

INOCULATING THE SOIL.

Nitrogen is life to plants. But, alas, this vital element is expensive to buy; and therefore, many fields suffer because of its lack.

Yet the air all about us is charged with enormous quantities of nitrogen—only waiting to be trapped into man's service.

The best traps or "extractors" yet discovered are the legumes: clover, alfalfa, beans, peas, vetches, etc. All farmers know this, hence the popularity of these crops as "soil renewers."

Unfortunately, however, the legumes are not always obedient servants. On some fields they refuse to grow properly; on other spots the soil seems to become "clover sick" after a few years; or, the plants grow, but fail to develop the little root nodules wherein the nitrogen ought to be stored.

Until recently no cure for refractory legumes was known. Then science tackled the problem.

Every farmer should take off his hat and give three hearty cheers for Dr. G. T. Moore, of the Department of Agriculture. Why?

Because Dr. Moore has perfected a system which compels the legumes to do their duty!

To-day, any farmer may write to the Bureau of Plant Physiology, U. S. Department of Agriculture, Washington, D. C., and obtain a free package of this remarkable discovery—enough to inoculate several acres of land.

Thus, in one tiny yeast-cake (as it were), millions of friendly bacteria come by mail to the farmer, ready to do his bidding if he will follow the easily understood printed directions which accompany the package of organisms.

'Tis all as simple as a, b, c. However, three preliminary points should be understood:

First, there is a special kind of bacteria for each legume. Therefore, farmers should state which legume they wish to grow, so that Uncle Sam may send the right bacteria.

Secondly, these bacteria are beneficial only in connection with legumes. 'Twould be useless to apply them to other crops.

Thirdly, do not be in too great a hurry to send for Uncle Sam's kindly gift. Think a bit first. If clover, etc., will already successfully grow on your farm, the fact shows that your soil is naturally supplied with the necessary bacteria; consequently, inoculation is not needed.

No bacteria, no nodules. No nodules, no nitrogen!

That's the point, exactly. Without these tiny "vegetable tumors" the legume is a failure in thrifty growth and in nitrogen producing results. We must all learn that it is useless to attempt the trapping of nitrogen from the air, unless the bacteria are on hand.

To inoculate the fields that need such aid is now an easy matter. Simply prepare a mixture of "yeast-cake," water etc., according to government instructions, then moisten either the seed before it is sown, or the soil into which the seed is to go.

Now, dear friends, let us all be sure to have a few million legume traps at work next summer—industriously extracting nitrogen from the air and storing it away in our fields.

Now is the time to plant fruit and shade trees. The Dalles Nurseries (see ad in another column) handle nothing but home grown trees, which are fully guaranteed to be as represented. Get their prices before buying elsewhere. By leaving your orders at The Pioneer office they will receive prompt attention. Call and get a price list.

THE MODERN FARMER.

The annual farmers' short course is in progress at the State Agricultural College at Corvallis, and its programme of the instruction is suggestive of the needs of the modern farmer. Surely that which enlarges the farmer's horizon, causes him to see more in his life than handling the plow or harrow and driving a mower, introduces him to the secrets of plant and animal husbandry, and shows the profits coming from intelligence on the farm, is giving a practical turn to the effort to stop the flow from country to city life. On the farm there can be no monotony when the earth turned up by the plow is not merely earth, but soil, yielding such and such constituents to this plant or the other. Therefore the first subject in this course is "constituents of the soil." On this follows the account of the chemical elements, and the way is so shown to "rotation of crops."

The old idea of one standard crop and that wheat has gone for good. In Oregon—in Western Oregon, at any rate—the wheat farms of twenty years ago are already turned to more profitable ends by keeping all the livestock the farm can carry and turn off in one form or other. Therefore the next subject in the farmers' course deals with domestic animals in health and disease. Dairy herd records, milk tests and how to apply them are studied in turn. The origins of animal diseases in bacteria and their results are explained in simple terms and illustrated with the microscope.

Next, attention is given to plant life on the farm, injurious and beneficial. Forage crops and their functions, the special adaptation of Oregon to food plants as substitutes for the condensed and artificial foods which in other states have to be purchased by the farmer. This subject, of vital interest to the newcomer, accustomed to other methods, is fully discussed. The elements of plant food and the newest means to provide them are dealt with.

Then follow special instructions on the fruit interests. The life history of the codling moth and of other enemies of the orchard trees is illustrated. The means of propagation of plants by budding and grafting are explained. Even these do not exhaust the list of subjects.

Mere recital should serve to show the wide scope of the knowledge that should be the main part of the stock in trade today of the man who deals with the oldest industry on the face of the earth. Hardly a science in the whole circle of man's development but touches more or less closely the life on the farm. Where is there wider scope for advanced study and application than in this state, where the farmer can follow his trade for every month in the year. Nowhere is there more rapid advancement in progress. Nowhere can brains and study be put to more practical and profitable account. These short courses at the State Agricultural College are free to all comers. The mere expense of attendance for a few weeks at Corvallis should not be considered in comparison with the instruction gained. The newcomer to Oregon is confronted with conditions of climate, of soil, of natural products, differing widely from those in which he has gained his experience. The most careful and systematized teaching, and the practical results of applied study on this wide range of topics are thus offered to the student.

MUSIC IN THE HOME.

Music is an accomplishment unusually valuable as a home enjoyment, rallying round the piano or organ the various members of a family, and harmonizing their hearts, as well as their voices, particularly in devotional strains. We know no more agreeable and interesting spectacle than that of brothers and sisters playing and singing together those elevated compositions in music and poetry which gratify the taste and purify the heart, while their parents sit delighted by.

We have seen and heard an elder sister thus leading the family choir, who was the soul of harmony to the whole household, and whose life was a perfect example. Parents should not fail to consider the value of home music. Buy a good instrument and teach your family to sing and play, then they can produce sufficient amusement at home themselves so the sons will not think of looking elsewhere for it, and thus—often be led into dens of vice and immorality. The reason that so many become dissipated and run to every place of amusement, no matter what its character, making every effort possible to get away from home at night, is the lack of entertainment at home.

G. Reichen is putting in spare time grubbing sage brush on his brother's place.

R. F. ALLEN, President. T. M. BALDWIN, Cashier. WILL WUNDERLICH, Vice Pres. H. BALDWIN, Asst. Cashier. NO. 3951.

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OF PRINEVILLE, OREGON

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Capital, Surplus and Undivided Profits, \$80,000.00

A general line of Groceries, a special line of Gents' Furnishing Goods, also a complete line of Stationery, Cigars, Confectionery and Notions can be found at the

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Postoffice Store
W. E. WILLS, Prop.

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First class meals and beds. Prices reasonable. Headquarters for all stage lines.

Antelope, Oregon

I am prepared to locate
Home-Seekers

On Government Lands contiguous to the Columbia Southern Railroad survey; quarter sections that are all cultivatable; of the best loamy soil within one-half to four miles of railroad survey; some select locations having water. First come first served.

Dodd McCauley
Madras, Ore.

SKIBBE HOTEL
F. W. L. SKIBBE, Prop.

Meals, - - 15c and up
Lodging, - - 25c and up

Only Brick Hotel in the City.
324 Second Street, Opposite O. R. and N. Co. Passenger and Freight Depot.

THE DALLES, OREGON

F. N. WATT
Confectionery

Dealer in
CIGARS and TOBACCOS,
SMOKERS' SUPPLIES,
FRUITS,
SCHOOL BOOKS & STATIONERY

Public Station Local and Long Distance Telephone.

AGENT FROY LAUNDRY
"SWETLAND'S" ICE CREAM
DELICIOUS SODA WATER

Antelope, Oregon

BUY LOTS IN

MADRAS

The coming Industrial Center of Central Oregon

A Big Flour Mill now building.
Modern Stores now running and others under construction.

All roads to Madras lead down hill from every direction and are the only good roads in Eastern Oregon.

Fine Water easily obtained in wells from 12 to 20 feet deep.

Most equable climate in Central Oregon

The Auto road passes through Madras.

For particulars inquire of

D. P. REA, Secretary Madras Townsite Company, Madras, Ore.

The Columbia Southern will build through Madras.

The center of a farming country bigger and better than Sherman county, which does not require irrigation to produce crops of any kind of grains, fruit and garden truck.

Long Distance Telephone connection with the outside world will soon be here. Lots from \$50.00 and up.

COLUMBIA SOUTHERN RAILWAY CO.

TIME TABLE NO. 10.

Effective July 3, 1904.

South Bound No. 2.	STATION.	North Bound No. 1.
Daily Pass.		Daily Pass.
Leave:		Arrive:
2:15 p.m.	Bikes	11:50 a.m.
2:35 p.m.	Gilsons	11:19 a.m.
2:55 p.m.	Sinks	11:10 a.m.
3:15 p.m.	Wagon	11:00 a.m.
3:35 p.m.	Klondike	10:45 p.m.
3:55 p.m.	Summit	10:40 a.m.
4:15 p.m.	Har' C. Je	10:34 a.m.
4:35 p.m.	McDonalds	10:22 a.m.
4:55 p.m.	DeMoss	10:15 a.m.
5:15 p.m.	Mora	10:05 a.m.
5:35 p.m.	Erskineville	9:57 a.m.
5:55 p.m.	Grise Valley	9:28 a.m.
6:15 p.m.	Bourbon	8:50 a.m.
6:35 p.m.	Kent	8:40 a.m.
6:55 p.m.	Wilcox	8:30 a.m.
7:15 p.m.	Shaniko	8:00 a.m. Leave.

For rates and other information apply to S. E. LYTLE, G. F. & P. A. Shaniko, Oregon.
E. J. Wilson, Agent, Shaniko, Ore.

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BLACKSMITH and WAGONMAKER..

Horseshoeing a specialty. Dealer in coal, iron, wheels, cushions, rubber tires, springs, axles.

The Dalles Oregon

WANTED: 200 MEN

Wages, \$2.25 Per Day.
Board, \$4.50 Per Week.

50 TEAMS
\$2.50 Per Day.

Apply or write to
Deschutes Irrigation and Power Co.
BEND, OREGON.

Notice to Creditors.

Notice is hereby given that the undersigned has been, by the County Court of the State of Oregon, for Crook county duly appointed administrator of the estate of John Hastings, deceased, and all persons having claims against said estate are hereby requested to present the same, duly verified, to said Administrator at the office of M. E. Brink, in Prineville, Ore., within six months from the date of the first publication of this notice.

Date of first publication of this notice Nov. 17, 1904. ED KUTCHER, Administrator of the Estate of John Hastings, deceased.

THE
Royal Fire Extinguisher
NO STOP-CKECS OR VALVES TO CORRODE.

A CHILD CAN OPERATE IT.
MADE IN 3 SIZES.

2 gallons, copper..... \$12.00
3 gallons, copper..... 15.00
5 gallons, copper..... 18.00
F. O. B. Portland.

This machine is easily and quickly charged and is guaranteed to put out any small fire that can be reached. It is just the thing for and should be in every residence, barn and store in the country. For further particulars write to the manufacturers.

D. L. BUTLER & CO.
90 FIRST STREET,
PORTLAND, ORE.
Or leave your orders at Pioneer Office.

We make a plat of any township in The Dalles Land District, corrected up to date for 50 cents cash or postage stamps

Hudson & Brownhill
Real Estate & Investment Company
(Incorporated)

THE DALLES OREGON

In your search for the best quality of merchandise at Lowest Prices

YOU WILL STOP AT

W. BOLTON & CO.

ANTELOPE, OREGON.

Where can be found everything you need at prices that defy competition for cash. Write or call for estimate on what you need.

A. E. CROSBY
PROPRIETOR

POSTOFFICE PHARMACY

Carries a Complete Line of Drugs, Medicines, Chemicals, Household Remedies, Druggists' Sundries and Photo Supplies. Country Mail Orders I give my personal attention. A Graduate in charge. Safe delivery guaranteed. Your prescription my specialty. Strychnine and Pest Destroyers. Stock Foods and Dips of all kinds. Agency for Eastman Kodaks. Both Phones. WHOLESALE AND RETAIL.

THE DALLES, OREGON

AT COST

All of Our Buggies, Spring Wagons, Binders, Mowers, Stoves and Steel Ranges must be sold by January 1st to make room for another line of goods. It will pay you to get our prices.

MAYS & CROW

The Dalles, Oregon.

PILOT BUTTE INN

A. C. LUCAS, Proprietor.

Tables supplied with all the delicacies of the season. First class Equipment. Fine Rooms and Beds. Only Livery Barn on the Deschutes, run in connection with the hotel. All stages stop at the hotel door.

WE can save you money on Groceries, fresh, clean and pure—Flour

"Scott's Best" at \$1.40 per Sack.

Notions and Patent Medicines. Boots and Shoes and Farmers' Necessities of all kinds. New and large stock at right prices. Call, examine and be convinced.

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You will be sure to have
GOOD BREAD

when you use the
Best Rising Star Brand Flour

Manufactured by
The Tygh Valley Roller Flouring Mills

Who also manufacture Germ, Rolled Barley, Bran Shorts, Etc. Our goods are carried in stock by first-class merchants throughout Eastern Oregon.

SCOTT & YOUNG, Props.,
TYGH VALLEY, ORE.

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R. H. WEBER, Proprietor. Grower and Dealer in

FRUIT, SHADE AND ORNAMENTAL **TREES** GRAPE VINES AND SMALL FRUIT

EVERGREENS, ROSES AND SHRUBBERY

Myacozus, Tulips, Lilies, Dahlias, Peonies, Etc.

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