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(Success Story)

LAND FORMING

George J. Kris
Ronald E. Sneed
L. D. Funnings

For many years it has been recognized that for Coastal Plains farmers to obtain maximum production, extensive water management practices must be utilized. In recent years it has been recognized that often the drainage and irrigation programs were not coordinated and often did not complement each other in a total program. In late 1968 it was decided that a program in land forming might coordinate the irrigation and drainage programs and at the same time acquire much needed field data on land forming.

The cooperative land forming program involves the Agricultural Extension Service, the Soil Conservation Service, the Biological and Agricultural Engineering and Soil Science Departments at North Carolina State University, Agricultural Research Service, and Reynolds Research & Manufacturing Co. of McAllen, Texas. Thirty-two demonstrations involving 29 Coastal Plains counties from the northeast to the sandhills, with 545 acres being land formed, will have been held by the end of 1970. Along with the field demonstrations, the Soil Science Department has been conducting yield response versus fertility studies on several different soil types in both field and greenhouse experiments. Concurrent with the field studies, a research associate in Biological and Agricultural Engineering has been working to develop a suitable computer program for land forming. Work on this project is still continuing, but new methods of design and of determining cuts and fills have been developed. Both regular and irregular shaped fields can be designed using these programs.

Interest in land forming is increasing throughout the Coastal Plains. Approximately 15 equipment dealers are now selling land forming equipment, and several have rental equipment available. Individual land owners have purchased at least 30 pans

and 25 land planes. There are presently five land forming contractors, and several others have expressed an interest in land forming. It is estimated that approximately 2,000 acres of land were formed in the first six months of 1970, and by 1971 that figure should double. Most of the 40 Coastal Plains counties have ACP cost sharing for land forming included in their 1970 program. Four states have contacted the Agricultural Extension Service to help them in developing land forming demonstration programs.

Evaluation of the land forming program has begun and will continue for the next three to five years. Current costs are approximately \$35 per acre based on 15¢ per cubic yard of earth moved. Ninety per cent of the Coastal Plains would benefit from the practice with anticipated savings of 75% of the \$43,000,000 loss due to inadequate drainage and 40% of the \$183,000,000 loss due to inadequate irrigation.