

**COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF OKLAHOMA**

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OKLAHOMA AGRICULTURAL AND
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Cypress Lath Sub-Irrigation System

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The cypress lath sub-irrigation system is probably the cheapest, most efficient and practical system known. As the name indicates, it is constructed out of the ordinary cypress lath. Cypress lath will last much longer in the ground than pine lath.

The following points should be observed in construction:

1. Care in placing laths together.
2. All joints must be dirt tight.
3. Tile must be placed in ditch level. In case ground is sloping, run laterals across the slope in order to have them approximately same depth and at the same time level.
4. Water free of sediment must be used.
5. Vertical feedpipe must be kept covered when not in use.
6. Three-penny nails should be used.

The material needed in the construction and installing of this system is as fol-

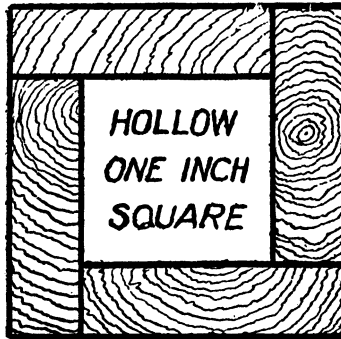
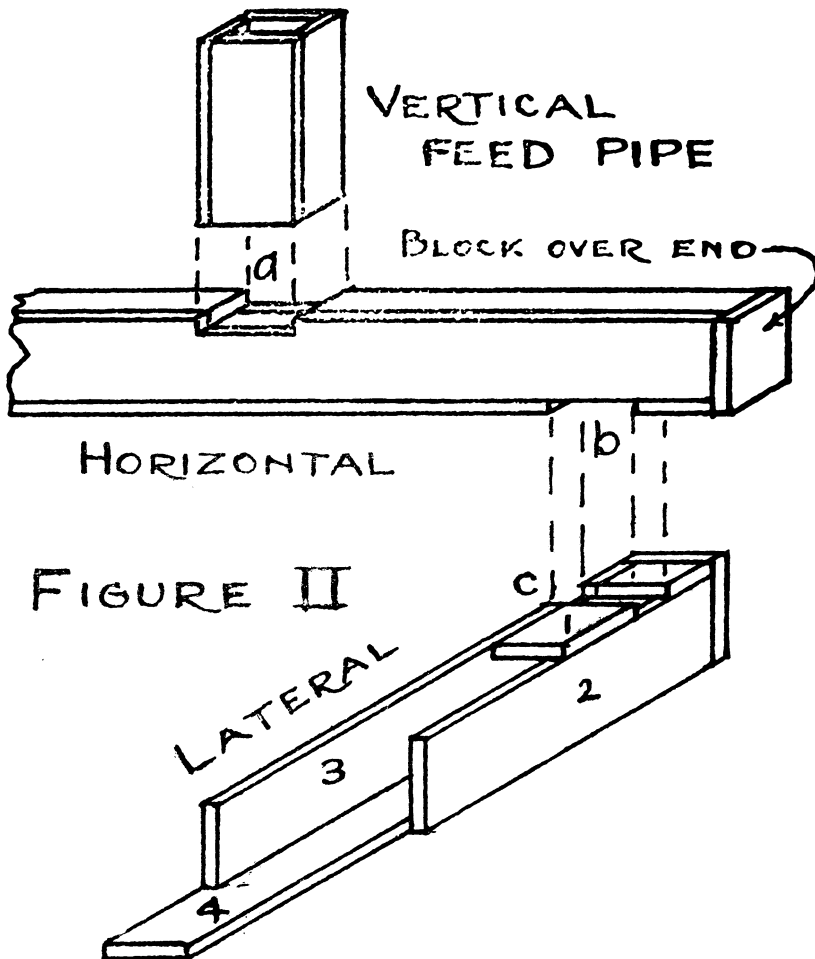


Figure No. 1

tools: Cypress lath, three-penny nails, saw, hammer, spade, sixteen-foot straight edge, ball of twine, a few three-foot stakes and carpenter's level.

CONSTRUCTION

Square the ends of the lath in order to make them dirt tight when nailed together. In order to prevent the lath from splitting it is a good plan to soak them over night. Nail the lath together, thus forming a square hollow tile as shown in the cross section in Figure I. Cut one lath 1 foot long, one 2 feet long, and one 3 feet long. Use a whole lath for the fourth piece. This makes a joint every 12 inches for water to pass through and at the same time breaks joints so a continuous tile of the desired length is secured. See Figure II—1, 2, 3 and 4.



It is practical to build a continuous tile and then saw into sections of desired length. Four nails (three-penny) should be used to fasten each lath; placing a nail near each end. Close the ends of the laterals by nailing on the end a three-inch piece of lath at the end opposite to where they are attached to the main. In case no

main is used, but simply several laterals with vertical feed pipes, then close both ends of each lateral.

VERTICAL FEEDPIPE

Use a small section of tile. Place in a vertical position at a convenient place in main tile for this purpose. It should be cut long enough to allow three or four inches above the surface of the ground when tile has been placed in the ground. Cover the end of this vertical tile with a tin can when not in use.

Place the vertical feed pipe in the notch sawed out in the horizontal main as shown at A, Figures II and III.

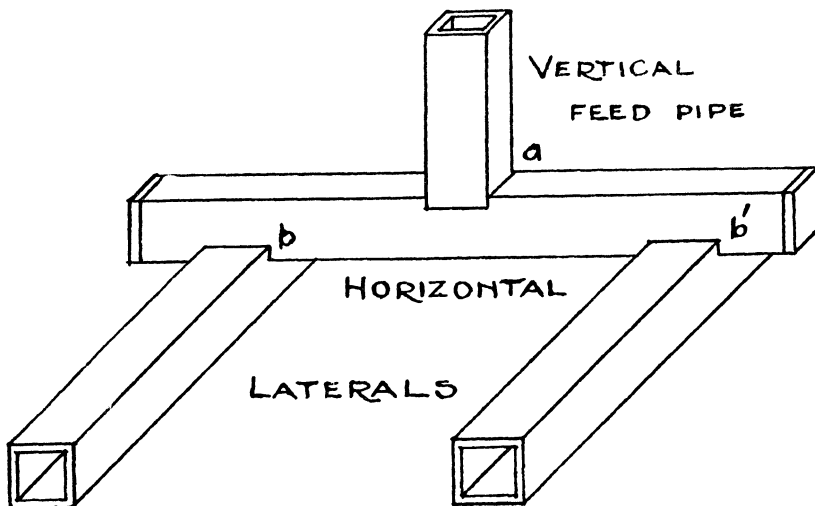


FIGURE III

Fasten the feed pipe in place by nailing a three-inch piece of lath on each side of it.

LAYING THE TILE

Figure III shows the arrangement of the main or horizontal tile, laterals and vertical feedpipe. The spacing of the laterals will depend upon the texture of the garden soil. The laterals are generally placed about four feet apart. In order to determine accurately place one lateral in the ground twelve inches deep, supply it with a very small stream of water over night. Examine the soil to see how far the water has spread from the tile. Space other tile twice the distance the water spread on either side.

Ditches for tiles should be dug from 10 to 14 inches deep. A tiling spade is a good instrument to use for digging the ditches.

The number of laterals that may be connected with the main tile depends upon the following points: First, the rapidity with which the water can be supplied. **Second**, the length of laterals to be supplied. It is not advisable to connect too many laterals. In the first place, if the system is not laid accurately there will be an uneven distribution of water. In the second place where a small number of laterals are connected it will be possible to water the desired portion of the garden without affecting the rest. In the third place where the garden is not level some of the tile will be much deeper in the ground than the other if several of the laterals are connected.

Lay laterals out on the ground, spaced as they will be in ditches. Lay main tile across laterals three inches from the ends of laterals. Mark both the laterals and main

tile at places where connections are to be made. Then saw out proper openings. See Figure III, b and b'.

Fasten each lateral to main tile as it was originally laid and marked by wrapping a piece of wire around the intersection. Close both ends of main tiles with a three-inch piece of lath.

Drive stakes along the line of a proposed lateral and place a 16-foot straight edge on the sides of the stakes so that the straight edge is level as determined by a carpenter's level. Tie a string now stretched in the place of the straight edge. This string will be level with the proposed bottom of the ditch. Move the straight edge forward between the second and third stakes, continue the string. Thus the level established, when the desired depth of ditch is reached at one end hold the spade vertically with the lower edge of the blade in bottom of ditch and mark the position of the string on the handle and thus the depth of ditch may be determined all along the stretched string. This method of leveling the bottom of the ditch is simple, efficient and can be done with the tools found at the average farm home.

COST

Cypress lath costs about 75 cents per bundle of 50, four foot lath, or in other words, 75 cents for 50 running feet of tile, or one and one-half cents per running foot. Ten or fifteen cents' worth of nails will do the rest. A garden 50x50 feet would require a main or a main in sections and about thirteen laterals, thus a total of 700 running feet, which would cost \$10.50 for lath and a few cents for nails, plus labor. Install a "Lath Sub-Irrigation System" in your garden or a portion of it. Thus save water and labor in the summer and have an abundant supply of fresh vegetables when the other gardens may be burned up.