Regional Effects of Soil Erosion on Crop Productivity—The Palouse Area of the Pacific Northwest

R. I. Papendick  
_Agricultural Research Service_  
_U.S. Department of Agriculture_  
_Pullman, Washington_

D. L. Young  
_Washington State University_  
_Pullman, Washington_

D. K. McCool  
_Agricultural Research Service_  
_U.S. Department of Agriculture_  
_Pullman, Washington_

H. A. Krauss  
_Soil Conservation Service_  
_U.S. Department of Agriculture_  
_Spokane, Washington_

Soil erosion has taken a heavy toll of topsoil from large areas of prime croplands in the Pacific Northwest since the region came under cultivation about 100 years ago. One such area is the Palouse Basin in eastern Washington and the western side of the Idaho panhandle, which is one of the most productive, nonirrigated, wheat-growing areas in the world. It also is one of the most erodible areas in the nation with erosion rates on some slopes of 200 to 450 t/ha (90 to 200 tons/acre) in a single winter season (USDA, 1978). Soil surveys show that since cultivation began, all the original topsoil has been lost from 10% of the cropland, and from one-fourth to three-

---

¹In this paper, the term topsoil refers to the surface layers of Mollisols, rich in organic matter, which make up most of the soils of the study area.

Published in R. F. Follett and B. A. Stewart, ed. 1985. _Soil Erosion and Crop Productivity._ © ASA-CSSA-SSSA, 677 South Segoe Road, Madison, WI 53711, USA.