

Drainage of White Lands

By Prof. W. L. Powers, Department of Agronomy, Oregon Agricultural College.



THE greatest problem connected with the drainage of our so-called white lands and other lands of similar texture, aside from securing a community outlet ditch, is that of making a tile "draw," or receive the water from the surrounding soil and carry it off.

The typical white land surface soil is of a fine ashy colored silt clay with a large percentage of potential plant food. Underneath at a depth of 10 to 30 inches there is a change to an impervious, sticky blue clay, spotted with iron rust. The blue clay stratum runs from 6 to 18 inches thick, and below that the soil shades off into yellow silt clay sub-soils. The water table remains close to the surface over this blue clay stratum until June, delaying cultivation and growth.

A careful soil and ground water survey of any of these flat areas will show that only part of the soil in the area is typical white land. A second portion is near white land, or intermediate between white land and brown silt loam, while a third portion is slightly undulating brown silt loam that has fair natural drainage.

Location of Under Drains.

When it has been determined that an outlet for the farm drains is available, the next step is to go over the wet areas with a soil auger or post hole auger, making a thorough study of the subsoil and the soil water conditions. Beginning at the outlet frequent borings should be made to a depth of at least four feet. This will reveal the

location and extent of any impervious stratum and also the more free working strata from which water will feed into the auger holes or into a tile drain most readily. Any seepage water can be traced to its source by the auger method and a tile line located so as to intercept the seepage water. In draining saucer-like areas with retentive sub-soil it is best to put laterals over or under or around these sticky sub-strata, and, for the most part, cut off outside water before it gets on to such strata. This leaves only the excess rainfall of the area to be handled and greatly simplifies the problem.

How Drains Should be Placed.

In order to drain the bulk of the root zone for ordinary field crops quickly, the lateral tile drains should not be placed far into a retentive sub-stratum, even though the main drains may need to go into or below this layer. For field crops on white land 23 to 36 inches is a good average depth for laterals and 42 inches for main drains. For good thorough drainage of typical white land flats the laterals will need to be as frequent as about every two rods, for the intermediate type of soil about every four rods; while for the brown silt loam a few strings of tile placed up the draws will give sufficiently thorough drainage for ordinary field crops to pay a fair return on the investment. The water is taken into tiles more easily before it gets out of this loam soil to the white land.

Brains Applied To Farming

By R. M. Rutledge.

"AFTER all, home life is the main point," said Harvey W. Currin, a 1909 graduate of the Oregon Agricultural College, who is a firm believer in judiciously double-cropping his orchard, as is shown in the accompanying photograph of his baby, eighteen months old. His hearty outdoor laugh greeted the question, "Did your agricultural education and the four years spent at O. A. C. pay?" To which he replied as follows:

"Upon graduation I accepted a position as foreman of a Rogue River orchard at a monthly wage of \$50, and was raised to \$75 within six months. Nine

months later I was placed in charge of a 2,100-acre hay, grain and fruit farm near Drain, Oregon, at a salary of \$1,200 a year. At the end of six months my salary was advanced to \$1,500 a year. In addition to the salary, we are furnished a home with water, telephone and office supplies, a horse and buggy and their upkeep, fruits and berries, garden, pastures and buildings for our cows, hogs, chickens and turkeys.

"This is a point worthy of consideration in choosing an occupation. Other vocations pay as much as this for the same skill, knowledge and work, but often the items of rent, water, fuel and

other living expenses take several hundred dollars from the salary. This is a very desirable position and I attribute my rise from \$600 to \$1,500 within 20 months to the college training. A college course puts a man on horseback in the race for success and makes his work easier, more interesting and more profitable."

Since being graduated Mr. Currin has been taught much by practical experience that he could not have gained in any other way. Among other things of great value he has perfected a system of handling teams which is exceedingly interesting and successful. When employing a man by the day, he pays him \$2. If the man has a team he pays him

to get interested. Gradually they changed their rain planting from spring to fall, until now the supply of local teams for spring work is more than sufficient.

Today very few farmers in this neighborhood sow grain in the spring. This allows them to work on other crops in the spring, provides a more uniform distribution of work, permits the farmer to work more days in the year with a consequent increase in the year's salary, and raises the standard of agriculture in a whole community.

Before entering the Oregon Agricultural College, Mr. Currin lived on his father's farm in Clackamas County, near Kernville. Work was no new thing to him, and this experience was necessary, for he had to be 50 per cent self-supporting during his college year. After graduating he married a domestic science graduate of O. A. C. Today he has a home, an excellent position, a 12-acre prune orchard of his own, and enjoys a high standing in his community. He also is a director in the Drain cannery. Did his agricultural education pay?



Ruth Currin.

\$2.25 for his own labor and a sum for his horses determined by their size. For the average size horse he pays \$1 a day; for a medium heavy horse he pays an extra 12c, and for a heavy horse he pays \$1.25 a day. He has found that three big horses at a cost of \$3.75 will do the work of four ordinary horses at a cost of \$4. This is a small item but when multiplied by many teams quickly counts up. It not saves 25 cents, but also saves on feed and housing expense, for three large horses will not eat so much or require so much stall room as four ordinary horses. This is brains applied to farming.

Through his influence on the community this farm-college bred man has developed a change in the system of farming in his community. His orchard required extra team work in the spring, but when Mr. Currin first came in 1910 every farmer in his vicinity had his hands full putting in his spring crops. Quick advertising among the towns from Portland to Ashland brought outside teams. Seeing so much money go past them, the local farmers began

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