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Review of *An Ecological History of Agriculture, 10,000 B.C.- A.D. 10,000* by Daniel E. Vasey

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Population, environment, and energy are used as three significant determinants of agricultural systems. *An Ecological History of Agriculture* covers the span of time from the first known managed agriculture to an uncertain future. In a systematic manner, the author moves through chapters from the origins of agriculture to the future, covering topics along the span of time of the origins of agriculture, preindustrial agriculture, pastoralism, industrial agriculture, the present state of agriculture, and the future for agriculture. Interwoven is a global coverage of the influence of population, environment, and energy on agricultural systems as impacting ecosystems of the tropics, dry lands, dry summer lands, and humid temperate lands.

The author presents the thesis of a historical, sociological, and anthropological view integrated with the biological and physical sciences associated with agriculture. The well-referenced book shares the thinking of numerous writers having diverse opinions. The author does an excellent resume on
Agriculture has transformed the world. As the author states, the physical, biological, and cultural environment shapes agricultural systems; and in turn, agriculture has an impact on the whole environment. Through the development and management of agricultural systems within the constraints of environment, energy, and available resources, agriculture has always been able to support the existing population.

A dictionary definition typically limits agriculture to the preparation of the soil, production of plants, and the husbandry of animals. Agriculture must be treated holistically, as done by the author, from the sciences of molecular and applied biology to nutrient demands, agricultural systems, processing, marketing, and on to the consumer. In preindustrial agriculture times, agriculture was holistic. Beginning in industrial agriculture times, the holistic view was divided into subsets. The author does an excellent job of a holistic view that further integrates the impacts of population, environment, and energy upon agriculture.

The author introduces the future by stating that predicting the future is at once hazardous and safe, because predictions must surely be more wrong than right, but no one can now prove they err. The future is met with great uncertainty but with optimism. How many people can the world support? How many people will populate the world? What standard of living do people expect? Can agricultural systems meet the future needs of the population?

As the author states, by A.D. 3,000 we might number 40 billion or two billion, the possibility of some colossal error always remains. Regardless of the population, there is reason to believe that agricultural systems, through the development of new technologies, should be able to support the population with a reasonable standard of living while keeping within the constraints of available resources and maintaining a quality environment. In supporting the overall population, there will be transitions that may be painful.

Readers of the book will need to have a knowledge of world geography, historical events, and sociological and agricultural sciences terminology. More and better illustrations would improve the readability. References are somewhat weak in agricultural sciences and data is not always current.

An Ecological History of Agriculture is recommended reading for the general public. The book is an example of bringing together for scholarly study students of history, sociology, anthropology, agricultural sciences, and others. Donald M. Edwards, Dean, College of Agricultural Sciences and Natural Resources, University of Nebraska-Lincoln.