

The ditch grade was kept at one-tenth of one per cent. This flat grade permits the water to flow slowly enough to avoid water erosion. In some cases the natural slope beyond the outlet end of the ditch is steeper than the ditch grade. In these locations, grassed waterways may have to be provided to prevent gullies from forming.

From the map of the station, showing pothole locations, it will be noted that the drainage from the west half of section 10 has to flow over two neighboring properties. Before the drainage work was undertaken, the problems and benefits to each were discussed with the owners. In each case, a written agreement was entered into, granting permission to let the drainage waters follow the natural slopes across their properties. These agreements were put on record with the county register of deeds to avoid misunderstandings in case of a change in ownerships.

### Summary

1. Draining of potholes on cropland in the glacial plains area of North Dakota is considered an economical practice. It makes additional acres available for crop production, simplifies field operations and reduces costs, and gets rid of spots most subject to infestation by noxious weeds.
2. Because the potholes usually are part of an imperfect drain, it is important that proper arrangements are worked out with all land owners between the area to be drained and the ultimate outlet for the drainage waters. Farm neighbors can often work together in getting their drainage done. This has the advantage of permitting the ditches to follow the path of most economical construction.
3. Drainage costs will soon be repaid by the crops produced on the reclaimed areas, while the improvements resulting from drainage will continue to benefit the farmer.
4. Shallow ditches with 10-foot width at bottom, and five-to-one side slopes can readily be crossed with farm machinery. Where deeper than two-foot cuts were necessary, a seven-to-one side slope has to be used to permit convenient crossing with larger farm machinery.

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### DOLLARS FROM THE STRAW STACK

Farmers are now getting fairer prices for their baled straw, as a result of an instrument which determines the moisture content accurately and quickly. This small, handy electrical instrument, developed at the Northern Regional Laboratory, is now being used by the strawboard industry, and its measurements have been readily accepted by farmers. They saw at once the advantage of accurate measurement of moisture content—an important factor affecting the price of straw—over the old, less objective methods. The straw tester is also being tried out on hay.—(USDA Agricultural Research Administration.)