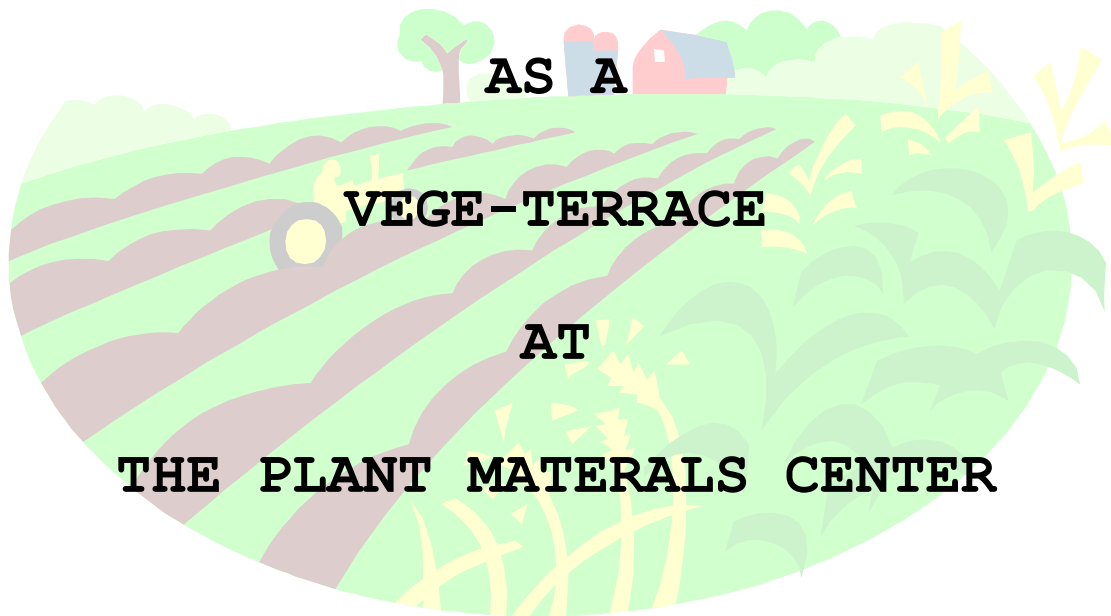


FINAL REPORT
2001
EVALUATION
OF
SELECTED PERENNIAL GRASSES



AS A
VEGE-TERRACE
AT
THE PLANT MATERIALS CENTER

Final Report

Evaluation of Selected Perennial Grasses as a Vege-Terrace at the Plant Materials Center

Introduction

Approximately 40 years ago the Soil Conservation Service, now the Natural Resources Conservation Service proposed that terraces could be better developed vegetatively than with machinery. The idea was passed up largely because of the availability of new machinery and the unwillingness of landowners and conservationists to wait for terraces to form naturally.

In such countries as India, vegetative terraces have been used extensively for years. Researchers indicate terraces function well and are a low cost option to controlling erosion.

Potential benefits of vegetative (grass) terraces include their abilities to trap sediment, helping to fill rills and gullies; to disperse concentrated flows; and to reduce the amount of runoff by temporarily ponding some of the water and increasing intake opportunity time.

Study Objectives

- A. Demonstrate the use of several species of selected perennial grasses as vege-terraces vegetatively.
- B. Record soil deposition taking place in the vege-terrace at different locations.

Study Results

This study was established in May 1991 in Field #2 on the PMC. This study encompassed one-quarter mile of vege-terrace using eight inch squared pieces of 'Cave-In-Rock' switchgrass sod. These pieces of sod were placed one foot apart. In the concentrated flow areas the sod was placed end to end leaving no spaces between them. Six iron posts were placed throughout the terraces to mark the locations of the measurements for the duration of the study. Measurements of sediment deposition were taken in October of 1994, March 1996 and again in November of 1999. The averages of soil deposition for the six different locations (Northeast, North Central, Northwest, Southeast, South Central and Southwest) are as follows: 1994 averaged 0.023 foot, 1996 averaged 0.203 foot and 1999 averaged 0.302 foot; chart #1 reflects these depositions.

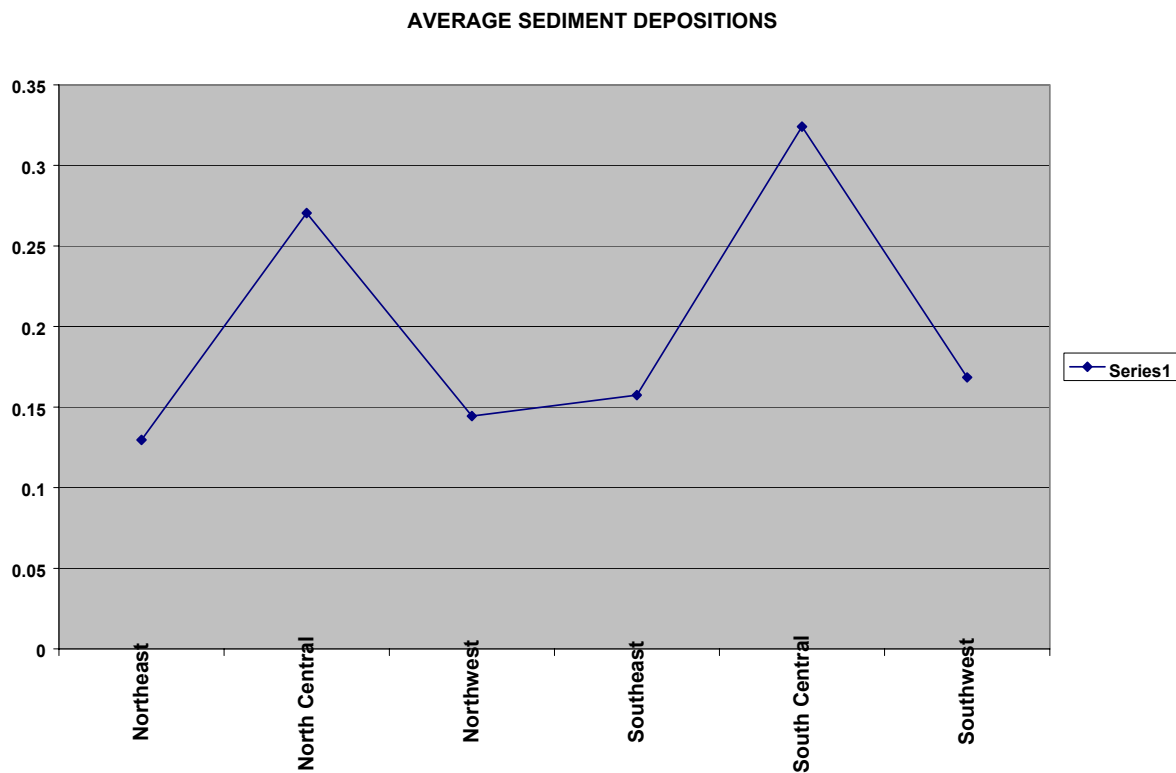
The greatest location deposition measured was 0.75 foot at the South Central location in 1999. The least location deposition measured was 0.000 foot at the Southeast location in 1994.

Grass hedges can be a relatively economical means to slow storm water runoff and reduce soil loss. There are several factors that will influence the success of grass hedge planting including species selection, seed quality, seedbed preparation, planting procedures, timing, and

management practices during the following establishment. Failure to consider any of these factors may jeopardize the success of grass hedges. Establishing a vega-terrace requires time and maintenance, but the rewards from a well-established grass hedge will offset the effort.

A paper entitled 'Guidelines for establishing warm season grass hedges for erosion control' was published in the Journal of Soil and Water Conservation in the January – February 1996 issue.

Additional information regarding grass hedges can also be found in the minutes of the National Grass Hedge Conference held on October 17 and 18, 1994 at the USDA-ARS Deep Loess Research Station, Council Bluffs, Iowa.



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