but also in all methods based on analysis of either Cr$_2$O$_7^{2-}$ remaining or Cr$^{3+}$ formed to estimate organic C in soils. From the standpoint of the total Hg procedure described, the sole purpose of the K$_2$Cr$_2$O$_7$ is to maintain an oxidizing environment during the extraction of Hg from soils. As far as the authors are concerned, the utilization of a molar rather than normal designation for the K$_2$Cr$_2$O$_7$ solution would be just as appropriate, especially since neither Cr$_2$O$_7^{2-}$ nor Cr$^{3+}$ is analyzed during the procedure.

Another difficulty pointed out by Block and Garcia involves the concentration of dichromate utilized. Unfortunately, when the paper was originally submitted the temperature employed in preparing the K$_2$Cr$_2$O$_7$ solution was not specified. Based on solubility, it is obvious that 198 g of K$_2$Cr$_2$O$_7$ are not soluble in water at 20-25°C; however, this quantity of K$_2$Cr$_2$O$_7$ is soluble at 30°C. The authors regret that the temperature employed, 30°C, was omitted from the final manuscript. In addition, since the main purpose for including K$_2$Cr$_2$O$_7$ in the digestion mixture was to oxidize soil organic matter, it is likely that a saturated solution of K$_2$Cr$_2$O$_7$ (20-25°C) will yield essentially the same results as those obtained by using the solution specified.

L. E. SOMMERS
M. FLOYD
Department of Agronomy
Purdue University
W. Lafayette, IN 47907

LITERATURE CITED

BOOK REVIEWS

Energy, Agriculture and Waste Management


This is a compilation of papers presented at the 1975 Agricultural Waste Conference, sponsored by Cornell University and the National Science Foundation, discussing the energy required in agriculture and waste management. Although these papers are individual contributions, each addresses one of three topics: (i) energy and food production, (ii) energy consumption for controlling wastes, and (iii) energy reclamation from agricultural wastes.

The first section, which consists of 10 papers, discusses the energy requirements for food production globally, statewide, or locally—for a given agricultural unit, i.e., a 100-cow dairy farm. Within this section, the reader can find extensive data on the energy requirements for various farm operations. Since much of the data are given on an energy basis, they are not dated like the economic figures.

The second section, energy consumption for controlling wastes, discusses the energy impact of pollution control and of various agricultural and municipal waste treatment operations.

The papers in the final section, which comprises about half the book, consider the potential for biogas production from agricultural wastes—some from the engineering aspects of biogas production, and others from the chemistry of anaerobic fermentation. This section includes an interesting two-paper series on protein production from animal wastes. Most of the papers consider biogas production from agricultural products concentrated in one place, such as animal manure, rather than from those produced from plant residues scattered over the soil surface.

Most of the papers in this volume were authored by engineers and, in this reviewer's opinion, will be a valuable resource for agricultural, civil, and environmental engineers engaged in establishing energy budgets for various agricultural operations and waste management schemes. The figures and schematic diagrams are well done and, unlike many other conference proceedings, this volume contains a valuable subject-matter index. Thus, it should be a good library investment.—R. H. DOWDY, Soil Structure Research Laboratory, USDA-ARS and University of Minnesota, St. Paul, MN 55108.

The Governance of Common Property Resources


This book is a collection of papers presented at a forum conducted by Resources of the Future, Inc., Washington, D.C. The question of how we deal with our common properties is the primary concern of the book's six chapters. Common properties are defined as those things that either no one owns, like the oceans, the air, or the rivers and lakes of the world, or those owned publicly, like forests, parks, and certain buildings.

The book's specific topics include: the technical basis of decision-making, managing public lands, environmental quality and collective choice, industries influence on decision-making, role of courts in allocating resources, and the process whereby an agenda is set for public decision-making on governing resources. With regard to the latter, if the political process is functioning effectively, items with most importance to the population generally should receive most consideration. A shorter paper entitled "Comment" follows each of four chapters.

Management of these resources is an increasing challenge for government, as evidenced by the many environmental cases in the courts initiated by conservationists and industries. Some multinational corporations control fortunes larger than those of many countries. Satisfactory information to people making government policy in fields such as pollution control depends upon adequate information from engineers and ecologists about the nature of the problem and possible alternatives. Politicians and administrators must know whether a contemplated policy is physically possible, and if it is satisfactory, both in terms of environmental quality and the cost of control. Increased attention to models has helped us to identify voids which exist in environmental control. Legislatures also need models which show how the environmental quality factors and the cost of control are distributed over legislative districts. The above-described subject matter from this book will become of increased importance as population pressures increase, and more appreciate the true nature of our resources and the many problems involved in our efforts to restore and maintain environmental quality.—H. E. HEGGESTAD, Plant Stress Laboratory, Plant Physiology Institute, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, MD 20705.

J. Environ. Qual., Vol. 6, no. 2, 1977  233