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Land Bedding as a Method of Drainage in the Gulf Coast Region of Texas

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LAND BEDDING AS A METHOD OF DRAINAGE IN THE GULF COAST REGION OF TEXAS.

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Farmers are coming more and more to realize that before they can hope to raise crops with reasonable assurance of success they must have drainage. They know that tile drainage is the method that they must look to ultimately. However, it costs money to install tile, and many farmers are not in a position to expend their funds on this system of drainage at this time. Perhaps the next best thing to tile drainage, provided the farm ditches are in good order, will be what is known as "land bedding."

Land bedding is accomplished by throwing the soil up in "lands" from forty to eighty feet in width, pushing the soil to the center of the beds from year to year until the soil is literally "lifted up out of the water." Many farmers whose soil is low and poorly drained try to overcome the trouble by throwing their land up in ridges three, four or five feet in width. This is done from year to year, and no permanent improvement is wrought. The work must be done over each year and after many years of hard work of throwing the land back and forth the farm is not worth a penny more from the standpoint of effective drainage than it was when first placed in cultivation.

Rather than spend so much time and labor each year at a task forever hopeless, so far as permanent drainage is concerned, why not apply the same time and valuable labor with some definite purpose in view that will give positive results. It costs no more to throw the land up in wide beds than it does to ridge it, and by the system of bedding herein described the soil is slowly but surely raised and the level of standing water in the surface soil is lowered and the cropping conditions are correspondingly improved.

No technical qualifications are necessary on the part of a farmer to establish a system of

beds in his field. All that is necessary is to lay off the field into lands 40, 50 or 80 feet in width. The lands should lie in the direction of the slope and not across it. The slope can be determined by the flow of storm water. Beds of 40 feet are not desirable except on very low land or in cases where the cost of land is not an item to be considered. In almost every instance farmers who started beds 40 feet in width have found it more desirable to throw two narrow beds into one after two years of bedding. Beds 80 feet wide are best and should be the average.

Having determined upon the width of beds to be used, begin in the middle of the land and plow out a deep furrow making one round with the plow. The second round returns the soil into the first furrow opened and thus the plowing continues until the entire land has been turned over. The team must be turned to the moldboard side of the work.

The center of the bed, known as the back-furrow, must be plowed out deeply each year to prevent the forming of a hard ridge in the middle of the bed on which plant growth would be very unsatisfactory.

Care must be exercised at the time of each plowing that the dead-furrow at each side of the bed is not deepened below the level of the run-off which connects all the dead-furrows as well as any water furrows that may be between the plant rows. Where such a run-off does not exist it is recommended to lower the turn-road sufficiently that it may be utilized as the run-off. Where bedding is started with the opening of a new field it will be unnecessary to do any extra work on the turn-road. All that is required is to avoid dragging the soil down into the roadway.

In order to keep the ditches and dead-furrows open at all times and thus permit the water to be carried off without delay it is advisable to build a levee pusher, known in some localities as a "go-devil." This simple and inexpensive implement will give excellent service in keeping the waterways open, and do it quickly and cheaply. It can be made by any farmer who can use a saw and drive a nail or bore a hole. It is made of two pieces of 2x12, one 10 feet long and the other 6; or one 9 feet long and the other 5. Set on edge and saw one end

to a bevel so that the rear end of the shorter piece will be about 3 or 4 feet from the longer piece. Bolt the bevel ends securely and brace in several places to prevent its being closed in the course of work. About the center of the long piece bolt a stout upright to be used in tilting the implement when working in a narrow ditch. When operating, hitch the team so that the long piece will run straight with the side of the ditch while the short piece pushes the loose dirt upon the plowed land.

If there are bumps or mounds in the field, it may be necessary to take a spade and dig through these mounds to the furrow beyond. A little attention given to these and to your dead-furrows after each rain will show where the obstructions occur and will enable the farmer to increase the efficiency of his ditches. It is important to give some attention to the dead-furrows and run-offs after each plowing, removing all obstructions immediately, so that in case of rains all storm water will run off as soon as possible after falling.

Owing to the fact that one or two years' work will not raise the land to any great degree, it is advisable to raise slight ridges on the beds and on these ridges plant the crops. After the third year this ridging can be discontinued and the farmer can plant his crops on the broad level beds without the use of the narrow ridges.

In order to get the best results run the rows with and not across the beds. However, if for any reason it is impractical to run the rows with the beds it will be necessary to run the levee pusher through the dead-furrows after each cultivation in order to remove all loose soil or other obstructions.

Aside from the beneficial results the farmer will get from better drainage by the use of wide beds he will find that the dead-furrows may be utilized when the time comes for the installation of a tile drainage system. In such cases the dead-furrows, with additional deepening, may be used for the location of laterals of the tile drains. The run-off ditches may be deep-

ened to receive the mains or sub-mains. In laying off a farm into a series of lands, it is well to keep this ultimate end in view.

In conclusion, let it be stated that no farmer should expect results the first year. In the second year improvements will begin to be noticed. After that time conditions will visibly improve as the beds grow higher. Nor is there any danger that the beds will grow too high very soon. Fields in which bedding has been practiced for more than ten years do not show any sign that they are getting too high, but on the other hand show increased efficiency each year. If, however, they should become too high, all that needs to be done is to plow them down each alternate year and thus delay further raising. It is doubtful if any farmer who has bedded for that length of time will be willing to undo what has taken him years to accomplish.

This is farm improvement without the outlay of a single penny. It is nothing more nor less than turning to account an annual recurring labor expense so that it will yield dollars and cents both in the production of better and more abundant crops and increasing the value of the farm.

Approved October 4, 1915, E. C. Gee, Professor of Agricultural Engineering, A. & M. College of Texas.