and improvements, and the description and cost of equipments. Which farm industry may best suit the reader can be determined by study of the chapters dealing with each of these industries in turn, and supplying details of cost, condition and profits.

It cannot be too strongly urged that the new comer should be most careful to buy no more land than his means permit him fully to stock, to farm, and to improve. It must be ever borne in mind that a man does not earn money by the possession of land but by the profitable use of it. The more land a man owns in excess of what he can turn to full account by stocking and working it the poorer he is.

From a careful examination of the prices asked by many agents and individuals for farming lands, ranches and fruit lands in the several districts in the early months of 1904 certain facts appear.

The prices vary in accordance with differing conditions. These are, the nearness to markets, and to towns, and centers of life large and small—cost and methods of transportation of the products for sale—the comparative fertility of soil as bearing on the nature and on the value of the products—the cost and the condition of the structures, house, barns, sheds, silos, granaries—the comparative area of cultivated land—the fencing—the water supply—the sheltered

or exposed nature of the lands—whether access can be had to out range—the cost of continuing and completing improvements, such as the varying cost of clearing in the various localities, and last, not least, the climate of the different districts, not only in point of pleasantness for residence, but as bearing on the nature and excellence of the products, and the growth of stock.

Now, it is not suggested that the owners of farms and ranches which they are thinking of selling sit down with these ideas and are possessed of the necessary knowledge to fit their demands to the facts in their own cases and so adjust their prices. This is not their business. They have the right to ask whatever they think their properties are worth. It is the buyer's part to acquaint himself with values so as to base a reasonable estimate of worth on the facts of the properties and their productiveness and desirability to himself and his own powers and wishes. He can so feel satisfied that he is not giving more than the fair market value, and also that he will not afterwards go through the act that we in the West call "kicking himself" because he has bought what he does not want.

A wise friend of mine who came from England some years ago to settle in Oregon devised and carried out a plan that seems to fit the case perfectly. In his case the plan worked well. Other new comers can be advised to adopt it.

Before explaining it let me say that it is not wise for a new comer strange to the land and all in it, to strive to "see it all" before he settles down to buy. The settlers' tickets to Oregon give the holders the right to go through to Ashland, the extreme Southern town without extra cost. The new comers too often have not made up their minds before hand on the main questions—what industry they are best fitted for—how much money they can afford to spend on purchase—and therefore in which of the great districts they propose to settle. The majority bustle through to Ashland

and then part or all the way back to Portland. The State is so large, the scenes so varied and attractive everywhere, the journey so long, that by the end of it there is a confusion and muddle in their brains which does not tend to the calm, sensible decision on merit which it is their duty and privilege to make. They see just the strip through which the train runs and frequently pass hastily by the very districts they ought to examine and judge of.

Now my English friend's plan was this: Before starting to see various farms in the Counties he had chosen as best adapted to the stock industry which was his special business he made out a list of "points" which he copied into a good sized pocket book thus: "A perfect ranch, 100 points made up of these: 1. Climate—; 2. Nearness to markets—; 3. Fertility—; 4. Condition as to improved cultivated land—; 5. Pasture—; 6. Outrange—; 7. Watered by living creeks—; 8. House—; 9. Barns and out buildings—; 10. Orchards—; 11. Garden and small fruits—; 12. Nearness to post office, school, church, store—; 13. Possible industries and development—; 14. Cheapness of desirable improvements—; 15. Roads—."

Of course no two people will agree on the way the points for the perfect farm should be distributed. But probably the following allotment is not very far out of the way. And any reader who desires to try can make a list for himself, and fill in what he thinks should be the perfect distribution of points and leave blanks to fill in for each farm as he finds it.

	Perfect	As it Appears
1.—Climate	12	
2.—Nearness to markets	7	
3.—Fertility of soil	20	
4.—Condition as to improved and cultivated land	7	
5.—Pasture	3	
6.—Outrange	5	
7.—Watered by living creeks.....	5	

8.—House	4
9.—Barns and outbuildings	4
10.—Orchards	5
11.—Gardens and small fruits	2
12.—Nearness to post office, school, church, store	7
13.—Possible industries and develop- ments	7
14.—Cheapness of desirable improve- ments	5
15.—Roads	7

Total100

It will be seen that the fixed unchangeable features receive high figures. Those that a buyer can change if he sees fit lower figures.

Now if when finishing the inspection of a farm a prospective buyer will think it over as a whole and then fill in blanks with such figures as he considers fair when comparing the farm he has just seen with such a farm as he can imagine to be exactly what he wants in all these particulars, then whenever he adds his third column up he will get the proportion the farm he has seen bears to the perfect farm. Following the same process with each farm he goes to see the buyer has a reliable basis of comparison and if he chooses the farm that has the highest number of points the only questions left for him to solve are if the price is right, and if his means allow him to buy at that price. At any rate he will know the farm he ought to buy if he can.

It must be remembered always that the wide variation in price in case of lands in the same district should be accounted for by the several properties differing in the ways above referred to. Unless such differences on inspection justify the price asked the inference is plain that the price is too high.

The importance of the Northern and Eastern tier of Counties is so great that each may be taken in detail and

the nature and price of the average farm given, using the same method as is followed hereafter. That is to examine the particulars and prices of a large number of farms offered for sale, to ascertain the average size, area of cultivated or cultivable land and the average price asked.

We commence with Baker County, finding that while the farming lands, properly so called are confined to the Valleys of the Burnt River, Powder River, John Day, Pine and Eagle Creek Valleys, and their smaller tributary creeks, yet both the grain farms, and the large and important stock industries spread over the surrounding hills. While irrigation is always here desirable and is necessary to produce alfalfa, yet even on the upland farms wheat, barley, oats and rye are successfully grown, though the rainfall and melted snowfall averages on ten years only 13.38 inches. Taking 12 farms in the unirrigated districts, but all well improved with good houses, all fenced, accessible, and desirable, we find they average 375 acres in size, have 53.55 per cent of cultivated land and are offered at average prices of \$30.50 per acre. 8 farms with a good proportion of irrigated land average 485 acres in size, give 58.50 per cent of cultivated land, at an average price of \$33.40 per acre. Unimproved land within 4 miles of Baker City is selling at from \$10 to \$15 per acre.

Taking next Union County there appear great varieties in value and consequently in price of land. The Grande Ronde Valley is an altogether exceptional region. Well watered by river, creeks, and springs. A bright and bracing climate. Rainfall average of 24 inches. Size about 35 by 18 miles. 300,000 acres of agricultural land. Produces wheat, barley, oats, rye, hay, hops, fruit, red clover, vegetables and last not least, sugar beets. The establishing at La Grande of the great sugar beet factory doubled the prices of real estate in the district affected. The factory handled in 1902, it is understood, 18,000 tons of beets for which the growers received \$4.50 per ton or \$85,000 or thereabouts. It may be taken that under these favorable conditions grain land farms are

offering at from \$30 to \$65 per acre, beet lands at from \$50 to \$100, fruit lands at from \$50 to \$150 per acre. There are 3 creameries and a steady demand for butter fat at from 30 cents to 22 cents per pound. Stock does exceedingly well on the surrounding hills.

Wallowa County.—Contains over 2600 square miles. Watered by numerous rivers and creeks flowing through the one principal Valley and so into the Grande Ronde River. The farming lands of the County lie in the lower, middle and upper Valleys. The famous Wallowa Lake at the extreme Southern end of the upper Valley. Were it not for the 25 mile stage drive by which Wallowa is reached, from Elgin on the O. R. & N. this lovely county would be far more widely known, as indeed it deserves to be. But in spite of this the county has a population of between 5500 and 6000 people. If this were a guide book full descriptions of the loveliness of this high mountain-surrounded Valley, with the deep lake in placid beauty reflecting the encircling heights, would be expected. Mention would surely be made of the game and fish which create, with their surroundings, out of this county an ideal pleasure ground. As it is, more prosaic facts are that good irrigated farms, with deeded water rights well improved, can be had at from \$30 to \$60 per acre. Farms of good land, not irrigated, fairly well improved are worth from \$10 to \$20 per acre. These lands raise excellent wheat, barley, oats, alfalfa, and red clover. Summer fallowing is still followed generally on the upland farms.

Umatilla.—This large and important County within its borders offers to the farmer, orchardist, and stock man the fullest opportunities. Although the average total precipitation in rain and snow for several years is only about 16 inches yet there are many successful irrigation systems already in full operation. The temperature is remarkably uniform, the mean being just 54 degrees. In the irrigated Valleys fruit ripens well indeed, large quantities of peaches and melons being produced. On the uplands are some of the

finest wheat farms in the country, in spring the whole landscape is a sea of green. Land prices offer a wide range, as must be expected—from \$30 to \$50 an acre for improved wheat farms and \$50 to \$100 per acre for irrigated lands. There are several prosperous towns in the County. Pendleton the County seat is of considerable importance and large population. A good deal of thoroughbred stock of all classes is raised in the County.

Morrow.—This County lies between Umatilla and Gilliam, also fronting North on the Columbia River. Essentially a pastoral and agricultural region. The County seat, Heppner, is connected with the main line of the O. R. & N. by a branch line about 40 miles long. The rainfall of about 15 inches suffices to mature the grain crops, which are very large. Wool is produced also with great success, Heppner being one of the largest shipping points. Land prices in this County are about parallel with those of Gilliam County, and the conditions the same.

Gilliam County.—A comparatively newly formed County fronting North on the Columbia River. Both grain and stock are produced as principal industries. The price of land within the past two years has more than doubled. Good farms suitable for combined farming and stock raising can still be had for from \$8 to \$12 per acre. Farms with from 80 to 85 per cent good farming land, the balance rough pasture, but with fair house and improvements are worth from \$12.50 to \$20 per acre. The best farms, well improved, with plenty of water, can be had for \$18 to \$25 per acre at this time. Wheat, barley, and alfalfa are the principal crops. A good deal of fruit is raised also. A large trade is done in cattle, sheep and hogs. It is expected that 3 million pounds of wool will be sold at Arlington this year. New settlers are going rapidly into the County. Three surveys for a railroad from Arlington to Condon have been made by different companies. Summer fallowing is much followed, and efforts at diversified crops are being made.

Sherman County adjoins Gilliam on the East and runs

to the Columbia on the North. Has about 4000 population. They claim that their taxation is so low that a man owning 160 acres of land that would sell for \$3500 has only about \$12.50 to pay. It shares with Gilliam the class of farms that produce both grain and stock. The Valley lands also grow excellent vegetables and fruit. Prices of land have risen 75 per cent during the past two years. Fair land of average quality cannot be bought for less than \$15 per acre. For good, well improved land with plenty of water and near a school from \$20 to \$30 per acre is now asked.

Wasco.—This great County, the last in this list, follows for 66 miles the Columbia River as its Northern boundary and lies between Sherman County on the East and the summit of the Cascade Range, which is the Western boundary of the County. It extends nearly a hundred miles from North to South and takes in a large part of the Warm Springs Indian Reservation. On the Northern fringe of this County are found the widely known fruit Valleys, of which Hood River is the chief, although Mosier and The Dalles are shipping points for fruit in quantities and of size and quality which would attract general attention and exercise a wider drawing power if Hood River were not so near. While these fruit lands command very high prices, varying, unplanted, from \$50 to \$75 per acre, and in fruit such prices as are based on the size, quality, and age of the trees, wheat and stock farms, well improved, can still be had for figures which bear comparison with those in the other Counties to the East of Wasco. The Dalles is held to be the most important wool shipping and marketing point in Oregon, at any rate before the construction of the Columbia Southern railroad with immense sheds at Shaniko caused the shipment there of great quantities previously hauled for from 100 to 200 miles to The Dalles. Wasco County land is very fertile. Those who farm large areas of it are uniformly prosperous.

In the wheat belt of North Eastern Oregon prices in the Spring of 1904 for farms of from 100 to 320 acres, all cultivable, range from \$15 to \$20 per acre for medium land

with fair house, and fenced, and one day's hauling distance of the railroad depot, to \$50 per acre for choice land, well located and furnished with young family orchard, good house, with well or creek, and more or less creek bottom land. In such cases all the lands should be fenced and be plow land, but all lands, or nearly all, are under the summer fallowing system, so that only one half the total area is producing grain in any year. And these farms yield little else but wheat or barley for market. While there are many wheat farms of very large size, yet the majority of the large tracts are devoted to stock as well as wheat. In such cases the price of a large tract will be very greatly reduced. A very good authority gives the cost of wheat raising on the 160 to 320 acre farm at from 35 cents to 40 cents per bushel in this district, allowance being made for a reasonable interest on the purchase price of the farm and for taxes. And the yield on the qualities of land above referred to varies from 25 bushels an acre on the poorer land to 45 bushels on the best average. In exceptional cases even a greater return is found.

It may be noticed in passing that a purchaser may borrow from one third to one half of his purchase price in most cases, even if he fails to make terms with the vendor for time payments when he buys. Many of the wealthy wheat farmers of today were glad to make a beginning on a large proportion of borrowed money.

Many men get their start in this region by renting farms. The rental usually asked varies from one third of the crop on the poorer quality of land to a larger per cent when the land yields large returns. Many of the 320 acre farmers get on with one heavy and one average team of horses. The best farm machinery is the cheapest.

When dealing with the great stock ranches of Middle and South Eastern Oregon an utterly different mode of valuation comes into play. The ranch itself is just the heart and center of a wide undertaking. It is so placed as to command

or control the best accessible water supply. It is not complete without several hundred acres of alfalfa land, irrigated, and yielding three crops a year. Whether sheep or cattle be the chief object it is not expected or desired that the band or herd should be kept within call of the home ranch. Rather is it a point that there be not too distant an out range of wild forest or wooded grounds on the flanks of the not too far off mountains where the sheep or cattle should spend the heat of summer on their cool grassy slopes. The ranch and its neighborhood must provide a winter feeding ground where the summer stores of wild hay, lake grass, and alfalfa from the irrigated fields may be fed out in case of need.

The last ranch of this order the sale of which came within the writer's knowledge covered 11,000 acres of purchased and deeded lands. But the herds ranged over nearly as many miles as there were acres in the offered property. The price asked was \$7 per acre.

The pressure of the incoming settlers for several years has been crowding back the large ranches still deeper into the wilderness. The wire fence round one 160 acre homestead has joined the next up the creek bottom, till the range rider's territory grows ever less. Not without friction and quarrels, great and little. Sometimes it needs a resolute and a brave man to hold intact his homestead rights. For such 160 acre homes from \$15 to \$25 an acre is asked now.

The price of fruit lands in the Northern Counties varies so widely that it is well nigh impossible to suggest average figures. In buying fruit land in the rough for purposes of the future orchard the cost of clearing is a very important item to consider. In the Hood River district wild brush and timber land similar in soil to the best of the existing orchards is on the market at from \$40 to \$100 per acre, and this land will cost not less than \$50 per acre to clear and get ready for the trees, possibly a good deal more. One of the recently formed fruit land companies in Southern Oregon, offers, in print, to plant out orchards of the best varieties for those who buy from them for \$25 per acre.

It is safe, I think, to assume that the actual cost of planting out an orchard, when the work is hired to be done, will fall well within those figures. More precise information is given in the chapter on "The Orchard." All that is necessary to be done here is to give enough details to enable a new comer to figure out the probable cost of buying land to set out in orchard.

Taking then the next district, The Willamette Valley. There is not a wide difference between the average of prices asked in all its eight Counties for farms, well improved, and within three miles distance from a large town and railroad depot, but the prices of individual farms are wide apart. There are a large number of small farms in each County. Their acreage ranges from an average of 24 acres to 65 for farms under 160 acres, and from 132 acres for the larger farms to an average of 482 in the different Counties. The prices vary of course—but the comparison of the prices asked in the Spring of 1904 for several hundred farms offered in various land lists through the Valley Counties, and the examination of the descriptions of the properties has yielded some interesting results.

In the first place the calculation of the percentage of cultivated land on the farms of less than 160 acres offered for sale gives the following figures:

Clackamas	44. %
Columbia	75. %
Washington	41. %
Yamhill	77.50%
Marion	45.44%
Benton	53.18%
Linn	74.40%
Lane	65.50%
	<hr/>
Total	476.02%
Average	59.50%

Showing that the purchaser of even a small farm has

a large area of land to clear, improve, and cultivate, where-with to increase the value of his property.

The cultivated land on the larger farms shows the following percentage of area:

Clackamas	44.50%
Washington	44.30%
Marion	46.23%
Yamhill	43.36%
Polk	44.55%
Linn	42.92%
Benton	30.50%
Lane	53.79%
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Total	349.65%
Average	43.70%

NOTE.—Several large farms running into the foot hills have reduced the per cent in Benton County.

In giving the figures on prices it must always be remembered that figures good today may be raised tomorrow. There is no fear or hope that they may be reduced. But the inevitable result from every effort to show things in Oregon as they are is to bring more buyers into the market and so stimulate still farther the rise.

This being premised the following figures are given as the result of averaging a large number of offers of farms in the several Counties named:

Clackamas County.—

Average price of farms within four miles of Oregon City, per acre	\$ 52.90
Between 4 and 12 miles of Oregon City, per acre	35.65

Columbia County.—

Small farms, per acre	41.41
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Washington County.—

Small farms, per acre	53.82
Larger farms, per acre	38.62

Yamhill County.—	
Small farms, per acre	119.66
(In this calculation a large proportion of orchards and hop yards are included).	
Larger farms, per acre	21.50
Marion County.—	
Small farms, per acre	46.11
Larger farms, per acre	35.76
Polk County.—	
Larger farms, per acre	22.70
Linn County.—	
Larger farms, per acre	23.28
Smaller farms, per acre	52.15
Benton County.—	
Small farms, per acre	33.10
Larger farms, per acre	21.00
Lane County.—	
Small farms, per acre	32.88
Larger farms, per acre	26.44

We proceed to give some idea of the nature and value of the farms and ranches in the Coast region.

No general rules applicable to the whole can be deduced.

There is a Coast line of about 420 miles from the confluence of the Willamette with the Columbia down the Columbia to its mouth and following South the Western Coast of Oregon to the California line. The same general conditions of climate, in mildness, equableness, moisture, tempered heat in summer, tempered cold in winter, apply. The bays and inlets, South from the Columbia are Nehalem, Tillamook, Nestucca, Siletz, Yaquina, Alsea, Yahatz, Siuslaw, Umpqua, Coos and Rogue River.

This whole region is shut off from the interior by the Coast Range, everywhere involving a journey of from 24 to 48 hours before the great Valleys, Willamette, Umpqua, and Rogue River, are reached. But one railroad crosses this range, the Corvallis and Eastern, covering 71 miles from Corvallis in the Valley to Yaquina, close to the ocean, and

landing the traveler from Portland at the ocean beach in eight or nine hours.

Most of the other Coast Valley districts are dependent either on stage roads, horse trails, or on the steam schooner traffic on the ocean to connect them with each other and with the world within.

In nearly all the Bay districts creameries or cheese factories are at work. Generally launches ply on the estuaries and navigable rivers and creeks to bring the cream down to the creamery.

Consequently the rich tidal estuary lands and the river and creek bottoms have become part of dairy ranches, each of which in turn is the central home, controlling herds of cattle which find all the year feeding ground in the surrounding woods. Many of these ranchers have also invested in sheep and goats which do excellently well. In most of these bays lumber mills of varying size are found, for the timber of the whole district in fir, cedar, spruce, and hemlock is magnificent. Some of the forests tributary to these bays hold the largest timber in Oregon. The tide land spruce is generally considered the forest king for size and symmetry.

The value and accessibility of the timber on many of these Coast range ranches is always to be considered.

Furthermore, on all the larger Bays salmon canneries are found. Of these a more detailed account will be found hereafter. Notice here that the possibility of well paid work in the late fall in connection with the cannery for about two months in the year is not to be forgotten when thinking of the Coast region for a home.

The Columbia River and Tillamook ranches are the source of the larger part of Portland's supply in dairy products. On the rivers, the large and small stern wheel steamboats call for and carry off the products. On the bay steam schooners are kept at work all the time on similar errands. Dairy ranches in Tillamook are reported to be selling at from \$50 to \$70 an acre, but to be quite rarely obtainable.

The whole community there is prosperous. Further down the Coast, at the smaller bays, and on the estuaries and river bottoms that run far into the land, the ranches can be cheaply had. From \$10 to \$15 an acre will purchase one of these amphibious farms. The boat is more in daily use than the wagon. The water is the general highway. Every ranch has its band of cattle or sheep, very often some goats. Much cream goes to the creamery. The manager of the Albany Creamery told me that he was glad to get that hill land cream—it gave a special flavor to the butter.

There is very little desire yet shown among the new comers to go far enough afield to buy these Coast and hill land ranches—various reasons for this. It takes a long day and some money to get there. Before the Coast side of the range is reached the Willamette Valley, with all its attractions, or the Umpqua, or the Rogue River, must be entered and crossed. Then come a good many miles of rough hill land before the journey's end. And the Coast lands are broken and varied—narrow valleys and broad hills, much timber and brush. Then the country is not yet thickly settled. Towns are small and communities scattered. Altogether a general sense of being at the rough West end of everything.

If there is any more to be said against the Coast region I do not know what it is. Let us look for a moment at the other side of the picture.

The land is cheap. Acre for acre possibly from one third to one half the prices of the lands we have been considering. The country is beautiful. Some of these Coast land homes, overlooking a bay, grassy slopes to the blue water, splendid trees backing the view, a wealth of roses and honeysuckles over the house, verdure, greenery, impressing itself on all sides, show us some of the loveliest scenes in Oregon. Here if anywhere it is true that Earth smiles if you tickle her. Such gardens, such small fruits, and vegetables! Stock of all kinds enjoy life. Very rarely indeed in a course of years do either sheep or goats require or receive any care or feed-

ing winter or summer. Silos and the stuff to fill them are never thought of. A barn full of rough but very sweet hay is all the provision for the Winter. The cattle are sold to the butcher in December straight off the range.

People have so far been contented with very small improvements. Most of their lands are as they settled on them in the rough. But how easy and how cheap it is to clear, sow, and stock them. The greater part of the brush land can be contracted to be cleared, so far as slashing the brush, and leaving it ready for the fire, is concerned, for from five to seven dollars an acre. Grass seed and clover seed costs but little when most of it is gathered by sweeping up the barn mow and the horses' mangers. And the change from brush to pasture takes but one year. In four years more the brush stumps will have rotted, if enough goats are kept to eat off the young shoots and undergrowth, then the rough becomes the tame pasture, or grows grain for the service of man or beast.

Viewing all that has been written on improving Eastern Oregon or Valley lands I honestly believe that a quicker and as durable return can be had from improving by clearing a Coast land farm. And the proportion of return to expenditure is in this last case the greater. The impression must not be left that this Coast region is not progressing. On the contrary on all the chief bays good towns are found. Besides lumber Coos Bay has close to it valuable and developed coal mines, besides good promise of railroad connections which will be mentioned in the chapter on railroads.

The dairy lands on the Bay are first class and the new condensery offers a constant and lucrative market.

Many of our Scandinavian citizens have already found how specially this Coast region is adapted to their modes of life and industries. Many more can be freely invited to settle there. There is ample room.

It remains to mention what is generally called Southern Oregon, more properly South Western Oregon. Three great Counties, Douglas, Josephine, and Jackson make up this

region. The Northern part of Douglas County resembles the Southern part of the Willamette Valley in a general way. But holds many large tracts with valuable improvements used mainly for the stock industry.

Douglas County has a good many hop yards, which do well. Quite an important dairy interest, especially in the river valleys, has been developed.

On most of the Valley farms a large quantity of stock is raised and they are susceptible of use in general farming on the lines that have been described. The towns, Roseburg, especially, are growing rapidly. An important mineral district adds to the business. While the fruit industry is important it does not predominate as in the region further South about to be mentioned. Land in Douglas County has begun to grow in value fast, but taking an average of the farms in one large list the average size turned out to be 550 acres and the average price only \$12.18. The climate of Douglas County is very genial. Rainfall at Roseburg averages 34.45 inches for the years 1900, 1, and 2.

The County of Josephine, with Jackson, I have often heard described as the Italy of Oregon. It is a fair simile. The climate is bright and pure, the air clear, rainfall so close to the desirable mean of dryness that irrigation is sometimes resorted to. A region of fruit. On the outskirts of the great Valleys are many dairy and stock farms. Wheat and corn both do well. But fruit is in the air. A rapidly increasing population shows that the attractions of this favored region are getting more widely known. Here as in Hood River the best fruits are grown, best for variety, quality, appearance, and keeping qualities. Not, as in the Willamette Valley, is the orchard an adjunct or side show to the farm, but the fruit is the main industry and assuredly the main profit of the whole investment made.

While fruit growing is already on a large scale in these Counties, yet its success has opened the gate wide to a very great development. A very large area of land has been examined and found suitable, and is now being cut into small

fruit farms of five and ten acres. Under a stimulus of this kind prices have been rapidly rising. Under such circumstances, in a district of limited area it is impossible to offer any figures as averages. It may be stated in general terms that for ranches and farms for general purposes from \$15 to \$35 per acre is a fair estimate.

For fruit lands—that is, not orchards, but lands neighboring on orchards and resembling them in general character of soil, exposure, and advantages of transportation—for these all kinds of prices are asked, ranging from \$75 to \$150 an acre.

Each intending buyer will have to make his own selection and determine his own course. Of course to pay \$150 an acre for ten acres, the full returns from which cannot be expected for seven or possibly eight years to come, requires a good deal of faith, which ought to rest on nothing but a calm personal examination of the whole industry and situation. Naturally in addition to the purchase of the land still further sums have to be invested in fitting the land to receive the trees, planting, and caring for them, and in building and furnishing a house and packing shed and other necessary improvements.



The Hettler's Capital

CHAPTER III

HOW FAR THE SETTLER'S CAPITAL WILL GO

Taking note of the facts and conditions above given we can now offer suggestions as to what a new comer can do with various sums of capital at his command when he arrives in Oregon.

We start with the possession of \$1000.

Can he venture on buying land?

Yes, if he, (and not in a much less degree his wife if he be happy enough to have one who divides his responsibilities and takes up her share of the burdens) have not only the will to labor, but some knowledge of the kind of work the ownership of a partly tilled and cultivated tract of land involves.

Such a buyer must get some distance back from large towns and railroad depots, but can not afford to settle too far from school. The rural free delivery routes now cover so much mileage that the weekly loss of a day by the trip into the town, chiefly to get the mail, may be avoided.

A farm of 80 acres, with a small house and barn, a cleared field or two, and often a family orchard, can be still chosen for \$10 an acre, or \$800. Our buyer can pay down \$400 and have two years to pay the balance at 6 per cent interest. He has \$600 left. By careful purchases he can get a wagon and small team for \$175. Eighty sheep for \$240. One cow for \$25. One sow for \$10. Two dozen chickens for \$8. Plow, harrow, harness, for \$50. He will have \$92 left to buy his stove and absolutely necessary furnishings and for a start in flour and groceries until he has butter and eggs to begin trading with. The first labor he puts in should be on a good garden. I am confident that the produce of half an acre will go a very long way to keeping the family.

As to the kind of stock to buy, its value and returns he will find fuller information later in this book.

One solid resolve he must make, if he means to succeed from the start, is never to go to town or trading point without something to sell or trade, and never to leave more money in the town than he takes out of it, except for such necessary purchases as he and his partner, (if he has one,) agree on beforehand.

So much for the \$1000 man.

Take now the \$2000 capitalist. How will he spend it?

He is still to confine himself either to a small farm nearer city or railroad or in the fruit districts, or else to a larger acreage, either in the foot hills of the Counties described, or in the Coast region. In the first case he can buy for \$2500 a farm of eighty acres, fifty in cultivation, fair house, barn, fruit, and well watered, three miles from a good town. This is a representative offer. Paying half, or \$1250 down, he has \$750 left. He can expend this as follows:—Wagon and team \$175. Twenty-five sheep \$75. Twenty-five goats \$100. Five cows \$130. One sow \$10. Two dozen chickens \$8. Plow, harrow, harness, ect. \$50. He has a balance of \$202 to buy, stove, necessary furnishings, and stock of provisions.

If the new comer desires to become a orchardist there are two methods open to him.

The one to examine for himself in the fruit districts to find at a price within his means some small fruit farm, part in apples, remainder in strawberries and other small fruit. Bearing in mind that strawberry growers in the Hood River district have made for several years past from \$100 to \$250 an acre return, and that apples of the Yellow Newtown and Spitzenberg varieties have yielded net \$2 a box or a little over, which at 4 boxes to a mature tree represents about \$600 an acre it is obvious that our friend would have in either the Hood River or in the Southern Oregon fruit belt to content himself with a very small and partially developed place. In the Willamette Valley, especially in the district tributary to Portland, he could do a good deal better. Some small fruit and chicken farms of ten acres or less have been

sold for \$200 an acre or thereabouts, with large barn and orchard. The second plan is to become a buyer of one of the five or ten acre fruit land tracts which have been put on the market recently to meet the demand, especially from Eastern people for a small fruit ranch.

In this case in either Hood River or Southern Oregon, the buyer has to buy land, sometimes to clear it, then plant the trees, then build his house, fruit and packing house, etc., and then wait for the trees to come into bearing. While waiting, and for the first three or four years of the time, about two thirds of the plot could be utilized for other crops planted between the fruit trees. Some authorities decline to sanction this last practice however. Corn grows and matures well throughout the Rogue River country. For the average quality of fruit land \$100 an acre is asked, payment being spread over two years. Twenty-five dollars per acre is asked for planting out the land in good fruit trees. It will cost the buyer not less than \$550 to build his house, fruit house and outbuildings. So that \$1800 will be absorbed in the investment, leaving him \$200 only for other and current out goings. Probably a man in such a case would find opportunity to earn money during the waiting time before his trees come into bearing.

Take now the man with \$2000 who proposes to buy a partly improved farm, to be chiefly used for the stock industry, and who is willing to place himself a short distance from town and railroad.

Extracting the first nine of such farms as we find them described in the printed list of an entirely respectable agent in one of the Counties on the West side of the Willamette Valley and averaging their size, cultivated area, distance from town and railroad and price asked, the following results appear: The average size is 172 acres, cultivated land 27 acres, distance from town or depot $3\frac{1}{2}$ miles, price \$1470. In most cases there is available outrange for the stock.

Our purchaser then pays half his purchase money or

\$735 and takes two years for the balance at six per cent. He has \$1265 margin. How shall he expend this?

Suppose he buys

6 cows at \$30	\$ 180.00
5 two-year-olds at \$15	75.00
5 yearlings at \$12	60.00
50 sheep at \$2.50	125.00
50 goats at \$40	200.00
Team of horses	200.00
2 sows	20.00
2 dozen chickens	8.00
	<hr/>
	\$ 868.00

He must have

A wagon	\$ 70.00
Harness	25.00
Plow	10.50
Harrow	14.00
Rake	30.00
Tools	25.00
	<hr/>
	\$ 174.50

Total\$1042.50

This leaves him a margin of \$223 for furnishing and for food. He must hire his hay crop cut by one of the neighbors until he can afford to buy a mower of his own.

With the increase of capital to \$5000 other and wider opportunities are offered. Every one of the districts mentioned is open to the choice of the new comer. If he takes to the wheat farms of North Eastern Oregon and the Columbia basin he can buy 320 acres of land at \$20 and pay

Half down, or	\$3200.00
His outfit of 2 teams (heavy and light), wagon, buckboard, harness, plows, harrows, drill, harvester, tools, etc., will cost him just about	951.50

He should have	
2 cows	60 00
3 sows	30.00
Chickens	6.00
	<hr/>
	96.00
	<hr/>
Total	\$4247.50

Leaving him a margin of \$752.50 for furnishing, living and current expenses until the next crop comes in.

On the 320 acre wheat farm the yield on the one half in crop each year should not fall below an average of 4000 bushels.

If instead of the wheat farm the owner of the \$5000 capital decides on fruit, let us see what he may expect to obtain.

If he goes to Hood River and takes time to negotiate for what he wants he will be able to have the choice either to buy about 20 acres of fruit land, with from 5 to 10 acres of Winter apples in bearing, with house, fruit house, and other necessary out buildings, land on an irrigation ditch, and needed appliances to go to work at once, and possibly a few acres in strawberries, for about the \$5000 he has. A small amount reserved out will take him through till the crop comes in.

Or else he can buy a larger acreage of grown orchard and leave up to one half of his purchase money on mortgage for two years.

If the buyer prefers to buy a larger acreage, clear it, plant his own trees and strawberries, and do his own work of clearing and improvement, he will at the end of six years find that he has made a most profitable investment. With \$5000 I believe an 80 acre tract of suitable land can be bought, and the work of improvement carried on, and the subsistence of the family provided for within these figures. If present values are no more than sustained for the next few years, and if sufficient foresight is shown to keep out

of debt meanwhile a tract of 80 acres thus handled means a fortune.

The determining factor in estimating the probability of present prices being maintained both in Hood River and in Southern Oregon lies in the solid fact that the most beautiful and valuable Winter apples in the world are the Yellow Newtown Pippin, and the Oregon Spitzenberg. Only in certain limited districts can perfection in growing this fruit be reached. The above districts make and maintain their claim to be the first among the chosen few.

But if the new comer with \$5000 desires a general purpose farm, either in the Willamette Valley, or South of it in the choicest part of Douglas County, the area of selection is very large.

As stock of one kind or another will be a main consideration with him, he will find facts which will certainly, and advice which will probably, be of value to him in later chapters.

In choosing his farm the same principles should govern, namely that the value of the land to him will be determined by the profits he can make off it from year to year not by the selling value.

Therefore that he shall prefer a smaller farm thoroughly stocked and provided with good implements and labor-saving tools and appliances, to a much larger area cheaply equipped.

To the larger capitalist, commanding, say \$10,000, still more opportunities are offered. Besides the wheat farm, the fruit farm, and the general purpose farm, stock raising and ranching on a larger scale are very attractive to the lover of fine blooded cattle, sheep, or goats.

For this industry Western Oregon has tracts offered now for sale of from 1000 to 2500 acres at prices varying from \$5 to \$15 per acre. In such a case the buyer within those prices can expect a good house, good barns, a family orchard, living water on all the principal subdivisions of the property. Enough timber for all improvement and current purposes, and very often some to sell to the nearest mill. A varying

but a considerable proportion of cultivated land, and a further acreage in tame grasses and clover is also to be almost invariably found. Such prices prevail at distances of not less than a hundred and twenty miles from Portland and from three to ten miles from a railroad depot.

If locations within 100 miles of Portland are desired the price of the land will rise to about \$12 to \$15 an acre, but the general character of the ranch will be as described above. Naturally there are few tracts of a size adapted to a stock ranch to be had at any reasonable price within easy distance of Portland, or indeed of any of the larger cities of Oregon, close to railroad transportation.

When trades are made for the purchase of farms, orchards or ranches it is customary for the seller to ask payment down of from one quarter to one half of the purchase price, and to offer to allow the balance to stand for as long as can reasonably be asked by the buyer, at six per cent interest.

Farm mortgages in Oregon are considered excellent security. For a good many years abundant capital has been accessible for this purpose at the State rates. Six per cent is the statutory rate at present.

Many persons prefer borrowing from a public source to putting themselves in private hands. The State School Board at Salem controls the lending out of the School fund, which embraces also the sums received from the sale of lands allotted by the U. S. to Oregon for support of the State Agricultural College and University. While the rules of the Board are strict and thoroughly adhered to yet money is always to be obtained by an honest borrower who is contented with the one third of the appraised value of the property on which the loan is sought, and whose property stands the expert examination to which it is always subjected. So long as the interest is paid and the conditions of the mortgage observed as to maintaining the property in good order the State loans are not called in. The borrower feels safe in the hands of the Board.

There are various loaning companies doing business in Oregon, most of them supplied with foreign capital. Their business is well managed and satisfactory, so far as generally known and reported. Ample funds seem to be always on hand to meet all reasonable requirements.

Questions about wages in Oregon are put by mechanics desirous of coming here and earning money to help pay for land purchases they make, and also by persons intending to buy land and inquiring as to the kind of farm labor obtainable and the rates of pay. It is of course to be understood that the rates mentioned refer to 1904. Structural mechanics' wages may be stated at \$3 to \$4 per day for house carpenters, \$4.50 to \$5.50 per day for brick and stone masons, \$4 to \$5 for lathers, \$2.50 to \$3 for painters and decorators and \$2 for general laborers, \$2.50 to \$3 for helpers to brick and stone masons. Blacksmiths receive \$3.50 to \$4.

Owing to the great number of buildings of every nature being erected this year in Portland, but also in other cities and towns in Oregon, there is a large demand for qualified labor. The erection of the buildings for the Lewis and Clark Exposition of 1905 also involves the employment of very many hands.

Farm labor is in a different category and varies widely in rates with the experience the man has had. It may safely be put at from \$25 to \$30 a month with board the year round on the dairy farms. Experienced milkers obtain \$30 and board without much difficulty. Good farm hands ask the same, but generally get about \$25 a month and board for the months from October to April and \$30 a month and board from April to October. In hay and grain harvest from \$1.50 to \$1.75 a day is paid. The demand for good farm labor is increasing beyond the supply. For the past two years there has been general difficulty in getting men who know their business and who will stay by their work. Young men who are intending to obtain eventually homes in Oregon will find it to their advantage to hire out for the first year, and

learn the methods in general use here which differ widely in many respects from those customary in the East. A man on the farm here must turn his hand to almost anything. On every well ordered farm and ranch there is a workshop, always fitted with carpenters' and often with blacksmiths' tools. The uniform practice in the State Agricultural College is to pass every male student through the classes in carpentering and blacksmithing. On my own ranch I have many times found the advantage of having boys qualified by this training.

Hop pickers' pay is at rate per box. Recently it has not fallen below 40 cents per box, and I think in some yards 50 cents a box was paid this year.

Fruit pickers are also paid either by the box, receiving for apples 2 to 3 cents a box or from \$1.50 to \$2 a day. These rates prevail in 1904 both in Hood River and in Southern Oregon. In Hood River in 1904 the uniform price for picking strawberries was 1½ cents a box and ½ cent for packing, making 48 cents a crate for picking and packing.

A family of father and mother and one son go every year to the hop picking from my immediate neighborhood. They are generally absent about three weeks, camping out at the hop yard. They usually bring back about \$100 after paying all expenses. While they are, perhaps, unusually industrious yet the average return is about \$90 for such a group. A German family, father, mother, and three boys from 10 to 14 years old, came to a small Valley farm last July. They postponed taking possession until after the hop and fruit harvest was over. The mother told a friend of mine late in September that they had made \$5 a day since they started to work.

Last February the gas was just lit in my Portland office, and shone on me as I wrote. A man stopped as he passed in the street, then came in followed by a bright looking girl of about 16. He was roughly but warmly dressed with ruddy cheeks, and a ready active bearing. He said, "Don't

you remember me?" I answered "Your face is familiar but I cannot recall your name nor where I met you." He said, "Don't you recollect talking to me once or twice in the office in Chicago rather more than a year ago?" "Now I remember you," I said. "You are an engineer by trade, and you were a foreman in some large works when you talked with me about coming to Oregon? Yes, and you told me you meant to make the change while you were young enough to get some good for yourself out of life, and not quite old enough to be turned off." "That's right" my friend said, "and I took your advice right away." Well, do you regret it?" I said. "Not much," he answered with a broad bright smile, "I'll tell you what I did. I got ready to sell off everything and came out myself a year ago. I had not money enough to buy a farm ready made, so I bought 80 acres of rough land, and set about clearing it and building a house. In May my wife and four children came out. As soon as your strawberry season came on the whole lot of us went to picking, from there we worked South into the Willamette Valley, I worked in the hay field some, then the whole family went to hop picking and then to fruit picking. To make a long story short I should like to take you down to the boat at the wharf; we are going back to the ranch in the morning. There's \$250 worth of furniture and supplies for the Winter on board of her all paid for by our Summer's work, and the rest of the Winter we are all going to put in on the ranch. My wife has gained twenty-one pounds in weight since she came out and is a stronger woman than she has been for years. We never enjoyed a Summer in our lives as we did camping out under your Oregon sky, and now there's one thing that tickles me, and that is to be in bed for a bit in the morning without hearing that cussed old factory whistle."

So we shook hands and parted, the girl flashing a bright smile at me as they passed away in the darkness.

The same qualities that made that man a foreman over 80 machinists at thirty five, and kept him at that work, will

ensure his success at this side of the world—A very safe prophecy.

Very often the question comes, "What shall we have to pay for farming implements and machinery in Oregon? Is it better to take with us to Oregon what we have, or to buy fresh out there?"

To answer this at first hand the two following price lists are given: the one furnished by a long established firm in one of the Willamette Valley towns, the other from a similar firm in Eastern Oregon.

Western Oregon—

Farmer's Open Buggy	\$ 45.00
Farmer's Top Buggy	65.00
Bain Wagons—2½ inches T. S.	76.75
Bain Wagons—2¾ inches T. S.	81.25
Bain Wagons—3 inches T. S.	82.25
Bain Wagons—3¼ inches T. S.	90.00
Oliver Chilled Plows—No. 20, 12 inches..	10.50
Oliver Chilled Plows—No. 40, 14 inches..	11.00
Oliver Chilled Plows—No. 50, 16 inches..	14.00
Steel Plows—12 inches	14.00
Steel Plows—14 inches	15.00
Steel Plows—16 inches	16.00
Rolling Harrows—6 ft., 12-18 in. Discs..	32.50
Rolling Harrows—7 ft., 14-18 in. Discs..	36.50
Rolling Harrows—8 ft., 16-18 in. Discs..	40.50
Spring Lever Steel Frame Spike Tooth Harrows, 25 Teeth per Section.....	7.00
Spring Lever Settle Frame Spike Tooth Harrows, 30 Teeth per Section	7.50
Monitor—14 Bar Hoe Drill.....	75.00
Monitor Drills—14 Bar Shoe Drill	83.00
Monitor Drills—14 Bar Double Disc Drill	95.00
Monitor Pipe Frame Seeder—14 Bar..	57.50
McCormick New 4 Mowers	50.00
McCormick Harvester and Binder.....	145.00

McCormick Hay Rakes—9 feet	30.00
Spray Pumps	\$5.00 to 30.00
Garden Tools—	
Hoes .....	.25 to .65
Rakes .....	.25 to .65
Spades .....	.75 to 1.50
Shovels .....	.75 to 1.50
Spading Forks .....	.75 to 1.00
Log Chain, 3-8 inch, per pound .....	.08
Log Chain, 1-2 inch, per pound .....	.07
Plain Galvanized Fence Wire, 11, per lb.	.04
Plain Galvanized Fence Wire, 12, per lb.	.04 $\frac{1}{4}$
Plain Galvanized Fence Wire, 14, per lb.	.04 $\frac{1}{2}$
Barb Wire, Galvanized, per pound ....	.04
Cook Stoves	\$12.00 to 30.00
Cast Ranges	27.50 to 45.00
Steel Ranges	30.00 to 65.00
Axes, S. B. ....	.75 to 1.50
Axes, D. B.	1.00 to 1.75
Steel Wedges, per pound .....	.10 to .15

Store Cash Prices for the Following Implements and Tools
in a Good Country Town in Eastern Oregon—

- 1—Farm Wagon—3 inch with box, \$85.00.
- 2—Oliver Chilled Plows—14 in., \$12.00; 16 in., \$13.00.
- 3—Steel Plows—\$1.00 per inch.
- 4—Rolling Harrows—\$45.00 up.
- 5—Steel Frame Harrows—\$8.00 per section.
- 6—Drills—16 Hoe, \$95.00.
- 7—Cultivators—Various from \$8 to \$50.
- 8—Mowers—\$60.00 to \$65.00.
- 9—Binders—6 feet, \$165.00; 7 feet \$170.00.
- 10—Sprayers, of one or more sizes and values, \$12 to \$18.
- 11—Rakes—10 feet, \$37.50.
- 12—Garden Tools—Hoes, 25c to 50c; Rakes, 40c to 60c.
- 13—Logging Chains—7 to 8 c per pound.
- 14—Fence Wire—Plain and Barbed—Hog Fence 35c rod;
Barbed 3 $\frac{1}{2}$ c per pound.

15—Kitchen Stoves and Furniture—\$20.00 and up.

16—Axes, single and double—\$1.00 to \$1.50; Wedges 15c per pound.

17—Farmer's Buggy, plain and cheap in price—\$60.00 to \$100.00.

18—Present prices of nails—5c per pound; \$4.00 per keg.

Many new comers have the chance of buying parts of the old Donation Land Claims, and other large holdings now broken up into smaller properties. To them the question of building materials in Oregon is of consequence, and some knowledge of the style of buildings necessary may be of advantage.

In this year 1904 the lumber mills in the Willamette Valley and in Southern Oregon are asking the following prices:

For common rough lumber, \$7.50 per 1000 feet (the measure of 1 foot being 12 inches square by one inch thick). Sized rough \$8.00. For second class flooring \$17.00 flat grain, \$22 vertical, per 1000 feet. N. B.—This quality is amply good enough for any usual farm house.

For rustic, for the outside coating, \$18.00 per 1000 feet.

For shingles \$2 per 1000, Cedar No. 1.

In the Coast regions many small local mills are dotted about on the rivers and estuaries. The prices there are somewhat less than at the larger mills.

The mildness of the climate enables much cheaper and slighter construction of farm buildings than in the States East of us.

Barns are very often framed from the hewn timber of the fir trees on the farms, rafters of the slender young fir poles, shingled from home split cedar or fir logs. Even the sides are of split planks or shakes, though it is better economy to use the rough saw lumber from the nearest mill. The wild cherry or fir poles provide material for floors, stalls, and stanchions. With the help of a neighboring rough carpenter from a farm nearby, and of two of my boys, we put up a very substantial barn on my own ranch in this fashion

three or four years ago, 46 feet long by 40 feet wide, with flooring of split cedar puncheons, or slabs hewn level, and cherry pole stalls. The cost of materials and labor was \$117, including carpenters' wages and rough lumber siding from the mill. The barn holds stalls for 22 cows and over 50 tons of hay.

Nearly every ranch in Western Oregon provides in abundance the materials in the rough for sheds and shelters for stock of all kinds.

Details about the silo, its construction and use will be found in the chapter on dairying.



Various Crops

CHAPTER IV

VARIOUS CROPS

The foregoing chapters will, it is hoped, have thrown light on the questions, what kind of farm or ranch home can be had in the several districts of Oregon, on the value of such homes at the time of writing, and on the various points on which the differences in value and prices ought to depend.

At the risk of repetition I desire to say once more that while the differences are in most cases real and logically founded, and therefore purchasers must not expect to get a five thousand dollar farm for three thousand, (although most of the new comers do), yet the buyer must guard himself from believing that because a high price is asked the farm is therefore worth it.

The following case is not an unusual one. A few months ago a 160 acre farm in the Willamette Valley was sold for \$40 an acre. It was well worth it. Nearly all in cultivation, showing good soil, excellent buildings and modern improvements. The farm had been up to the time of the sale the seat of an important and lucrative dairying industry. The herd of excellent dairy cows and all the dairy and farm implements were also sold to the purchaser, who entered straight into possession of a good home, a well established and paying business, and a farm certain to increase in value as time passes and prices legitimately rise. So far so good. Shortly afterwards the agents concerned in the transfer received a request from a neighboring land owner proposing to them to find buyers for his farm at nearly sixty dollars per acre. But this second farm, though of the same size, was obviously not possessed of nearly the attractiveness of the former. Not as much land in cultivation, improvements, and buildings not as costly or modern. Farm outfit in stock

and implements available for the purchaser's acquisition, nothing like as valuable. Yet the owner honestly, I have no doubt, believed that the sale of the other farm at forty dollars proved that his own was worth a third more.

Bearing the above cautions in mind we will take it that a new comer has bought his farm, paid for it, and desires to go to work at once on it to the best advantage. What will he, what can he do with it?

In our first district, that of North Eastern and Northern Oregon, not much option is open to the buyer. If it is a wheat farm of from 160 to 320 acres the new comer should find a comfortable house, horse barn, piggery, accommodation for three or four cows, a young orchard, a home garden. His land will be fenced round, and should be cross fenced also.

The average productiveness of the plowed land will have been measured by the price paid. His expectation of wheat return will vary, as before mentioned, from 25 bushels per acre from \$15 land to 45 bushels per acre from \$50 land. The prices being governed also by nearness to town, railroad, and school.

But only one half of this wheat land will be in crop in any one year. The other half is Summer fallowed. The 160 acre farmer will therefore have the crop from 80 acres of wheat as his almost sole source of money income, or, in other words, from 25 bushel land he will have 2000 bushels to market. If he receives 63 cents a bushel and if the cost of raising the crop, for seed, horse feed, plowing, harrowing, seeding, harvesting, and taking to the railroad depot or the warehouse, with taxes, and an allowance of six per cent interest on his purchase price of \$2400 for the land, be taken as amounting to 35 cents a bushel, he has a margin of 28 cents a bushel or \$560. Besides the \$2400 for his 160 acres the farmer must have invested in his one heavy and one light team, in plows, harrows, binder, drill, wagons, harness, etc., not less than \$750. So that his investment for wheat farming only will reach about \$3100 as a minimum figure. The return

therefore in a normal year, with no untoward accident or losses, shows well. There is a good per cent on the actual capital invested, and during a good many months out of twelve the wheat farmer has a very easy time. But the farmer must also see the other side of the picture—namely that the profit of \$7 per acre applies only to the one half of the land which is in wheat in any one year. Therefore the inference seems plain that the full success of the owner of 160 acres of wheat land, and no more, depends on his bringing the idle half of his land into producing. Also, no one of the smaller sources of income must be neglected. The poultry yard may be as profitable in Eastern Oregon as in Western. Hogs must most surely be grown and fattened. The spilled grain after the wheat harvest is to this a most important means.

But the main point seems to be in the successful growing of field peas, and other leguminous plants. Much of the land in this region will also yield corn and good corn, too. Many excellent samples were shown of the crop of 1903, well filled and well ripened. 30,000 bushels from 1000 acres was reported from Athena in this region.

These open rolling hills and undulating Valleys—where neither mountains, high hills, forests, nor wood land obstruct the eye's free range from earth to heaven, and from the ground one treads on to the clear horizon, where the air is bright, the sun undimmed by cloud—appeal to the visitor from the wide prairies of the Middle States. And such an one need fear neither cyclone, tornado, nor blizzard. Variations that in Oregon we call extreme would be known as gentle vicissitudes in the less favored States nearer the center of the continent.

Naturally when we are dealing with larger areas and higher priced lands, constituting more costly investments, out of reach of the new comer possessing five thousand dollars or less as his fortune, the profits rise. But the same axioms retain their force. Get all out of the land you can without

misusing and robbing it of its fertility. Diversify the products.

No land owner in North Eastern Oregon, or the basin of the Columbia can afford not to be interested in an enterprise maintained as it is for his special benefit without fee or reward.

The Experimental Farm and Station at Union in Eastern Oregon of the State Agricultural College demands a visit from the new comer to this district if possible, before settling down to work his land. His time, trouble, and expense, will give him a manifold return.

Twenty-five years ago pessimism pervaded all farming operations. "Clover won't grow." "Vetches won't grow." "Alfalfa won't grow." Even "barley won't grow," were the dejected assurances. The spirit of the men at the head of these Experiment Stations gives nearly the same words, but differently arranged and with an opposite accent. "Won't clover grow?" "Won't vetches grow?" "Won't alfalfa grow?" "Won't barley grow?" Of course they will, and do wherever in Oregon the means are fitted to the end.

Inasmuch as the great fruit growing industry, of the Columbia basin, including Hood River and the Grand Ronde falls naturally to be dealt with later on in the chapter headed "The Orchard," it is passed by now.

We now take up the eight Counties of the Willamette Valley and the farm industries already followed and desirable to be introduced or extended on this fertile and desirable tract.

Here, if anywhere, is the home of mixed or general farming.

Many small tracts are, it is true, devoted to the orchard or the hop yard, but the larger area by far is held even now in farms of sizes ranging from 80 acres to 640 where general farming is the object. In the present condition of things

a great change, or process of evolution, is going on in both aims and methods.

When we arrived in Western Oregon twenty-five years ago farming appeared to be in its infancy. An owner of one of the old Donation Land Claims, taken up in equal parts by himself and his wife, to the total of 640 acres, was generally comfortably housed. Near the house was a big barn, often log built, with piles of old manure accumulated along both sides, the cattle having been fed there during the preceding winter. A chicken house, and a hog pen completed the buildings, sometimes a granary, and very seldom a root and potato house were seen. Nearby was an orchard of big untrimmed apple and pear trees, with an occasional cherry and plum. Moss hung from the branches in long festoons. Fenced with a picket fence close to the house was the kitchen garden with plenty of berries and vegetables in due season.

The wheat field, perhaps a hundred acres, or a hundred and fifty, was fenced off by a snake fence from the rest of the mile square that made up the farm.

The residue was "pasture." Untouched by man, innocent of clovers or tame grasses, undrained, here a clump of wild roses, there by the creek a row of slender willows, covered in Summer with the yellow blooms of the wild sunflower, in Winter the water standing in broad shallow pools over the wide surface, the resting place of abundant wild ducks.

The wheat field yielded its crop every year. Only the advanced farmer in those days had got far enough to summer fallow half his field. Over that summer fallow straggled twenty or thirty sheep. On the pasture the few cows kept themselves. But there were always a few acres, more or less, fenced off where the winter's supply of hay was raised.

The house was marked by a rough but very kindly hospitality. The door was open to the stranger, who was welcome to the best there was.

The wheat yielded all the way from twenty to forty bushels to the acre, and the day seemed very far off when the fields' fertility needed either sparing or refreshing..

The better farmers, who kept more stock, whose wives sold or traded butter at the stores, who had hogs to sell in winter and a steer or two in summer, they kept out of debt and even prospered. But their desire and habit was to add field to field, one half tilled farm to another.

Time passed. The constant checks on the bank of Mother Earth, draining an account never filled to meet them, were gradually brought if not to total dishonor yet to more and more partial payment.

The forty bushels an acre fell to thirty and then to twenty-five. Then came the bad times of the early 90's, which have proved to Western Oregon blessings in disguise. Debts were called in, mortgages foreclosed. Overgrown holdings broken apart, and the 640 acres chopped in four. Better still, intelligence was set at work. The variety as well as the quantity of crops came to be considered. To maintain and even restore the fertility of the soil was recognized as a duty possible of performance. The classes of the State Agricultural College began to fill up with both boys and girls. Farmers' Institutes were welcomed here, there and everywhere. The impulse given by the far seeing man fortunately then set in the place of authority in the great railroad which reached and connected every County in Western Oregon towards the dairy industry, till then a stranger in the land, was felt, appreciated, and passed on from one community to another. So a change was wrought. Not entirely and everywhere has the invitation and stimulus been accepted. But the facts are here to show that for general farming on the Pacific Slope the Willamette Valley of all places calls most loudly both to the younger generation rising or risen from her original inhabitants and to the stranger from far distant States. The methods, cost of development and advantages set forth in the following pages

are described by those actually doing the work, and who have most kindly and with much thought and care responded to the request for accounts of their actual experiences and for advice founded thereon.

From a careful study of all their papers certain deductions are common to all and may be taken to present, first, recitals of actual experience, and second, a consent of opinion as to the best methods for others to adopt.

All these authorities agree that the most successful man is not he who has most land, but he who so balances his possessions in land with his working capital as to make the fullest and most constant use of the land which is his fixed capital. Another method of stating an old axiom "Own no more land than you can fully utilize."

A second point of agreement is to try to use up on the land itself as much as possible of the raw material of its products. To send off it, that is, the finished material.

A third point of agreement is in recommending the use of improvements even if costly to obtain, and this whether in new crops, better appliances, better buildings, but chiefly in the use of well bred, even thorough bred stock.

Having in mind, then, the new comer who has, it is to be hoped, become the owner of a 160 acre farm in one or other of these eight Counties at a reasonable price and having reserved funds enough to equip his farm properly and fully, the question was put to these several authorities:

1.—To what uses should the land be put to get the best returns, with, say, one hundred acres in cultivation, and 60 acres in timber, brush, and rough pasture?

The fullest reply is as follows:

"To secure the best returns, with a view to maintaining the productive capacity of the farm at the same time, I would plan to keep all the live stock the farm would carry, and make live stock and their products, as quickly as possible, the only class of products sold from the farm."

Another reply is to this effect, "On the brush land I would put goats, or sheep and goats, and, if the intention is to improve the land later I would slash the brush down and burn it later.

The next question was:

2.—What kinds of live stock, and what proportions of each should a new comer obtain to put such a 160 farm into most productiveness at the earliest date?

The answers vary slightly. They agree in advising from 8 to 20 milk cows, from 15 to 25 sheep and a similar number of goats for the brush land and wild pasture. All agree on 3 brood sows, and not less than 3 dozen chickens. One adds "three good horses." This I feel sure is the smallest number our farmer should obtain.

This amount of stock, be it remembered, is to start with.

One answer says, "If the owner desires to intensify his farming and does not fear the hiring of necessary labor his farm will easily carry 50 cows."

The third question was:

3.—What has been your experience in the use of forage crops during the last five years? Which succeed best and yield the best returns? Have you tried alfalfa on un-irrigated land, and with what result?

The replies come to this. Forage crops must be relied on for successful live stock husbandry. All agree to recommend vetches, red clover, and corn for ensilage and for Winter feeding. Most say that rape yields a wonderful amount of nutritious food, good for hogs, sheep, young stock of all kinds, and, if fed cautiously, for milk cows also. Field peas are also strongly recommended.

A note may be inserted here that this vetch seed is sown broad east, one bushel to the acre between May 1st and July 1st. One correspondent states that he has sown 78 pounds of field peas and 66 pounds white oats to the acre with suc-

cess, but adds the caution to drill in the peas, to save the seed from the birds.

Red clover takes from 8 to 10 pounds to the acre and is best sown in this district between the 1st and the 10th of March. As to using the rape the advice is to pasture off reasonably close when it has made its first growth. Then turn off the stock and let it grow up again, and, if the ground is not too wet, repeat this until the following Spring, when the plant is either plowed up or let run to seed.

Corn is recommended by each and all for ensilage. One correspondent says that he raises it every year for fall feeding also.

A question as to the advisability of a silo brings out a consent of opinion in its favor. As to size one recommends a silo 16 feet in diameter, 30 feet high. Another two round stave silos 10 feet in diameter by 20 to 24 feet high. A third 10 or 12 feet diameter, and from 24 to 36 feet high.

The farm we have in mind is supposed to have 100 acres in cultivation. To what crops and in what proportions this should be apportioned is a matter which has brought various replies, but all based on the principles before stated, and all tending to provide for the largest return from live stock on the farm.

A well recommended division follows:

5 acres for buildings, yards, family garden and orchard. This includes some small fruits and vegetables in excess of family needs. A ready market is found for the surplus in every neighboring town.

5 acres near the house to be sown down in tame grasses for a pasture lot.

5 acres in field peas for hogs.

5 acres in rape.

3 acres vetches for early forage

15 acres field peas and oats, part for mid-Summer forage, the rest to be harvested when ripe, grain to be chopped for

cow feed, the straw to be used for cows, horses, and sheep during winter.

7 acres corn for ensilage and for late forage.

10 acres in wheat, for bread, chicken feed, hog feed and for seed.

10 acres oats for horse and cow feed, and seed.

15 acres barley for fattening hogs.

20 acres in clover. The clover will average about 3½ tons hay to the acre. On wet land alsike clover is found to be superior to red clover. A second crop can usually be relied on, which is either left and used for pasture, or kept for seed.

One of the questions was as to the amount of hired labor the farmer should provide in addition to his own. The replies agree on one hired man at from \$25 to \$27 per month and board, if cows less than 20 in number are kept, and two if 30 cows are to be cared for. But in addition one extra man at \$1.50 per day will be needed at harvest time.

The question as to the nature, quality, and pay asked for suitable labor for farm work is variously answered. One says it is not easy to get for the past two years, another that good labor is scarce, a third that he has not had difficulty in getting good American labor for \$25 a month in the Winter months and \$30 through the Summer months. All agree on the scale of prices.

Now comes the critical question. On the answer depends whether the new methods demonstrate their superiority in the vital point of money in the pocket.

The uniform question was "What monthly return per cow can be depended on through an average year in case of milk separated on the farm and cream shipped to the creamery or milk sold to the condensed milk factory.

The answers show a satisfactory agreement. They are that the sum received from the creamery averages from \$6 to \$8 per month for each cow for the year round. The answer goes on to say that the skim milk, separated on the

farm by the hand separator is worth \$7.50 to \$8 for calf and hog and chicken feed. One farmer is careful to add that these figures, based on the returns from an average but not an A1 herd, show \$8 per cow for ten months in the year.

On twenty cows the monthly checks from the creamery will total to \$1440 on the lower figures. The heifer calves will have been raised, and in a year will be worth \$14 each or for ten of them \$140. The steer calves will have been sent to the butcher, and at from 6 to 8 weeks old will have returned \$8 each or \$80 for the ten. The hogs will show a return of not less than \$10 a head if kept to 12 months old and then sold to the butcher. And there should not be less than 20 to be so sold, or \$200. But farm raised and cured breakfast bacon has been worth to the farmer both in the big city and in the stores of the country town not less than 15 cents a pound for several years past, and the hams 17 cents. In Portland we are now paying for such breakfast bacon 20 cents a pound and this has for a long while been the standing price and shows no sign of decrease.

The above items of annual return from the Willamette Valley farm of 160 acres added together show \$1860.

There are the sheep, goats and chickens still to be taken into the account.

Turning to the chapter on the sheep and goat industry it will be found that the returns from wool of 25 sheep will be \$25 and from the mohair of 25 goats \$37, together \$62 more.

The farmer's wife should bring in \$100 from the chicken industry with very little labor and trifling expense. Fruit and vegetables sold will give some pocket money unless a special feature is made of the orchard. For information on this head the reader is referred to the chapter on "The Orchard."

In the farm balance sheet the farmer can also credit himself with the increase of live stock. This should be ten heifers, 20 lambs and 17 kids—to give conservative figures.

And one colt at least should be found in the pasture to add to the total. Labor and taxes will represent the principal deductions to be made.

Always be it remembered that under such system and management the farm will be on the up grade of fertility and its value will be a rising quantity year by year.

If any part of the farm is suitable for either valley or upland hops advantage should surely be taken of this. A chapter on the hop industry will be found later in the book.

Many farmers no doubt will be found who are not anxious for the constant care, labor, and personal attention necessary for success in the lines above described. If they desire to make either cattle, sheep or goats the main features of their farming they will find a chapter devoted to these most interesting and paying industries.

The Experiment Station at Corvallis, cut 17 tons an acre last year of green alfalfa off a field in its second year, and all looks well this year. I have heard of other progressive farmers who have fields which look well, now in the second year.

From knowledge of the successful growing of this plant both in France and England on land far poorer than ours I am convinced that Dr. Withycombe is right in saying that alfalfa can be grown on any average un-irrigated farm in Oregon, but provided always that the land is either naturally or artificially subdrained. When alfalfa roots strike down into a soddened, water saturated subsoil, at any distance from one to two and a half feet below the surface the plant will dwindle, languish, and probably die. Of course the surface soil must be thoroughly clean and pulverized, well cultivated, and the seed brushed in thoroughly in early Spring when the ground is in a proper receptive condition. The worth of this forage plant, which does not need renewing every second or indeed every tenth year, is so great that repeated efforts should be made, even in the face of the first failure, to ensure success.

It is not to be understood that the foregoing suggestions apply only to the Willamette Valley. Very far otherwise.

There is hardly a district in all Oregon in which a man of common sense has bought a farm of 320 acres or less, where diversity of crops, leading straight to diversity of products for sale cannot and should not be applied.

In the Coast region, the next of our five coming in for special notice, nature has done even more for the settler than elsewhere. But so far art has hardly done her part.

Conditions of soil and nature of ground differ so widely from both the open hill sides, clear valleys, and rolling prairie lands of North Eastern Oregon, and no less from the gently rolling surface of the Willamette Valley, that no parallel of values or productiveness can be drawn.

The size of the little Valleys interspersed everywhere between the fern, brush, or fir timber covered hills, differs, but whether the Valley be of fifty, of five hundred or a thousand acres, the kindly alluvial soil is borne witness to by the luxuriance of the natural vegetation, and not less by the size and beauty of the cultivated plants. The clovers adapt themselves so quickly to this soil that the tame kinds grow as freely as the small wild varieties that are there found.

Through a red clover field ready for cutting it is hard for men or horses to force their way. The plants grow from three to four feet long, succulent and tender through the full length. All the tame grasses grow correspondingly well but have to fight for their lives with both the wild or half wild grasses with which all the Valleys abound.

The character and intrinsic value of each of the smaller districts which together constitute the Coast region depend on the accessibility to and the influence of the bay, estuary, river, and water course, to which they are tributary. But the selling price of the land is chiefly governed by the nearness to and the nature and cost of the transportation advantages.

It is needless to go into detail regarding the South Western Oregon Counties. So far as fruit lands go the reader will find information in the chapter on the orchard. Dairying is a very important interest, dealt with in a separate chapter. The stock man will find separate reference to cattle, sheep and goats.

The stock ranches in these Counties vary from 640 to 5000 acres in extent. In each case an average of from 200 to 500 acres of level bottom lands lends itself to all the industries of the general farmer above described. The balance, consisting of rolling and hilly grass pasture with scattering oak and fir trees in this district, dries up occasionally in the Summer months. Consequently a new comer must see to it that in his purchase he gets a reasonable acreage of the Valley land to which the drying up does not apply.



The Stock Industry

CHAPTER V

THE STOCK INDUSTRY

This chapter is devoted to some account of the stock industry. The information here condensed and abstracted has been contributed by experienced and successful stock men in the several industries in response to practical questions addressed to them.

Taking then cattle first—the breeds for dairy purposes being excepted. Obviously there are two main divisions. The first, the great cattle and sheep ranches of Eastern Oregon.

Here the conditions resemble similar enterprises in Montana, Idaho, Wyoming, based on the ranging of stock over immense tracts of open government land surrounding or accessible from the central ranch, with its buildings, hay and alfalfa fields, and fenced pastures.

For the stock ranches of Western Oregon either Shorthorn or Hereford cattle are used, the Shorthorn for general purposes and early maturing, the Hereford for heavy beef cattle being generally chosen. Very many farmers owning from 320 acres up carry from 25 to 50 cattle as one of several industries of the farm, the larger the number as out range on the foot hills, or lightly wooded lands not yet taken into individual ownership, may be accessible.

From such ranches the local buyers for the Portland and Puget Sound markets obtain their supplies, grass fed steers from July to December, and stall fed in the late Winter and Spring. These dealers make the round of the ranches, taking a few here and there delivered either on the ranches or driven to the nearest railroad station and held there until there are gathered the 22 to 24 to make the carload.

The prices for 3 year old steers have for the last few years ranged from $3\frac{1}{4}$ to $4\frac{1}{4}$ cents per pound on foot, the

weights being from 1100 to 1300 pounds gross. For cows and heifers about $\frac{3}{4}$ of a cent to $1\frac{1}{4}$ cents less per pound are given.

During this year 1904 the prices of both cattle and sheep for the butcher have been seriously, and unreasonably depressed. Meat in the cities has maintained its full price. The stock raiser has been and is the sufferer. An unusually dry Summer and a short hay crop in Western Oregon generally, has scared many into offering, and indeed pressing their stock for sale. Not only these weak settlers but their better provided and long sighted neighbors, are suffering by the consequent fall in prices. Every authority concurs in the belief that a corresponding rise will soon be felt. It is the time to buy, not to sell, young stock. It is a very safe prophecy that the wisdom of those who boldly follow this course will soon be acknowledged.

The cattle in the Coast Counties are often kept until late in December, when they have had the benefit of the growth of the grass and clover which starts vigorously with the first fall rains.

The methods now followed by the more provident and foresighted of the farmers on all these ranches in Western Oregon are to secure silage, roots, clover hay, and chopped grain on which to winter the cattle, and sell them at top prices between February and the end of April in the succeeding year.

For young thorough breds (registered) the following prices may be stated:—for males \$50 to \$150: for females \$40 to \$110.

It surely pays the average farmer to raise well bred, not necessarily registered stock. The latter is a separate business requiring more capital, a special and generally accessible location, and a recognized name and reputation.

The new comer can safely pay for males \$50 to \$75; for females \$30 to \$40 to start his herd.

This year, calves of fair grade can be had for about \$10. Yearlings about \$14 or \$15; two year olds from \$17 to \$23.

To the question "does it pay the 160 acre farmer to devote himself to cattle raising as a separate question from dairying on a Western Oregon Valley or foot hills farm?" Answers were returned of which the following agrees with the experience and observation of the writer, "Yes, with out range for summer, and straw and hay to help out the winter feed, but the acreage suggested is rather too small."

Turning then to sheep.

The industries in Eastern Oregon and in Western Oregon are no less widely apart in location than they are in breeds kept, in methods and management. It is generally known that the Merino varieties thrive and are most profitable under the conditions of food, range and management found in Eastern Oregon. Many fortunes have been and are being made. I have known several men who went to Eastern Oregon to "herd sheep." Starting as hands paid by the month, and found faithful, they have been trusted with bands of sheep on shares. So they have got together bands of their own, to be, in a few years numbered by the thousand. The risk they cannot escape is that of a severe winter and early blizzard which has come twice in my recollection to kill off their profits. Reserves of hay are nowadays put up by the provident sheep men to guard against this danger.

The sheep ranches are ever encroaching on the cattle ranges, pushing them further to the South and East.

In the Summer great bands are driven up to the Eastern slopes of the Cascade Mountains. There under the shadow of the sparse firs and pines the herder camps. The grass is rich and plentiful, no underbrush spoiling the free range. Before snow time comes the sheep are taken back to the neighborhood of the ranch, or else to the open lands which have been saved through the Summer months.

In Western Oregon there are few sheep ranches properly so called. Most of the sheep are kept in flocks of from 50

to 300 head by men who recognize the value of this stock but are also engaged in other industries. To the question of the best breeds to be kept and why, various, and differing replies have been made. By common consent the Merinos are excluded, and the decision is to be made between the long woolled Cotswolds, Lincolns and Leicesters, and the close woolled Shropshire and Oxford Downs.

One good authority who has run a flock of from one to two thousand sheep for a good many years, and has made a study of the different breeds, writes, "The best breeds are the Cotswold and any other of the long or medium woolled sheep because the heavy mutton and the early lambs are the most profitable points in the home demand. These larger breeds come to maturity earlier, and the grasses and the climatic conditions of our Valley and foot hill farms are the most favorable to them."

But another experienced man writes in reply to the same question, "Cotswolds are best to keep in small bunches on rich land, but Shropshires are best for the foot hills, and are, I think, the most money making sheep for mixed farming."

And yet a third recommends either Cotswolds or Oxfords as hardy, and making good wool as well as mutton sheep.

My own experience for ten or twelve years on a hill and valley farm, where open spaces of rich grass were interspersed with many patches of brush and briars, is this: We started in with 100 ewes of mixed breed, the sheep of the country, showing some Merino blood. Obtaining good Shropshire bucks, and changing them every year or so and cutting out the original stock from time to time, the flock gained Shropshire blood and appearance and in ten years' time would have been called by that name. But the general wool crop did not gain in average weight nearly as it should have done. For mutton purposes no fault could be found. I consulted Dr. Withycombe, at the Agricultural College, on whether I should sell off the Shropshires and start afresh with Cotswolds. Before answering my question he took me to

the College model groups of both these breeds. It had been raining heavily for many days. Grasping the fleece of a fine Cotswold the Doctor made me remark that off the long straight wool the rain had been shed and the fleece held but little water. Taking then the nearby Shropshire, a most beautiful sheep, the close curled fleece held I should think half a pail of water. Now, said he, your hilly climate is not any drier than ours, and your pasture and range I know are brushy. If I were you I would change the Shropshires for Cotswolds. And the advice was, I think, good.

The 160 acre farmer is recommended by all my correspondents to keep from 25 to 40 sheep, graduating his number in proportion to the area of brush land and rough pasture he has, and to the number of cattle he can run, and having always in mind the feed conditions at his disposal.

Shearers can always be had, who receive from 6 to 7 cents a head. Several shearing machines have been brought into Western Oregon, so that there is no probability of an increase of cost on this head.

Mutton sheep and lambs for the city markets are always in demand at good prices. Spring lambs have recently been sold at from five to ten cents per pound live weight.

Two ways of selling the wool are in common use, one to sell individually and locally, the other for a number to combine and pool their wool. In the latter case a slightly advanced price is often obtained. One large sheep raiser writes, though, "I always sell my own wool, and generally direct to the manufacturer. Having for the past 20 years had my wool carefully packed the manufacturers who have bought it are ready to pay somewhat over the local market price."

My own experience confirms the general expression that you can depend on at least \$1 per sheep for the wool on a series of years. But extra care and well bred stock will certainly raise this average.

One important function filled by sheep on a general pur-

pose farm is that described as "weed eradicators." In this line they share honors with the goats.

It is not necessary here to do more than refer to the rapid increase of the flock. In Western and Eastern Oregon a cent per cent increase from the lambs is looked for. In some selected flocks in Western Oregon, especially in Shropshires, a return of from 110 to 120 lambs to the 100 ewes is not unusual.

While the prices of thorough bred sheep have been gradually rising yet it is safe to say today that bucks of good quality can be had at from \$10 to \$25 per head, and ewes of this class at about the same prices.

It pays to keep the best since the cost of the thorough bred sire is very soon returned in the increased weight and earlier maturity of the progeny.

At the National Live Stock Association Convention recently held in Portland many tributes were paid to Oregon by leading stockmen of the country on the high standard reached in the stock breeding business. The following quotation from what Mr. Bates of Ohio said is too apt in this place to omit.

This gentleman, an authority on both sheep and goats of National reputation is reported as follows: "My observations have convinced me that Oregon is the best place in the United States for breeding sheep and goats. With an abundance of green feed and mild climate and every advantage for production of food stuffs to make prime mutton there is no other place to compare with it. Lambing is early and the lambs can have the best of range, stimulating growth and making it possible to grow the largest, soundest animals I have ever found in any country. Oregon is rapidly becoming the breeding ground for the best classes of sheep in the country. It is today the breeding ground for the supply demanded in the Middle States' feeding lots. It may not be generally known here in Oregon but the Willamette Valley is the only place in America where long woolled sheep can be grown successfully. I have seen long wool varieties that could not be

excelled in England, and Great Britain has been given credit for the best in that line. The wool is of the best, fibre clean and long and animals attain greater weight than elsewhere. The sheep breeder's business is in its infancy here and the growers are just beginning to grasp the details that should be adopted and made most of for its future."

I asked one well known small farm sheep breeder, who has gained more than one blue ribbon at the State Fair for his Shropshires, what his opinion was about the 160 farmer raising sheep as a "side show" to his general farming. We have seen what the general farmers have to say about the dairy business as the mainstay of the farm, and most of them suggest a small number of sheep or goats.

This is what the successful sheep man says: "Sheep should not be kept as a "side show" but one of the main things on the farm. They work better with grain growing and fruit raising than any other stock as they can be kept on and improve land that other stock would damage. An average foot hill farmer might have say 40 acres in grain, 10 in hay, 10 in orchard and garden, 50 in rough hill pasture and 50 in timber. From this he could sell, from 20 acres in wheat, 300 bushels and keep 100 bushels for flour, feed, and seed. From 20 acres in oats, 250 bushels to sell and 250 to feed. From 10 acres in hay 15 to 20 tons to feed.

40 head of ewes kept on pastures and stubble, and on growing wheat at favorable times, would yield over \$100 net profit in wool and lambs. Three sows give 15 or 20 shoats to fatten each year. Three or four cows give milk and butter for the house and some extra to sell, and also to sell increase as calves or yearlings. Two good heavy work mares give one or two good colts each year, and with one hack horse would work the farm.

The above stock and grain, with about six dozen hens or other poultry, on a fairly good 160 acre foot hill farm, would make a good living for an average farmer."

My friend stops here, he might have added that he has

himself 27 acres of fine apple orchard now 6 years old, and a row of bee hives from which he sells from \$50 to \$100 of honey every year. Also that his lambs sell for from \$10 to \$20 each.

ANGORA GOATS

The same Mr. Bates of Ohio, from whom I have quoted before, says of the Angora goats of Oregon, "I have never seen better, and they were of greater weight and produce better mohair than those of any part of the U. S., the fibre being longer and of good quality. Having great luster it commands a higher price in the market than is paid for mohair in other sections. The growers of Angoras do not realize that their climatic and feed conditions are so favorable to Angoras, in fact the industry is in its infancy in the Willamette Valley." So much for the best outside testimony as to the general results.

We will now go somewhat into detail. The following figures are reliable, as coming from one of the earliest, largest, and most successful of the breeders of Angoras for profit in Western Oregon.

Good average grade nannies can be bought at from \$4 to \$6 each. Bucks at from \$15 to \$100. The "American Angora," published at Kansas City, and the "Pacific Homestead," of Salem, Oregon, always have the advertisements of a number of breeders.

The owner of a 160 acre valley or foot hills farm, with 60 acres of rough timber or brush land to be cleared off and got into use at the earliest moment, can safely and advantageously use from 25 to 50 head of goats in this work.

The owner of 1200 acres, of which half is rough brush land, can properly put any number up to 500 head on his 600 acres. Any perpendicular fence not less than 3½ feet high, (woven wire and picket, and wire fence preferred). The smaller the pastures the more goats can be kept on the place.

In answer to the question "How do goats prosper if put

on rough land on which are cattle and sheep," the reply is most important, "Goats feed on what is otherwise a total waste. Their principal diet is brush and weeds. They do not interfere in the least with cattle or sheep range, in fact the longer the goats are kept on a range the more grass it will produce."

A mixed band of goats will yield on an average $3\frac{1}{2}$ to 4 pounds of mohair each year. Prices have ranged from 30 to 40 cents per pound during the past four years. Good mohair has not been sold for less than 25 cents per pound for the past 15 years.

The increase from goats, if well cared for, should be 100 per cent from all matured nannies. Kids at 6 months old are worth from \$2.50 to \$4 per head for mixed bunches, wethers and nannies.

A word of practical caution is in place here. Goats need special attention at kidding time. If allowed out in the general wild pasture the nannies will leave their kids "planted" and go on seemingly in entire forgetfulness of them, and the kids will perish. Breeders usually have an enclosed field, open in character, for the nannies, with a goat shed at one side of it. In this space the kids are born. One successful breeder I know well puts a barriade 18 inches high across the entrance to the goat shed, and carries the kids inside. By the time they are strong enough to jump the barrier after their mothers they can be trusted to follow them into the pasture, and will come home with them to sleep. Another way to the same end is to have an outward swinging gate opening from the home field, raised on a board platform about 18 inches from the ground. When going out time for the nannies comes it is a comical sight to watch the mothers jump on the platform and so through the gates, while the little white kids crowd into the dark recess under the gate platform and are left behind by their mothers, loudly protesting.

The kids gain strength and wit very quickly. From two to three weeks usually sees them advanced enough in life

to follow their mothers—from that time on no stock give the owner less trouble.

The nannies will fight for their young ones, and with their straight sharp horns are dangerous to a sheep dog. A valuable collie on our ranch was killed by one determined thrust, as he followed the band too close to their heels.

It takes a band of goats about 3 years to kill out the brush on a slashed off piece, either of oak grubs, or of mixed hazel, cherry, vine-maple, etc. But much depends, of course, on the number of the band and on the time the slashing is done.

I put the question "Is it necessary to feed the goats in Winter or early Spring, and if so on what feed?"

The answer is, "All that I ever feed goats is to slash oak and hazel brush. But at times in Winter I feed to my poorest animals grain or vetch hay. If the owner of goats takes reasonable care of them during the Summer they will need very little feeding in Winter."

As the wether goats are in good demand for brush killers and as the income from their mohair is from \$1.50 to \$2 per head, and as they are useful till 12 or 14 years old it has never yet been found profitable in Oregon to kill them for mutton. But the mutton is of good quality. Many are sold for eating in Kansas City every year at about the same prices as sheep.

HOGS IN OREGON

"Always money in hogs," was the terse answer I got to a question as to this industry here. And I believe it, from observation, reading and experience. Whether on the great wheat ranches of Eastern Oregon, or on the smaller wheat farms of the Columbia basin, it has been found that on the wheat stubbles with the shed grain and round the homestead with its alfalfa hay in the Winter time the cost of raising the hog is scarcely felt. Immense droves are now shipped from those counties every year. I am not certain if the experience and practice of one wheat farmer on a large scale

in that region is a customary one. This gentleman has about 2400 acres of wheat, grown on the rolling hills, with draws or gullies between where moister soil is found. He tells me that a drove of 100 hogs may be kept in the growing wheat—that they confine themselves to the narrow strips in the gulches and close by—that they damage the crop so little that the spoil bears small comparison to the increased worth of the hogs.

In all the regions of Oregon with which I am acquainted the hog is everywhere. Not only a chief item of food, especially through the Winter months, but one of the steady sources of income on the farm. The growth of clovers and other forage plants, and the wide and rapid spreading of the dairy industry, contribute to the value of the hog. Every plant, corn included, on which hogs grow and fatten is found. I speak in fear and trembling lest facts should in some isolated case be found to contradict me, but I believe that serious hog sickness is very rare, destructive epidemics entirely unknown.

It is a surprise to some of our Eastern visitors to hear of two hundred and forty pound hogs at fourteen months old, raised on the clover fields with but one feed of skim milk from the separator house daily, until six weeks before killing time, and then shut up and finished off on mill feed and milk, varied with roots of different kinds. One of the finest droves of Berkshires I ever saw, 140 in number, on a Polk County farm, had been kept and fattened on 12 acres of artichokes.

I gave just now the figures of a very conservative friend as from 15 to 20 shoats from 3 sows, to be fattened each year. Considering the very rapid increase from 3 sows others might double these numbers and be within the truth. One thing in favor of the hog is its steady market value. Buyers are plentiful everywhere.

Into the vexed question of favorite breeds I shall not enter. Berkshires, Poland Chinas, Chester Whites, J. I. C.'s

and others have each their votaries. I have always raised the old fashioned Berkshire, with good success, and know of no superior. Certainly they are excellent rustlers for food in a wild pasture. On our fern clad hills in the Coast Counties the hogs will often select a sunny corner of heavy fern, and literally dig it out, burying themselves in the furrows they dig. I can hardly recommend them to take the place of the goats as land clearers. And, in our country, where the Berkshires run out between meals, it turns one's hair gray to keep the grain field fences "hog tight."

Where the orchard is what is known as a "family" and not a "commercial" orchard the hogs are usually let in when the apple crop is ripe, and fill a useful function in getting away with the "wormy" apples which fall, so preventing the codlin moth from getting in any more of its deadly work.

HORSES

While there are yet a good many bands of range horses in Eastern Oregon the number has greatly diminished during the last few years. The peculiar type of Eastern Oregon horse, which used to be brought over every fall into the towns of Western Oregon and either auctioned off or sold otherwise at low prices is no longer common. He was an upstanding 15.2 to 16 hands horse, weighing about 11 to 1200 pounds, generally bay or brown, sometimes sorrel, rarely gray, white or black. With fair action, good legs, clean and hard. Generally a big brand mark on hip or shoulder disfigured him sorely. As a rule unbroken and four or five years old, with memories of a free youth, these horses were troublesome to break and apt to get into serapes. Now and then one of such horses can be picked up; if they are sound and free from actual vice they are good to buy and keep.

The heavy horses, Clydesdales, Shires, and Percherons are being bred on several farms as an important enterprise which pays well. I endorse strongly the advice on a previous page, for the 160 acre farmer to buy a span of good

1250 or 1300 pound mares. He will have to pay from \$250 to \$350 for them. But they are good property to own. You may expect to sell a well grown three year old colt or filly for about \$80 to \$100. With them as with the cattle and sheep, the mild climate and the long lasting green feed contribute to early and continuous growth, to good constitution and health, to full size and early maturity.

The lighter hack horses are much cheaper. You may pick one up in a country town at any time, paying from \$40 to \$75 for a 1000 pound horse.

The Orchard

CHAPTER VI

THE ORCHARD

Its price and returns in the two great fruit districts of Hood River and Southern Oregon, and in the Willamette Valley are difficult subjects to treat.

It is hard to state any general rule when the results vary so widely in accordance with the varieties grown, with the treatment and care each orchard may have received in producing the fruit, while high prices depend so greatly on the experience, outlay and trouble in packing and marketing.

I think perhaps the best way is to begin at the beginning and describe the cost of creating an orchard, then its culture during its infancy and period of development, the times and rates at which the returns in fruit come in. This information is intended, be it remembered always, for the inquirer as to the possibilities of fruit culture in Oregon, not for the fruit expert here.

Land in either of the above districts suitable for orchards has risen in selling value until from \$50 to \$125 an acre is asked in Hood River for land which may cost from \$50 to \$75 an acre more for clearing, plowing, and putting into condition for tree planting. Not less per acre for such land is asked in the Grand Ronde Valley, and in many places along the fruit belt of the Columbia, but the last named lands will not need the same heavy outlay for clearing.

In the Rogue River Valley similar high prices are also asked for choice fruit land, the highest I have noticed being \$200 per acre. These prices refer to lands of high quality in 5 and 10 acre tracts, and are payable by installments with 6 per cent interest.

The land being obtained the next question is with what trees to plant it. Some years ago prune orchards were set

out everywhere in Oregon, and today an immense area in prunes is paying the owners well, for they are most productive in average years. But there is much harder competition in this business with the products of other states, and especially with California and Washington, claiming, as they do, at any rate equal excellence with the Oregon prune.

The Oregon Yellow Newtown Pippin and Spitzenberg apples reign supreme. Other varieties also grown in the fruit districts here claim and obtain the highest prices paid for those varieties anywhere. So far as experiment has gone very few districts in Oregon, certainly none of anything like corresponding size and advantages, have shown ability to produce apples of the above two varieties to compete with those grown in Hood River and in the Rogue River Valley for size, flavor, perfume, keeping, and ability to stand transportation to long distances.

There is some ground therefore for the high prices of land in these localities.

Less trees to the acre are set out now than was the case a few years ago. Twelve years ago I planted ten acres with trees 20 feet apart, and now if I could bring myself to do it I ought to cut out every other tree. I believe an average distance of 30 feet apart each way for apples, and 20 feet apart for pears would be about right. This means 50 trees to the acres for apples, and 110 pears.

I have before me the price lists of reliable nurseries in Hood River, in the Willamette Valley and in the Rogue River Valley.

The prices range from \$10 to \$14 per 100 for 2 year old apple trees of the following varieties:

Early Fall, Gravenstein. Everywhere.

Winter. Both for Hood River and Rogue River, Southern Oregon.

Baldwin. Esopus Spitzenberg. Yellow Newtown Pippin. Or the following which do well everywhere, and are excellently

adapted to the Willamette Valley and the Coast counties: King, Monmouth or Red Cheeked Pippin, Jonathan, Yellow Bellflower, and Grimes' Golden.

It is well in the Coast counties to plant a few trees of the Newtown Pippins. It may be found, as in the case of my own orchard in Lincoln County, that they prosper.

Various other kinds have been and are being tested and some are quite satisfactory. But the market is a safe guide, and those which I have named can be planted without hesitation.

Let me note here that in planting for market fruit a few good varieties of established market value will be more profitable than the same number of trees divided among a large list of varieties.

The orchardist's aim must always be to have fruit to sell by the carload.

I have said little about other kinds of fruit. In pears, of Summer and Winter Bartlett, and of Winter Nelis and Eastern Beurre, it will always pay to have a fair number. In cherries, the Bing for black, the Royal Ann, or Napoleon Bigarreau are certainly splendid fruit, good bearers, free growers, and produce fruit always saleable and profitable. As much as 26,000 pounds has been gathered from a single acre in Hood River which netted 7½ cents per pound or \$1950 from this one acre.

Experienced orchardists agree that in the fifth year after planting the apples begin to bear—that in the sixth year, under good conditions of location and growth about 1 box to a tree may be counted on, this yield rising to an average of three boxes to a tree in the eighth year. It will be remembered that from 50 trees, 30 feet apart, to 70 trees 25 feet apart will be planted. Each acre of the smaller number of trees will produce less fruit to the acre up to the tenth year or thereabouts, but will rapidly make up and pass the average as the trees attain greater age. So that from six years old trees, about 70 boxes to the acre will be a good yield, to be

increased to 210 boxes to the acre in the eighth year. Many of the earlier planted orchards have for the last year or two been yielding five, or even more, boxes to the tree.

About 400 boxes go to the earload.

From the more valuable orchards in the Hood River and the Rogue River districts the net return to the orchardist has been somewhat over \$2 a box. These figures speak for themselves, and verify the suggestion that it pays to produce the best even if it costs more to put the best into the market.

It follows that the new comer, setting out to buy a grown and developed orchard has several matters to consider.

I should set them in order somewhat as follows:

1st. The district proposed. Are there existing orchards surrounding the intended purchase which prove its ability to produce fruit excellent of its kind?

2nd. The location in the district of the tract. Are the soil and exposure right?

3rd. The varieties planted, their age, and if in bearing their present yield?

4th. The condition of the trees, their evenness, their distance apart from each other.

5th. The cost of irrigation if where irrigation is required, and the facilities for it.

6th. The cost of and facilities for transportation to market. The cost of labor.

7th. The price.

If an orchard is priced at from \$600 to \$800 an acre a stranger is disposed to open eyes widely. But if, as shown above, a return of nearly as much has come in during a single year surprise vanishes.

When the net return to the Hood River grower was given the winter before last as \$2.10 per box on Yellow Newtown Pippins I was in Chicago and made several journeys down South Water Street to satisfy myself of the prices obtainable there. The price was repeatedly quoted by the dealers at

from \$3 to \$3.75 per box. I have been reliably informed that in New York and London similar apples were sold at over \$4 a box.

But all the fruit regions in Oregon are not limited to Hood River and Southern Oregon. I believe it is a conservative estimate that the prices paid to growers in the Willamette Valley and in the Coast counties ranged from 50 cents to \$1.50 per box, or somewhat more as the season advanced.

Picking the apples costs from 2 to 3 cents a box. Boxes cost just about 11 cents each. Packing and nailing about 10 cents.

There is room for great improvement in the returns throughout these other districts by carrying out there the same lessons of clean culture, careful spraying, painstaking picking, and marketing, which prevail in these best known and selected districts.

Many foot hill farmers through the Willamette Valley counties are setting out a few acres of orchard every year. One of the successful ones says that he chose slightly rolling ground with a North Western exposure, but that apples will do well in almost any well drained deep soil, but that low wet soil should be avoided. He adds that potatoes or corn in a small orchard, and oats for hay in a larger orchard can be sown on a strip 12 to 18 feet wide between the trees, such strip to be gradually narrowed, and to stop altogether when the trees are six years old. But that clean cultivation must be kept up between the trees all the time. This point cannot be too strongly stated.

With a few words on strawberries I will close this chapter.

There are many acres in strawberries in the neighborhood of Portland—a good many are grown near Salem, and in fact near all the large towns, for the fruit grows excellently well almost all over Oregon, where either natural water, or conducted water can be given them at the growing season. But the typical Oregon strawberry is that grown and marketed from Hood River and called "The Clark Seedling."

The berries keep in bearing from five to seven consecutive years, and produce from 150 to 200 crates a year per acre. A conservative figure on the return gives \$2 per crate, or \$300 per acre. The prices paid in 1903 for picking was 1½ cent per box and ½ cent for packing, making 48 cents for picking and packing per crate of 24 boxes. Crates cost from 12 to 15 cents. Thus to many growers the return exceeded considerably \$200 per acre.

The actual cost of one large grower of the season of 1904 just over was that the strawberries cost him 70 cents per crate laid down in Hood River to the refrigerator car.



The Dairy

CHAPTER VII

THE DAIRY

So much has gone before on the utility, indeed on the necessity of the dairy, as one of the principal aids to making an Oregon farm, especially a Western Oregon farm, bring its best returns that a chapter must be devoted to that alone, with its attachments of the creamery, the cheese factory, and the condensed milk factory. This I see is beginning to be called the "condensery." I know no reason against adopting this shorter name.

The dairy, as a specialty of the last few years in Oregon is, I think admittedly, the fruit of the knowledge of its advantages and possibilities which Mr. Markham (until lately the General Manager of the Southern Pacific R. R. in San Francisco) when he was Freight and Passenger Agent of the Southern Pacific railroad in Oregon, used every effort to disseminate and enlarge.

The State Agricultural College before that time had adopted it as a special subject and had been provided with the necessary apparatus and implements to teach students. The Director of the Experiment Station, Dr. Jas. Withycombe, and Mr. F. Kent, the Instructor in Dairying had done and were doing their work loyally and energetically.

But the meeting of the 135 prominent dairymen and farmers at the College on the invitation of the Southern Pacific Company, at which meeting Mr. Markham took an active part, convinced me that the movement was in practical hands and would surely spread.

So it has proved. The opinions and experiences given in this book speak for themselves. I trust that this hand book may serve in a humble degree to enlarge the good work.

I have seen prosperity, and the restoration of fertility,

and most gratifying increase of value follow close on the adoption of the dairying industry. Will the conditions of the business today justify its extension?

The first question in such cases always is, Are you working with or against Nature in the effort? The second question, Are you handicapped in the race by superior advantages, natural or acquired, possessed by your competitor?

If the first question is answered by "against nature," then follows the query, "Can you overcome Nature's obstacles and still be in the straight way of business success?"

If the second question is answered "Yes, we are so handicapped," then ask again, can you overcome your handicap and then make a business or commercial success?

In Oregon, and especially in some of the valleys of Eastern Oregon, and in nearly the whole of Western Oregon, is found a typical dairy country. Climate, soil, natural vegetation, abundance of water supply, point to what Nature has done to suggest the industry.

The reasonable cost of transportation to market, and the provision of the various means for working up the products of the dairy as they are actually seen demonstrate that no Oregon farmer can justly complain today that he has not a fair show to get all the returns he can properly expect from the money, thought, study, and industry he puts into the enterprise.

Of all the districts of Oregon probably the Coast country is the easiest in which to carry on dairying and with the least money expenditure.

But in those cases it must be seen that the greater distance and more costly transportation do not over balance these advantages.

As to marketing the products there is in sight no danger at all of over production.

Nor so far is there any indication of trusts or other combinations of capital tending to prevent or obstruct the operation of the natural effects of fluctuation in supply and demand.

On the contrary there is active competition today in the chief accessible markets to secure still larger supplies of the dairyman's product.

Another fact not to be forgotten is that the capital needed to establish and carry on a creamery is not beyond the power of the dairy farmers in any well settled district to contribute. Of this examples have not been wanting.

The recent establishment of the "condenseries" at Hillsboro, and Forest Grove, both in Washington County, will call it is said for the use of nearly 12,000 cows to supply those two undertakings.

Cheese has been imported into Oregon in large quantities up to a very recent date. Indeed today imported cheeses are in demand and sold at many provision stores in the larger cities and towns.

Only a year or two ago California creamery butter was freely sold and in great demand in the Portland market—indeed some was on sale during the winter of 1903 while we were paying for the two pound roll of Oregon creamery butter 70 cents and for a short time 75 cents.

It will be remembered that in some of the opinions and experiences before given there was a consent that the dairy cow on the farm earned for her owner \$6 to \$8 a month the year round.

How, then, should the new comer put himself in line to obtain, develop and work his dairy and get similar results?

Books and treatises in plenty have been written on these topics. The agricultural papers are full of them.

I take two papers, The Homestead, of Salem, The Oregon Agriculturist, of Portland. We do not fear placing them alongside of similar papers in any state in the Union. The Homestead has made a specialty of farmers' essays or articles. Week by week they appear, and, to me at least, are always both readable and interesting.

Here there is not space to do more than give some general advice, and point some warnings.

In buying the farm attention has of course been paid to the dairying facilities. This is assumed.

Plenty of clover, plenty of grass, plenty of water. These can be and ought to be provided everywhere. Without them dairying, to my mind, becomes forced and unnatural, although the special forage plants we have noticed, and silage and roots, take their places.

Given, then, the food the next question is the cow. Based on my own experience I would caution the new comer from attempting to make a good stock cow into a poor dairy cow. Go frankly in for the dairy and put the stock possibilities out of sight. This, at any rate, would have been my unquestioned advice until about a month ago I found Prof. H. T. French, Director of the Idaho State Experiment Station, an enthusiastic advocate of the milking type of the Shorthorn cow. He surely has facts and figures to prove his words. He is carrying conviction into the minds of very many of the Idaho farmers, and I am sure there will be a large demand for cows of the breed and style in question. Prof. French has at large expense secured excellent and beautiful examples for his Station.

So far, however, the cost of these animals is impossible to the average beginner in dairying in Oregon. The grade Jersey is their standard at present, and is seen in all its varieties in about all of the successful Oregon dairies of today.

Such cows, young, and either fresh or nearly so, can be bought at from \$35 to \$50 now.

Neither the Ayrshire, the Holstein, nor the Devon must be forgotten. Each breed has its friends, and excellent examples of each can be found in Oregon by consulting the advertisement columns of the agricultural papers I have mentioned.

The food and the cow being provided the next is the man to work in the dairy. Remember the man you want is a specialist and an expert. You ought not to expect to secure

his services at the cost of ordinary farm labor. You will not get the man for less than \$30 a month and his board. Of course with a few cows to start with the new comer and his family may expect to make a beginning. The results will soon show, I think, that better returns will more quickly come in if the farmer devotes himself to his farming, and a special man takes the dairy work and does little else.

My own experience confirms the opinion of others, that 15 cows are all that one man can take care of, milk and feed.

Many good kinds of separators can be had here and each has its advocates. I have owned and operated the Sharples \$125 machine, which never got out of order, did excellent work, and was quick and easy to clean.

Several of the Baby hand machines, using the milk of from 7 to 10 cows, and costing about \$50 to \$75 are very well spoken of.

Separating the milk on the farm, rather than taking the milk to the creamery to be separated has among other advantages this great one that the calves get the separated milk direct from the separator, and at about the temperature which suits them.

If I were arranging the separating business once again, I would have one set of troughs directly from the separator house to the calf barn where the calves in their stanchions were waiting for the milk, and another set of troughs to run milk directly to the hog pens.

I have grave doubts myself if the extra price paid for the whole milk at the condenseries makes up for the loss of the separated milk on the farm and its fertilising value.

But I see that it is suggested that the purchase of extra foods from the surplus price of the whole milk paid by the condensery evens matters up.

If proper appliances, such as a cool, screened spring house, are available in which to store the cream cans the creameries have no objection to getting the cream only twice a week. The railroads have made arrangements for collecting the

cream cans at their stations and returning the empty cans, and their freight rates applying to all places within certain zones of production and delivery are very moderate. In our own case, where the railroad depot at which we delivered the cream was about 120 miles from Portland the creamery paid us per pound for the butter fat in our cream Portland prices for butter less $2\frac{1}{2}$ cents. Our receipts per pound ranged from 17 cents in summer up to $27\frac{1}{2}$ cents in the winter months. The creamery supplied the cans.

To the small farmer, milking five cows or less, and unable to provide a separator, home cheese making is a perfectly possible and a profitable pursuit. When we were in a condition to do this our first step was to write to the Agricultural Bureau at Washington, D. C., and ask for the farmers' bulletin on cheese making. We received it almost by return mail. A pamphlet of, I think, about 40 pages, it was so simple, direct, condensed, and free from technical terms that it was a pleasure to study it. With the exception of a couple of wash boilers obtained from the tin shop, one half an inch smaller in diameter than the other all the apparatus was made on the ranch. It consisted of a press made from the tin of a coal oil tin, with perforated sides, a plunger fitting the press cut from a young fir tree stem, and a lever about 5 feet long with a 7 pound weight to hang on the free end of it to supply the pressure.

A dairy thermometer, costing 35 cents, (an absolute necessity), a box of rennet tablets, and a bottle of cheese coloring completed the investment.

We made about one 50 cent cheese a day, and received from 11 to 14 cents a pound for them.

The average farmer in Oregon, I think, fails to appreciate the ease with which excellent cheese can be made on the farm, and its value both as a food, and as one of the many ranch and farm products which can be carried to the store whenever the wagon goes into town.

Portland is becoming an exporting center of importance

for dairy products. I heard of one butter shipment of 70 tons. Both the Oriental and Alaska markets are large consumers.

I consider that there is not the slightest chance of the supply over running the demand for many years to come.

As so much has been said about the silo and ensilage I will close this chapter with a condensed account of both.

While the special use of the silo is to provide most succulent food for dairy cows during the dry and the winter season ensilage is a valuable food for all classes of stock. The writers whose opinions have been previously quoted all use it in connection with the dairy.

The silo should be graduated in size by the following table which allows a daily consumption of 40 pounds per cow on a removal of two inches in thickness off the entire surface of the enclosed ensilage. By actual experiment at the Agricultural College it was determined that this quantity was about the best to use with the least loss and damage to the ensilage that was exposed.

Diameter of Silo. Feet.	Number of Cows.	Diameter of Silo. Feet.	Number of Cows.
6.....	5	14.....	25 to 30
7.....	6 to 7	15.....	29 to 35
8.....	8 to 10	16.....	33 to 40
9.....	10 to 12	17.....	37 to 45
10.....	13 to 15	18.....	40 to 50
11.....	15 to 18	19.....	47 to 56
12.....	17 to 22	20.....	52 to 62
13.....	21 to 26		

The deeper the silo the better, of course within reasonable limits. From 20 to 30 feet is found practical.

The wooden silo, with staves 4 inches wide for silos twelve feet in diameter or less, and staves 6 inches wide for a diameter exceeding 12 feet, and of 2 inches thick for the larger and 1½ for the smaller, is recommended for Oregon where clear fir lumber of these sizes is almost everywhere obtainable at moderate prices.

The shape should be circular, to more easily exclude the air from the contents.

The foundation of cement or well rammed stone or gravel

not less than 8 inches thick. The staves must be held in position and tightly drawn together by bands either of round or flat iron or of wire sufficiently strong to stand the strain. The doors, allowing of feeding from the upper surface, are cut out after the silo is built, at intervals all the way up, and, after their edges are covered with tarred paper, are replaced before the silo is filled. Cut with bevelled edges wider on the inside they are held in place until the inside pressure is removed.

The silo is filled from a door at the top through which the spout from the silage cutter and elevator is introduced so as to deliver the ensilage at the center of the silo and allow its being easily and evenly spread.

The silo should be coated on the inside with coal tar before being used.

When built outside the barn a roof over the silo is needed.

The following estimate of cost is for Western Oregon and will vary somewhat with increased cost of lumber in some other parts of the state.

This estimate is for material only. The cost of labor will vary so much that no general figures would be of use.

Cost of Material for a Silo twelve feet in diameter, 24 feet deep. Capacity, 49 tons:

1 2-3 yards of rock or gravel	\$ 1.00
4 barrels of sand .....	.50
1 barrel of cement	4.75
2,260 ft. 2x4 tongued and grooved staves at \$20 per M. .	45.20
72 ft. 3x6, 24 ft. door frames	1.44
358 ft. 5-8 round iron for hoops and bolts; weight, 465 lbs., at \$3.20 per cwt.	14.88
9 lugs at 30 cents each	2.70
54 nuts at 8½ cents per lb. ....	.60
Preservative	1.50

Total	\$72.57

It remains to notice the material with which to fill the silo and how and when to feed it out.

The Oregon red clover, alfalfa, corn, vetches and field peas are recommended as valuable in the order given. It is a matter for congratulation that the two best are those most easily, cheaply, and abundantly grown. It is desirable to get the material into the silo in its freshest and greenest condition. This mainly to conserve as much water as possible—if the clover or other staff is at all wilted or dried, it will be necessary to pour in water to make up for the loss by drying. Therefore the first crop of clover or alfalfa is the best with which to fill the silo, leaving subsequent crops for hay or seed. It follows that the best way is to cut no more at a time than the wagons can haul to the feed cutter and that machine can cut and deliver into the silo daily.

Clover is best cut when the first flowers are beginning to die, alfalfa when in full bloom, corn when the kernels are glazed, just after the roasting ear stage.

Note should be made that costly methods of covering the contents of the silo after filling have been abandoned. It is well to cover with about six inches of rough grass, weeds, etc.

Note also that while the ensilage is in process of fermentation carbon dioxide is produced. Therefore it is well before entering the silo to ascertain by lowering into it a lighted lantern that the contained air is suitable to breathe. Lost lives have been attributed to neglect of this precaution.

A cow fed 40 pounds of silage a day for 180 days will consume 7200 pounds of silage or about 4 tons of the original fodder, about ten per cent loss being inevitable from the fermentation of the silage.

In calculating how long the silage will last on feeding out 2 inches deep per day an allowance of about one sixth from the total height of the silo must be made, to allow for settling after filling.

A good crop of corn, clover, or vetch will furnish about

ten tons of green fodder to the acre—so that one acre should furnish 3 cows with their daily ration for about 150 days. In other words, to fill a silo holding 100 tons the crop of 11 acres of land will be required.

The above account has been condensed from the Bulletin on the Silo and Silage issued by the Oregon Agricultural College in June 1901, and written by Dr. Jas. Withycombe. Unfortunately this bulletin is out of print now, or a reference would have prevented the necessity of the foregoing pages.



Hops

CHAPTER VIII

HOPS

When the hop crop of a district amounts to about 85,000 bales, weighing from 170 to 190 pounds each and sells this year 1904 for somewhere near \$30 cents a pound it is plainly an interest well worth study.

A very conservative estimate gives the quantity per acre at 1000 pounds. My own correspondents say their returns vary from 1500 to 2000 pounds to the acre.

Some years ago it was thought necessary to select very rich level bottom land for hops, seeking the valleys of the Willamette river and side streams and feeders, or of the Umpqua river and its creeks.

But it has been found that the fertile uplands of the Willamette Valley produce excellent hops. Indeed today it is a matter in dispute which class of hop yards do the best. The upland hop man claims that his hops are the richer and more fully ripened in quality and produced at less expense, because needing no spraying to defend the hops from mold and lice—the lowland hop man says that his hops are earlier by from one or two weeks, and so run less danger of rain.

The industry is therefore open to indefinite extension, and as the Oregon hops are inferior to none in the wide world, a free invitation can be given to extend the area in this valuable crop.

There are hundreds of acres of the rich bottom lands suitable for hops not yet in that cultivation. The prices asked range from \$40 to \$70 an acre. These prices are for acreages of hop lands. Very many of the farms before referred to as general purpose farms comprise from 10 to 50

acres of such land which are included in the average prices of from \$17 to \$30 an acre.

The uplands suitable for hop culture are, generally speaking, those which yield wheat crops of thirty bushels or over—this figure suggests that the fertility of the land has not been unreasonably drawn on.

A new hop yard comes into bearing the next year after planting. As the plants are set out 8 feet apart the land can be used for potatoes, corn, etc., between the rows.

It is stated that the first year or so of bearing the hops will not be of as good a color as afterwards. Not much difference is really found as the fact is usually alleged by the buyer and disputed by the grower.

The ground must be kept clear of weeds. It can be plowed early in the spring and kept worked until the burr is formed. Some growers harrow their yards as late as the first week in August.

Picking time in the valleys comes generally about the end of August, on the uplands the middle of September. On a hop yard of, say 10 acres, about 25 pickers will be needed if a dry house of the medium size is available, dimensions 24x24 feet, drying from 100 to 110 boxes to one kiln filling. The picking of such a yard will last about 10 days, picking not less than 100 boxes a day. The price paid to the pickers on an average of the last few years is 40 cents per box.

The expenses of growing, cultivating, picking, drying, and baling the the hops aggregate from 7 to 8 cents per pound, this estimate being assented to by several successful growers whom I have consulted. When spraying the hops is followed, which has become a usual practice with the valley land hop growers, the cost of this must be added, but this will not make any considerable addition. So far the upland growers have not found spraying a necessity.

One of the most important and delicate processes in preparing the hops for market is the drying.

The following directions may be relied on coming from a successful and experienced grower.

The hops in the drying room must be from 2 to 2½ feet thick. They must be raked level or they will dry unevenly. The ventilator being opened the fire may be started and the heat kept at about 120 degrees for 4 or 5 hours. Sulphur will be kept burning in the furnace room which is under the hops.

After about 5 hours the heat may be raised to 130 degrees and by degrees to 140 degrees. The hops must be carefully watched and their condition must justify the raising of the temperature. When the heat breaks through the hops then the sulphur burning must be stopped. As soon as the hops are nearly dry close the ventilator so as to throw the heat down, to dry the hops on top. The drying process lasts from 16 to 24 hours.

Sometimes the hops are baled immediately after drying. But if sure of the market it pays to keep them open since they take up considerable moisture from the atmosphere and so gain weight. The bales weigh from 170 to 190 pounds each.

The varieties generally grown in Oregon are the "Kentish Cluster," and "Wells Kentish Cluster." As far as appearance goes the Oregon hops will compare favorably with the Kentish and they certainly are in general demand. The crop varies, as stated, between 1000 and 2000 pounds to the acre. The medium, 1500 pounds, is a fair all round crop.

The price for the past two years has ranged about 25 cents a pound; this year reaching 30 cents. Evidently a most profitable crop while prices continue good.

The hop picking time is a favorite outing for both towns people and country people all over Western Oregon. The Indians on the reservations enjoy it heartily. There is a regular exodus from the Grand Ronde Reservation in Polk County and the Siletz in Lincoln County. The road out from the latter passed through our ranch and the procession of wagons, with their dusky occupants, men, women and children all bound for the hop yards, was a long one, every year.

Since I have known Oregon hop yards there have not been the fluctuations in the quantity and quality of the hop crop

which our Kentish experience many years ago had taught us to expect. But the price has varied greatly. It was a curious illustration of Oregon pessimism not many years ago when quite a large proportion of the growers, being dissatisfied with the prices for a couple of years, set to and plowed up their hop yards and planted potatoes. The same year the price rose again, and a sore spot with these men was left for several years.

Hop yards here continue to yield for 12 or 14 years without replanting, if kept well cultivated. How much longer I do not know.

It has not been difficult this last year to rent hop yards to responsible parties. I have heard of two yards, of 22 acres each, in two separate Willamette Valley Counties, one of which was rented recently for \$1000 for the season, and the other paid its owner \$700 for one third of the return from the crop of last year.



Irrigation

CHAPTER IX

IRRIGATION

This subject grows in importance every month. Well stated in an article in the "Oregonian" of April 8th, 1904: "Every addition to the irrigated area means the production of more crops, the raising and fattening of more live stock, the sale and shipment of more products and the purchase of more supplies. The Inland Empire will not know its full power so long as a cubic foot of water flows down through arid wastes to join the Columbia in its ceaseless course."

Copying official U. S. figures for 1902 the number of irrigators in Oregon was 4636, area irrigated 388,310 acres. The value of the crops from irrigated land was \$2,926,606. Hay and forage crops stood for \$2,303,729, vegetables \$280,337, cereals \$438,812, and fruit \$152,042.

Turning now to the relation of the inquiring and prospective settler to the matter of irrigation I will try to suggest to him points in which he, personally, is interested.

The production of such crops as above referred to from land already under irrigation has raised land values from nothing plus the cost of irrigation to the \$50 to \$100 an acre and more now asked for irrigated lands in the Yakima and Palouse districts in Washington and Idaho and in certain valleys in North Eastern Oregon. An enormous increase. What chances are there for the new comer of today to share in similar profits? Where are lands to be had, and under what conditions, which require and can secure irrigation? Remember, I do not desire to say to the new comer, invest so much, and in so many months or years you (judging from what has happened in other regions), can sell out for so much profit. The other side of the proposition is "Take the necessary steps, pay the necessary money, expend the

necessary time and labor, and then, from land now desert and practically worthless you can rely on such and so great returns, and develop property on which you and your family can live in comfort and satisfaction, and which, as you live shall naturally multiply in capital value."

The irrigable as distinct from the already irrigated land in Eastern Oregon is divided into three classes.

1st. Those tracts already taken up for irrigation under the Carey Act, and being irrigated by companies formed for that purpose and under contract with the State of Oregon to do the work.

Settlers on these tracts pay off the lien on the lands they select which has been secured by the Irrigation Company for bringing the water on to the lands, the amount being settled and announced by the State, and in addition pay the company quit rent, (hitherto fixed by the State at \$1 per acre), for maintaining the canals and seeing to the turning on and off the water so that each settler gets his fair share. For the land they do not pay anything, except as above.

The taking of each man is limited to 160 acres. At this time of writing the Columbia Southern Irrigation Company has 27,000 acres covered by its contract with the State of Oregon. On more than one half of this the water has been led, and the rest is expected to be irrigated before the end of the season of 1904. I am told that something under 14,000 acres is yet to be taken up out of their 27,000. This company contracts with each purchaser to deliver the water on to the most available point on his purchase, thence he must construct his own lateral ditches. The quantity of water apportioned to each 160 acres is one cubic foot of continuous flow during the irrigation season of growth. The actual quantity turned on the land of each owner will be controlled by a superintendent for the company, so that the land may not be over soaked, while each man has an abundance. The water for this project is provided from the Tummelo Creek, an affluent of the Des Chutes River, supplied from one of the marvellous constant springs issuing from the flank of the

Cascade Mountains, unvarying in volume, clearness, and temperature through the year.

A larger enterprise is that of the "Des Chutes Irrigation and Power Company," which has absorbed other undertakings for similar purposes. Their head works are at Bend, a new town in Crook County, about 90 miles South of Shaniko, the present terminus of the Columbia Southern Railroad Company. Their plans cover nearly 260,000 acres. About 20,000 acres of the irrigable portion of their lands will be reached by the water this year. Various selections have been made, and they are approximately ready for the tide of settlement to be turned on to their lands at this time. Their water supply is from the Des Chutes River itself, near Bend, a never varying source of magnificent force and volume. The conditions of the contract used by this company do not materially differ from that first mentioned, and I understand that the water is to be actually delivered to some point on each man's purchase. Both these companies have headquarters in Portland and may be referred to there.

The important question not only for these two undertakings, but also for the thousands of acres of land open to settlement in Eastern Oregon is that of railroad transportation.

The Columbia Southern Railroad is at present the only railroad connection this large area has with the outside world. It will be found described in the chapter on railroads. It is sufficient here to notice that the right of way for the extension to Bend has been all but entirely secured, and that early construction is possible. The surveyed and located East and West line of the Corvallis and Eastern Railroad follows through the heart of the whole of this irrigable district.

This now arid land is rich in dormant elements of fertility. Volcanic elements abound which the touch of water combines into plant food. No heavy clearing is needed, sage brush being the chief obstruction to the plow. Once the water is on the land the first year's crop turns the desert into the plowed field.

The law provides that what the settler has to pay for the irrigated land must be determined by the State. In the case of the above irrigation companies this has been done.

The value of each 40 acre plot has been ascertained as between the company and the settler by the State Engineer. The sum has been fixed at between \$6 and \$14.50 per acre, varying with the value of each 40 acre tract in location, and percentage of irrigable land of fine quality. On all land actually irrigated the water rent of \$1 per acre attaches.

There is little doubt that the same methods and considerations will determine the value of the Des Chutes Irrigation Company's land.

The provisions for the acceptance by the State of Oregon of the Carey Act were set out in the act of February 28, 1901.

The 2nd division of irrigable lands consists of such lands of this order as may be within the bounds of private ownership and to which water may possibly be led.

A carefully prepared act was passed by the legislature of Oregon at the session of 1891 for appropriating water for irrigating purposes. An amendment to Section 8 was passed in the session of 1901.

Under these powers thousands of acres have been hitherto irrigated, and many more can be so improved under its beneficent provisions.

Many groups of farmers and stock men have associated themselves together for these purposes. I mention this to draw attention to these powers, which can be availed of by the land owners interested at slight cost.

The third division of irrigable lands consists of areas to be taken up by the General Government for improvement by the engineers of the U. S. To provide capital for such works the National Irrigation law was passed, approved June 17, 1902, under which the money derived in Oregon from the sale of her public lands beginning with the fiscal year ending June 30th, 1902, shall be devoted to public irrigation works within the State. Such lands can be entered under

the Homestead law in tracts of not less than 40 nor more than 160 acres by an actual settler, who must reclaim at least one half of his land for agriculture, and repay to the U. S. the estimated and pro rata amount of the Government outlay. Such sums are repayable in annual installments in not over ten years. The sums so repaid are returned into the reclamation fund.

The U. S. Engineers have already examined large acreages of irrigable lands in Eastern Oregon. But, so far as I am advised, no actual work has yet been undertaken.

To all these arid lands the irrigation is the prime, absolute necessity. No one who has not witnessed the marvelous transformation can credit it. Houses are built, the land is fenced, the rich green of alfalfa, clover, and the cereals replaces the dull gray of sage brush and burnt up grasses; orchards become as if by magic a feature in the landscape. Towns spring up, schools and churches open their doors. Railroad traffic grows. Stock of all kinds rapidly increase.

Recognizing, then, that water is everything let the new comer satisfy himself, not only that the supply is ample and constant, never falling below the absolute necessities of the land, but that his title to the supply is clear, indisputable, and not likely to be challenged. I have indicated the sources of title to water rights. They are easily investigated in Oregon, and the laws are very clear.

The districts in which vegetable growth and the perfection of the fruit crop in color, size and taste are assisted by irrigation are not irrigable land in the full sense. Hood River has a rainfall, almost entirely in the late fall and winter months of 39 inches, and yet no fruit grower there thinks of doing without irrigation through the summer months if it is accessible to his land. The fruit lands of the Snake and Columbia Valleys are dependent on irrigation for success.

Irrigation is also now being pushed in the Rogue River Valley in Jackson County. Several projects, involving very heavy outlay, have been undertaken in Lake and Klamath Counties in South Eastern Oregon, by which several hundred thousand acres will be irrigated.

Transportation

CHAPTER X

TRANSPORTATION

The following condensed account of the railroad situation in Oregon, as it appears in the fall of 1904, must be taken distinctly as of that date. Most of it was written nine months ago, and even in that short time changes have been wrought.

The management of the Oregon Railroad and Navigation Company and of the Southern Pacific lines in Oregon has been consolidated under one responsible head, and Mr. E. E. Calvin was placed in that important position.

It is too early yet to discount the results to the State of this and other pending or prospective changes.

But the following account will serve to put the intending settler in possession of facts regarding the transportation facilities of any particular district in which he is interested.

Entering the state at Huntington, midway on its Eastern boundary, connecting with the Oregon Short Line and its through service to Omaha and Chicago, via the Union Pacific, the Oregon Railway & Navigation Company's line (called the O. R. & N. for convenience sake), runs Northwest to Umatilla, just West and South of the junction of the Columbia and Snake Rivers, a distance of 217 miles. The Union Pacific thus finds its Northwestern outlet. The railroad, on its course to Portland, there turns directly West, but in so doing leaves the starting point of quite a network of railroads, leaving Oregon and heading through Eastern Washington for Spokane in the Northeast, and providing on the way for the needs of a rich portion of Umatilla County in Oregon, and of the far-famed Walla Walla County and Palouse district in Washington.

From Umatilla Junction to Portland the O. R. & N. follows the exact course of the Columbia River, along the North-

ern boundary of Oregon, for 187 miles. For nearly 100 miles the railroad runs through a desolate strip of sandy or rocky river valley, giving but occasional glimpses of the uplying wheat lands, prosperous farms, fertile side valleys, broad cattle and sheep ranches, stretching for many scores of miles over the whole wide expanse of Oregon to the South. For many years the settlers of the interior brought their freight wagons to the railroad stations, with their grain and wool, while their cattle and sheep were driven in great bands in due season to the cars. Of recent years it has been found that with the provision of smaller railroads up first one and then another of the Northward flowing streams, tracing the valleys from the high plateau to the great river, population and trade sprang into being all along this Northern edge of the Inland Empire of Oregon. From Heppner Junction to Heppner, for 45 miles runs one railroad; from Biggs to Shaniko, 70 miles, another. The preparations for yet another from Arlington to Olex are now announced to be far advanced.

West of the Dalles, the Columbia has broken through the barrier of the Cascade Mountains, and the sandy roadbed is exchanged for that blasted out of the rocky margin of the river. Foaming waters, towering precipices, rugged rocks, fern-clad gorges, combine in successive scenes of beauty that receive the wayworn traveler from the East, and never grow old and familiar to the native born. At Hood River the railroad gathers in for both Western and Eastern destinations the fruit products of that fruit oasis.

In following the O. R. & N. to Portland from Hood River, we pass through the Northern end of the Cascade timber belt lying in Oregon. Sawmills abound. The side creeks and waterfalls are harnessed in the service of man, and the railroad is the carrier of its products to both home and foreign markets.

Quite an important lumber industry has also been developed in the Blue Mountain region, between Huntington and Umatilla. The lumber industries along the O. R. & N. are growing fast.

Portland stands at the confluence of the Columbia from the East and the Willamette from the South. The Columbia and the O. R. & N. railroad bring to the shipping there the products of what is rightly and reasonably termed the Inland Empire. The Southern Pacific Railroad and the steamboats of the Willamette River bring to her the products of Western Oregon, to which region we now turn.

When the limits of the City of Portland were last fixed by charter, many jokes were passed at the expanse of acreage included. But the growth of the city, steadily, though silently, pressing on, indicates that they who marked out that area were wise in their generation.

At the Union Depot of the city two great streams of traffic, from the East and South, converge. The freight cars of nearly every considerable railroad in the United States are found in the yards, while in the wide halls and waiting rooms of the passenger depot are passing or sitting representatives of all of the nationalities which have heard the call of the Pacific Northwest.

As the O. R. & N. is the railroad of the North and East of Oregon, and her highway to the East, so the Southern Pacific is the railroad of the West and South. The main line to the South takes the middle of the Willamette Valley to its head, South of the University town of Eugene crosses the divide into the Umpqua Valley, still South, over a rough, dividing, hilly region, into the Rogue River Valley, well called the Italy of Oregon, and so South into the Calapooia Range of division between Oregon and California. Then on South to the Bay City and its activities.

The main line of the Southern Pacific via Oregon City, Salem, Albany, Eugene, Roseburg, Grants Pass and Ashland, connects these centers of population with the metropolis and with each other. The West Side line, of nearly 100 miles, fills a similar function for the Western division of the great valley, and joins Hillsboro, Forest Grove, McMinnville, Independence and Corvallis with Portland. The Woodburn & Natron branch of 93 miles runs along the Eastern side of the

valley, and, after passing through about 80 miles of very rich and well settled farming country, enters the timber district of the Cascades at its Western edge, where several of the very large lumber mills are placed.

Yet another Southern Pacific line in Oregon is the Sheridan & Airlie branch on the West side of the Willamette River, passing from Portland to the Southwest for 79 miles. For some 35 miles it ents through a rich belt of land adapted for and already growing large quantities of hops and fruit, and especially fit for dairying—an attractive district to the small farmer, the fruit and vegetable raiser, the hop grower: in fact for the large class whose money capital ranges between \$500 and \$2500. For the rest of its course this branch passes through larger and more costly farms.

In the region served by the Southern Pacific, and forming the most attractive part of Western Oregon, 166,236 of the people were settled according to the census of 1900 leaving out the urban population of county seats, of 117,306. It is no very bold prophecy to predict a population three times as large when the next decennial census is taken, since ten times the present number would not fill the area to the density of people found on lands of several of the Eastern States.

One of the few independent railroads in Oregon is the Astoria & Columbia River, running along the bank of the Columbia by the Northern Pacific track to Goble and thence on its own tracks to Astoria, and on to Seaside with a branch to Fort Stevens. Its mileage at present 80, but its terminus at Seaside is temporary, and an immense traffic is in prospect whenever it reaches the timber and coal of the Nehalem, and the timber of Tillamook and Lincoln Counties. Its chief business so far has been between Portland and Astoria, the seaport of the Columbia, the headquarters of the salmon fishery industry, which bids fair to be the largest lumber exporting point on the Northwest Coast in the near future.

The only railroad striking across Oregon Eastwards from

the ocean and South of the O. R. & N. and Portland is that known as the Corvallis & Eastern. Starting from the port of Yaquina, it crosses the Coast Range and connects with the West side line of the Southern Pacific at Corvallis, 97 miles South of Portland, thence to Albany, where it crosses the main line of the Southern Pacific, 79 miles South of Portland. From Albany Eastward, through a rich farming country of 30 miles and then, holding its Eastward course up the valley of the North Santiam, this railroad reaches the heart of the great timber belt of the Cascades. It is constructed and running trains for a distance of 133 miles from the Coast. Its pass over the Cascades is entirely practicable, and will open on the Eastern slope of the mountains, whenever extended from its present, temporary terminus, into the immense area of Central Oregon at a point about 90 miles South of the Columbia and of the O. R. & N. line. Thence its course will be in a generally Southeastern direction, following the great depression which takes in the wide irrigable districts of the Des Chutes Valley, of the Crooked River Valley, of the Harney and Malheur Lakes and Valleys, and so down the Malheur River nearly to its junction with the Snake, and to a connection at Ontario or some neighboring point with the Oregon Short Line.

Obviously an easy connection could be made in the Willamette Valley between this line at some point before it commences the upward grades towards the Cascades and one or other of the Southern Pacific roads, thus affording Portland a fresh access to the great timber belt, and, what is yet more important, a new and easy road into the yet untouched Central and Southeastern Oregon. To any one familiar with this immense region of undeveloped resources, and vested with the historic sense of what has followed railroad building into other tracts then bare of population, it is indeed strange that this opportunity has been suffered to lie dormant for so long. This last named enterprise occupies the middle ground of partial completion.

The most promising of the independent railroads in Ore-

gon, from its inception to the present time, was the Columbia Southern, already mentioned in connection with the O. R. & N. Starting from Biggs, a station on the O. R. & N. 108 miles East of Portland, it follows a directly Southerly course, midway between the Des Chutes and the John Day River Valleys, and has reached Shaniko, 70 miles. There a new town of 500 people has grown in a night, and serves as a collecting point for an immense traffic, chiefly in wool and grain. The wool sheds at Shaniko are the largest on the Coast, 450 feet by 100 feet and 150 feet by 80 feet, and in the season filled to overflowing. This road, it is asserted and believed, has paid its way and earned considerable profits, as each section has been constructed and opened.

It was understood that Mr. Harriman undertook to provide \$1,500,000 for the Southward extension of this road for 91 miles, from Shaniko to Bend on the Des Chutes River.

Another railroad enterprise affecting the extreme North-east of Oregon, must not be forgotten. The line between Riparia and Lewiston is to follow the North and East banks of the Snake River, and its extension either Southward to Elgin in Wallowa County and a connection there with the Elgin branch of the O. R. & N. or down the main Snake River toward Huntington is to follow. This improvement is one of the long talked of and promised lines. It seems now to have entered the category of early construction.

The year 1903 saw the construction, completion and opening to traffic of the electric railroad of the Oregon Water Power & Railway Company from Portland to Cazadero, in Clackamas County, the new construction, beyond the former street car line, now covering 35 miles. On the Clackamas River, at the end of this section is a magnificent water power of force enough to provide for operation of a road many miles longer than the section now in question. The huge dam, to supply 20,000 horse power is nearing completion. The structures are solid, the roadbed good, the cars for both passengers and freight modern and convenient. This company looks both to passenger and freight traffic and has laid its line through

a part of Clackamas County which is directly tributary to Portland.

It may be permitted to cast one glance ahead towards the future development of Oregon.

With the increase of population which is certain, and inevitable when the advantages the State has to offer are better appreciated in the East, comes the urgent need of the extension and the improvement of the roads of the state. Not only for the money advantage of being able to haul more, and more cheaply, of the products of the farms and ranges to town, market, and warehouse, but as much for the social benefit to the family. Climate and soil conspire to make movement from and to the farm home unpleasant, tedious, and costly through the moist months of early and late winter. It is true that we do not fear the blinding snow storm and cruel blizzard. Nature is a kind mother to us, but in winter time a very tearful one.

As more numerous, and more energetic citizens are enrolled among us it will be easier to combine for common improvement. An old fashioned sight has been that of a bunch of farmers, pipe in mouth, gently moving a few spadefuls of dirt into the nearest muddy chuck hole in a country road, while they put in their time and that of their teams at the legal "road work" required of them. Much time wasted and nothing done. And still, within a mile or two of every such scene, there runs ever by to waste on that rapid creek the water power which might help to replace that succession of mud holes, only by courtesy called a road, and to operate at nominal cost over its successor, the light electric road, the cars which would save the farmer's wagon and team their crawl to the country town. That kind of road would give him and his family a daily instead of weekly market for butter and eggs and vegetables and poultry and honey and fruit—would carry his children to a good graded school—would aid him and his wife and children to keep up their connection with the church of their young days—would carry him and

them to Grange, Lodge, and Society meeting, and give them access to the books in the library that surely will be a factor in the life of every community here.

What would most of the Eastern States give for the everlasting water powers at our doors?



Timber

CHAPTER XI

TIMBER

The ordinary new comer seeking a home in Oregon is interested generally in the prosperity of the State and should know something of one of its most important industries. He may also be invited to buy land of which a larger or less proportion may be timber covered. He should see how such land should be valued to him, and whether the trees on it are a drawback to the use of the land for agricultural purposes, or if they constitute an asset in his purchase of greater or less worth.

On a colored map issued by the Forestry Department of the U. S. of the State of Oregon, till recently hanging before my eyes, green of various tints indicated the forest covered lands—yellow denoted the treeless area. The yellow would have predominated over the green, had it not been that the great green colored tract of the Blue Mountains in Eastern Oregon more than balanced the distribution, and made credible the published estimate that the wood lands of Oregon cover 54,300 square miles, or 57 per cent of the area of the State. The dark green patches on the map indicated timber of more than 50,000 feet to the acre—a somewhat lighter green over 30,000 feet to the acre, and still lighter color 15,000 feet to the acre. It is poor timber in Western Oregon that does not yield over 20,000 feet to the acre, principally yellow fir, with much cedar, hemlock, spruce, and some pine. In Eastern Oregon, on the Eastern slope of the Cascades pine predominates, the timber is of more scattering growth, and the yield falls until large acreages produce an average of 8000 feet to the acre.

The recent official report to the Government on the timber resources of the State shows about 225 billion feet standing,

or enough to last 225 years at the rate of the cut of 1903. The rapid re-foresting of tracts long since burned over will go some way to make up for any excess in this estimate. I know many tracts in the old burned area now covered with second growth timber up to 3 feet in thickness 5 feet from the ground and not less than 60 feet high.

The Portland saw mills in 1903 cut about 400 million feet. The Columbia River and Coast Counties mills added about 150 million feet to the output. The great mills of the Willamette Valley, and of Southern and Eastern Oregon, certainly aggregated 500 million feet more. So that the estimated 1,000,000,000 for the State for 1903 is well within the mark. There are between 500 and 600 saw mills in Oregon ready for work or operating now, and they employ in the neighborhood of 7000 men. I believe these figures to be conservative.

On the larger scale of yield per acre of timber one square mile of forest will load over 1000 railroad cars with lumber.

The above figures will give some notion of our natural resources and of the rate at which the timber is disappearing.

Who, then, are the buyers of the standing timber?

First, immense areas are owned by the big mills, which enterprises have thus secured themselves against the enormous rise in prices they would have to face if speculators had had full sway. These properties, we may assume, will be fairly consumed as the market demands may justify.

Secondly: Eastern syndicates have bought tract after tract which they are holding in reserve against the not distant time when the Pacific slope will be practically the only forests left within the Nation's boundaries accessible to commerce.

Thirdly: Where timber is near existing mills, and especially above the mills of logable creeks or rivers, the market is there, ready to hand, and such timber adds materially to the value of the property.

The same is true when the timber off a ranch can be cut and delivered at not much expense into a large river on which mills are placed.

Such rivers are the Willamette, Clackamas, Santiam, Yamhill, Mary's River, Mohawk, McKenzie, the Umpqua, Coos River, or almost any one of the Southern Oregon rivers. Specially is this the case where the timber can be got into either the Upper or Lower Columbia.

The timber where the real value is no guide at all to the market value is that held by the small owner, either surrounded by the holdings of large mills or syndicates, or where the only outlet is commanded or controlled at the mercy of the others, and I consider his timber an asset on which it is impossible to set any value at all.

In the other cases, where the small owner has an accessible market, the value of the timber on the stump ranges from 50 cents to \$1 per 1000 feet in accordance with its quality, its accessibility, its density, and with the need of the buyer.

Every ranch of course needs some timber. For myself I would not buy without it in Western Oregon. In Eastern Oregon the first thing a buyer should do is to plant.

Not only for fence and shed buildings and fuel but for protection to stock, the ranch should never be stripped of its trees.

Another interest in the timber supply to the incoming settler is on the side of wages. In nearly all the large timber tracts the logging is carried on during the winter months. Though the work is hard the wages are good, ranging from \$2 to \$3 a day, and for board in the logging camps not over \$4 a week is charged. Many of the new comers do, and many more may, obtain employment for the winter months not far from their homes, and so save quite an appreciable sum to add to the stocking of the farm in the following year.

It may be noted also that much of the logging is still done by ox teams, though the steam engine and wire cable

are found in all the larger camps. For big 4 year old steers and bulls of that or greater age good prices are paid by the loggers.

A word may be said here on the value of logged off timber lands. When the waste and debris of the loggers has been carefully burned off and grass seed sown on the ashes good pasture for all classes of stock is obtained. But it is only in exceptional cases and where the stumps are not too large to be handled that it pays to grub and clear for agricultural or even for orchard purposes such logged off lands. Special fruit districts like Hood River are exceptions because of the limited area of the fruit lands.

I have myself cleared some ten acres for orchard purposes, but the stumps of the big firs, some of them ten and eleven feet across, cost me over 60 cents each for explosives only. It was not a commercial success though the orchard I suppose now is worth a good deal more than the clearing cost. All this means that brush and second growth timber lands it will pay to clear, but not the first growth timber lands with huge stumps and roots. Value such lands at only their worth for feeding or pasture land.



Fisheries

CHAPTER XII

FISHERIES

The same reasons which bring a short chapter on timber within the limits of this book impel me to say something about the fisheries.

The salmon yield of the Columbia River averages a value of about \$3,000,000 yearly. In addition the value of the fisheries of every bay and estuary along the Coast must be taken into account.

On the Columbia River the spring fishery lasts five months, from April 15th to August 15th. In the Coast bays and rivers the dates of the runs vary, the Chinook salmon beginning about the third week in August, and the "pack" of Chinook and Silversides going on till well on in November.

The Columbia River fishermen are banded in "The Columbia River Fishermen's Protective Union," having headquarters at Astoria. For the season of 1904 prices are 5 cents per pound for fish of 25 pounds or over.

There is considerable jealousy against non-union fishermen, and this has been carried to dangerous and law breaking lengths. This extends only to men fishing for profit for others. On all the salmon rivers and bays which I am familiar with the residents and their neighbors find both pleasure and profit in laying in a store which often lasts well into or through the following winter of salt or smoked fish. And many of these residents and neighbors provide the fishing force for the cannery nearby.

I was amused at a letter a month or two ago from a Norwegian correspondent in Minnesota, asking if a "farmer was allowed to catch salmon in the river?" Evidently he had recollections of the salmon river flowing by his old home, where the rent for the salmon fishery by rod and line amounted to more than the value of the farm.

I told him to come to Oregon and catch all the salmon he wanted, so long as the close time for the fish was observed.

The recent introduction of cold storage plants for salmon has added new markets for the fishermen and prevents the dictation of price by the cannery men of which they used to complain. Both Chinook and steelhead salmon are now frozen and in that condition are shipped to the East in carloads and trainloads. A million and a half pounds of steelhead salmon are reported as shipped East in 1902.

Oregon has also established State hatcheries for salmon eggs on several of her rivers. About 60 million little salmon were hatched in 1903. The catching in recent years of marked salmon turned into the rivers four or five years previously has shown not only that the artificially propagated fish live and thrive but that they return in due time to the home of their infancy.

It is not generally known that Oregon produces on Yaquina Bay a most delicious oyster, small in size, but always asked for when once tasted. The fishery has been in existence for many years. Until the Corvallis & Eastern Railroad gave direct connection from Yaquina to the Willamette Valley and to Portland San Francisco was the chief market. The oysters formed a large and the most profitable part of the lading of the lumber schooners that used to ply in a happy-go-lucky fashion to the Bay City.

The railroad now takes all the oysters that can be got and the beds are kept raked all too close to supply the demand.

Some four or five years ago a determined effort was made, in which Prof. F. L. Washburn, then Biologist to the Oregon Agricultural College, now filling that post in Minnesota, was very active and persevering, to transport Eastern oysters from Maryland to Yaquina Bay.

The experiment has been under the charge of Hon. Geo. King, now one of the Commissioners for Lincoln County. He writes a very interesting letter in reply to my inquiries as to

their success. He says, "The Eastern oysters have spawned freely every year, but the sudden and extreme changes of temperature of the water at the critical period when the spawn is floating round in the water is fatal to the experiment so far as the propagation plan is concerned, which was the ultimate result hoped for by the promoters of this experiment. Their idea was to get the imported oysters by artificial or other means to spawn and fertilize in these waters, so that after a few years the first offspring would become fully acclimated and soon be of commercial importance. However the experiment has determined several facts and features of the conditions which exist. First, the Eastern oysters are sexual and it requires nine days for the spawn to fertilize naturally. During this period it is subjected to extreme changes of temperature in the waters here which do not exist in their native waters. Next, our native oysters are hermaphrodite and are already fertilized when spawned." Mr. King adds that they are making inquiries about the Japanese oysters to ascertain if they also are hermaphrodite in type. If so endeavor will be made to introduce them here.

Just now two carloads of Eastern seed oysters have been deposited in the Yaquina Bay beds by a group of Oregon men who hope to repeat in Oregon the success which has followed a similar undertaking at Toke Point on Willapa Bay, Washington. The same authority above quoted reports that the tiny Easterners are doing very well, having already grown an eighth of an inch in their new resting place.

Fisheries for deep sea fish, cod, halibut, and others, are accessible from Astoria, Yaquina, and Coos. This industry invites to greater development.

Schools and Churches

CHAPTER XIII

SCHOOLS AND CHURCHES

For twenty-five years and more I have watched the schools of the state increasing in number, in teaching power, and in cost, so growing ever faster than the people of the State. I have seen the foundations of the higher learning expand more quickly than the common schools. I have seen College and University open their doors more widely to the boys and girls who flocked to them from every county. The State has counted on her people when she has from time to time accepted the gifts of the Nation conditioned on ample provision for their housing and development. Legislatures have bucked and haggled over appropriations desired for better roads and bridges, for the installation of State offices and the salaries of their holders, but for the University, the Agricultural College and the Norman School the purse strings have been unloosed. Not very many of the original school houses, log built and rough boarded, at the cross roads and hidden in the brush at the corner of some field, are left.

Though the wide districts have been divided once and yet again, and the special school tax for the new house has borne hardly on a scattered population and scarce money, yet the burden has been bravely lifted and the neat, white painted, school house, belfry on top, looks boldly out.

In one district of my acquaintance, among the hills, the people met a year or two ago, and resolved that they would have a new school house, and that without a tax. One fetched lumber from the mill, another provided nails, the cross roads store keeper found shingles and paint. All the labor needed was freely given, and two or three spelling bees, and a couple of entertainments of recitals, and songs, and debates, made necessary the suppers whereat the house wives' and their daughters' baskets were auctioned off at a great rate to the

neighborhood's young men and old. So the funds came in, and ere the winter was over the new school house was up and paid for. All honor to those who have made it possible to read list after list of farms for sale in every county in the State and see at the end of each the drawing notice—"School house within 1 mile"—three miles is a rare distance and over that one can hardly be found.

Good it is to me also to read over the "alumni list" of University and College and find the "school teaching" occupation so frequently taken to for the first year or two of individual life.

Bear in mind how young is Oregon—how few the years between this day of steam and electric power, of farm telephones and rural free delivery routes and that time when the white tents and worn wagons of the pioneers were the seeds of our towns and cities, and the smoke of the Indian lighted fires clouded our mountain views. So the hard dry figures of the Reports of our Superintendent of Public Instruction handed to our Legislature at each session become milestones on the way of progress of our State, and to some of us mean more than clearing house returns and growing figures of assessment and taxation.

Here are some of the figures I read:

Number of school districts.—In 1873, 642. In 1902, 2121.

Total amount of school funds:—In 1873, \$184,010. In 1902, \$2,383,074.

Whole amount paid teachers per annum.—1873, \$154,944. In 1902, \$1,317,749.

The number of young people between 4 and 20 years of age, in 1873, 38, 670, in 1902, 138,446. The number of pupils enrolled in the schools, in 1874, 20,680; in 1902, 100,659.

The significance of the last set of figures is seen in the calculation of percentages of school pupils to the total number of persons of school age. In 1874, 53.47 of every hundred attended school, in 1902, 73.42 in other words from a little over one half to somewhat under three fourths. The number

of months of school teaching in the year ranges between 10.33 in Multnomah and 5 in Wallowa County. There are but three counties with an average of less than 6 months' school teaching in the year.

During the same term, from 1873 to 1902, the value of school property in the aggregate has risen from \$322,240 to \$3,561,737.

Although on the up grade the Oregon schools are far from the level land at the top of the rise. The standard of teaching must still be raised and the Normal Schools and the Colleges must be ever supported the more warmly by the Legislatures. Opinions may, and they do, differ as to the subjects to be included in the common school universal course. There is surely a limit to the number of such courses as to the width they cover. There can be no question on the thoroughness desirable in whatever knowledge is to be taught. And it is in the qualifying of the teachers in that respect that I, for one, desire more time and money spent!

The opportunities for the higher education in Oregon are found at various institutions, some established and controlled by the State, others by religious bodies of nearly all recognized denominations.

The table which follows is from the returns furnished to the Superintendent of Public Instruction for the year 1902. Those for 1903 are not yet published.

A short account of the more important follows. Space forbids special mention of the whole list.

NOT STATE CONTROLLED INSTITUTIONS

	Faculty	Students 1902
1.—Albany—Catholic	3	65.
2.—Salem—Catholic	4	99.—1901
3.—Albany College—Presbyterian	10	192.
4.—Bishop Scott, Portland—Episcopal	9	60.
5.—Capital Business College, Salem—Nonsect.	4	99.
7.—College of Philomath—United Brethren	5	60.
8.—Dallas College—United Evangelical	6	117.
10.—Eugene Divinity School, Eugene	3	40.
11.—Holmes' Business College, Portland	8	263.
12.—McMinnville College—Baptist	9	158.
14.—Mt. Angel Academy—Benedictine Sisters	3	216.
15.—Mt. Angel College—Catholic Benedictines	19	128.
17.—Pacific College, Newberg—Friends	6	117.

18.—Pacific University, Forest Grove—Congregat'l.	12	245.
19.—Philomath College—United Brethren	6	86.
20.—Portland Academy—Nonsectarian, Portland	17	368.
21.—Portland Business College—Commerece	18—'01	232.
22.—Sacred Heart Academy—Catholic—Lagrande	7	95.
26.—St. Francis College—Catholic—Baker City	3	183.
27.—St. Helens Hall—Protestant Episc.—Portland	16	177.
28.—St. Joseph's Academy—Catholic—Pendleton	7	200.
30.—St. Mary's Academy—Catholic—Jacksonville	1—'01	61.
31.—St. Mary's Academy—Catholic—Portland	16	310.
34.—Liberal University—Liberal—Silverton	9	52.
36.—Willamette University—Methodist—Salem	47	400.

STATE CONTROLLED

6.—Central Oregon Normal School, Drain	8	89.
9.—Eastern Oregon Normal School, Weston	10	176.
16.—State Agricultural College, Corvallis	30	488.
24.—Southern Oregon Normal School, Ashland	9	120.
25.—State Normal School, Monmouth	14	198.
35.—University of Oregon, Eugene	23	373.

The University of Oregon stands at Eugene, the County seat of Lane County, 125 miles South of Portland, at the head of the Willamette Valley.

The University was founded in 1872 and has the advantage of the U. S. appropriation to lands for State University purposes.

The University Academy is the preparatory department of the University and a part of it. It covers the 11th and 12th grades of the public high school. The University itself is "an integral part of the public school system of the State. " and embraces 13th, 14th, 15th, and 16th grades of the public " school system, finishing the work begun in the grammar and " public schools and continued in the high schools."

The students are of both sexes and come from a wide range, both as to their homes, and as to the studies they desire to pursue.

The University buildings are beautifully placed on a campus of 27 acres, on rising ground, well planted with trees and in view of the mountains on both sides.

The students' expenses vary from \$150 to \$250 a school year.

The faculty is composed of professors of high attainments. The system of education takes a wide range. The tone and spirit of the whole institution is high, and the University spirit prevails.

The President, P. L. Campbell, a Harvard graduate of 1886, was Principal of the State Normal School at Monmouth from 1891 to 1902, and accepted the Presidency of the University for the year 1902-3. The law school of the University has its headquarters in Portland as has also the Medical College. Both these departments are well attended and doing good work.

The State Agricultural College of Oregon is peculiarly the farmers' college. It touches their life at so many points. It gives their children a practical, technical, and yet a liberal education, at nominal cost. By its bulletins freely distributed it spreads the knowledge of its experiments and discoveries among the farm homes of Oregon. By the extending series of farmers' institutes it now reaches in turn every district in the State, even the most remote. By its model farms at Corvallis and in Union County it demonstrates to every visitor the farming methods best adapted to our State, the best crops to raise, the best animals to keep. In its Veterinary and Bacteriological departments it informs on animal and plant diseases, evident and microscopic. In the Chemical department it analyses for the farmer his soils or water and demonstrates the percentage of chemical or commercial products of the farm.

The State of Oregon has an investment at Corvallis of not less than \$250,000 in value, and surely it pays the State excellently well.

The President, Dr. Thos. M. Gatch, is one of the earliest and most widely known educators in the State. The faculty are thoroughly qualified and earnest people. A word may be permitted on the feminine side of the College, probably as beneficial to Oregon as the other, certainly advancing in importance and in general appreciation every year since its establishment 14 years ago under the same presiding genius, Miss M. C. Snell, M. D., whose widely felt influence now reaches and benefits almost all the counties of Oregon.

The Experiment Station has for head Dr. Jas. Withy-

combe. He and the other members of the Station Council hold the farmers' institutes, and in that and in other ways are in direct contact with the farming, stock, and orchard interests of the State. Always accessible, ready to receive and answer written or oral questions no one can appraise the worth to Oregon of the Station and its staff.

The boys here, as in all other State Agricultural Colleges, are under military discipline. Drilled by a U. S. officer almost every day the college regiment, now over 400 strong, shows well on all public occasions, the boys being an exceptionally healthy and well grown set of young fellows.

That their spirit was right was shown when the call came to Oregon for soldiers for the Philippines. I think 32 of the Agricultural College students responded to the summons.

The college buildings and their equipment are second to none on the Pacific slope.

The expenses of the student range between \$140 and \$200 a year, the smaller figure being, I think, by far the most usual. The conditions of admission are that the applicant must be 15 years old, or over, and pass examination in reading, spelling, geography, arithmetic (written and mental), United States history, English grammar, and algebra to quadratic equations. Or from other colleges, so far as the courses are equivalent, an equal standing will confer the right. Graduates from the public graded schools and those who have completed a high school course are also admitted on certain conditions.

The next in number of students is the Willamette University at Salem. This is carried on under the supervision of the Methodist Church.

But in neither this nor in any other of the colleges and academies of the State, so far as I know, are restrictions drawn so tightly as to exclude any students willing to submit to the rules of the school.

The Willamette University has had several vicissi-

tudes in its career. It was proposed to move it to Portland, then to carry on two institutions, one at Portland the other at Salem in its original home. A few years ago a consolidation of the interests of the University at Salem was accomplished, and since that time it has grown and prospered. It has a large faculty, is well attended and doing excellent work.

Perhaps the quickest development in any one of these institutions is seen in the "Albany College," under the fostering care of the Presbyterians. Only a few years ago its numbers of faculty and students had dwindled greatly, and while it was recognized as one of the older colleges of the State, it carried little weight. A young and energetic President, W. H. Lee, was placed at its head, and his personality and work bore fruit at once. Last year it returned 192 students. The boys took a good place in general attainments, and especially in college athletics, and the sense of life and growth became diffused through the college and its connections.

Pacific University, Forest Grove, is developed from Tualatin Academy—I think the first school bearing that now old fashioned name, established by our Pioneers. It is cared for by the Congregationalists, and many of our most active citizens of today are on the list of its graduates. It has kept throughout a distinct flavor of classical learning, and is full of vitality today. It has received many gifts of recent years, and shows new buildings, modern equipment, and gives excellent teaching.

The Catholics in Oregon fill a large space in the field of education. No less than nine out of the 36 in the above list of institutions belong to them. It will be borne in mind, however, that the majority of pupils are children, of child age and attainments, in instituting any comparison based on numbers with the other institutions in the list.

An exception should be made, however, of the Mount

Angel College, 42 miles South and East of Portland, 6 miles from Woodburn and 4 from Silverton. These schools are under the charge of the Benedictine order, the Sisters returning 216, and the Brothers 128, as under their charge. All these institutions are remarkable and well worth a visit. I understand that an estate of 5000 acres is tributary to the college, academy, convent and seminary. The buildings are stone built large, costly, and command wide views, the site being most beautiful.

The State Normal School at Monmouth is the oldest and most extensive of these institutions. Its purpose is almost exclusively the training of teachers for the public schools. In 1902 it reported 200 students. Its necessity is plain in view of the fact that upwards of 600 teachers are now needed annually in the public schools of Oregon.

The State Normal at Monmouth has a history of 20 years of usefulness. Not until 1893 did the State begin to appropriate money for its support. Since that time, however, the Legislature has been more or less liberal to it and its equipment has been improved.

The Normal School has been fortunate in its Presidents. President Campbell, now of the University of Oregon, was at its head for ten years, and was followed by E. D. Ressler, A. M., who has shown as much energy, and is meeting with no less success. A most important post. The influence of the President of the State Normal Schools, one and all, is transmitted through generations of teachers yet to begin their work.

Three other Normal Schools will be seen in the list:— at Weston, for Eastern Oregon, at Drain for Middle Oregon, and Ashland for South Western Oregon. All are doing good work.

I leave, reluctantly, so much unsaid on education in Oregon. The institutions not specially mentioned may, I fear, feel neglected. Many of them just as much merit notice for

hard work, conscientiously done, as the larger schools. But space absolutely forbids.

To the farmer unquestionably the most important fraternal society is the Grange. The Master of the State Grange writes me that in Oregon there are 100 subordinate granges and about 5200 members. But in studying the Grange directory I only find 15 counties represented. I give the list alphabetically arranged: Benton, Clackamas, Columbia, Coos, Gilliam, Lane, Linn, Marion, Multnomah, Polk, Tillamook, Umatilla, Union, Washington, Yamhill. I observe also that the result of the setting up of one Grange in a county is that it is surely followed by others. But Oregon has 33 counties. There is, then, ground for extension. A good many years ago the Grange was criticized on the ground that "politics" (to misuse a noble word) was rampant within it. I offer no opinion whether the charge was well or ill founded. I mention it only to testify now that it is no longer heard.

I believe that the subordinate Granges are today fulfilling their great objects, which, as I understand them, are the association of the members and their families for fraternal intercourse, and for mutual improvement not only in agricultural methods and productions, but in whatever beautifies and raises the standard of home life. So far as I can gather up the threads of the work of the Grange it might be summed up in the one pregnant sentence: "the better the Granger, the better the citizen."

Fraternal societies have a very strong hold in Oregon, and their influence is ever widening.

The beneficiary societies which have the strongest list of membership are:

The A. O. U. W. with about 11,000 members.

The Maccabees with about 6,000 members.

The Woodmen of the World with about 14,000 members.

The United Artisans with about 10,000 members.

The Lions with about 4,000 members.

The Foresters on their beneficiary side.

The other strong societies, which do not embody the insurance principle seem to be:

The Free Masons.

The Odd Fellows.

The Knights of Pythias.

The Elks.

The Foresters.

The sick relief afforded by the societies varies from \$5 to \$7 a week.

The impression generally held is that the orders are stronger in Oregon than in the Eastern states.

Nearly all the masculine orders have feminine associations.

I have no desire to criticize the customs prevailing—but I cannot but think it possible to have too much even of as excellent an institution as Fraternal Society life.

In one pleasant town of 5000 people in which I lived for some time 31 orders had weekly meetings. As a result nearly every one's week was taken up and it was hard to interpose an evening for social, private, or public objects.

CHURCHES

All varieties of religious belief, Christian, Jewish, and a few Asiatic, find homes in Oregon.

The great constituent parts of the Christian Church are active, one and all. The cities abound in churches of every denomination. The country towns try to keep up far too many churches, as I believe. I would that enough Christian energy could be concentrated to maintain large churches, well filled with worshippers and all ministered to by adequately paid pastors. So would be found the opportunity in so sparse a country population as ours for the services of a number of circuit traveling ministers, who would gather at frequent intervals the people from hamlet, crossroads, and widely scattered farm houses, to centrally placed school houses and wayside chapels.

I write from experience as well as observation on this great subject. It is the harder to keep up religious life and

influence in the farm house when the chances of meeting one's neighbors in religious services are so very few and far between.

I am aware that this condition is not acquiesced in by several of the important religious bodies. I know here and there one evangelist striving hard to meet the needs of a wide district. But in this, the one chance I have, of making anything like a general appeal, I do but my plain duty in urging a general, an associated, effort by the churches to lift the load of the wants of the far off farms and ranches in spiritual matters. By united and organized effort I am certain it could be done.

The differences which separate the congregation of the City churches dwindle into mere matters of criticism and discussion among the members of such churches who meet for common worship in a country school house.

CHAPTER XIV

GAME AND GAME FISH

While there is work on the farm in Oregon for every day in the year for most farmers if their resolution holds good to allow themselves no play, yet a goodly number of us have not so long outgrown our school days as to forget the joys of holiday time. For those this chapter on "Amusements on the Farm" is specially intended—the all work and no play people can skip it all. It will be observed that it is placed well towards the end of the book, where, I think, it belongs.

From all the foot hills farms, neighboring on either side of the Cascade Range, on the Coast Range or on the Blue Mountains, deer hunting can be followed.

The following account is drawn "from the life."

DEER HUNTING

In the game laws of the State of Oregon it is written that it is unlawful to hunt, pursue, take, kill, injure, destroy or have in possession, or to sell or offer for sale, barter or exchange any female deer except between August 15 and November 1, in this state.

It is unlawful at any time to kill deer for the purpose of selling the skin, hide, horns, hams, or other flesh.

Be it understood, therefore, that nothing in this article contained is to be taken as a temptation, invitation or incitement to any sportsman, however eager he may be, to break these laws. So, whatever imaginary trip we take, whatever scenes of hunting, pursuing, taking, killing, and so forth are depicted, are, in the first place, to be strictly confined to the legal term, beginning on the 15th of August.

There is this to be said, however, that while during this same month, the does and their fawns and towheads are apt to lie close in the leafy bottoms, where grass is long and lush, by the side of the trickling, dripping brook, and keep their wanderings in the upper air of higher canyons for night time, when the moon lights them along the trails, the bucks take their chances on the higher points, where the warm sun causes their budding young horns to grow and strengthen as they lie stretched in the open. But how craftily they choose the spot, where eyes and ears are open to every hint of danger, where the least movement in the tall fern catches the keen eye, and the faintest rustle of the twigs, or the crackle of the smallest bough sets those long ears turning, while the twitching nostrils scent so far off the approaching enemy. Any hunter who crawls up on a buck without discovery to within shooting distance may be taken to have graduated in the school of woodcraft. This is still hunting in its essence.

Hounds for deer, nowadays, are things of the past. True, round not a few of the houses in the hills one sees, lounging on the doorsteps, one or two of the old fashioned sort—long, lean heads, hanging ears, speedy looking bodies and legs, smooth skins and thin tails, whole tan colored, or white spotted. But, if remarked on, they have now become "bear dogs," for some few of these black enemies of the flocks still lurk under the logs in the deep canyons, and now and again raid their sheep.

Now, the hounds are left at home when the deer hunt is proposed. To "hunt, pursue, take and kill" three guns are better than two, and even four can often find stands. The start in the early morning is still the best, and the one who is to follow up and through the canyon stays behind until his followers are placed, one on either side of the head, and perchance a third watches the trail that leads out of the canyon half way up the hill.

I am bound to confess that the prohibition of dogs in the law is hardly ever construed to extend to the clever cur

that keeps at his master's heels, and certainly does not "pursue," even if by strict reading he may be said to "hunt" the deer. Were it not for him who knows every turn and corner of the canyon, who can explore the deepest gulch, who gets in, through and out of those black logs piled high enough to cheek the watercourse below, who is not bound to keep even the faintest trail, but bustles through the densest brush, despising blackberry strands and cucumber vines—were it not for him the patience of the silent watcher on the stands would often go unrewarded.

The deer in the deep canyon have heard the passage upwards on either side, and lie close hidden in the brush. The one hunter who makes his way through the dense wood on either side of the little stream fails to drive them out. But Jack, or Pedro, is not to be so fooled. He cruises back and forth with eager whines, and presently a sharp bark and a dash into the thicket, and out rushes the deer, up along the dim path that almost always follows the tiny creek, and so to where it passes from the hazel, cherry and vine maple of the canyon into the thick fern growth of the uplying hill.

His master's call or whistle fetches Jack back to his heels, and the deer is left to the tender mercies of the waiting hunter. Let no one think that this is "carpet hunting."

The waiting hunters walk many a weary mile from stand to stand, breasting the steepest hills, pressing through the thickets and over the black logs. But, to the one who takes the drive up the canyon falls the task that fetches the sweat to the brow, and quickens the heart beats to well-night fainting point, unless condition be good and body sound in wind and limb. Three good fellows take turn and turn about, exchanging drive for wait, till all reach the camping place at evening, happy if burdened with a big deer, to be "packed" in turn from the far-off hilltop to the tent.

Most hunters agree that while the present game laws hold, the deer will rather gain than lose in numbers in Western Oregon. Even if those laws fail to bind the hillman, who has the excuse that he "needs meat" for his family and himself, yet these laws do hold back the two classes who did the most mischief to the stock of deer.

The one, the market hunter, who used boldly to drive his wagon to the nearest railroad depot and turn out four or five deer, to be carried to the city butcher. The other class were the townsmen who used to load up their wagon, take three or four hounds along, choose a quiet, deer-frequented spot in

the green hills, and camp till every deer in reach had been killed or driven into the next county.

Through all this year elk are protected in Oregon. Their number was getting smaller and smaller year by year. The sight of these great, beautiful creatures in groups, as their custom is, proved too great a temptation to the average man with a gun.

I heard one boast that in the recesses of the Coast Range, near Table Mountain, he had come across a band of 11, and keeping hidden, had shot down nine. And this in a place so inaccessible that all the meat spoiled before horses could be brought in to pack out even a small percentage. Many of us have ridden, walked and hunted over many a county and have never seen one. But a friend of mine had better luck.

With two friends he was camped by the shore of one of the lovely little lakes hidden away among the hills, far from farm and homestead. The big fir trees stopped 50 yards away from the clear water. Under the branches of the last one the little tent was pitched. Round the margin of the lake the rich grass grew, its blades showing in the shallow pool. Two of the hunters went out early the next morning to a distant hunt, and Frank, not being well, was left at camp. Lying in the shadow of the fir tree, book in hand, he heard a rustle on the far side. Looking up he saw, coming from under the shadow of the firs, a great bull elk walking towards the pool. Gently cropping the wet grass the big beast moved slowly toward him till knee deep in the still water. There he stood, his great horns flung back, his nose high in air, as he caught the smoke scent from the smoldering camp fire. Catching sight of the little tent he stood fixed and watched. All was still. The elk, satisfied that there was no harm in the quiet scene, began to eat again, quietly and at ease.

The hunter's rifle was safely in the tent, and he knew that once he moved his splendid visitor would take a rapid leave. So he, too, lay still, content to mark in his memory a picture never to be forgotten. Taking a long drink in the calm water the elk turned slowly round, and paced gently back, unharmed and undisturbed, into the forest whence he came.

PHEASANTS

Pheasant shooting begins the first of October—that is to say it begins in Oregon for those pure souls who prefer a clear conscience to a broken law, and would rather carry

a gun openly and fear no man, pockets full or empty, than to take the gun apart and pocket the pieces and slink into town by back lanes and alley ways for fear of the game warden or his deputies—because the first of October had not dawned.

Every one knows that this pheasant of ours is the Ring-necked, or Chinese, or Denny. The last name it ought to bear after the Consul who brought these new settlers from their Chinese home and turned loose, I think it was ten pairs of them, in Western Oregon. We used to wonder if they would not all be killed off the very first season. But law protected them, and also, it is but fair to say, a generally diffused sense that these birds were a gift to all of us, and so it would be an ungentlemanly and unsportsmanlike piece of greediness or selfishness to spoil the chances of their spreading by killing off these first few visitors.

And the mildness of our climate and the bold fighting nature of the bird did the rest of it, so they lived and thrive and multiplied. The poor native birds put up a losing fight with them from the start. The big dusky grouse that one used to hear "booming" in the cool mornings and misty evenings in the fence-corners of the grain fields and along the draws and undrained swampy bits of our great valley, what has become of him?

Twenty years ago one could, and did, go out and get 10 or 15 of these at almost any time in September or early October. And then our ruffed grouse or native pheasant. He "drums" still. But like the brown humans before the all-conquering white man, these pretty birds have retired farther and deeper into the recesses of our hilly woodland, and there maintain themselves where the imported bird does not care to follow.

Two broods a year and a dozen in a brood, no wonder that they multiplied so fast. What beauties they are as one sees the bright dash of the scarlet in the head and the clear white collar shine in the sunlight as one looks boldly at you over the top of the wheat stubble!

But if you stop the buggy, gun in hand, and climb the fence, thinking him an easy prey, how he fools you. Fly? Not much; he runs and skulks along the furrow, out of sight in an instant, so that it is a fast dog and one up to his tricks that can force him to take wing. No man can run him down or get him up against his will, and that has been and is the salvation to him. Without a dog, and a good one, it is all but hopeless to hunt him, unless you fancy an all-day tramp

for one or two chance shots as the birds fly across the road.

In strange contrast with his English cousin, the Chinese pheasant prefers the open fields. The corn patch near the farm house has great charms for him, or the grassy ditch, dry of water in our long summer and early fall, with its thick growth of weeds and timothy. He fears not man and haunts the vegetable garden. It used to be said of him that he did more harm to grain and vegetables than he was worth, but he has outlived that slander, as his crop full of weed seeds, bugs and grasshoppers at most times of the year will prove him the friend of man. Bold and aggressive, he will join the chickens close to the barn yard, and fight with the king of the poultry for supremacy. With his sharp spurs, high courage, strong legs and active habits he is no mean foe and a battle royal between the wild and tame bird is a sight to see.

The best dog to use is a fast modern pointer—not one of the heavy lumbering sort, who patters along at a slow lope or trot, and thinks more of the manner of his going than of the pace he can put on. Mr. Pheasant just laughs at him, and you will see him pop over the fence before the dog is within half a field of him. But with the light going, up standing dog, liver and white, or yellow and white, who rapidly crosses back and forth in front of his master, and having struck the bird's scent presses quickly after him and gives him no more time for his tricks, the turn of the game is the other way, the pheasant has to take wing, whether he likes it or not, and the gun gets its chance. The shots are nearly always long ones at the old birds, they take the best of care of themselves, but often the brood of just grown youngsters gets scared at finding the dog among them, squat down and fly up one at a time to their certain death by a steady shot.

I ought not forget in telling of dogs, that the Gordon setter, black and tan, if well bred, is just as fast as the pointer, and generally less headstrong, more obedient and is easily, to my taste, the king of bird dogs. But the red Irish setter is not far behind the Gordon and seems to be more easily obtained in this state.

The good sportsman, is no trespasser, but for either love or money he has the right to start his dog and himself and his friends those lovely mornings, with which Oregon in October favors us, from one of those cozy farm houses, embedded in its orchard, heavy with red and golden fruit, which abound in almost all the eight counties of this Willamette Valley. The fields are wide, the wheat stubbles only ankle high, the

birds are plentiful and a long, hard tramp is before them. But close to the farmstead is the corn patch, its leaves already rustling in the soft breeze. And here is the first chance. Pedro, or Spot, or Laura pulls short up before a hundred yards is behind and the eager look of the eye and the tense drawn muscles of the crouching frame tell the tale. Quietly the guns move up for here the birds will have to fly, not run, in this well fenced lot. At the fartherest end in a moment up flies the father of the brood, too near for him, though, and the shot tells. At the shot three or four youngsters flutter up and away, but pay toll with two of their number and the rest the sportsmen see skimming away in the long flight across the wide wheat fields. A good beginning, and so near the house that the birds can be left in the cool rather than be packed along in a close pocket or dangled from a belt, to be struck and half spoiled whenever a fence is climbed.

Then comes the wheatfield and the dog is soon drawing or scent, and eagerly the sportsmen follow him, but it is a weary while before the birds are seen and often have to be followed for distant flight after distant flight before they can be made to rise within shot of the gun. But there in the distance is a low copse of rose bushes and thick undergrowth, and there the guns get another chance. And so on and on while the sun is hot on one's back and the healthy sweat pours off one's face and city legs get the least bit weary until welcome lunch time comes. For young birds and early in the season the afternoon is often the best time, so there is no rest for the wicked and the shadows lengthen on two weary men and a very tired dog. The blue lines of the far distant mountains grow distinct as the sun draws nearer to them, the air is absolutely still and clear, the stubble seems to hang around and catch the tripping feet and home and rest are welcome indeed.

Western Oregon is a Paradise to the trout fisher. I know not a farm in any of the counties from which a trout stream can not be reached within a drive. The old fashioned way, with a good long hazel stick and a big wriggling worm has plenty of followers still. It is just a little irritating to an orthodox fly-fisher to follow one of these worm men up a choice bit of rough water, and see him drop his bait here into a still bit below the rock, there into the white foam of a little fall, and to watch the bright beauty come shaking and quivering up, hanging to the coarse hook, and dragged to hand without a moment's show, or pitched roughly out on to the nearby gravel bar. Very rarely can one of these supper hunters be

brought to see the error of his ways, and change his hazel stick for a light little bamboo fish pole, and his worm for the "silken fly, wherewith to cheat poor fishes wandering eyes"—but I have known a convert or two, and if at all they are "soundly converted"—more devoted to their gentle craft than its older votaries.

We all take a day off now and then and how better can you spend it than by the side of one of our Oregon rivers in June?

Make a picnic of it and give the whole household a chance. No fishing time will be lost by the lighting of the camp fire in the shaded grassy nook by the creek, and the morning's catch for the chief item of the feast. The fish will even give you a three hours' spell to dine and rest, while the summer sun is high, and every dim nook is full of light. Not one will rise to your fly however neatly thrown till resting time is over and the shadows begin to lengthen out once more. Then take to the water again till the yellow sunlight, flickering on the brown water as the alder leaves shake in the gentle air, dies away in the cool dimness of evening and the big trout come on to their feed. Then is the time for the fly fisher to fill his basket till the strap hangs heavy on his shoulder as he, dripping, climbs up the steep bank and finds himself a mile or two from camp.

The trout fisher, wading here and climbing there from rock to rock as the water churns and boils below him, gets close to the secrets of the life of the woods. Silence and patience are the graces he worships. Here he finds a slender legged crane standing ankle deep in the shallow rapids, so intent on his own fishing that he lets one creep close to him. There he sees a mink come down to drink and to watch for the little cotton tail rabbit dodging here and there on the sandy patch by the side of the pool. Back and forth and in and out of the veil of the white water in the little water fall the water ouzel is either at work or at play, no one knows which but it looks like play as he flits for a moment on to the black rock and shakes the water off his spread tail.

Of course fly fishing is the only orthodox fashion to catch trout, but I am writing for the common man and boy, coming to Oregon with no fishing training beyond the stick and the worm. Suppose the worm gives out, for the Oregon trout has a bewildering way of a quick dash out from under the overhanging rocks, a snatch at the wriggling thing, and a quick return to his haunt none the worse for the exposed hook. What is the fisher, boy or man, to do? Watch that crawfish

just out from under the flat rock, his head and those long claws of his are towards you, step quickly behind him and grab him in the shallow water. Crush him a little to kill him and then pull him apart—that white piece of his body from under his tail few trout can resist a dash at it as it rolls and spins by his lair in the quick water. Or, in the edge of the stream by the rocks you will find those queer little pencil cases covered with tiny stones glued together. In each dwells a caddis larva, also a pretty good bait. And in July and August the grasshoppers are in plenty in the first bit of sunny meadow beside the creek, and the big trout can hardly resist them.

I used to notice when my boys were little a great rush into the vegetable garden to dig worms before we started, but I never saw the catch fall off much when the store of worms gave out, and the river and its banks had to supply its own bait.

The little lakes which are found here and there in the foot hills are the earliest fishing grounds. I suppose the water warms there first with the spring sun. The fly fisher has the best of it. When April brings the sunshine then for want of a boat take to the two log raft you will almost always find lodged against the bank, the relic of last year's fishing, and push out from under the trees. Watch for the ripple on the water as the spring breeze plays, and there throw deftly and without a splash your "March Brown," and "grey hackle" flies. It is at least a month too early for the "Coachman" and the "Governor." You will fill your basket. The first dishes of the year have a special good taste of their own.

Writing of holidays and their joys gives me a line or two to tell one recollection. A few years ago our three boys were camped on the Yahatz, the tent pitched under the fir trees on the verge of the Pacific, where the tumble and grate of the waves in the river mingled with the sleepy roll of the waves in the quiet evening, as the big red sun was sinking out of sight behind the clear cut line of the horizon. The blue smoke of the camp fire rose straight up as they called us to supper. Half an hour before one of the boys ran down to the rocks against which the slow waves were beating, pail and dip net in hand. In a few minutes back he came his pail half full of silvery smelt. So was provided the first course of our holiday supper. Then a big three pound trout, one of a string that had just come, orthodox fly fashion, out of the river behind us. Followed by venison steaks hot and hot from over the fire, cut from a splendid buck they had

killed the day before in the hills whose outline bounded the Eastern look out. Stewed salmon berries, and thick cream from the nearest farm made the dessert of the open air feast.

Forgive the tale of things to eat, just for this once only. But the eye, the ear, the palate, together made up the charm of that evening by the Pacific.

I know not how it was with others, but as memory hies back over the years, not the round of everyday tasks, the long succeeding days of get up, go to work, go to bed life have made the deepest mark on the page of recollections, but the short holiday times of play and rest, with which, in our beautiful Oregon, mountain and river, sea shore and cave, still lake and ocean sunsets are in turn connected.

CHAPTER XV

THE COUNTIES OF OREGON

The following table contains the summary of the acreage of tillable and non-tillable land in each county the values of each class of lands as stated in the assessments—and the gross values of all property in each county.

But the value of these figures is more for the purpose of comparison than to suggest actual value as between man and man.

The applications by property owners to the State Land Board for loans in these same counties, sworn to by the applicants, show values from five to ten times greater than the averages taken from the assessments.

Tested also by the average values of farms in the Willamette Valley counties given in a previous chapter, and which values were ascertained by averaging the prices asked for a whole series of farms in those counties, similar differences generally appear.

A strong feeling is generally prevalent in favor of raising assessments to correspond, in accordance with the law, with real values. With only so much money to be raised it can make no difference to the taxpayer if he pays a smaller per cent on a full valuation or a larger per cent on a depressed valuation.

TILLABLE AND NON-TILLABLE LANDS

Gross Value and Average Value per Acre.

COUNTIES	Number of Acres	Value	Per Acre	Number of Acres	Value	Per Acre	Gross value of all Property	Exemptions
Baker.....	83,024	\$ 654,840	7.89	275,019	\$ 548,290	\$1.99	4,179,735 00	\$ 245,250.00
Benton.....	61,146	1,518,460	23.71	203,919	1,136,675	3.88	4,556,800.00	120,055.00
Clackamas.....	81,454	2,152,144.0	30.86	523,173	3,220,055	6.15	9,407,877.00	373,500.00
Clatsop.....	5,752	48,128	8.44	412,286	2,214,226	5.36	4,730,801.00	117,871.00
Columbia.....	9,894	168,540	17.03	379,135	1,045,695	2.76	1,954,186.00	131,354.00
Coos.....	17,702	61,302	14.76	576,841	1,316,047	2.28	3,335,148.00	284,948.00
Cook.....	34,053	179,576	5.03	658,180	916,239	1.39	2,526,875.00	127,855.00
Curry.....	3,066	39,899	13.27	181,582	411,336	2.43	785,976.00	62,548.00
Douglas.....	93,360	732,825	7.87	1,457,971	2,307,560	1.58	6,072,562.50	512,520.00
Gilliam.....	143,567	722,625	5.05	189,503	435,430	2.29	2,470,959.00	135,798.00
Grant.....	22,600	158,582	7.00	382,575	507,732	1.58	1,832,107.00	82,450.00
Harney.....	71,101	317,995	4.47	839,950	839,950	1.43	2,389,955.00	473,560.00
Jackson.....	87,007	831,466	9.67	888,414	1,524,780	1.71	4,668,413.30	72,193.00
Josephine.....	18,745	228,745	12.23	316,881	585,695	1.85	1,897,625.00	9,020.00
Klamath.....	68,714	290,075	4.30	429,217	1,476,105	3.44	2,897,595.00	152,900.00
Lake.....	41,145	129,316	3.15	377,893	509,991	1.61	1,825,363.00	85,016.00
Lane.....	121,953	1,423,950	12.61	1,166,914	3,062,570	2.62	9,261,466.00	919,800.00
Lincoln.....	4,078	41,765	10.26	221,223	529,521	2.39	1,034,797.00	90,903.00
Linn.....	186,982	2,040,931	10.92	760,437	2,886,272	3.79	8,827,511.00	713,889.00
Malheur.....	49,985	374,260	7.48	336,056	600,250	1.84	2,406,525.00	129,900.00
Marion.....	178,597	3,133,566	17.54	459,274	1,660,451	4.77	10,447,605.00	649,227.00
Morrow.....	136,275	414,298	3.04	348,949	566,405	1.23	2,145,109.00	123,655.00
Multnomah.....	198,804	5,429,940	27.31	459,975	885,405	3.14	51,290,195.00	251,895.00
Polk.....	114,516	1,657,320	13.60	281,631	261,400	2.07	4,476,680.00	389,485.00
Sherman.....	222,633	806,420	3.62	126,160	261,400	2.07	2,153,943.06	167,535.00
Tillamook.....	8,451	172,165	20.37	452,889	1,427,100	3.15	2,182,522.00	179,175.00
Umatilla.....	381,317	3,236,762	8.48	482,973	515,627	1.07	9,551,393.77	336,768.00
Union.....	143,773	1,276,766	8.88	348,949	414,204	1.19	4,325,010.00	402,766.00
Wallowa.....	52,890	313,194	5.92	295,110	310,050	1.51	2,057,965.00	266,844.00
Wasco.....	115,044	798,101	6.94	424,298	876,734	2.06	4,883,962.00	243,192.00
Washington.....	87,926	1,767,160	20.10	349,974	1,349,915	3.96	4,856,827.00	504,095.00
Wheeler.....	14,744	74,725	5.08	263,712	329,011	1.24	1,208,977.00	83,597.00
Yamhill.....	117,544	2,135,275	18.24	260,105	749,825	2.86	5,685,875.00	528,100.00
Totals.....	2,971,343	\$33,891,382	\$11.70	14,398,146	\$35,449,986	\$2.46	\$182,247,364.58	\$8,687,476.00

I close this chapter with a reference to the principal towns and cities of the state, whether county seats or not. I shall mention any special industries carried on therein, and I prefer to go back to our first distribution of the State into districts for this purpose.

Entering Oregon on the O. R. & N. Railroad from the East we find Huntington in Baker County, with between 600 and 700 inhabitants, the junction point between the O. R. & N. and the Oregon Short Line railroads.

Baker City, the County seat of that County, has a population of 7500. A busy, growing, well built and progressive place. A center for mining, lumbering, stock, agricultural and orchard interests. Excellent hotels, churches, opera house, fine schools.

Enterprise, the county seat of Wallowa County. Well named. With a population as yet of about 500 people yet with the municipal undertakings, including electric lighting, water power, bank, schools and churches, which would seem appropriate to a place four times as large.

Elgin, in Union County. With about 1100 population. Also a prosperous town, the center of a great live stock industry.

La Grande, county seat of Union County. About 3800 population and growing. Large beet sugar factory established here, supplied with its raw material from the fertile land in the vicinity. All modern improvements, good schools, opera house, eight churches, electric lights, good water power. Progressive and prosperous.

Pendleton, county seat of Umatilla County. Population 6000. Flour mills, machine shop, two woolen mills, 2 banks, hotels, and of course, churches of all denominations. Water power. Excellent schools.

Heppner, county seat of Morrow County. Population 1300. Center of an immense stock growing and farming country. Known everywhere for the terrible cloudburst in the spring of 1903 which most unexpectedly flooded and practically destroyed the town. It has been rapidly and substantially rebuilt and is prosperous again today.

Condon, county seat of Gilliam County. Population about 500. Large stock and agricultural interests. Although 38 miles from Arlington, the nearest depot on the O. R. & N. railroad it has telegraph and telephone service, 2 weekly newspapers, a flour mill and three churches.

Shaniko. Started in 1900 as the temporary Southern terminus of the Columbia Southern railroad Company's line

it has over 500 people now. Bank, water works, immense wool warehouses. A typical town of the Pacific Northwest.

The Dalles, county seat of Wasco County. Population 3500. Connected with Portland not only by the O. R. & N. railroad but also by a line of excellent steamboats on the Columbia River. Eight churches. Two banks. High School and public schools. Electric lights. Planing mills. One daily and two half weekly newspapers. Handles from six to eight million pounds of wool annually.

Hood River. Also in Wasco County. A rapidly growing town of 1100 people. 66 miles from Portland. Daily communication both by railroad and by boat. Shipping point for all the fruit of the Hood River and of the White Salmon districts. A bank, three churches, electric lights and power. A weekly newspaper. Good Schools. The headquarters of the irrigation system of the Hood River Valley.

This closes the reference to the towns in the first, the North Eastern District.

Portland, the metropolis of the State, near the confluence of the Columbia and the Willamette must stand by itself. The city claims 145,000 population, and I think is conceded 130,000 even by its rivals. At any rate the city is expanding on all sides and growing so fast that the boast of today becomes the record of tomorrow.

It is absolutely impossible to compress any kind of description of the city within the limits of this book. Railroad, river, and ocean shipping here meet and exchange, deliver, and take on their freights. Four trancontinental railroads run their trains daily into and from the costly, convenient, and handsome Union depot. Besides a whole system of coastwise shipping two shipping lines to the Occident run their splendid ships to and from this port. The shipments of flour, lumber, and salmon only would sustain a large city, with their contributing and dependent industries. Portland has 120 miles of paved streets, an excellent system of street railroads, being constantly extended as new neighborhoods are built in almost every direction.

Magnificent public buildings of every kind among which I never forget to mention the Public Library—not owing a cent to Mr. Carnegie's munificence, but built, filled, managed, and being constantly developed by citizens of Portland. Excellent newspapers, distinguished at once by enterprise in the collection of news and the ability and high standard of their leader writers and contributors. The Oregonian, as seen today is a credit to any city in the world, how much more to this

young city of the Western coast. The city has 15 banks, sustaining a clearing house through which passed \$175,854,536.15 in 1903, being an increase of \$21,111,425.97 over the previous year.

I may add here the following suggestive figures testifying to the financial condition of the State. The bank deposits amounted for 1903 to the sum of \$55,615,514.52 showing an increase over 1902 of \$6,732,981.31, or 13.77 per cent.

Taking next a hasty view of the towns of the Willamette Valley.

Oregon City stands on the East bank of the Willamette River, 14 miles South of Portland. It is connected with the metropolis by the main line of the Southern Pacific railroad and also by the electric road with frequent service and cheap fares. The falls of the Willamette River here produce it is estimated, as much water power as the whole Lowell district in Massachusetts. About 15,000 horse power is already developed. This operates at Oregon City a large woolen mill, one flour mill, two paper mills, soap factory, a local electric light plant besides the power transmitted to Portland for distribution there by the Portland General Electric Company. Oregon City has eight churches, 5 schools, 2 banks, 2 weekly papers, water works, stone quarries, and many minor enterprises. The population is stated to exceed 5000. The county seat of Clackamas County, and has much fruit land, timber land, and farming land tributary to it.

On the West side of the Willamette River and on the West side division of the Southern Pacific R. R., 20 miles from Portland stands the thriving town of Hillsboro. About 1600 people. They have 2 flouring mills, bank, foundry, 2 weekly papers, a good school, and six churches. This is the county seat of Washington County. The center of a very rich dairy and fruit country. One of the two important condensed milk factories is located here, referred to in previous chapters.

Forest Grove, on the same railroad is 6 miles from Hillsboro, 26 miles from Portland. Pacific University, with its new buildings, fine campus, library of over 12,000 volumes, and invested funds of \$250,000. Excellent corps of professors and instructors, and earnest students of the higher learning gives this the air of a college town. The population is about 1500. This town has flour mill, condensed milk factory, and bank. Fine churches, and good public school with 275 pupils.

Salem, on the East bank of the Willamette River, 52 miles South of Portland. The State Capital, and the county seat of Marion County. Population over 12,000. State Institu-

tions are all centered here. 2 daily papers, 5 weekly and 1 semi-weekly. The Willamette University, one of the oldest in Oregon is placed here. With the university and excellent public schools there are ample opportunities for education. Seventeen churches, of all denominations. 2 banks, large flour mills, foundry and various manufacturing establishments. Excellent water power. Electric car line. Center of an agricultural country of the very best.

McMinnville, county seat of Yamhill County. On the West side division of the Southern Pacific R. R. Population 2200. Besides good public schools the Baptist college is located here with an average of 200 pupils. Two national banks, three weekly newspapers. Flour mill. The prosperous center of a fine farming district. Six churches.

Albany, county seat of Linn County. On East side of Willamette River, 80 miles South of Portland on main line of Southern Pacific. 5000 population. Prosperous and growing. Has 2 flouring mills, ice factory, tannery, 2 chair factories, woolen mill, foundry, sash and door factory. Water power and ditch, 14 miles long, bring water from the South Santiam River to Albany and furnish 1400 horse power. Three fine public school buildings and 12 churches. Albany College is under the care of the Presbyterians and under President W. H. Lee has taken another lease of life and is growing and developing satisfactorily.

Corvallis, the County seat of Benton County. Population 2500. On the Willamette, West bank, 96 miles South of Portland. Present terminus of the West Side branch of the S. P. R. R. Eminently a college town from the influence of the State Agricultural College. On the buildings, farm and equipment the State of Oregon has expended upwards of \$250,000. The college has over 500 students from all counties in Oregon with a few from more distant homes. The town is the center of a great agricultural district. Has 2 large flour mills, other factories, electric lighting, 2 papers, 9 churches, 2 banks.

Junction City. Where the main line of the S. P. R. R. crosses from the East to the West side of the Willamette River. About 800 people. Good school, water works, bank, 3 grain elevators, flouring mill. A fine farming country contributory to it. Stage lines connecting with neighboring small towns.

Eugene. County seat of Lane County. One of the most growing and prosperous cities in Oregon. Population 5500 when last counted, 123 miles South of Portland. Practically

at the head of the Willamette Valley. Various manufacturing industries, excelsior mill, fruit canneries, foundries, and the great saw mills owned and operated by the Booth-Kelly Company of which last year's output exceeded 77 million feet of lumber. The State University is here, with its 20 acres of campus, 5 large brick and stone buildings, gymnasium, science hall, and others. The city has 3 large modern school buildings with a fine High School just completed and opened, 3 large banks, electric and water works, and the usual number of churches of all denominations.

The Coast counties require that we return to Portland and thence start North West to Astoria.

Astoria, the County seat of Clatsop County and the first American settlement on the Pacific Coast. Now has a population of about 8500 persons. The chief seat of the salmon industry both for canneries and for cold storage plants. U. S. custom house and bonded warehouse. Center of a large shipping trade. Various important manufacturing establishments, and among them the Astoria Iron Works, and the American Can Company's factory. 4 saw mills, large water works, 11 churches and first rate public schools employing 29 teachers.

Following the Coast line South, Tillamook is the next place of any importance. Population 1100. Connected with the outside world by steamers plying to Astoria and Portland, and by the stage line for 33 miles to North Yamhill, a station on the S. P. R. West side railroad, 40 miles Southwest of Portland. \$300,000 worth of butter and cheese annually shipped out. Surrounded by dairy lands of great value. The town is substantially grown up, has 2 banks, 4 creameries, a large sawmill, four churches, three weekly papers.

Toledo. On Yaquina Bay is the county seat of Lincoln County. Population about 500. On the Corvallis & Eastern railroad, and is 153 miles from Portland. Has a bank, 2 sawmills, a creamery, a new court house, good public school. Quite a settlement of Scandinavian new comers in the neighborhood of this town.

Marshfield. On Coos Bay. A prosperous seaport of 2500 population. Connected by 24 miles of railroad and 52 miles of stage road with Roseburg on the S. P. R. The town is full of business enterprise. It has 3 sawmills, tannery, box factory, salmon cannery, 2 creameries, 2 ship yards, bank, brewery, 3 newspapers, electric plant. Large coal mines 3 miles distant. Long established line of steamers connecting Coos Bay with San Francisco and other steamers make it a

port of call. It has a good public school and six churches. The hard woods in this locality have great value and are in demand.

The only town of importance in South Eastern Oregon is Lake View, near the head of Goose Lake, with a population of 1100. The center of a great stock district. It has 3 saw mills, a bank, several excellent stores, two newspapers and two churches.

With a short account of the towns in South Western Oregon we will close this hasty review.

Leaving Eugene on the main line of the S. P. R. the first town of importance is Roseburg, the county seat of Douglas County. Population 5000. Situated on the Umpqua River, 198 miles South of Portland. The U. S. land office is here for the Roseburg district. The town has 2 flouring mills, 2 sash and door factories, and a brewery, water works, water power, electric plant. Roseburg is the center of a country rich in fruit, hops, grain, wool, and lumber. The public schools employ 14 teachers and have 900 pupils. Library, 2 banks, and 1 daily, and 2 bi-weekly papers. There are eight churches.

Grants Pass, the county seat of Josephine County is very prosperous. Present population exceeds 3000. Its location in the central part of the great Rogue River Valley insures its trade. It is the distributing point for several mining districts. It does a great business in fruit, lumber, brick, etc. Has 3 weekly newspapers, division shops of the S. P. R., 2 lumber yards, 2 planing mills, 4 saw mills, and many minor industries. Fine electric light and power, the company controlling both water and electric supply. Two large brick school houses, 3 large brick hotels, an opera house and seven churches.

Medford in Jackson County on the S. P. R., 328 miles South of Portland, also in the Rogue River Valley has 2500 population. Has 2 banks, large roller flour mills, distillery, brewery and 2 planing mills. Headquarters of the Iowa Lumber Co. Center of a great fruit region in which prices of land are rapidly rising. Good school, opera house, electric plant, four newspapers and eight churches.

Ashland, the most Southern City in Oregon, most beautifully placed on the edge of the foot hills of the Siskiyou Mountains, overlooking the wide expanse of the Rogue River Valley, has a population of 3500. Has fine water power and water works. Valuable mines are developed in the immediate neighborhood of the city. This city stands nearly in the center of the Peach belt of Southern Oregon, and does a large

trade in fruit of the finest quality. This city is attracting by climate and location a residential population of many pretty homes are seen. The Southern Oregon State Normal School is here. The public schools have three buildings. There are 2 banks, 3 planing mills, flour and grist mills, 2 large saw mills, and other industries, three newspapers and nine churches.

Lakeview. In Lake County. Population 1100. Prosperous and growing. A bank, 3 sawmills, 2 churches, 2 newspapers and a large business in stock, wool, and some grain.

CHAPTER VI

CONCLUSION

The intended space having been filled it becomes necessary to draw the book to a conclusion.

Reading over what has gone before it seems that the descriptive matter has been written and the questions answered that were proposed. The hard facts are here, so far as I know, but the life that underlies them is not here, and cannot be set down on paper.

The whole State resembles one of its own farms about which I have written. Partially developed. Some of the bounties provided on this Pacific Coast for the service of man availed of, but the eye must be ever on the future to realize its possibilities.

As one looks out on the wide stretch of the farm that is to be, the first impression is that of natural beauty. So with the state. No uniform dead level of bare, waterless, treeless, uninteresting fertility. But some mountains and high hills, some rolling outlines and gently swelling slopes, some wide stretches of smooth, hill-bounded valleys. Green trees, green grass, green crops, orchard trees sheeted in bloom, now as I write, falling in white showers carpeting the ground, the death of the wealth of flowers foretelling the abundance of the fruit. During the past eight weeks, while soaked in gentle rain, we have been longing for the spring sun, since the spring work in field, orchard, and garden has been all but untouched. And that to us in Oregon has been the worst of it. No snow storms and blizzards, no starving cattle and miserable sheep, even the swollen mountain streams have confined their misdemeanors to washing out a few railroad bridges

and bringing down slides to obstruct for a few days the passage of the trains. Meanwhile the soil has been storing up its reserve of water against the dry days to come. Harvest of grain and hay in its wonted abundance has been assured. We can bank on both. Years' long experience prevents fear of the unwelcome rain storm to drench and mildew the hay in late June and early July and the grain harvest in July and August. And even if no rain should fall on the seed grain now being put in the harvest will come from it in due time.

Nature is kindly to us. Nothing there is, on her side, to forbid the invitation to join us which may be gathered from the foregoing pages.

Turn again to the living parable of the farm. Has its limit of productiveness been reached? Must the new comer content himself with taking up the burdens of today and rely on the pressure of the Westwards flow of people to maintain the values, now apparent, of his prairie farm?

Far from it. Even if the wild lands, now brush and timber covered, on his Oregon farm be all cleared and plowed, yet in the application to the land of the newer methods already tested and applied to other like lands, increase of yield, improved products, and higher prices from widened markets shall surely give the profits to more than justify his purchase. Not from once again selling the farm he has made his own, and on which he has set up his household gods, need he look to add to his fortune, but he may see season by season the fruits of his labor grow and multiply. We have but one life here, and if in Oregon one finds what tends to make a happy life what call is there to sell out and try elsewhere?

As one takes the long journey to the West the weary struggle against barrenness, drought, tempest, bareness, cold, so often tells its tale. The knowledge that when the Pacific slope is reached these evils, at least, need not be feared—that industry is sure of its due fruit, that seasons smile, that seed time and harvest, summer and winter are friends in the service of man, that yet there is room and to spare for thousands on thousands of contented homes—this knowledge may well be spread and the responsibility of the invitation rests lightly on the writer who has seen and tested that wherewith he writes.

On all sides one hears, "More people is what Oregon needs." Yes, but what people?

In our mountain ranges are stored in vein and ancient river bed the minerals that will make thousands rich. Our coal fields are yet unprospected, their stores unopened. The

railroads are but few, our water powers running by to waste. The raw materials from our farms and ranges are shipped too often away from our borders to be worked up in distant factories. The industries of our cities and towns are young, aye infant.

We need the master workman and his men.

Our commerce is but young. We are placed on the edge of the Pacific, with the millions of China and Japan for customers—with harbors for all ships, on a world's route from East to West. With work, truly, to be done, and money to be spent in deepening channels and making still more easy the water ways—work too costly for our few people, and too plainly for the Nation's good to ask for and not receive the Nation's aid for its full development.

And yet with all this there is nothing to limit for many years to come the clearing of our lands, the multiplying of our flocks and herds, the increase of our crops, the planting of our orchards, the building up of our farmers' homes. Twenty-three years back, I published too soon, my two years' observations of Oregon and her possibilities. Some opinions and forecasts I might wish had never seen the light. But as I admired then the State, new to my eyes, as I then believed in her future and augured for her growth in people, in appreciation of all that makes life worth living, in education and refinement, in State patriotism—all this I would fain repeat. My faith in Oregon has grown with the passing years. May she yet flourish!

FINIS

APPENDIX A.

Condensed statement of average temperature and of extremes,
also of average precipitation at the places named below, calcu-
lated for 1900-1-2.

PLATEAU DISTRICT EASTERN	Aver. Temp. Deg.	Extreme Heat. Deg.	Ext. Cold. Deg.	Aver. Preci p. Inches.	Eleva- tion. Feet.
OREGON.					
Baker City, Baker County.....	46.56	94.75	2.66	12.43	3470
Joseph, Wallowa County.....	42.73	92	-11.66	14.52	4400
Prineville, Crook County.....	50.45	100.66	-4.	8.10	3000
COLUMBIA RIVER VALLEY.					
Weston, Umatilla County.....	48.75	100.66	-6.25	25.51	1800
Pendleton, Umatilla County.....	54.05	106.3	1.	16.43	1074
The Dalles, Wasco County.....	53.16	101.50	6.	15.62	112
PORTLAND AND THE WILLAMETTE VALLEY.					
Portland, Multnomah County.....	53.50	95.3	18.3	40. ⁹	54
Corvallis, Benton County.....	52.13	98.	18.3	44.2	319
Eugene, Lane County.....	52.05	96.50	19	45.5	435
COAST DISTRICT.					
Astoria, Clatsop County.....	51.2	84.	24	83.10	50
Newport, Lincoln County.....	51.23	84.6	23.	77.27	69
Gardner, Douglas County.....	52.7	84.6	26.3	84.85	72
SOUTHERN OREGON.					
Roseburg, Douglas County.....	53.33	95.33	22.	34.38	523
Grants Pass, Josephine County.....	53.	105.	17.66	32.97	964
Ashland, Jackson County.....	52.2	103.	14.66	20.63	1940

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NOTE—See Page 139 in this book.

