

ANNUAL SURFACE YIELD

(a) Definition

The annual surface yield is the volume of runoff in acre-inches per acre that can be expected in a 12-month period for a given percentage of the time.

(b) Limitations

For use in design of soil and water conservation measures in Nebraska, annual surface yields can be determined for all types of areas by using soil cover index numbers. The yield, as determined by the following procedure, does not account for losses in transmission or evaporation from storage which will be encountered with certain measures. The yield does not include base flow.

(c) Data Required

- (1) Isogram number for given location (see isogram map)
- (2) The soil cover index number for the contributing area
- (3) Size of contributing area in acres
- (4) The yearly percent chance occurrence (dependency) requirement

(d) Soil Cover Complex Number

Determine by the procedure shown on page 2-5.

(e) Isogram Number

The isogram number is a base to which various conditions affecting surface runoff (yield) are related in a specific locality. The numbers on the isogram map represent the annual acre-inches per acre of runoff to be expected in that location 50% of the time if the watershed has a composite soil cover index number of 90.

(f) Size of Contributing Area

The size of contributing area is computed in acres so that volume of runoff can be conveniently determined in acre-inches or acre-feet. The contributing area should encompass only the area which will drain to the point of design under the most adverse conditions. If there are shallow potholes in the area, they should be considered as being dried up and empty and thereby noncontributing for dependable yield forecasts. Areas on which storage terraces with no outlets are constructed shall, for the purpose of yield estimates, be considered as noncontributing.

(g) Yearly Percent Chance (Dependency) Requirement

The dependency required will be established by the engineering standard for the practice. The value obtained from the 80% chance occurrence curve is the volume of runoff which the area can be depended upon to yield 8 years out of every 10 or that there is an 80% chance of having that volume of runoff every year.