New Media Received


Paul Belanger and Ettore Gelpi edited this book that is presented in a multilingual format. It contains nine articles, five notes, two summing-up articles, and a bibliographical survey. The basic aim of this publication is to focus on the profound change in education that is taking place both on national scenes and the international level. That change is the tendency for education and lifelong learning to increasingly merge into one process.

Drawing upon the works of contributing writers, from a variety of international communities, including Paul Legrand, one of the pioneer thinkers in the field of permanent education, the book is an attempt to show how educational reality in different countries is no longer confined within the temporal and spacial limits of institutional education. Rather, the authors collectively piece together a new premise for educational practice—non scholae, sed vitae discimus (we do not learn for school but for life), that is, lifelong education.

The book provides an understanding of the relationship between initial (tertiary) education, adult education, and general learning environments found through informal, or nonstructured education. The various contributing authors show that lifelong education is not a new prescription for educational policy and practice, but a reality of our time that is taking shape in various countries around the world, such as in Argentina, Chile, China, Poland, Sweden, and Japan. Lifelong learners are emerging in various regions of the world due to the steady increase in the general level in learning capacities at all levels of youth and adults. Correspondingly, there is a prolongation and diversification of learning lifecycles, as well as a proliferation of education providers.

The book presents enough material to understand that there are many (albeit overlapping) concepts of lifelong education pervading the literature: permanent education as developed by the Council of Europe, lifelong education as understood by UNESCO and further elaborated by the UNESCO Institute for Education, recurrent education as planned by OECD, the notion of the learning society associated with the writings of the Swedish researcher Torsten Husen but envisaged also by UNESCO, the deschooling concept as developed by the radical thinker Ivan Illich and the concept of continuing initiation as formulated by the African historian Joseph Ki-Zerbo.

Overall, the book provides insights into the conceptual framework of lifelong education and is a needed addition to the international literature in this field. Educational practitioners will find the book helpful in many respects. It affords an excellent overview of lifelong education from a global perspective. It reinforces the principles of good practice in program development, and the book stresses that theory and practice, in a lifelong learning mode, are interrelated, and taken together form the basic ingredients in developing relevant programs at various levels of education.—ROGER S. McCANNON, 600 East Fourth Street, University of Minnesota, Morris, Morris, MN 56267.


Science teachers are always looking for resources that will help us make science “come alive” for our students. Acid rain is another product of the Lawrence Hall of Science Great Explorations of Math and Science (GEMS) program that does help students connect science activities to real-life situations.

This guide is aimed at the 6th to 10th grade level. But it should be noted that many of the activities can be adapted to the curricula above and below those levels. Of equal importance is the fact that the teacher does not need to possess a high level of knowledge about acid rain before engaging in the activities. Step-by-step instructions, lists of supplies, and extension activities allow even the novice in this area to be successful. Simply stated, it is written for teachers and has been extensively reviewed by teachers. So it works!

As the title suggests, this guide is about acid rain. In this case it also deals with many related concepts that are presented in a format that allows the students to grasp how they are all connected.

The exploration of acid rain begins with a session that encourages students to voice what they’ve heard about the topic. This leads to forming questions concerning what they’d like to know about acid rain. These questions act as the basis of their acid rain investigation. Their first experiment is to determine acid’s effect on plant germination. In session no. 2, students use the concept of pH to gain an understanding of what acids and bases are and how the strength of each is measured.

Session no. 3 forces students to compare their preconceptions with current scientific knowledge about acid rain. The “Fake Lake” simulation in session no. 4 allows students to see how the soils around a lake influence its pH as does the rain water that enters it. The short-term solution of adding buffers to acidified lakes is explored in session no. 5’s “Welcome to Laketown”.

In session no. 6 the students prepare for the next session’s town meeting and visit a “Lake of Today” using the medium of a play. Many life forms of the lake gather to discuss what is happening to their lake because of acid rain. The final session reviews all aspects of what the students now know concerning acid rain and possible solutions to the problem.

As a teacher of upper elementary science, I find the GEMS Acid Rain curriculum guide very effective. Its layout of sessions and suggestions for extension are terrific. For those of us interested, the literature connections and theme ideas open many other possibilities for connecting this curriculum to the real world. This connecting is what makes science real and exciting for today’s students. The prevalent theme of this guide is to do just that: connect students to science through real life experiences.—PAT WIDBOOM. Cyrus Math, Science, and Technology Magnet Elementary School, Cyrus, MN 56323.


Drylands and their subhumid margins account for nearly 45 million km² of the earth’s land surface. Approximately 20% of the world’s population live in these regions, many of whom are dependent on some type of low input agriculture. Lands in these regions are under severe environmental pressure threatening the livelihood of more than 850 million inhabitants. This degradation is most pronounced in the Indian subcontinent, the Sahel, and in parts of North Africa and the Near East. This text is focused on those regions in most desperate need of integrated resource management and presents an integrated approach to the...
The book is organized into five parts. The first presents an overview of the major agricultural components of the region: animal agriculture, crop production systems, water management, wildlife and tourism, and forestry. A section on economics and investment concludes Part 1. Part 2 focuses on planning and assessment with an emphasis on multiple use concepts. Part 3 provides technical information on nursery operations and tree improvement, forest plantation management for irrigated and rainfed systems, and management of native woodlands. Part 4 continues the technical discussions but focuses on special situations such as fuelwood production, agroforestry, windbreaks, erosion control, and rehabilitation of saline environments. The fifth and final section emphasizes the social aspects of the topic, identifying approaches for implementing and evaluating various resource management solutions.

Overall the book is well written. With a few exceptions it is clear and easy reading. Each chapter is organized to provide introductory material or definitions as needed. This is followed by detailed discussions of appropriate topics and a nice summary presented as a set of measurable objectives. The objectives identify the main points that the reader should remember from the chapter and will be extremely useful to both students and instructors using the book as a classroom text. Each chapter has a number of very specific examples that help explain the ideas presented in the text. Additional examples from temperate areas would add some breadth and attract a larger audience. The illustrations and tables are clear and well organized. Bibliography materials for some chapters are quite good but could be improved in others. In particular, there are relatively few current research publications cited. I have some reservations as to the availability of many citations to most readers; however, this does not detract from the stated goal of providing an overview of forest management practices in dryland areas.

The book belongs in the library of all professional foresters who work in the dryland tropics. It should be required reading for administrators of agencies that fund forestry projects in dryland regions and certainly belongs in the library of any university with a forestry program. The book is probably most useful as a text for students studying forest management of dryland areas. It has a very definite international focus and would be most useful in classes where tropical or subtropical systems were emphasized. I would purchase it for use as a reference text in an agroforestry class but would not require students to purchase the book. The $95.00 price tag seems a bit high and might limit the audience.

All in all I enjoyed most sections of the book. It is not light reading, but for those topics where the reader has a previous interest it is easy to get caught up in the text.—James R. Brandle, Department of Forestry, Fisheries, and Wildlife, University of Nebraska, Lincoln, NE 68583-0814 (fofw084@unlvm.unl.edu).

**Lentil in South Asia—Edited by W. Erskine and M.C. Saxena. International Center for Agricultural Research in the Dry Areas (ICARDA), P.O. Box 5466, Aleppo, Syria. 1993. 236 p. Softcover.**

Lentil features prominently in South Asia where it is the major pulse grown in rotations with cereals or in relay or mixed cropping systems. Lentil is a staple that complements the mostly cereal-rich diet of the people. The importance of this crop has prompted the International Center for Agricultural Research in the Dry Areas (ICARDA) to take the lead in formulating a plan of action in cooperation with its partners in South Asia to improve it. The book is the result of a seminar held at New Delhi, India, on the status of lentil in South Asia, the current research underway, and the prospects and recommendations for improvements to make the crop more productive and reliable. The objectives of the book were to determine the current state of the research programs, existing research information, identify research needs, and to establish networks to facilitate research toward solving the most pressing problems with lentil.

Thirty-five authors collaborated in the production of 18 papers that are compiled in the softcover book. The compilation of papers should serve as a ready reference for researchers and administrators concerned with the lentil crop in South Asia. The emphasis on the problems of the region and the possible solutions are strong points and should form a bench mark for formulating a plan of action for research that will address those problems.

The subject matter of the book is organized into sections dealing with genetic resources and crop improvement, agronomy, plant protection, post-harvest processing and quality, and international crop improvement and networking. Finally, recommendations for regional research are made and presented as the anticipated result of the seminar.

Good descriptions of the genetic resources of the region are given and the current state of crop improvement efforts in the countries of the region is discussed. I found numerous inaccuracies in the descriptions of the genetic information on important traits and glaring omissions of important citations on the subject. Ongoing breeding programs are described in some detail. A considerable number of inaccuracies are present regarding the description of the major types of lentil and where they are grown in South Asia and other parts of the world. The description of breeding of small seeded lentil is particularly lacking in important details. The inheritance of cotyledon color does not mention the studies cited in Muchomber and Chilvers (1981) that precede citations given concerning the genetics of that trait. The genetic resources and breeding efforts in Pakistan are reviewed including major production areas. The Pakistan paper reviews mostly the work at the Nuclear Institute for Agriculture and Biology (NIAB) located at Faisalabad where the emphasis is on mutation breeding. Genetic resources, breeding, and recent progress in Bangladesh are discussed. There is a good description of the situation in Nepal regarding genetic resources and breeding. The lentil improvement efforts in Sri Lanka are restricted to evaluation of introduced germplasm.

The agronomy section appears to be thorough and accurate, particularly the chapter regarding India. Good attention is given to aspects of fertilizer use, biological nitrogen fixation, crop rotations, mixed cropping, and other agronomic considerations for lentil production. The other chapters in the section are relatively brief and concern the situations in Bangladesh and Nepal.

An apparently complete listing of the disease and insect problems of the region is the subject of the next section, along with possible control measures that are practiced. A detailed discussion of post-harvest processing and quality of lentil is given and the final section of the compilation deals with international crop improvement and networking. A good treatment of the origin of lentil in South Asia is given and the relatively narrow genetic base of lentil is described. The problem of indigenous germplasm is highlighted in earlier chapters. The networking section is placed at the end, presumably as the final part of the workshop and the hoped-for result.

Extended discussion sessions at the end of each contribution to the book is a feature that gives the reader an appreciation of the concerns of the participants to the workshop and an idea of how the problems of South Asia might be dealt with. Several individual chapters on germplasm and breeding, agronomy of lentil, and breeding lentil at ICARDA for southern latitudes are especially useful. Several chapters describ-
ing local experiences lack depth; however, they contribute to the overall goal of the seminar by providing needed detail of the situation in important production areas of the region. Additional details and reviews of many of the problems of South Asia can be found in Expanding the Production and Use of Cool Season Food Legumes (the proceedings of the second International Food Legume Research Conference held at Cairo, Egypt in 1992). The organizers of the seminar are to be commended for producing a compilation of the lentil situation in South Asia.—FRED J. MUEHLBAUER, USDA-ARS, Washington State University, Pullman, WA 99164-6434 (muehlbau@wsu.edu).


For those who do not have access to updated library literature search facilities, it can be difficult to obtain an up-to-date compilation of available titles. This is especially true in many developing countries, but widely applies for all scientists who usually have limited time to search the literature. Even with access to convenient search media, it is useful to know what information are available in the various sources. This book was written from information compiled for the Core Agricultural Literature Project at the Albert R. Mann Library at Cornell University. The project was funded primarily by the Rockefeller Foundation and intended to identify the most useful current literature in agriculture for university-level instructors and researchers in developing countries. This is the sixth book in a seven-volume series entitled "Literature of The Agricultural Sciences." The previous books covered agricultural economics and rural sociology, agricultural engineering, animal science, soil science, and food and human nutrition. The final volume, forestry and agroforestry, is yet to be published.

The book consists of 11 chapters; thus, for a book of this nature, it is not exhaustive. The first three chapters discuss the development of crop science, outlining the integration of the contributing sciences and the foundational people and literature upon which the science was built. These chapters were well-written and easy to follow. I liked the way the references were foot-

noted close to the citations for easy access. John M. Pochman gave an excellent review of the development of crop improvement in Chapter 1, but I was also impressed with the coverage of the development of plant pathology by George N. Agrios of University of Florida, and the chapter on crop protection by David Pimentel of Cornell University. Whether or not readers specialize in crop science disciplines, they should easily understand from these chapters how the disciplines started, how the research progressed, and what types of references might be important and available in the different areas. For professionals in crop science, the information presented may be redundant, but should make good review.

The next four chapters of the book examined the characteristics and trends of various crop science areas, as well as how crop improvement societies influenced publishing in the discipline, and publishing patterns of selected crop research institutions in developing countries. This included nine countries in Asia, nine in Latin America, and seven in Africa. A chapter is included by Wallace Olson of Cornell University and Peter McDonald of New York State Agricultural Experiment Station, which examines the intricacies of AGRICOLA, AGRIS, and CAB databases. Useful tables and figures were used in the descriptions. One complete chapter also was devoted to "Trends in PHYTOMED Bibliographic Database."

Chapter 8 of the book, written by Wallace Olson of Cornell University, consisted of 161 pages with two main objectives: (i) to determine the crop improvement and protection core literature of the past 40 years that still are useful in academic teaching and research today, and (ii) to determine the relative rank and merit of the titles worldwide, but especially for third world countries. More than 140 pages were devoted to listing the 1663 titles. Chapter 9, also by Wallace Olson, discusses primary journals and the core lists using a similar approach to that of the previous chapter. Seventy-nine core journals were listed in alphabetical order, making it easy to locate specific titles. In addition, titles of 64 relatively new (since 1980) crop improvement and protection journals were given in this chapter. The chapter also presented a section on trends in journal publication, including electronic media such as the internet. The next chapter presented a reference update aimed at researchers, academicians, advanced students, and crop professionals. The final chapter of the book dealt with primary U.S. historical crop science literature from 1850 to 1949. Included is literature on crop introduction, improvement, breeding, pathology, and protection. About 56 of the 117 pages in the chapter were devoted to a listing of the 1071 primary core historical monographs deemed worthy of preservation. There is also a listing of the most frequently cited journals and serials.

The book is well organized in its outline and presentation. It covers a wide diversity of crop science literature. As a reference book, it contains information for the major crop science areas for individuals wishing to cover a broad spectrum of the literature, particularly to establish the nature of the information that may be available. The major benefit of the book is that the authors and the various review teams have sifted through the multitude of information and presented only the most relevant pieces. The table of contents and comprehensive index makes it very easy to find information in the book. Although this book may not be necessary in all crop scientists' collections, I highly recommend it for all libraries and other crop science book collectors. I especially recommend it to libraries that need assistance in modifying or updating their crop science holdings.

Wallace Olson accurately stated in the Preface: Scholars and literature collectors throughout the world will find extensive assistance in this book for evaluating the strength of their literature collections and determining the merits of their journal and report holdings.

Although the intention of the work published in this book was mainly for developing countries, where it will find its greatest use, it should also be very useful in developed countries. The book is reasonably priced.—ROY A. SCOTT, Plant Science Department, South Dakota State University, Brookings, SD 57007 (rscott@itc.iel.com).


Of Men and Marshes is an easy reading book. Written in the mid 1950s, this book stresses the essential impact of wetlands on the welfare of humans. Chapters 1, 9, 10 and the Epilogue would create good discussion for students. Many issues Mr. Errington thought were important to address in the 1950s continue to be ongoing and controversial issues today.
Chapters 2 through 8 cover general and basic ecology of wetland systems. I would suggest that these could be used for leisure reading text for any level. This book lacks specific or scientific data for use as a classroom text, but could be a good source for philosophical discussions. The fundamental message that Mr. Errington is relating to the reader is that humans must live harmoniously with nature and there is a need to get actively involved in preserving and protecting our natural resources.

The book is comprised of Paul Errington’s philosophies on wetland and wildlife issues ranging from drainage, hunting, modern life and marshes, to his knowledge and experiences of wetland ecology. The first and several of the last chapters discuss philosophies on wetland ecology, the impact humans are having on them, and human’s relationship with wetlands. Several chapters follow the ecology and experiences of wetlands through the four seasons of the year. He compares wetlands from various regions of the USA. Further discussion explores islands and their importance to wildlife as well as warnings against many of the unforgiving natural hazards sometimes encountered with wetlands.—CHAD G. RAITZ, Route 1, Box 877, Morris, MN 56267 (chad_raitz@mail.fws.gov).


Keith County Journal describes the interactions between man and nature in Keith County, Nebraska. This book will stimulate the interest of readers in even the most mundane biological occurrences making it an excellent addition to the reading list of any biology, zoology, ecology, or natural resources course. For example, the discussion in the first chapter—which describes the relationships between protozoa, termites, and large herbivores—underscores the biological importance of many microscopic organisms and would be ideal supplemental reading for an introductory biology class. Set in the Nebraska Sandhills, Keith County Journal would also be enjoyable reading for anyone interested in the biology of a unique area of the country.

Janovy covers a diverse range of topics in this book. Chapters deal with subjects from termites to rivers to painting birds. Within a chapter, Janovy may describe a river, talk about the biology of fly larva, and then philosophically discuss the impact of the area on societal choices. Janovy obviously enjoys Keith County and makes his admiration for its land and nature clear in every chapter. He also loves being a biologist who manages to impart enthusiasm for this discipline in his writing. Still, the overriding focus of the book is the effect that Keith County has on Janovy and his students. Janovy begins his chapter on the plains killifish, “The Fundulus Chronicles,” by describing the impact of Keith County on people.

Keith County has a way of inundating the human with nature, as you may have figured out from what has gone before, and the human finds himself turning first this way and then that as the attractions parade across the senses.

This is an excellent book for college-level students interested in biology or ecology, although Janovy’s musings can be difficult to follow at times and his points may be somewhat obtuse. Janovy’s ability to make students relate to small and insignificant creatures and obvious love of biology make Keith County Journal an excellent reading for any natural resource discipline.—JOHN R. HENDRICKSON, Northern Great Plains Research Laboratory, USDA-ARS, Mandan, ND 58554 (hendricj@mandan.ars.usda.gov).
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