

Farming with the Wind II

Wind Erosion and Air Quality Control on the Columbia Plateau and Columbia Basin

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ON THE COVER: *Grower Ron Jirava observes wheat harvest of direct-seed trials on his farm near Ritzville, WA. In the background is a dust cloud from wind erosion on an intensively tilled fallow field. The goal of the CP₃ is to control wind erosion on agricultural lands with soil conservation techniques under study on the Jirava farm and elsewhere in the Columbia Plateau and Basin.*

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Preface

This book is a follow-up to *Farming with the Wind* published in 1998 by the Columbia Plateau PM₁₀ Project (CP₃) on best management practices for controlling wind erosion and air quality on the Columbia Plateau. The need for *Farming with the Wind II* became apparent when reviewing research progress by University and USDA scientists and engineers in their efforts to develop new and improved methods, technologies and strategies for predicting and controlling wind-induced soil erosion and dust emissions from the region's farmlands since the earlier publication six years ago. Consequently, compiling and summarizing this new information for our user clientele involved with soil conservation and air quality issues was considered to be an urgent priority. So far, agriculture on the Columbia Plateau and Columbia Basin has not been implicated as contributing to nonattainment of EPA air quality standards due to increases of particulate matter in the atmosphere, both locally and downwind. This is attributed primarily to increased adoption of improved farming practices and new technologies based on CP₃ research and development along with input and innovations by growers themselves.

This book emphasizes throughout that maintaining year round vegetative cover as crop canopy or residue, and surface roughness is key to controlling wind erosion and dust pollution in downwind areas. Soils of the Columbia Plateau and Columbia Basin are highly susceptible to blowing because of the dry environments, limited vegetation, high winds, intensive tillage, and because they contain substantial quantities of readily erodible and suspendible fine particulates. Much of the potential for erosion is on cultivated dry and irrigated farmlands that the region depends on for the production of a variety of cereal, horticultural, vegetable and hay crops.

The goal of the CP₃ from its inception and yet today is to develop conservation practices that will enable growers to control wind erosion and dust emissions without suffering economic hardship, and to assist them with adopting these practices on their farms. Progress of the CP₃ toward this end has been highly successful, and indeed, exemplary. This can be attributed to the acumen and organized efforts of Project managers, scientists and educators from regional institutions and agencies working in collaboration with growers, grower organizations and the farming community. Without their combined contributions to an outstanding list of accomplishments, this publication would not have been possible.

It is far more economical and less frustrating for growers and society alike to prevent designation of an area as nonattainment for particulate pollution than to correct the problem and return to attainment status. Though much has been learned about the principles and control of wind erosion and dust emissions on the Columbia Plateau and Columbia Basin in the past decade, the work needs to be strengthened and continued with special emphasis on the development and implementation of control technologies at the farm level. This will help to ensure compliance with EPA ambient air quality standards by agriculture in the region. The CP₃ has the organization and experience to accomplish this task both effectively, and in the best interest of the public that it serves.

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