TECHNICAL NOTES

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

ROOM 101, 1405 SOUTH HARRISON ROAD
EAST LANSING, MICHIGAN 48823

ADMINISTRATIVE MATERIAL - FOR USE ONLY WITHIN THE SOIL CONSERVATION SERVICE

Agronomy # 11 SUBJECT: Soil Loss Measurement

DATE: Oct. 14, 1975

To: All Offices

From: Richard H. Drullinger, State Resource Conservationist

FIELD MEASUREMENT OF RILL EROSION IN TONS/AC.

The method explained below for measuring rill erosion in tons per acre is known as the Alutin Rill Erosion Method. This procedure accounts for 80% of lysimeter measurements that involve losses of 5 to 100 tons per acre. Losses greater than 100 tons per acre are usually beyond the realm of rilling.

The basic formula used in this calculation is: T/Ac. soil loss = sum of cross section of rills in square inches along a measured lineal distance of 13.7 feet across the slope.

The procedure for field measuring rill erosion that is generally accepted is as follows:

Step 1 - Pace off or measure a lineal distance of 42 or 84 feet across the slope.

Step 2 - Measure in inches the width and depth of each rill along the chosen distance.

Step 3 - Multiply each width and depth reading to obtain a product in square inches.

Step 4 - Add all products of readings along chosen distance.

Step 5 - Divide this sum by 3 if a 42 foot distance was selected, and by 6 if 84 feet was chosen. The result is tons of soil loss per acre.

EXAMPLE:

Width (in.)	x Depth (in.)	= Area in sq. in.
3	3	9
2	3	6
3	6	18
4	6	24
3	5	15
5	6	30
		102

For a chosen distance of 42 feet the soil loss in tons/ac. equals 102/3 = 34.

Prepared by: Dwight L. Quisenberry
Conservation Agronomist
SCS, East Lansing, MI

98