

DRAINAGE HELPS YIELD OF CROPS

How to Plan and Install a Profit-
Paying System on a Valua-
ble Fertile Farm.

THE BRAINS ARE FAVORED

Where Money is Not Available to Drain
All of Land, Start Where Profits
Would Be Greatest—No Rule
for Size of Tile.

(Prepared by the United States Depart-
ment of Agriculture.)

A good drainage system on a fertile farm this is not naturally well drained is a permanent improvement which continues to pay dividends in the form of increased crop production. (City gardens and lawns frequently need drainage, and if properly tiled, would be greatly improved.) Tile drains usually give more thorough drainage than open ditches. They occupy no land surface and do not interfere with farming operations. If properly constructed they require almost no expenditure for maintenance.

Economic Arrangement.

The most economic arrangement of the drainage system is one that permits the use of long laterals and requires the shortest total length of main drains. No hard and fast rule can be given for determining the size of the tile to be used. Drains should be large enough to remove the surplus water before the crops are injured. It is better to use sizes too large than too small, and no tile less than four inches in diameter should be used. On common dark silt loams where the average rainfall is approximately 30 inches, eight-inch tile having a fall of two inches to 100 feet will provide outlet drainage for 40 acres; seven-inch tile for 30 acres, six-inch tile for 19 acres and four-inch tile for six acres.

The proper depth for drain tiles depends upon the soil and varies from two to four feet. In heavy silt loams the depth should be from two to three feet. In this case the laterals should be placed from 30 to 40 feet apart. In open soils that give up water readily, and where the drains are three to four feet deep, the laterals may be from 50 to 100 feet apart. In the more porous soils the space may be even greater.

Secure Proper Fall.

The drainage should have a fall of not less than one inch to 100 feet if possible and greater fall than this is very desirable. Where little fall is obtained, particular care must be taken to secure a proper grade. The drainage ditch should be started at the outlet and its course should follow a line



Using a Level to Lay Off a Drainage System.

which has previously been laid out. Keep the ditch clean cut and as straight as possible. If the direction is changed it should be done by easy curves. Sharp turns must be avoided.

Laying the tile, like digging the ditch, should begin at the outlet. Under ordinary conditions tile should be laid and blinded or primed every day after the ditch is made. Any delay in laying may cause injury to the ditch by rain or by particles falling into it. If the banks are likely to cave, the tile should be laid as fast as the ditch is completed. The smaller sizes are laid from the bank with a hook. Large sizes must be laid by hand from the bottom of the ditch. All misshapen and badly cracked tile should be discarded. If a tile does not join closely with the preceding one, it should be turned over until it fits at the top. Cover all large cracks with pieces of tile or with cement.

After the tile are laid and inspected they should be covered with a little dirt from the sides, which process is called priming and left to settle. The purpose is to hold the tile in position and prevent breakage when the remainder of the ditch is filled. After the tile are primed they may remain without injury for several days or until all of the ditches are ready for filling. If the soil is close and it is desirable to add the water in reaching the tile quickly, the ditch can be partially filled with straw or brush or with stones and pieces of bark if they are available. Under ordinary conditions the ditch is most easily filled with a turn-plow equipped with an ecker 12 or 14 inches long. Another method is to place the team on one side of the ditch and pull the dirt in with a scraper from the other side.

NOTE: To whom it may concern: My wife has left my bed and board. I shall not stand responsible for any debt that she may make. OWEN, Adv. 8-10-51, p. 1 La Grande, Ore.

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Professional Directory

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J. E. MILLER—Architect, room 27, New Foley Bldg. Phone Red 1781.

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Fraternal Directory.

B. P. O. E. ELKS, La Grande Lodge No. 476. Lodge meets each Thursday evening at 8 o'clock. Home and club privileges cheerfully extended to all Brother Elks.

COOLIN R. EBERHARD, Exalted Ruler.
A. B. CHERRY, Secretary.

WOODMEN OF THE WORLD—La Grande Camp No. 169 meets every first and third Monday at Eagles Hall. All visiting neighbors welcome. Dues payable at the office of the clerk, New Foley Bldg., 9 p. m., to 5 p. m.
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MODERN WOODMEN OF AMERICA—La Grande Camp No. 7763 meets on the first and third Thursday evenings of each month in the E. of P. Hall. Visiting neighbors welcome.

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REBEKAHS—Crystal Lodge No. 50 meets every Tuesday evening in the I. O. O. F. Hall. All visiting members are invited to attend.
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Nostalgia.
A young Swedish girl was very homesick. "You ought to be contented, and not fret over your old home," said her mistress, as she looked at the dim eyes of the girl. "You are earning good wages, your work is light, every one is kind to you, and you have plenty of friends here." "Yes, ma'am," said the girl. "But it is not the place where I do be that makes me vera homesick; it is the place where I don't be."

Amusing Herself.

Elizabeth and her mother went to the city to spend the day, leaving Aunt Ellenor, a house guest, alone. Upon their return Elizabeth questioned: "Aunt Nellie, did you get lonely while we were away?" "Yes," was the reply, whereupon the little miss asked: "Then did you tell yourself a nice story?"

ROYAL NEIGHBORS—Iris Camp meets every second Friday afternoon and every fourth Friday evening, every month in E. P. hall. All visiting members cordially welcome.
LOUISE LANDRUM, Oracle
MARY E. WEST, Recorder

F. O. EAGLES, AERIE NO. 259—Meet every Friday night at Eagles Hall. Visiting members welcome.
Z. LILLY, W. P.
A. J. LARM, Sec.

O. E. S.—Hope Chapter No. 13, O. E. S. holds stated communications the second and fourth Wednesday of each month. Visiting members cordially welcomed.
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L. O. O. M.—La Grande Lodge No. 850, Loyal Order of Moose holds regular meetings every Wednesday night at 8 p. m. in Eagle hall next to Elks' Bldg. on Washington Ave. Visitors always welcome. Dues payable at Young's Sweets.
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HARRY SWART, Sec.

A. F. & A. M.—La Grande Lodge No. 41, A. F. & A. M. holds regular meetings first and third Saturday at 7:30 p. m. Cordial welcome to all Masons.
C. M. HUMPHREYS, W. M.
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KNIGHTS OF PYTHIAS—Red Cross Lodge No. 27 meets every Monday night in Castle Hall (K. of P. hall). A Pythian welcome to all visiting Knights.
J. L. ROBERTSON, C. C.
DE LILE GREENE, K. R. S.

The Pensively Titled.
Motions people are of two kinds—the actively motionless and the passively motionless. Between the two is a difference not of kind but merely of degree. The actively motionless are people who dwell in belittling and injuring others, venting by petty gossip or outright slander. The passively motionless are a strange pleasure in hearing of anything that is to the discredit of other people.

What He Really Wanted.

Little Lowell had been wailing a goat. His father had promised to get one for him. When the new baby came and the doctor showed the little bundle to Lowell and said: "This is your new sister, my son; what do you think of her?" Lowell looked at the baby seriously, then replied: "Well, I'd like her better if she waz a goat."

Left Foot Largest.
Our left foot is larger than your right—until cases out of 100. Science explains it in many ways; but we are a world of left-footed loungers. We lean against posts and door jambs and we do most of our leaning on the left foot; consequently, through the years it has grown to support the weight that the lazy right foot doesn't. The next time you buy shoes, have your left foot measured first.

Effects of a Meat Diet.

The wheat-eating Carthaginians were no match for the meat-eating Romans; the goat-eating Greeks easily overcame the beef-eaters of England while the beef-eaters of England have often proved their bravery. Yet the British army contains no better soldiers than the Scottish and Irish, to whom meat was long a luxury.

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