

PHOSPHORUS GOOD ONLY FOR WORN LANDS IN COUNTY

Phosphorus on Lane county farms is profitable only on old worn grain lands, red hill lands and some other acid types fairly fertile. Freight charges on the long shipments in getting it here are too high to permit general use on other types of land even though it gives response in larger crop yields. Not maximum yields but maximum profitable yields. Justification of any fertilizer, to maintain a supply in available form is the phosphorus problem.

Testing the returns and profits of it is recommended before excessive use is made of phosphorus in Lane county. Such tests are conducted by some growers and just recently a potato grower of the Springfield district reported to the station that the profit increases from phosphorus on his crop.

Phosphorus Necessary

Phosphorus is one of the necessary plant food elements for the growth of all crops. About two-thirds of the phosphorus taken by the crop goes to the seed and is lost from the farm when the grain is sold. The only means by which this loss can be made up in general farming is purchase of phosphate fertilizer. In this respect it differs from potassium which remains for the most part in the straw and stalks of the plants and can be returned to the soil. Nitrogen can be gathered from the air by means of a legume crop which in turn can be turned under.

When a grain crop is sold two-thirds to three-fourths of the phosphorus used by the crop is lost from the farm. The sale of dairy products and of livestock is a source of considerable loss. Another large loss occurs in the handling of barnyard manure, which commonly handled is 15 per cent.

Amount Is Low

The amount of phosphorus in many Oregon soils as compared with other plant food elements is relatively low. The brown and the red hill soils of western Oregon show by analysis a very good total phosphorus content but give a profitable increase from applications of soluble phosphate fertilizers.

On soils of this type which have been cropped to small grains for any length of time, the increases from such applications are very marked. The soils are generally acid and have a high limestone requirement. A liberal application of ground limestone will help to make the phosphate already in the soil more available for crop use.

Land plaster when used on clover on these soils may aid in this respect also. The better drained brown soils of the valley do not show as marked increase from the application of available phosphorus except where they have been cropped continuously to one crop. If the phosphorus content of these soils is to be kept up they must receive an application of phosphorus at least once in a rotation.

Root Growth Stimulated

Available phosphorus compounds favor the rapid development of the young seedling by stimulating the growth of the root and thus giving the young plant a good start. Phosphorus tends to hasten the maturity of the crop and the formation of grain. There is fully a week's difference in the ripening of a crop due to an application of soluble phosphate. The most marked effect of phosphorus is in increasing the proportion of grain to the straw.

There are three phosphate carriers aside from mixed fertilizers available for agricultural use in Oregon—acid phosphate, steamed bone meal, and raw rock phosphate. Acid phosphate or superphosphate is used most extensively in this state.

CROPS HARDINESS GIVEN INDICATION

The past winter has been one of the best in determining the winter hardiness of field crops in the Willamette valley. Field examinations show that winter barley suffered very heavy winter injury. Winter oat seedlings appear to have been killed 50 per cent or more, and winter wheat, other than fully winter varieties, are almost totally destroyed in many sections. White winter wheat has proved to be the most cold resistant variety.

This winter has brought out very distinctly the varieties that will live to produce crops through extremely low temperatures, such as recently prevailed in the Willamette valley.

Common vetch has been injured to such an extent that the crop will be materially reduced. Fall seedlings of purple vetch have been badly injured. Hungarian vetch and hairy vetch suffered little injury and will produce normal crops. Old seedlings of clover and grasses are injured comparatively little, while new seedlings are damaged from 10 to 25 per cent.

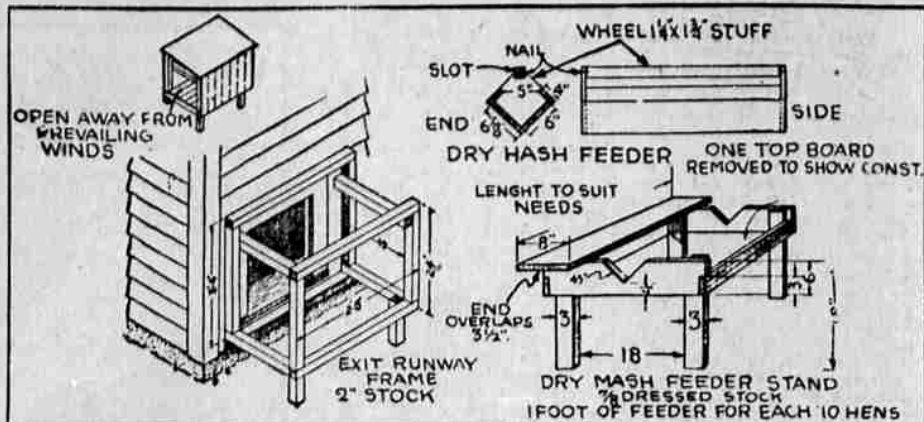
ORCHARD SPRAY PROGRAM ISSUED

An orchard spray program for 1925 has been issued for the benefit of Oregon growers by the state college extension service. The material composing it was gathered and arranged for this bulletin by H. P. Barnes, plant pathologist, and Don C. Metz, entomologist, of the experiment station.

Because of different climatic and other conditions fruit tree diseases and insects and their control are quite different in the part of Oregon east of the Cascades and west of the Cascades. Since these enemies of horticulture are more numerous and destructive in the western part of the state the main program is based on western Oregon needs, with outlines for the eastern districts following. Copies will be sent free on request.

LAYING HOUSE THAT IS EASY TO BUILD

Plans and Directions Given Which if Followed Will Produce Workable Plant for Egg-Laying Operations at Comfortably Low Cost.



Details of exit runway at each corner of the house. At left: At right, details of dry hash feeder and stand.

(Copyright by NEA Service)

THIA-A, S. S., EUG. 13.—A poultry laying house of simple construction has been devised by the poultry department of the New York State Agricultural College at Cornell University.

It is adapted to 100 birds or more. For a 100-bird flock, the house is 20 feet wide by 20 feet deep. Several units may be added to hold 500 birds, in which case partitions are placed every 20 feet and the original house duplicated for each partitioned space.

The partitions may extend entirely across, thus separating the birds into groups of 100, or they may be put up to extend only three-fourths of the distance from the rear to the front. In the latter case, all the birds have the run of the entire house.

Ventilation Important

An opening under the eaves is almost a necessity during hot weather. The opening should extend full length, front and rear, of each unit. Doors are made to fit tightly against the under side of the rafters.

Both ventilators are usually kept open all summer. The front ventilator should be opened in cold weather if there is any indication of dampness in the house.

The cheesecloth curtains, for the windows, slide down and remain vertical when not in use.

The sliding and roof boards should be matched material covered on the outside with roofing paper.

Kind of Material

A concrete floor is preferred, although a board floor with openings for circulation beneath the floor may be substituted.

The framing of the house may be of yellow pine, hemlock, spruce or fir, depending on availability and price.

Ventilator boards, casing, window sills, cornice, etc., may be of white pine.

Siding and roofing may be of a cheap grade of white pine, spruce, hemlock, fir or yellow pine.

The material for this house, designed for 100 hens, consists of the following:

Lumber Needed

Pieces	Size
2	4 in. x 4 in. x 14 ft.
1	4 in. x 4 in. x 6 ft.
2	2 in. x 4 in. x 16 ft.
1	2 in. x 6 in. x 12 ft.
18	2 in. x 5 in. x 12 ft.
17	2 in. x 4 in. x 14 ft.
17	2 in. x 4 in. x 12 ft.
10	2 in. x 3 in. x 10 ft.
4	2 in. x 3 in. x 14 ft.
4	2 in. x 2 in. x 16 ft.
4	2 in. x 2 in. x 14 ft.
3	2 in. x 2 in. x 12 ft.
6	2 in. x 2 in. x 10 ft.
3	1/2 in. x 1/2 in. x 10 ft.

7-8 Material

(Planned, Unmatched)

Pieces	Size
1	12 in. x 10 ft.
4	10 in. x 10 ft.
1	8 in. x 14 ft.
3	8 in. x 14 ft.
3	6 in. x 12 ft.
31	6 in. x 10 ft.
1	6 in. x 8 ft.
2	5 in. x 10 ft.
2	4 in. x 16 ft.
2	4 in. x 14 ft.
1	4 in. x 10 ft.
2	3 in. x 16 ft.
5	3 in. x 14 ft.
3	3 in. x 12 ft.
10	3 in. x 10 ft.
3	2 in. x 16 ft.
6	2 in. x 14 ft.
6	2 in. x 12 ft.

Matched Lumber

7-8 in. x 6 in. x 12 ft.	633 bd. ft.
7-8 in. x 6 in. x 10 ft.	508 bd. ft.
7-8 in. x 4 in. x 10 ft.	342 bd. ft.

Foundation and Floor

5 yards gravel.
2 1/2 yards sand.
20 sacks cement.
4 rolls, 1-ply tar paper.
8-8 in. x 1/2 in. in. in.

Miscellaneous

4 pair 4 in. butts.
10 pair 3 in. strap hinges.
1 pair 3 in. T-hinges.
12 ft. 1/2 in. chain.
40 ft. clothes line.
4 yds. 36 in. cheesecloth.
12 yds. 2 in. mesh, 3 in. poultry wire.
4 yds. 1 in. mesh, 30 in. poultry wire.
7 yds. 1 in. mesh, 30 in. poultry wire.
5 rolls 3-ply roofing paper.

Foundation and Floor

Greenhouse tomatoes ripened on the vine are superior in flavor to those grown outdoors in warm sections and picked unripe, to get them to the distant consumer without undue loss, the Department of Agriculture finds.

Bermuda-type onion grown in Texas, California and Louisiana comprises about one-fourth of all onion shipments in the United States.

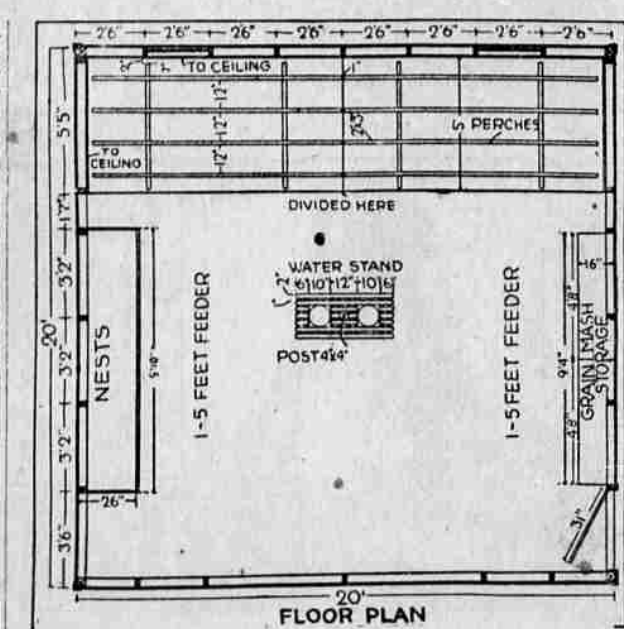
Texas furnishes four-fifths of the Bermuda onions in the country. About 3000 to 5000 car loads are shipped out of the state annually.

White pine blister rust in the northwest and southwest, chestnut blight in the east and south, and bark beetle infestations in the southwest and Pacific coast were the chief tree diseases and pests fought by the U. S. forest service last year.

This Is Labor Saver



Onion harvesting machinery that replaces hand-picking on the farm of Roscoe Zuckerman, in San Joaquin county, Calif.



Details of floor plan

4 rolls 2-ply roofing paper.
8-2 in. iron battens.
8 heavy iron hooks.
4-0 light, 8x10 lights.
25 lb. 8 penny nails.
4 lb. 6 penny nails.
8 lb. 10 penny nails.

FIFTEEN WORKERS REPLACE HUNDRED

(By NEA Service)

STOCKTON, Cal., Feb. 14.—Harvesting, grading and sacking onions by machinery is the newest thing in California's onion industry.

Roscoe Zuckerman, who farms some 2700 acres of delta land in San Joaquin county, has introduced this idea and proved it practical.

For many years Zuckerman has been producing large crops of onions and potatoes. The labor required entails a big financial outfit. Onions must be set out by hand, weeded by hand and the common practice is to pull and sack them by hand.

Zuckerman has employed several hundred men to handle his onion crop. Last year, as the outcome of five years of experimenting, he placed in operation an outfit which enabled 15 men to accomplish what it had taken 100 men to do under ordinary conditions.

Quicker Way

Under ordinary harvesting methods a crew of men is turned loose in a field to pull up the onions and leave them in windrows on the ground to cure.

Then, instead of sending the men back to sack the onions, Zuckerman sends in a mechanical loader which runs along picking up the onions and dumping them into a large cart. This loading outfit operates like a potato digger with its continuous belt conveying the onions from the ground to an elevation from which they are dropped into the cart. It is pulled by a light tractor.

When a cart is loaded a tractor is attached and the cart pulled away while another is put in its place. It takes three men to complete this part of the harvesting operation.

Grader and Sacker

For grading and sacking, Zuckerman has devised an outfit that fills more than 1500 sacks a day and requires less than a dozen operators. Four different grades are used.

The onions are dumped from the carts into a large bin, from which they are fed on a cleated belt carrier and are carried to the top of the machine. At the top of the conveyor runs on the level for a short distance and the bulk of the chaff and foreign material is lost.

From the conveyor the onions roll into the grading bins, which are automatically kept shaking. Onions of various sizes fall through the slats and are automatically graded. By the time the onions reach the bottom and are ready to sack they are entirely free from chaff and foreign material and have been strictly graded.

Cooking for Hogs

Cooked soybeans will more than double their value as swine feed, according to tests made at the Oregon agricultural experiment station. This would be especially practicable for large-scale producers of pork.

Cold Water Hurts

Fall pigs, forced to drink cold or icy water, show delayed growth and development. They do not drink as much water as they should, and it chills them so badly that they can't eat as well as otherwise.

Tests to Prevent Infection of Hogs

WASHINGTON, Feb. 14.—Farmers are fast awakening to the need of eradicating tuberculosis from the cattle of the country.

At one time tuberculosis in cattle was to be found only east of the Allegheny mountains. Now in every state in the Union there is some tuberculosis in cattle and swine.

Farmers' organizations are finding it much to their advantage to give the tuberculin test to every cow in their districts.

The test is made by injecting a chemical known as tuberculin between the layers of the skin. If an animal is tuberculous there will be a swelling at the point of injection which can be observed in 48 to 108 hours.

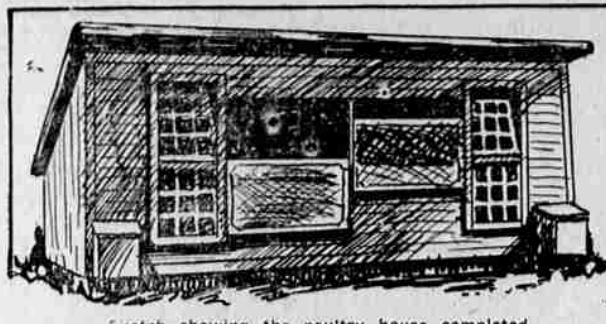
The government and state takes care of part of the loss of the farmer who has tubercular cattle. When a cow proves to be a reactor, she is branded, generally by burning a "T" on the jaw. The owner generally gets about two-thirds of the value of those affected.

It is impossible to tell by external appearances, except in extreme cases, whether the animal is affected. Often a very healthy looking cow will be affected.

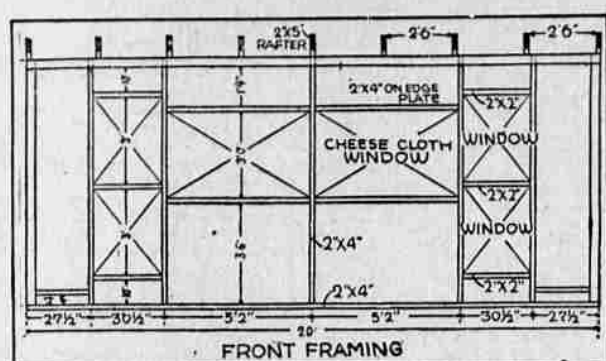
The tuberculous cow is not only a menace to other cattle but is also a common source of infection to hogs. Swine seem to be extremely susceptible to tuberculosis. Many buyers offer 10 cents extra per hundred as a premium for hogs which come from a county where all cows are tested and certified.

Most progressive dairymen have adopted what is known as the accredited herd plan. After two successive annual tests are made and a herd is found to be not affected the owner is given a certificate by the state and federal government.

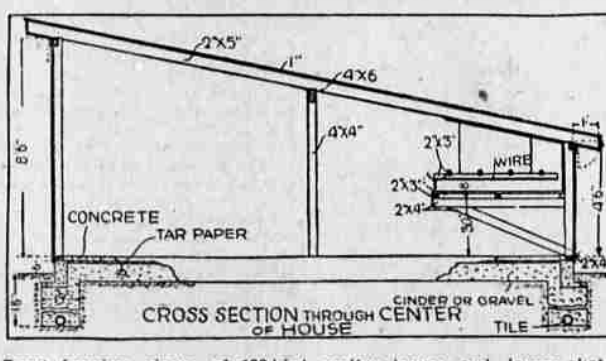
Cattle from accredited herds are selling much higher at all community public sales.



Sketch showing the poultry house completed



Front framing, above, of 100-bird poultry house, and, lower sketch, cross section through center.



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Brown rot mummies, dead twigs and spruns, and mildewed twigs should be pruned and removed from orchards, as they lessen the sources of future spring infection, and supplement the regular spray program, advises the Oregon experiment station. These should be burned, for in many cases if not burned, the disease spores are formed just the same, causing much trouble later on.

The spring application of bordeaux is not satisfactory for the clean up of anthracnose in a badly affected Oregon orchard. A new spray program by the experiment station advises bordeaux mixture added to the July codling moth spray in such cases. Fall spraying is no longer recommended for this disease of weather conditions at that time of the year, which favor infection and interfere with spraying.

Size and shape of hatching eggs are characteristic of the Oregon poultryman cannot afford to ignore, says the experiment station. Texture of shell, shape, color, and size of egg may be transmitted through the offspring.

Mould on sprouting eggs may be prevented by providing plenty of ventilation and sufficient heat to hasten growth, according to experiments at the Oregon station. Spraying the trays with formaldehyde each day before putting in the eggs is also a help.

CO-OPERATIVES GROW

The 5424 farmers' associations of 1915 reported a membership of 650,000 and an annual business of \$835,000,000. By 1922, 10,107 associations reported a membership of about 2,025,000 and an annual business of more than \$2,000,000,000.

DAMAGE FROM DROUGHT

Drought in California not only contributed greatly to the severity of the forest fires last year, but was also responsible for many other losses.

Bank of Commerce
EUGENE, OREGON

LOCAL CREAMERY JOINS ASSOCIATION

OREGON AGRICULTURAL COLLEGE, CORVALLIS, Feb. 14.—(Special) Eugene Farmers creamery of Eugene is a member of the newly organized North Pacific Cooperative Creameries. The organization of the efforts of the dairy and food commission of the state and Oregon Agricultural college. The immediate goal of the association is to standardize and raise the quality of the milk made by its members with the ultimate object of finding a larger outside market for Oregon milk.

Other creameries now belonging to the association include: Capital Cooperative, Salem; St. Paul, Paul; Hood River, Hood River; Lower Columbia, Astoria; River View company, Portland; and Mt. Angel Creamery and Ice company, Mt. Angel.

Enough creameries of the state have gone into the organization to insure its success and an organization meeting was held in Portland last Thursday. The agricultural college at the disposal of inspectors, and will pay for inspection of its own products by the association inspectors.

Farm Pointers

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