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Book Reviews

Readings in the History of American Agriculture. Edited by Wayne D. Rasmussen. University of Illinois Press, Urbana. 1960. 340 pages. \$6.50.

TO PRODUCE a first rate job of editing a series of documents requires as much time and imagination as any other type of scholarly production. Since the best documents are often found in unusual places, an editor must search broadly in order to acquire the most significant items. Once obtained, they pose the question of how much editing they require. If too little, they may puzzle rather than instruct the reader. If too much, the heightened sense of reality that such documents can convey is lessened. Occasionally an editor handles all these problems remarkably well and his book enjoys a long period of usefulness in the field for which it is intended. Rasmussen's volume should achieve such a position.

The theme of these readings is stated in the preface. The purpose of the volume is to bring together a documentary story of how the American farmer, with the help of various agencies, freed America from the fear of famine, and released America's energies from the necessity of spending most of its efforts in feeding itself. Although this constitutes the history of American agriculture, the sharpened theme points up the story.

The documents come from a wide variety of sources, including early books on agriculture, publications of agricultural societies, farm journals, advertisements in newspapers, mechanics magazines, religious periodicals, legislative documents, reports of local, State and Federal bureaus and departments, and manuscript collections.

Most of the 52 selections highlight important landmarks in our agricultural history. In many cases they constitute the first public announcement of specific events that led to significant changes in American agriculture. In virtually every case they effectively illustrate the point that the editor wishes to make. Readers of the volume will find many of the documents are new to them.

Rasmussen has arranged his material under eight major headings. Each is introduced with

a short explanatory statement fitting it into the history of the movement or the idea that it illustrates. These notes orient the reader who already has some familiarity with the subject, and they serve as leads for further study on the part of those unacquainted with the field.

In introducing a document concerning a petition from the Illinois legislature to Congress on behalf of land grants for agricultural colleges, Rasmussen presents an excellent summary of names and forces behind this idea from the early 1800's. In the field of genetics, the editor of these readings introduces a statement by Wilbur O. Atwater in 1869 with information on predecessors, such as Sylvester Graham, and indicates also the direction taken by research in the decades following Atwater's work. In such comments, the editor displays his wide acquaintance with the literature of agricultural history and his ability to select those facts best suited to introduce the reader to the document at hand.

Adverse criticisms are likely to be minor in nature. Some will dislike separating the illustrations from the factual material to which they relate. The description of McCormick's 1834 reaper and the accompanying drawing, for instance, appear at widely separated places in the book. The editor could have eased the problem of reading documents in some cases by explanatory material covering obsolete or technical words. No scheme of classification will satisfy everyone, no matter how logical or rewarding it may be.

As a whole, however, the book will be acclaimed as a useful and provocative addition to the field of agricultural history. It will make an excellent textbook for advanced courses in agricultural history. Students of agricultural history everywhere will find the material surprisingly fresh and provocative. Rasmussen has achieved a high level of performance in selecting, editing, arranging, and interpreting his material.

Lewis Atherton

Fifty Years of Citrus—The Florida Citrus Exchange, 1909-59. By James T. Hopkins. University of Florida Press, Gainesville. 279 pages. 1960. \$5.00.

THE 20-FOLD EXPANSION in production of citrus fruit in Florida during the last half century, to make it the leading citrus State, has been accompanied by parallel growth in marketing of the fruit. Among organizations engaged in the marketing of Florida citrus over this span of years was the Florida Citrus Exchange, a federated marketing cooperative, a history of which is presented in the book here under review.

Interwoven in the history of this marketing organization are many elements of the Florida citrus industry as a whole, such as the development of grades and standards for citrus, processing, transportation, and market outlets, both domestic and foreign. Hence, this book to some extent traces the growth of the entire citrus economy of this State.

This book is also a history of leaders in the development of the Florida citrus economy. It records the views and actions of the men who initially saw the benefits of a strong central marketing organization as a factor in the growth and operation of the citrus economy and who had the fortitude to make their visions a reality.

It also records the views and actions of the people who carried their organization, and with it

much of the citrus economy, through good years and bad years to new heights of attainment. Many of the people mentioned over the past decade may be recognized among the leaders of today.

This history of the Florida Citrus Exchange comprises 38 chapters. The first is an introduction dealing with ideas and events leading to the creation of the Exchange and the other 37 cover one or more years at a time of the 50-year period. Each chapter reviews important events of the period covered and includes a listing of officers, directors and others associated with the Exchange. Readers may find these listings monotonous to cover and may skim or skip them, except perhaps those in the first few and concluding chapters. Otherwise, the book is easy to read. It is well written. It is a valuable addition to our literature on citrus.

The greatest appeal and usefulness of this book should be, of course, for those currently associated with the Florida Citrus Exchange. It also should be of much value to others concerned primarily with citrus fruit or interested in cooperative marketing. Students interested in case studies of marketing organizations should find it useful.

Ben H. Pubols

God Speed the Plow; The Coming of Steam Cultivation to Great Britain. By Clark C. Spence. University of Illinois Press, Urbana. 1960. 183 pages. \$4.75

THE PRESENT-DAY farm tractor, powered by an internal combustion engine, is the answer to the need for mechanical power on British and American farms today. It has not always been so, and it may not be so in the future. While animal power was by far the most important immediate predecessor to the modern tractor, steam power was used in both Great Britain and the United States. This volume recounts the history of steam power on British farms.

British inventors and farmers made many experiments with steam power between 1820 and 1850. Greatest emphasis was on plowing, though steam engines were used for other farm operations. During the 1850's, many previous ideas were consolidated into practical form. By the mid-1860's, steam cultivation had become an accepted part of British large-scale farming. The high point in its

development was reached in the 1890's, just as its great competitor, the internal combustion engine, was coming into the picture. It was not until World War I, however, that farm tractors with internal combustion engines displaced steam engines on British farms.

Steam never became a dominant feature of English husbandry, nor did its use bring inevitable economic advantage.

The use of steam was widespread but not general. It was confined almost entirely to large holdings. As Professor Spence points out, more than a few attempts to introduce steam power failed. The cost of the engine and related apparatus was high, and repair costs seemed to many users to be excessive. Small holdings did not justify the high initial investment necessary. Poor farm management often made success unlikely. Most of the

companies established to do custom plowing with team apparatus failed, for various complex and interesting reasons.

The author, who is assistant professor of history at Pennsylvania State University, has given us the definitive history of steam plowing in Great Brit-

ain. The book, which won the 1959 Agricultural History Society Award, will be of interest to economists, historians, and technologists. It represents a major contribution to the field of agricultural history.

Wayne D. Rasmussen

The Competitive Potential of the U.S. Cotton Industry. By Clifton B. Cox and Vernon W. Pherson. Harvard University Graduate School of Business Administration, Division of Research, Boston. 201 pages. 1959. \$3.00.

OVER THE YEARS, the cry, "King Cotton is dying" has been heard often, and the considerable concern over the King Cotton's "death" is reflected in a growing list of publications that offer prescriptions for survival. This book, published under the auspices of the Program in Agriculture and Business at the Harvard Business School, attempts to assess the competitive potential of cotton and the U.S. cotton industry in both domestic and foreign markets.

Professors Cox and Pherson try to cover all facets of the "cotton problem," though they contribute little in the way of methodology and new analysis. But they do accomplish a monumental task in combining, through abstracting and summarizing, many of the studies related to the market potential of cotton completed by the U.S. Department of Agriculture, the National Cotton Council, and others. They believe cotton's future is tied to per capita real income, and to price, quality, promotion, and trade arrangements.

After analyzing the separate effect of each factor on the competitive potential of cotton, the authors conclude that no single factor would insure future market expansions for cotton. All except real income were felt to be controllable by interested groups.

Real income is considered important to the cotton industry, but it is assumed that the demand for all textile fibers, including cotton, will increase at about the same rate. Thus, the authors argue that the future of cotton depends on how well it competes with other fibers for markets—or on interfiber competition. They believe that cotton can best compete with other fibers through competitive pricing, quality improvement, sound promotion, and a healthy trade environment. They conclude that, given these favorable conditions, cotton could expect an increased market averaging

about 750,000 bales per year for the next decade. Given less favorable conditions, losses of markets could average 500,000 bales per year.

In their analysis, the authors have identified important factors that will determine cotton's share of the total textile market. But their assumption that future textile markets will increase at about the same rate as real consumer income is open to serious question. In the period since the end of World War II, consumer demand for total textile fibers has failed to keep pace with increases in consumer real income as other consumer goods and services have successfully competed for a larger share of consumer expenditures. In light of this, relative to the authors' assumptions of the effect of income on consumption, the estimated increase in cotton's markets (domestic and foreign) seems somewhat optimistic.

The authors have not provided a model for forecasting the demand for cotton, in either domestic or foreign markets. In their attempt to quantify future gains and losses in cotton's markets, no attempt is made to isolate the contribution of each factor to gains or losses in markets. The analysis would have been greatly strengthened by the derivation of coefficients of the variables which would provide a basis for forecasting, though admittedly it would be difficult to quantify the contribution of factors such as quality and trade arrangements to cotton's future.

The primary contribution of this work is, perhaps, its bringing into clear perspective the complexities involved in evaluating the competitive potential of the cotton industry. In particular, the authors point out the seemingly irresolvable conflicts along political, economic, and sociological lines that arise when alternative courses of action are considered for the cotton industry.

James R. Donald

The Price Discrimination Law. A Review of Experience. By Corwin D. Edwards. The Brookings Institution, Washington, D.C. 698 pages. 1959. \$10.00.

THE SHERMAN ACT of 1890 forbade restrictive agreements and monopolization without mentioning discriminatory practices. Experiences under this act indicated the need for restrictions on price discrimination. The Clayton Act of 1914 against price discrimination was intended to prevent monopoly in its incipiency by striking at practices by which powerful enterprises might attain or consolidate control of their markets. Difficulties in effective application of the Clayton Act led to the passage of the Robinson-Patman Act of 1936, which was designed to cope more effectively with price discrimination that had significant effects on business opportunities, whether these effects changed the vigor of market competition or increased the probability of monopoly.

Dr. Edwards confines his book mainly to a study of the problems of discrimination that have arisen and remedies that have been applied under the Robinson-Patman Act. Problems and proceedings under other statutes are discussed only to the extent necessary to an understanding of cases under the Robinson-Patman Act to which they have some relationship.

In early sections of the book concepts of the law in some detail are set forth, together with the general characteristics of its administration. A

chapter on legislative history attempts to determine what Congress was trying to do, and a chapter on content of the statute presents an analysis of the legislation that emerged. Following these is another on administration, which shows a classification of the cases involved and sets forth the peculiarities that were introduced by the administrative processes of the Federal Trade Commission.

The main body of the book is devoted principally to an analysis of the operative meaning that the legal concepts have acquired in cases decided by the Federal Trade Commission and in a few of the major private cases. In addition, there is an analysis of the enforcement activities under the act, based on the record and on interviews with a number of companies that were affected.

The substantive portion of the book is followed by two chapters devoted to an appraisal of the American price discrimination policy. One attempts to evaluate the Robinson-Patman Act itself, and the other sets forth tentative suggestions for a modification of the statute and of the policy that underlies it.

The book appears to be well organized and well written. It is an important contribution to the literature on the problems of price discrimination.

L. D. Howell

Taxes for the Schools. By Roger A. Freeman. Institute for Social Science Research, Washington, D.C. 441 pages. 1960. \$5.00.

IN 1955, the Commission on Intergovernmental Relations (the Kestnbaum Commission) made the following statement concerning education:

"The question is not whether the United States can afford to spend more on education than it does now, but how the needed funds can be raised."

This is the problem that occupies Mr. Freeman's attention in his thorough analysis of the present crisis in school financing.

His central theme, however, is not the raising of revenue per se, but whether the Federal Government rather than the various State-local governments shall assume the additional burden. To quote Mr. Freeman, the real issue is "who will hang the bell around the cat's neck."

Traditionally, State and local governments have been responsible for the control and support of their educational systems. Currently, because of fiscal difficulties which the author believes to be more apparent than real, serious consideration is given to legislation that would shift some of the financial responsibility from the local level to the Federal Government. According to the author, the vehicle used to further this aim—a Federal grant-in-aid for this specific purpose—would slowly erode State and local control over the educational system. Thus, the question is one of centralization vs. local control of this function.

A survey of several recent studies leads Mr. Freeman to the conclusion that "school revenue needs will double between 1958 and 1970, climbing

from \$12 to \$24 billion." Of the \$12 billion needed, \$6 billion will be raised under the existing tax structure as a result of projected growth of the economy. The remainder can be raised only through curtailing other governmental activities—which the author believes to be highly unlikely—or through an increase in taxes.

The author presents a definite program for raising the additional \$6 billion. If his recommendations are followed, \$2.5 billion will be collected from wider use of the sales tax with slightly increased rates; \$2.5 billion from property taxes; and \$1 billion from miscellaneous sources (including State income taxes). The alternative would be increased Federal grants-in-aid, which would be derived largely from the Federal income tax.

The financial implications of these alternatives should be of considerable interest to farmers. Taxes on farm property have doubled since 1947-49, largely as a result of rising school costs. In rural areas, close to two-thirds of all local government expenditure goes for schools.

A thorough analysis of the entire tax structure is presented to support the author's program. In contrast to many observers, Mr. Freeman holds that it is the income tax, rather than the local levies, that has been strained to capacity—and perhaps even beyond this elusive point. To this reviewer, his arguments are not convincing. But the statement that "federal revenues fell short of meeting expenditures, 4 years out of every 5 in the past 3 decades" does not take into account the deliberate deficit financing on the part of the Government. Nor does the inclusion of the 1930's in this statement appear justified. In that era, the income tax was largely a "rich man's tax," and no attempt was made to utilize it to the extent done now. The point Mr. Freeman makes about income tax receipts increasing only 62 percent between 1944 and 1959, while all other taxes increased 207 percent, is even less convincing. Percentage changes can be highly misleading, and different results can be obtained by choosing a different base year.

The amount of revenue a closing of "loopholes" would bring is open to question. The statement that ". . . considering the extremely high tax rates, income tax compliance is amazingly good" suggests that the general public is not "revolting" against this levy. Finally, the author's implication that incentives are affected by the high tax rates does not take account of a series of studies conducted at Harvard which concluded that the tax structure did not harm incentives.

But Mr. Freeman's case does not fail because of the inclusiveness of his charges regarding the income tax. His point about the sales tax being the "underdeveloped area of taxation in the United States" is well made. Only 35 States collect a retail sales or gross receipts tax with the "average rate" at 3 percent. The major objections to the sales tax arise from differing concepts of social justice. Mr. Freeman's reply to the charge that sales taxes are regressive is that the mild regressivity of the sales tax is more than offset by the sharp progressivity of the Federal income tax. He then quotes several studies which imply that the sales tax is roughly proportionate throughout most of the income range and is only regressive at the extreme ends of the scale. He predicts that "if the States expand in the retail sales tax field as much in the 1960's as they did during the 1950's, they may collect an additional \$2.5 billion (beyond the normal growth) which can be allocated to the schools."

Mr. Freeman attempts to refute the major criticisms of the traditional mainstay of local government, the property tax, and correctly points out that what is needed is several major reforms in the administration of this measure rather than its abolition.

Mr. Freeman concludes that financial responsibility for education is best left at the local level. The alternative of shifting some of this responsibility to the Federal Government "would fundamentally change the historical relationship between the American local community and its public schools." He doubts "that it would be a change for the better."

Harvey Shapiro

THE BASIC CONCEPT involved in operations research and systems engineering is the analysis of complex man and machine systems using a group of specialists from diverse fields. The similarities between operations research and systems engineering are more important than their differences. The concepts and techniques employed in problem analysis are much the same; the difference is that operations research is concerned with making procedural changes while systems engineering is concerned with equipment changes.

The fields operations research and systems engineering are of comparatively recent origin. They were first used extensively during World War II when they were applied to such problems as anti-submarine warfare and the sea mining of Japan.

In economic terms, operations research could be said to be concerned primarily with the allocation of resources. The techniques employed should be useful, or at least of interest, to anyone engaged in production and marketing. Although operations researchers claim to apply the entire scope of human knowledge to the solution of whole problems, they rely rather heavily on the application of mathematics and statistics. And the "seven classical operations research models—allocation, queueing, inventory, sequencing, routing, replacement and competition—" all deal with problems faced in production or marketing.

An example of the application of operations research to an agricultural problem is the Seabrook Farms Experiment, mentioned briefly in this work. The problem was to stagger the planting dates for fields of peas so that a freezing plant could operate with maximum efficiency, that is, the plant would operate at capacity for the longest possible period of time with no loss from over-ripe or immature peas.

This is the third large volume of collected papers arising from the John Hopkins University annual 2-week course on operations research for management. The editors have done a creditable job of organization, but with 20 authors from various departments, this type of compilation

leads inevitably to an unevenness of style and an occasional discontinuity of thought between chapters.

The book is divided into three parts: (1) Perspectives, (2) Methodologies, and (3) Case Studies. In the background material given in the first section, the editors treat operations research and systems engineering as two separate fields, but their similarities cause considerable repetition in some of the chapters. In a broad survey of these fields, such as this book purports to be, it would probably be better to stress basic similarities rather than minor differences. And in a book of this size, all reductions in redundancy would be appreciated by the general reader.

More than half of the volume is devoted to the explanation of the methodologies employed in operations research, and this is the real meat of the book. The other sections are the trimmings; these appear to be more or less haphazardly appended. Most of the chapters on methodology give excellent insight into the mathematical processes involved, and provide simple examples of the solution of problems in such subjects as statistical quality control, game theory, and inventory systems.

The third section presents four case studies of the application of operations research to specific problems. The simulation of tactical war games shows some of the possibilities of the application of diverse disciplines to the solution of a problem. But some of the other illustrative cases, such as the study on the cost of reports to a telephone company, appear to be basically problems in cost accounting.

Some insight into the fields of operations research and systems engineering is gained from parts one and three. The wide range of subjects covered in the second section—from basic statistics to information theory—makes interesting reading for anyone who may desire an introduction to the methodology but who does not have the background necessary for following complex expositions of mathematical theory.

Arthur A. Harlow

Agricultural Economics Research in Asia and the Far East. The ECAFE/FAO Agriculture Division of the Economic Commission for Asia and the Far East. United Nations and Food and Agriculture Organization of the United Nations, Bangkok, 1958. Columbia University Press, New York. 100 pages. 1960. 75 cents.

THIS STUDY examines the role of government agricultural economic organizations and brings together available information on current research work in Asia and the Far East.

Annual Review of World Production, Consumption, and Trade of Fertilizers—1959. Food and Agriculture Organization of the United Nations. Columbia University Press, New York. 140 pages. 1960. \$1.50.

THE PURPOSE of the review is to record and analyze the production, consumption, and trade of fertilizers in the world and in the different continents and countries. It is based on data received from governments up to November 1959.

Statistical Yearbook 1959. Statistical Office of the United Nations. Department of Economic and Social Affairs. Columbia University Press, New York. 618 pages. 1960.

THIS ELEVENTH ISSUE of the *Yearbook* contains data from more than 150 countries and territories that submitted statistics by completing questionnaires, and from others that made their national statistics available by means of published documents.

The State of Food and Agriculture, 1960. Food and Agriculture Organization of the United Nations. Columbia University Press, New York. 182 pages. 1960. \$2.00.

THIS ANNUAL reviews the world situation and outlook for agricultural production, changes in stocks, economic activity and demand for agricultural products, food supplies and consumption, international trade in agricultural products, farm prices and incomes, consumer prices and sales, agricultural policies and development plans, and commodity survey and outlook. It includes a section on programming for agricultural development and an annex which contains 17 tables.

Food Supply, Time Series. Food and Agriculture Organization of the United Nations. Columbia University Press, New York. About 80 loose-leaf unnumbered pages. 1960. \$1.00.

THIS BOOKLET, printed on loose leaves that are removable from its covers, contains data on food consumption from the Food Balance Sheets. It is a supplement to FAO periodicals that contain the latest available food balance sheets.

Selected Recent Research Publications in Agricultural Economics Issued by the United States Department of Agriculture and Cooperatively by the State Colleges and Universities¹

ANDERSON, J. R., AND DILL, H. W., JR. LAND CLEARING AND DRAINAGE IN EASTERN NORTH CAROLINA. U.S. Agr. Res. Serv. ARS 43-127, 47 pp., illus. January 1961.

Since World War II, farmers have cleared thousands of acres of land for agricultural uses in the middle Coastal Plain and tidewater counties of eastern North Carolina. Drainage activity is carried out by legally organized drainage districts, voluntary groups, and individual farmers. In Beaufort, Pitt, and Robeson Counties, where the four townships selected for detailed study are located, 43,000 acres have been cleared. In eastern North Carolina tile drains and open ditches are both used in draining farmland. Average cost of tiling was about \$62 an acre compared with \$25 to \$30 for field drainage by open ditching. Where tile drains replaced open field ditches

such advantages were observed as a saving of land and fertilizer and greater efficiency and convenience in operating tractor-drawn equipment.

BAUER, FREDERICK. HONEY MARKETING. Calif. Agr. Expt. Sta. Bul. 776, 71 pp., illus. (Agr. Mktg. Serv. cooperating.) December 1960.

This bulletin provides an analytical description of marketing organization and practices of the honey industry and offers suggestions for changed practices and further studies.

COWHIG, JAMES, ARTIS, JAY, BEEGLE, J. A., AND GOLDSMITH, HAROLD. ORIENTATIONS TOWARD OCCUPATION AND RESIDENCE. A STUDY OF HIGH SCHOOL SENIORS IN FOUR RURAL COUNTIES OF MICHIGAN. Mich. Agr. Expt. Sta. Spec. Bul. 428, 34 pp. 1960. (Agr. Mktg. Serv. cooperating.)

¹ State publications may be obtained from the issuing agencies of the respective States.