Best Management Practices for Agriculture and Silviculture


This book is the Proceedings of the Tenth Annual Cornell Agricultural Waste Management Conference entitled "Best Management Practices for Agriculture and Silviculture" held in Rochester, New York, in March of 1978. The Conference was timely as many states were in the midst of preparing 208 plans for water quality management, and the manuscripts presented a plethora of approaches toward agricultural nonpoint source control. The proceedings are organized into seven sections. Section 1 details governmental policy on agricultural nonpoint sources which can provide valuable planning guidelines for water quality managers. Section 2 on approaches for BMP selection contains a wide range of material with at least one paper presenting a clear and logical methodology for selecting a viable management strategy. Section 3, Nutrient Management, contains research reports on controlling consistent movement from agricultural crop and livestock production areas. Conclusions presented in this section emphasize that additional research is necessary on controlling and predicting nutrient losses from both animal waste and cropping areas.

Section 4 on silviculture is short, containing only four papers, and appears weaker than other sections. It consists primarily of reports on models under development and contains little helpful information for developing a water quality management strategy for silviculture activities. Section 5, Economic, Policy and Institutional Aspects, is heavily weighted towards the economic effects of sediment control. In general, some prescribed level or levels of sediment control are selected for simulation analyses and changes in production costs are calculated for these conditions. The assumption is made that controlling sediment to specified levels will result in the attainment of water quality goals, but the viability of this assumption is not adequately addressed. In addition, most of the papers fail to take into account the off-site costs of sediment impacts and therefore may present a distorted picture of the true cost-benefit ratio of controlling sediment from agricultural production areas. Of the seven papers presented in Section 6, State and Watershed Approaches, only three adequately address the procedure for adapting a set of management practices to control agricultural nonpoint pollution in a given state or watershed; however, these three papers present very good case studies. Section 7, Modeling Studies, presents a broad spectrum of modelling approaches for estimating nonpoint source pollution loads. However, little data on the water quality effects of implementing BMP's in a watershed are presented, and therefore most of the models are of an empirical nature. The results presented in this section highlight the need for more intensive data collection so that models may be tested and verified against measured water quality on a watershed basis. The strong inference obtained from this section is that water quality and economic model development for BMP evaluations has outpaced actual field data which are so necessary to fine tune and check these important tools.

Overall, the volume is well edited. With 45 papers contained, there is a good deal of overlap in treating individual subjects; however, this affords the reader the opportunity to compare alternative approaches to a given problem. The control of nonpoint source pollution is still a developing art as reflected by the contents of this volume. The book establishes the current state-of-the-art in a rapidly developing and increasingly important area and thus would be a valuable source document for professionals in the water quality management field. It also serves to indicate areas where additional information and research will be needed.

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