

# land and water

Serving the Land Improvement Industry

October 1983



## The Water Crisis . . .

- Contractors Speakout
- Colorado Corn Signals
- IRRI-DRAIN=230 Bushels

Land Leveling/Site Preparation

Turning to Land Leveling Pays Off



**SPECIAL EDITION**

# IRRI-DRAIN SYSTEM PAYS OFF

photos by Sara Lawler



**Douglas Harford is a man who recognised an opportunity when he read about the Irri-Drain system in Land & Water Magazine.**

*Barth Holland crawler trencher used to install tile mains.*

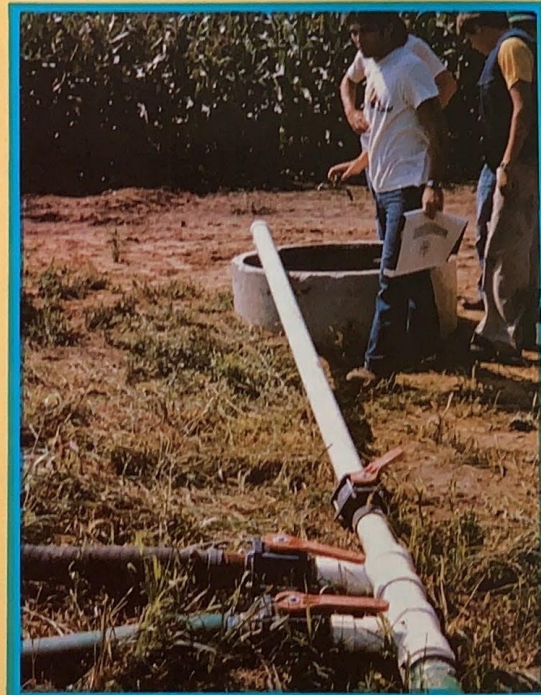
This farmer contractor, who lives near Mazon, Ill., called upon the Advanced Drainage People to help him plan and lay out a 55 acre field for the Irri-Drain System.

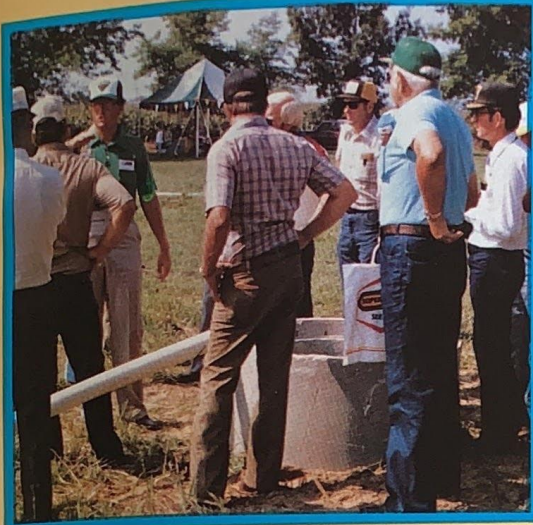
A topography map was produced to show the contours and the slope of the land. Soil samples were also taken to measure the permeability of the soil to determine the distance between the lateral lines. One obstacle that had to be taken into consideration was a 15" county drain tile that ran at an angle across the field.

*Water is divided at the main by three plastic gate valves. The opening is regulated to furnish the right amount of water to each of the headstands.*



*Jim Knapp explains how the 5 h.p. electric motor on the 3" pump moves water from the sump in the creek, up to the headstands.*





Jim explains that each acre requires 5 gallon of water per minute.

The final plan called for 4" lateral lines to be laid with 40' spacing on a grade of one tenth per 100 feet. Tile mains that carried the water off, while the system is in the drainage mode, were from 5" to 12" in size. Douglas tried to run the 4" lines about 4' deep, when he installed them with his Link Plow mounted on a Fiat Allis HD-21. Trenching was carried out with the Barth Holland Crawler Trencher, which will dig up to 7' deep for mains.

Douglas, who now calls his company "Agri-Tile Systems" was host to a field demonstration on Sept. 1st, to more than 1,000 farmers who came to see this system in operation.



The ears of corn are head high. Yield is estimated at 230 bushels per acre.

## It is impressive to see corn that is estimated to yield 230 bushels per acre in a drouth area.

Douglas has been pumping 5 gal. of water per minute per acre back into his tile system to furnish the water just below the root zone for this corn. Cost of pumping is estimated to be less than \$5.00 per acre. Pumping began just before tasseling.

Last year soybean yields averaged 69 bu. on this field, which was 14 bu. more than his other fields. □

Headstand is constructed of concrete pipe with boards to control depth of water to the tile lines. (see lower right of photo)



### ENDOWMENT MAKES LOAN TO FLINT HILLS REGION

One of the priorities of the endowment was to secure funding for at least one conservation project within its first year — this has been accomplished through a tax-exempt contribution from the Chicago Board of Trade.

The project which the board has selected for funding is the rangeland improvement project in the Flint Hills Region of Kansas.

Private landowners who own approximately 25,000 acres of land needing grass seeding, will rent the special drill for \$1.00 per acre to re-establish the native grasses.

The endowment is seeking help from anyone interested in soil and water conservation.

For more information,  
circle #17 on reader response card.