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Review of *Reducing Soil Water Evaporation with Tillage and Straw Mulching* by S. K. Jalota and S. S. Prihar

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Reducing Soil Water Evaporation with Tillage and Straw Mulching. S. K. Jalota and S. S. Prihar. Ames: Iowa State University Press, 1998. vii+142 pp. Figures, tables, references, index. $64.95 cloth (ISBN 0-8138-2857-0).

The future of rain-fed agriculture depends upon reducing soil water evaporation and improving soil water storage. We must reduce runoff and increase water infiltration. By keeping more crop residue on the soil surface, growers are reducing erosion. Increased water infiltration has led to problems in some areas where fallow was practiced by causing saline seeps. Farmers will adapt to farming methods that conserve more soil water and increase crop production.

Reducing Soil Water Evaporation with Tillage and Straw Mulching presents an excellent review of the literature (over 230 research papers) explaining the process of reducing water evaporation with tillage and crop residue and its importance to crop production. The process of evaporation from the soil is complex. Different cropping systems, soils, climate, and rainfall patterns vary around the world, adding to the complexity.

The book is divided into five chapters covering the evaporation process; the measurement and modeling of soil evaporation; and evaporation reduction by tillage, straw mulching, and the two combined. An excellent Introduction prepares the reader for the information available in each chapter. Chapter 3 offers ten solved examples of calculating evaporation losses for readers to work through. A valuable index makes identifying subjects of interest easy.

This will be a useful volume for students at all levels, and for teachers, researchers, and extension personnel wanting to know more about the process of reducing soil water evaporation in semiarid areas. Researchers should be able to focus in on issues requiring more research after reading it. Some questions raised by farmers in wheat producing areas in the central Great Plains still need addressing. Which is better for water infiltration, for example, stubble that is standing or lying flat? (Standing stubble reduces wind velocity across the soil; flat stubble may wash away.) What affect do stripper headers on harvesters have on soil water storage?

Once water is in the soil we must reduce evaporation, a tall challenge for our new century. This well-written book helps point the way. **Gail A. Wicks**, *University of Nebraska West Central Research and Extension Center, North Platte.*