

moisture in the upper layers of soil, or upon the surface, moves as nearly directly downward as the soil formation will allow, until it reaches the level of the groundwater. It then moves downward and laterally in a curved path to the drain, entering it from the bottom. Its movement after reaching the groundwater level is somewhat uncertain.

In speaking of the relative efficiencies of different systems, it is often stated that the underdrains in one field "draw" better or farther than those in another field. Actually the drains do not draw at all, if by that it is meant the tile exert a pull tending to suck the water out of the soil pores and into the drain. The underdrains serve simply as collecting channels or outlets for the percolating water. If one area is drained farther back from the lines of the tile than is another, it signifies simply that the conditions of the soil are such as to cause a more ready movement of the groundwater to the tile in the one area than in the other and that the tile in the better drained area have ample capacity to remove the water as it reaches them.

*Fall or Gradient:* The smaller the tile the larger should be its fall or gradient. A fall of 1 inch in 100 feet may be sufficient for an 8 inch tile; but for a 4 inch tile, 3 inches in a 100 feet is about the minimum limit.

*(To be continued)*

NEXT MONTH—How to determine sizes of tile in line with rate of run-off.

## How To Keep Skunks Off the Greens

By JOHN McNAMARA

WHILE in Detroit at the Fort Shelby Hotel, a Chairman of a Green Committee of a nine hole course in Michigan reported that they had quite a bit of trouble with skunks rooting up their greens. He thought they were after the angle worms in the greens.

In taking this matter up at one of our meetings, there were many different censors of opinion as how to get rid of these pests. Some suggested that a hose be attached to the exhaust of a tractor and the end put to the hole or burrow of the skunk thereby killing them by suffocation, others thought that shooting them on bright clear nights would be a good way to get rid of them.

In my opinion, with the little experience I have had with them, I do not think they are after angle worms but a white grub that is in the ground, and the best way to get rid of the skunks so that they do not root up the ground, is to remove the cause by getting rid of these grubs. This can be accomplished by using Arsenate of Lead in very light applications of one or two pounds to every 1000 square feet—mixed with soil or sand and spread evenly over the green when the grass is dry, in the same manner as you sow seed, etc. Continue this application about every two weeks and as soon as all the grubs have disappeared you will also find that the skunks will no longer molest the greens. You will also find that if robins root your greens in a like manner, that this method will be effective in keeping them off your greens.

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