Results of Six Years Experiments in Central Oregon Dry Farming Made Public

TILLAGE METHODS WOULD BRING BIG RESULTS IN WHEAT

Turney Winter Species Production Shown in Table Prepared From Six Year's Total Crops.

EARLY PLOWING IS BETTER

Thorough Cultivation Following Turning Over of Soil Causes Increase in Amount Produced.

A comparative study of the tillage methods practiced and the yields secured for Turkey winter wheat on the Sherman county branch experiment station at Moro, shows conclusively the possibilities of increasing wheat yields under strictly dry farming conditions such as obtain in the Columbia basin and Snake river basins.

The six year average yields of Turkey winter wheat grown on land summer fallowed by different methods at the station gave the following results:

Time of plowing.	Method 1: No cultivation after plowing.	Method 2: Harrowed once after plowing.	Method 3: Thorough cultivation after plowing
	——BUSHELS PER ACRE——		
April 1	24.8	26.7	30.5
May 1	24.5	25.4	26.4
June 1	22.5	22.4	22.5

From a study of the above table it will be observed: 1. That early plowing under each of the three methods of summer fallowing gave higher yields than late plowing. Under the first method where no cultivation is given plowing April 1 gave an increased yield of 10 per cent over plowing June 1. Under the third method, where thorough cultivation was given, the increased yield from land plowed April 1 was 8 bushels per acre, or 35½ per cent above that plowed June 1.

2. That thorough cultivation of land plowed April 1 increased the yield of wheat per acre from 24.8 bushels to 30.5 bushels. This is an increase of 23 per cent.

3. That the cultivation of land plowed June 1 neither increased nor decreased the yield of wheat. Should enough late rains come to start a crop of weeds after the land is plowed, cultivation would doubtless be beneficial.

It will thus be seen that the highest yields were secured by plowing early, and thoroughly cultivating the summer fallow. The significance of the possibility of increasing yields by this means should be apparent when it is remembered that much of the land summer-fallowed each year is plowed late in the season—i. e., just before harvest. There are two reasons why so much late plowing is done. In the first place, the equipment of many farms is not sufficient to do the work in good season. In the second place, much less work is necessary to control the weeds on late plowing than on early plowing. While most farmers appreciate the advantage of early work, some still prefer to plow late in order to avoid as much cultivation as possible.

The department does not issue complete information upon experiments actually made in Oregon and upon Oregon soils any too frequently. The complete results of the last six years' survey is made in Farmer's Bulletin 1049. Every Inland Empire wheat belt farmer, operating under dry farming conditions, should secure a copy and study the results of the Moro experiments.

The double-headed barrel is the most satisfactory package for new potatoes. The heads should be secured by "headliners." The barrel used should conform to the specifications of the United States standard barrel. Barrels which are loaded on end carry better than those loaded on their sides.

When answering advertisements mention the farm pages of The Journal.

A UNION COUNTY SHORTHORN.

Ruby's Ringleader, owned by W. J. Townley of Union

PROGRAM READY FOR SESSION OF OREGON HORTICULTURAL BODY

State Organization Will Meet at Astoria From August 14 to 16, Inclusive.

Astoria, Aug. 9.—Astoria is preparing for the annual meeting of the State Horticultural society, which is to be held in this city on August 14, 15 and 16. This will be the thirty-fourth annual session. Matters of interest to the whole state will be considered. Some idea of the scope of the meetings may be gained from the following program which has just been completed:

Thursday, August 14—Call to order, 2 p. m., Ben Worsley, president. Address of welcome, Mayor James Bremner. Response, J. O. Holt, manager Eugene Fruit Growers' union. Welcome from the state board of horticulture, President Charles A. Park, Salem. Response, President Ben S. Worsley, Astoria. Address, Governor Ben W. Olcott. Reading of minutes of previous meeting. President's annual address.

SUBJECTS ARE DIVERSIFIED

Friday, August 15—"The Cranberry and Its Culture in Oregon," W. E. Schimpff, Astoria. "By-products of the Cranberry," H. M. Williams, Portland. "Truck Gardening and Marketing," J. H. Butterfield, Brownmead. Election of officers.

Friday afternoon—Excursion to canneries and Seaside, courtesy of Astoria Chamber of Commerce.

Friday evening—Call to order at the city hall, Seaside, 8 p. m. Address of welcome, Mayor Hurd. Address, L. L. Paget. "Vegetables of Importance in Oregon Coast Counties," Professor A. B. G. Bouquet. "Horticultural Adaptability of Clatsop County," H. G. Lechner, county agricultural agent. Adournment.

FRUIT JUICE INDUSTRY

Saturday morning—"The Future of the Fruit Juice Industry in Oregon," H. S. Gile, president of the Phez company, Salem. "The Adaptability of the Soils of the Coast Counties for Berry Culture," John E. Gratke, Astoria. "Functions of the State Horticultural Board," Colonel Henry E. Dosch, secretary of the state board of horticulture. "The Relation of the Nurseryman to the Fruit Grower," M. McDonald, president Oregon Nursery company, Orenco. "Horticultural Development of the State of Oregon," E. J. Adams, Eugene.

Saturday afternoon—"The Future of the Canning Industry in Oregon," J. O. Holt, Eugene. "Fruit Outlook and Marketing Problems," Robert C. Paulus, president Salem Fruit union. "Brambles," Professor C. I. Lewis, chief of horticultural department O. A. C. "Selling Apples for Cash," C. A. Malboeuf.

CAREFUL TESTS ARE NECESSARY TO FIND IF COW TUBERCULAR

Many Fine Herds Which Appear to Be Healthy Are Often Affected.

It is impossible, by merely looking at a cow, to tell whether or not she has tuberculosis. Nor can the presence of the disease be detected by physical examination going not much further than a survey. The most reliable method for definitely determining whether tuberculosis exists—is the tuberculin test applied by a trained operator.

Tuberculin is the most accurate diagnostic agency known to science, but it is safe only in the hands of a trained and skilled operator who is acquainted with its action and limitations.

Many fine herds of cattle which were a delight to look upon and which seemed to be healthy on superficial examination, have been found to be extensively affected with tuberculosis. They reacted to the tuberculin test, and subsequent slaughter of the animals proved that the test had not gone wrong. Their bodies were found to contain extension lesions of tuberculosis, and these healthy appearing animals, if they had been allowed to live, would have continued to spread the disease to other cattle and swine and possibly to human beings.

The federal government, in cooperation with state livestock sanitary officials, has made a beginning in the big task of driving "animal T. B." from this country. It can not be done in a year, but every owner of even small herds of cattle can help forward the campaign by making sure that his animals are not carrying and spreading the germs of this dangerous malady. Tuberculosis eradication stations has been established in 35 cities, covering the entire country, and livestock owners who want to get in touch with the station nearest them can do so by writing to the bureau of animal industry, United States department of agriculture, Washington, D. C.

Under recent legislation the federal government and the state governments pay portions of the value of cattle slaughtered after they have been found infected with tuberculosis.

The success of the movement for eradicating tuberculosis rests upon the livestocks owners of the country to a greater degree than on any other force, according to officials of the department. Whenever the livestock owners "get behind" the work success is bound to follow.

DAIRYMEN DIFFER ON FEEDING GRAIN TO PASTURE COWS

Figures Supplied to Show That Method Pays and Others Insist It Depends on the Animals.

TILLAMOOK MAN COMMENTS

Dairyman Well Pleased With Results Obtained But Not Convinced Experiment Paid.

By R. C. Jones, Tillamook County Agent

Does it pay to feed grain on pasture? This is a question that dairymen the country over have discussed for many years. Many who have fed grain on pasture say it pays. Others are just as sure that it is a waste of good feed and money.

In order to get at this subject understandingly we must look first at the food requirements of a cow and see how she uses the feed consumed. She first takes out enough to maintain her body, the balance is used for the production of milk or body fat. In the milk animal we are not looking for increased weight in the carcass so we can lay down the rule that it pays to feed a cow to the point where she begins to add weight. The amount to be fed will vary with the milk producing ability of each individual. If a cow does not have the inherent ability to untilize a full ration for milk production it will only pay to feed her what she will utilize for that purpose. The economy of feeding grain on pasture depends then on the milking capacity of the cow.

RECORDS ARE KEPT

Previous to 1914 most people in Tillamook considered a man insane who would feed gain on pasture. The result obtained by those who have tried it seems to indicate that the man who does not feed is the crazy one. In 1914 when the testing association had $250 prize money up for the highest producing cows and heifers, Mr. Durrer of Tillamook has a cow, Goldie, and a heifer, Ruby, that were coming strong up to July 1, but they were dropping in flesh and at that time were dropping rapidly in milk. He was induced to feed grain to these two cows starting the middle of July and feeding eight pounds rolled barley to each per day for the rest of the summer. Goldie was 5 years old that year and made 560.1 pounds fat that year against an average of 348.4 pounds fat for the other six years she has been in the testing association with no grain. This is a gain of 211.7 pounds fat, which, at 36.6 cents per pound, the average for that year, was worth $77.48. The grain cost was $22.44 and the return for every dollar's worth of grain was $3.17.

Ruby, as a 2-year-old, made 424.5 pounds fat, which is 44 pounds higher than the average of her next four records without grain. These two cows won in both cases in the contests.

RESULTS PAY WELL

Mr. Durrer was well pleased with the results but was not convinced of the economy of feeding grain. He fed no more on pasture until 1917, when he fed three cows, and was so well pleased that he continued them through 1918.

The average yearly production of these three cows for the two years with grain was 505.3 pounds fat, the two previous years without grain it was 384.4 pounds fat, or an increase of 120.9 pounds fat for $38.09 worth of grain. This fat at 65 cents, the price for those two years, was worth $78.59, or $2.07 for every dollar expended for grain.

Results were so good that in 1918 Mr. Durrer fed 11 cows besides the above and they averaged $421.3 pounds fat at a grain cost of $24.37. During 1917, without grain, the same cows averaged 346.4 pounds fat, showing an increase due to grain of 74.9 pounds fat, worth 70 cents per pound, or $52.43. One dollar's worth of grain therefore returned $2.15 worth of butter fat.

CONVINCED IT PAYS

Mr. Durrer is convinced, and is, this year, feeding all his high producing cows. He also keeps them in the testing association from year to year, so that he knows what results each cow is giving him.

Can a cow eat enough grass to maintain her body and make the large quantity of milk we expect her to? The cow, Baby, last year averaged 60 pounds of 4.6 per cent milk during June and July. According to our feed analysis she would have had to consume about 300 pounds of pasture grass per day to have furnished the required nutrients. Being unable to do this, what is the result? She produces heavy for a short time while fresh, and gets thin, then she slumps in milk. Grain will help maintain her flesh and prolong the heavy milking period.

It pays to own cows like Baby, and, owning them, it pays to feed them grain one year round. They need it when they are dry to build up a supply of reserve strength and a strong, healthy calf and they need it when they are in full flow, even though the grass is abundant, in order that they may not lose that reserve strength too quickly.

In summarizing, I wish to say that I do not believe it will pay to feed the cow grain on pasture that produces only 150 pounds of butter fat in a year and keep her body well covered with fat, but the good producer will stand a liberal amount of grain and will return from $1.50 to $3 for every dollar's worth you put into her. The averages, as shown by this Tillamook herd, are $2.07 and $2.15 for the two groups.

POULTRY NOTES

Once a year the poultry house should be thoroughly cleaned out and sprayed with one of the coal tar disinfectants or given a good coat of whitewash containing 5 per cent of crude carbolic acid or creosol. Unless the exterior is painted, a coat of whitewash will help preserve the lumber and give a neater appearance to the building. Spring is one of the best seasons to clean up and whitewash the poultry house. A well-made whitewash is the cheapest of all paints, and if properly made serves equally well either for exterior or interior surfaces.

A good whitewash can be made by slaking about 10 pounds of quicklime in a pail with 2 gallons of water, covering the pail with cloth or burlap and allowing it to slake for one hour. Water is then added to bring the whitewash to a consistency which may be applied readily. A waterproof whitewash for exterior surfaces may be made as follows: (1) Slake 1 bushel of quicklime in 12 gallons of hot water, (2) dissolve 2 pounds of common salt and 1 pound of sulphate of zinc in 2 gallons of boiling water; pour (2) into (1), and add 2 gallons of skim milk and mix thoroughly. Whitewash is spread lightly over the surface with a broad brush.

Some beekeepers find it necessary to fumigate comb honey to prevent damage by the larvae of the wax moth. For this purpose fumes of sulphur or disulphid of carbon may be used. If disulphid of carbon is used, great care should be taken not to bring it near a flame, as it is highly inflammable.

WHITE LEGHORNS FIRST IN CONTEST

June Egg Laying Records for Northwest Are Announced For Poultrymen.

White Leghorns are first in the report of the All-Northwest Egg-Laying Contest for June in the return for eggs above cost of feed. Individually, they showed a return of 42.5 cents a month above the cost of feed. Rhode Island Whites were second, Wyandottes were third and Barred Rocks were fourth.

The following table prepared by Director R. V. Mitchell contains the record of production:

	Pct. Production.	Feed Cost.	Return avoe Feed Cost.
W. Leghorns	67.6	33.6c	49.5c
R. I. Reds	47.3	35.0c	18.1c
R. I. Whites	61.3	38.8c	30.1c
Barred Rocks	54.3	34.9c	26.1c
Wyandottes	52.6	30.8c	28.4c
Black Minorcas	47.0	37.2c	15.6c
Miscellaneous	48.6	34.6c	19.7c

In order to have a place on the honor roll for June, it was necessary for a bird to lay 26 eggs. High bird for the month was Number 4, owned by D. Tancred, Kent, Wash., with 30 eggs to her credit. Number 5, also owned by Mr. Tancred, made a record of 29 eggs for the month.

Five birds were tied for third place with 28 eggs each. Number 306, a White Rock in entry 4, the Wilketton entry; Number 339, a White Rock owned by the University of Idaho; Number 460, a Barred Rock owned by the Oregon Agricultural college; Number 275, a White Leghorn, owned by J. R. McRae, Portland, Or.; and Number 200, a White Leghorn owned by H. M. Leathers of Junction City, Or., all laid 28 eggs in June.

All individuals in the Barred Rock and Rhode Island White pens laid during June. The average per cent of birds in the contest not laying any eggs during the month was 2.7.

In comparing the June feed consumption of all the birds in the contest with the feed consumption during the month of June last year, we find that approximately the same amount of grain, sprouted oats, mash and buttermilk were fed, and that the total cost of feed and litter was 2½c higher in June this year than in the same month last year. This difference is caused chiefly by the increased cost of buttermilk, and of straw, this year.

Although grasshoppers are not usually noticed by the farmer until they have reached a considerable size, they begin to injure his crops immediataely upon hatching from the egg. They should be detected and combated, therefore, while young and small, so that time, labor, and material, as well as crops, may be saved.

Read the advertisements on the farm pages. They contain many helpful hints on better farming. In answering advertisements always mention The Journal.

Experiment Station At O. A. C. Praised

Oregon Agricultural College, Corvallis, Aug. 9.—Oregon farmers are justified in looking to their college experiment station for help in solving their most important problems, declared Dr. E. J. Flint, official inspector of the federal experiment station, after a thorough inspection of the experiment and administrative work at O. A. C. Strong and competent staffs are at work on problems of greatest economic interest, he said, and have gone about their solution in the right way. Many things that would cost the farmer much time and money to learn for himself are discovered by the station and given to the farmer interested.

FARMER CHAMPION OF EUREKA CLOVER

Owner of Monticello Farm Asserts It Is Very Valuable as Food For Livestock.

George W. McCoy, owner of the Monticello farm, rises to the defense of Eureka clover. McCoy resents the recently published statement that Eureka clover is a species of smartweed. Eureka clover on the Monticello farm, says McCoy, shows a growth of 16 feet since last March. Farmers from many sections have inspected the plant and were shown that livestock ate it with relish.

The clover, continues McCoy, has been growing in one location without replanting, cultivation, fertilization or irrigation for 23 years on rather poor heavy clay loam soil that was formerly heavily timbered.

McCoy claims for Eureka clover that it is far more nutritious than most common fodder plants and stays green long after wheat, oats, barley or rye have ripened and dried up. Analyses of this clover have been made by the University of California, the O. A. C. and the bureau of plant industry of the United States department of agriculture. All analyses, says McCoy, show it to be richer in protein, free nitrogen extract and fat than any common forage plants.

Eureka clover will grow in old burns, on logged off lands without clearing and on swampy and overflowed lands along rivers and lakes too wet for other crops, claims McCoy.

Preventive and remedial measures for swarming permit the beekeeper to operate a series of apiaries in different locations without the necessity of an attendant in each during the swarming season.