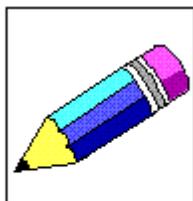




January-February 1996 Newsletter

1. [PENCIL AND PAPER](#)
 2. [SOCIETY NEWS](#)
 3. [CORRESPONDENT'S CORNER](#)
 4. [INFORMATION PLEASE](#)
 5. [COMING EVENTS](#)
 6. [POSITIONS AVAILABLE](#)
 7. [K-12 SPECIAL INFO](#)
-



**Pencil and
Paper**

This issue of the newsletter will depart somewhat from our more-or -less "standard" format in order to bring you some more detailed information on a couple of items. First off, please take a look at the information (pages 3-5) concerning The Coalition for Education about Environment, Food, Agriculture, and Renewable Resources (CEEFAR). This seems to present a real opportunity to take a proactive step in the area of natural resources science education. As one of the 40 professional societies which has endorsed the aims of CEEFAR, SWST has the chance to provide input and expertise for national science education goals.

Another item of some importance is the announcement regarding the National Research Council, Board on Agriculture's new project on environmental aspects of wood use (page 6). Perhaps this will set the stage for a new "CORRIM" (Committee on Renewable Resources in Industrial Materials) type of project.

Hopefully the expanded coverage of these items will produce some useful actions. I'm sorry that this necessitates the omission this month of what I'm told by many is their favorite part of the newsletter, namely, Connections. One of the things about that column is that it is most helpful to have input from you all (i.e., contributed items are most welcome). As those who know me can attest, I'm certainly no computer jock. Much like the tank commander, "Oddball" (Donald Sutherland) in the Clint Eastwood movie "Kelley's Heroes", "I just drive 'em, baby. I don't know what makes 'em run." So to keep Connections lively and timely, the help of those who do know what makes 'em run is valuable. Likewise for other columns and news items. Items sent to me by e-mail or on disk are most welcome indeed as those formats obviate the need for typing at this end, and thus ensures that you have some control over the accuracy of the information (computer gremlins notwithstanding).

I know I've mentioned it in this space before, but it is hard to ignore the fact that late winter brings on maple sugaring time. And, yes, I did indeed tap my one maple tree in the backyard. I've run out of the home-made syrup, and I can hardly stand the fake stuff any more. Hopefully I'll be enjoying the sweet taste of success very soon. Good luck to any others out there who are working a sugarbush! - **D.D.S.**

SOCIETY NEWS

REMINDERS



Annual meeting

The 1996 SWST Annual Meeting is scheduled for June 23 at the Marriott City Center, Minneapolis, Minnesota. Mark your calendar!

Student poster competition

Applications for the SWST Student Poster Competition to be held at the Annual Meeting are due in the Madison Office on May 1. An application form along with the guidelines and procedures were published in the November/December 1995 issue of the Newsletter.

International Professional Visitation

Proposals for the 1996 SWST International Professional Visitation Program are due April 1 in the Madison Office. Guidelines are available from [Vicki Herian](#). The Society will offer up to two awards of \$2,000 each.

Accreditation visits

University wood science program administrators are reminded that requests for both initial and continued SWST Accreditation are due by July 1. **Fran Wagner** of the University of Idaho is Chair of the Accreditation Committee for 1995-1996.

Spring Board Meeting

The SWST board will hold its spring meeting on March 16 in San Diego. It's a tough job, but somebody has to do it.

Thank You

A big "thank you" to Newsletter Assistant **Melissa Brookens** for all the great help on the newsletter since July 1994. Melissa recently began an internship with the Illinois Department of Conservation. With this full-time obligation on top of her continuing studies and research for her M.S. degree, she will be unable to continue as Newsletter Assistant. I have really appreciated her help and perpetual cheerfulness. - **D.D.S.**

SWST Home Page Under Development

Thanks to **Rado Gazo** of the [Louisiana Forest Products Lab](#), SWST has a world wide web (www) internet home page under development. Information about the Society, a list of current officers (with e-mail links) and some back issues of the Newsletter are some of the things you will find there. Eventually, this project may be transferred to a commercial provider. In the meantime, check it out and feel free to provide comments and suggestions. You may visit the SWST site at: <http://www.fpl.forestry.lsu.edu/swst>
The SWST Newsletter is published six times a year by the Society of Wood Science and Technology, One Gifford Pinchot Drive, Madison, WI 53705 USA. Phone 608-231-9347, FAX 608-231-9592, e-mail vicki@aldo.fpl.wisc.edu. SWST is a technical and professional organization for scientists and engineers working in academia, government, consulting, and the forest products industries and is dedicated to providing education and expertise regarding better ways to use and produce wood products. Items for the newsletter may be sent to

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Environmental Implications of Wood as a Raw Materials Choice: A New Project and Symposium from the Board on Agriculture, National Research Council - National Academy of Sciences

Correspondent's Corner

Wood supports a major segment of the U.S. industrial base. The United States' share of world wood production is approximately 25 percent. Forest trees provide such products as fiber, resins, oils, pulp, and paper, pharmaceuticals, and fuel. A major use of wood is in homes construction where in addition to the foundation and major structural supports, wood uses comprise veneers, chipboard, and fiberboard. The bark, leaves, fruit, seeds, and roots of trees yield food, shelter, medicine, and numerous other products. In terms of production efficiencies and natural resource conservation, it is imperative to make profitable use of solid wood, its residues, and by products.

To better assess wood as a raw material, the U.S. Department of Agriculture's Forest Service has asked the Board on Agriculture to catalog and review the analytical techniques used to follow the life-cycle of wood production--from tree to product--and assess the environmental impact of choosing wood as a raw material for industrial use. The symposium will provide a knowledge base, identifying what data is lacking, where future efforts should be focused, and what is known about assessing environmental impacts and tradeoffs--energy required, recycling potential, and use of processing by-products. Assessment data will be put into the contexts of industrial marketplace product decision making, governmental policy decision making, and international trade and will be valuable both for future comparisons with other materials and for assessing opportunities to improve the cost and environmental effects of wood use.

The symposium, tentatively scheduled for March, 1996, will focus on national and international efforts to develop integrated environmental, economic, and energy accounting methodologies. The sessions will address the following questions:

- What is needed to complete the data base for wood as a raw material so that it can be correctly assessed?
- Can a data base be developed that will allow for unique local and market conditions as well as artificial impacts caused by governmental controls--such as policy, rules, regulations, and taxes?
- What are the biases inherent in developing these methodologies?

The Board on Agriculture will publish a proceedings that will serve as a guide to the value of methodologies used in assessing the environmental impact of using wood as a raw material. The proceedings is tentatively

scheduled for release in late 1996. The Board on Agriculture staff officer for the activity is Charlotte Kirk. The report release schedules are subject to change. For updates and information, please contact Carla Carlson, assistant executive director, Board on Agriculture, at 202-334-3062, or at internet address ccarlson@nas.edu. For more information about the National Academy of Sciences, access the NAS home page at <http://www.nas.edu>.

PELLERIN NAMED DIRECTOR OF WOOD MATERIALS LAB PULLMAN, WA -

Washington State University Civil Engineering Professor Roy Pellerin has been named the new Wood Materials and Engineering Laboratory director succeeding Tom Maloney. Pellerin has been with WSU since 1959, following his graduation in mechanical engineering. He became the wood program's mechanical engineer while earning his Master's in Wood Utilization at the University of Idaho. He has been on the teaching faculty since 1985, and will continue teaching and directing the laboratory part-time.

"My goal is to help the laboratory provide research, education and technology transfer for the forest products industry, both domestically and internationally," says Pellerin. The WMEL has established a global reputation in furthering the knowledge and application of composite structures, laminating and end-gluing techniques, particle board, and non-destructive testing of trees and other natural building materials.

Pellerin's specialty is in nondestructive testing of wood, and structural properties. He is co-inventor of 12 patented systems for grading wood, testing beams, tensile measurement, axial load testing, and evaluating the mechanical properties of composite materials. He began his work under the direction of the late George Marra, who founded WSU's wood products program in 1951. Marra also pioneered the graduate program in materials science in 1973.

The Wood Materials and Engineering Laboratory, under the early leadership of Marra and of Maloney for the past two decades, garners scores of research projects every year from small to large companies. It has helped revolutionize the composite wood materials used in the world today, such as adhesives and polymers, laminated veneer lumber, end gluing or fingerjointing of green lumber, and it pioneered nondestructive testing for decay in wood. Its annual particle board symposium draws forest product leaders from throughout the world.

The WMEL also deals with economic and environmental issues such as minimalization of waste by-products, sustainability of timber supplies, and affordable low-cost housing. It has helped lead the way in converting waste mill materials and junk trees into about 20 million tons of valuable wood composites annually in the U.S.

VLOSKY NAMED TO RNRF TASK FORCE BATON ROUGE, LA -

Dr. Rich Vlosky, Assistant Professor at the Louisiana Forest Products Lab (LFPL), has accepted a nomination to the electronic media task force of the Renewable Natural Resources Foundation (RNRF), of which SWST is a member. Dr. Rado Gazo, Research Associate at LFPL, will serve as the alternate.

DR. LESLIE C. PALKA

VANCOUVER, B.C. - SWST Member Dr. Leslie C. Palka passed away on December 12, 1995, following a lengthy battle with cancer. Dr. Palka was a Wood Engineering Scientist at Forintek Canada Corporation's Western Lab in Vancouver, British Columbia. Memorial Services were held on December 15.

Industry has its say in design of UBC engineering course by Jennifer Lewington

{Editor's Note: This article is reprinted with permission from "The Globe and Mail" newspaper of Toronto, Canada. The article originally appeared in the January 29, 1996 edition of the paper}.

When universities launch an academic course, it is usually done on their terms. Not so with a new program at the University of British Columbia, created at the behest of Canada's secondary wood products manufacturers (cabinets and other furniture) and designed in close collaboration with them.

"It's a significant shift for the research/publish/tenure mentality that is so prevalent within the academic community," says Blair Tullis, publisher of Woodworking Magazine and a member of the industry group that lobbied for the undergraduate program in wood-products engineering. It is believed to be the first such university program of its kind in North America.

UBC forestry professor Tom Maness, working with industry on curriculum development, agrees.

"This really is a program put together by a team of university and industry," he said. "It started with industry and worked up. What we wound up with bears their stamp."

Why the need for industry involvement? The Canadian woodworking industry is short of home-grown technical and managerial talent, often looking to Germany's Rosenheim Institute for trained graduates.

The marriage of university and industry interests for a similar Canadian program has not been smooth. Some universities balked at heavy industry involvement in curriculum and staffing. Small and medium-sized Canadian firms had to find their own common ground, a process nudged along as Industry Canada imported Rosenheim students for study-training credits at Canadian manufacturing plants.

In 1994, an industry-led National Education Initiative board selected UBC over five other universities because it was prepared to work closely with Industry on the design of new degree programs, continuing education and applied research and development.

"Universities have been resistant to the response mechanism of the market and the changing needs of society," said Art DeFehr, chairman of the industry advisory group. But there are limits to industry control, with UBC having final control of curriculum and staffing. Still, the industry can exert indirect influence through an advisory body that will control funding for the new programs.

For its part, the industry will put up scholarships and offer co-op education places for students. Launched in September [1995], the undergraduate program hopes to graduate 50 students a year within a few years.

"It's a role model for other industry sectors to follow," said Industry Canada official Gerhard Kress, an early promoter of the project, which will have its official opening in March. "If we do it right, we're developing an education system that will be industry friendly and cost efficient."



Microbial Pentose Utilization: Current Applications in Biotechnology, Progress in

Industrial Microbiology Volume 33 by A. Singh and P. Mishra. 1995. Elsevier Science, Amsterdam. ISBN 0-444-82039-6, Hardbound, 416 pages. U.S. \$234.50. Contact Elsevier Science; Customer Service Department; P.O. Box 945; New York, NY 10159-0945; phone 212-633-3750, fax 212-633-3764, email usinfo-f@elsevier.com

Information Please

Microbial utilization of the inexhaustible lignocellulosic biomass for the production of industrial chemicals, liquid fuels, protein-rich feed and food, and preparation of cellulose polymers, is an attractive approach to help meet energy and food demands. Whilst biomass has served as substrate in microbial processes for the production of alcoholic beverages for a long time, it is only recently that broader applications of this material have been envisaged. Hemicellulose-derived sugars have many potential uses in the production of industrial chemicals and solvents. Considerable developments have been made, not only in the improvement of yeast and recombinant bacterial strains, but also in the bioprocessing of these organisms during the last two decades. Although the volume of information available on microbial pentose utilization is increasing, the available literature is mostly scattered. A comprehensive account of recent advances in pentose based bioprocesses is provided along with suggestions for future research.

Wood: Influence of Moisture on Physical Properties John F. Siau, Adjunct Professor Virginia Polytechnic Institute & State University Blacksburg, VA, USA

This book is intended to satisfy the need for a textbook in the Wood Physics field for use by both students and faculty. It provides the opportunity to select and emphasize particular areas of interest and includes problems and laboratory exercises. All material is presented in the S.I. system of units.

In addition to the above, this book will be useful to engineers and architects as a guide to the expeditious use of wood in structures and other applications. Particular emphasis is placed on the effects of environmental factors such as temperature and humidity on many of the physical properties of wood.

The titles of the chapters are:

1. Basic Wood-Moisture Relationships.
2. Elementary Wood Structure.
3. Permeability.
4. Capillarity, Osmotic Phenomena, and Water Potential.
5. Thermal Conductivity and Electrical Properties.
6. Steady-State Diffusion.

7. Thermodynamics and Sorption Theories.
8. Unsteady-State Transport; Mass Convection; Nonisothermal Diffusion.

The hard cover book includes 200+ pages, 77 problems, 10 lab exercises, and 125 illustrations and will be available after December 1995.

ORDER FORM

Price: \$49.95 per copy, discount of 10% for orders exceeding 15 copies. Shipping and handling for one copy is \$3.00 U. S. and \$4.50 for other countries. For multiple copies, contact Ms. Riegel.

Name: _____

Institution: _____

Address: _____

City/State/Zip/Country: _____

Mail order form to:

Department of Wood Science & Forest Products
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 Blacksburg, VA 24061-0503
 Attention: Ms. Angela Riegel
 Telephone: 540/231-7107
 E-mail address: ariegel@vt.edu

Make check or money order payable to Dept. Wood Science/Forest Products, Virginia Tech. We cannot take credit card orders. If you have questions, please contact Angela Riegel at the above e-mail address.



Coming Events

Eleventh Annual WMI Workshop on the Design, Operation and Maintenance of Circular and Band Saws, March 11-12, 1996. Holiday Inn (next to Oregon Convention Center), Portland, OR.

WMI offers a two-day annual hands-on workshop on saws which is designed for sawmill managers, quality control and saw filing personnel who wish to obtain better performance from their saws by reduction of kerf, sawing variation and downtime. Saw manufacturers who are seeking to optimize saw design will also find the workshop useful. Internationally respected experts on saw design, operation and maintenance will explore the following issues: vibration and stability of circular and band saws, stresses in saws, methods for saw stability control, saw guides, saw tooth and gullet design, and optimum feed rate. Participants will also benefit from video presentations and hands-on demonstrations of state-of-the-art equipment for saw maintenance and computer software for optimizing the design of circular saws. The eleventh annual workshop will be held in Portland, Oregon, immediately prior to the Wood Technology machinery Show and Clinic. For more information, contact: R. Szymani, Director; Wood Machining Institute; P.O. Box 476; Berkeley, CA 94701; ph# 510-943-5240; fax 510-945-0947.

Interior Wood Finishing: Environmental Issues and Technological Answers, April 1-3, 1996, Doubletree Suites Hotel, Seattle, Washington. Sponsored by the Forest Products Society and the FPS Pacific Northwest Section in cooperation with the State of Washington.

This conference will inform you of the current environmental regulations governing the finishing of interior wood products and highlight the latest technologies that will enable you to produce quality finished wood products using coating formulations and finishing systems that meet or exceed environmental standards. For more information, contact: Forest Products Society; 2801 Marshall Court; Madison, WI 53705-2295; ph#608-231-1361; fax 608-231-2152.

30th International Particleboard/ Composite Materials Symposium, April 16-18, 1996, Compton Union Building, Washington State University, Pullman, Washington.

Benefits from attending the International Particleboard/Composite Materials Symposium:

- Current information on particleboard, MDF, OSB, OSL, LVL and inorganic-bonded materials.
- A forum for the discussion and exchange of ideas.
- New avenues for research endeavors that will lead to further refinement and sophistication within the industry.
- Many opportunities to visit with colleagues and discuss the business, research and development of particleboard and composite materials.

In cooperation with the Forest Products Society, a technical forum will be presented in the form of a poster session. The session will expand the amount of technical information disseminated at the Symposium. For more information, contact: Conferences and Institutes; 208 Van Doren Hall, WSU; Pullman, WA 99164-5222; ph# 509-335-3530 or 800-942-4978; fax 509-335-0945; email wsuconf@wsu.edu

CIFAC '96: The Third International Symposium on Computers in Furniture and Cabinet Manufacturing, May 7-8, 1996, Radisson Hotel, High Point, North Carolina. Sponsored by the Wood Machining Institute and the International Union of Forestry Research Organizations.

The symposium will include presentations on a variety of important innovations, such as use of computers in process planning and control, application of machine vision for optimizing cutting of boards and panels; computer-aided design and manufacturing; computer-integrated manufacturing; real-time production monitoring; and use of computer-based simulation and plant layout models. In addition to informative presentations, the symposium will feature table-top exhibits. These exhibits will be up for the duration of the symposium, so participants will have ample opportunity to familiarize themselves with some of the most advanced computer software and equipment available from leading suppliers.

For more information, contact: R. Szymani, Director; Wood Machining Institute; P.O. Box 476; Berkeley, CA 94701; ph# 510-943-5240; fax 510-945-0947. **2nd International Symposium Wood Structure, Properties and Quality**, October 22 - 24, 1996, Moscow - Mytischki, RUSSIA

TOPICS:

- morphology, anatomy, physiology, ecology, biodeterioration and other aspects of wood biology
- physical, chemical, technological and service properties of wood and wood products
- quality of wood

For more information and registration forms, please contact:

Prof. Boris Ugolev
 Moscow State Forest University
 141005 Mytischki-5
 Moscow Region
 RUSSIA
 fax: +7 95 586-9134
 e-mail: cosmos@glas.apc.org

Afro-European Regional Wood Anatomy Meeting, 2 October-- 4 October 1996 at the Linnean Society, Burlington House Piccadilly (2, 3 Oct.) and the Jodrell Laboratory, Royal Botanic Gardens, Kew (4th), London, England. Jointly sponsored by the International Association of Wood Anatomists (IAWA), IUFRO S5.01 (Wood Quality), and Linnean Society (Plant Anatomy Specialist Group).

There will be five major sessions: 1) Palaeo- and archaeological woods, 2) xylem character assessment for cladistics, 3) Wood structure in the living tree, 4) Structure and properties of forest products, and 5) General and applied papers. An IAWA Business Meeting will also be scheduled.

Offers of papers and posters are invited. Abstracts should be sent to the organizers by 30 April 1996, and will be published in the IAWA Journal. Paper and posters will be considered for publication in the IAWA Journal, and manuscripts should be submitted before the end of the conference.

Registration fees include lunches on the first two days at Burlington House and receptions on the 2nd at Burlington House and the 4th at Kew. Lunch at Kew will be extra, either sandwiches purchased on site, or in local pubs and wine bars. Accommodation will be available in central London or around Kew.

For further details and a registration form, please contact Dr. Peter Gasson at Kew: Tel. 44-181-332-5330, Fax 44-181-332-5310, email: P.Gasson@rbhkew.org.uk



**Positions
Available**

Masters Student Recruitment Forest Products Sector Economic Development & Marketing

The Forest Products Marketing Program in the Louisiana Forest Products Laboratory at Louisiana State University is seeking candidates to pursue a M.S. degree in forestry with an emphasis in Forest Products Sector Economic Development and Marketing. This growing multi-disciplinary program offers students an opportunity to develop practical skills and academic depth in a variety of development and marketing and development areas of specialization. Agreements with other academic programs at Louisiana State University including the College of Business Administration allows students to enroll in M.B.A. courses as well as courses in rural sociology, economic development, marketing strategy, marketing research, and other relevant degree areas. We are seeking to fill one available position for Fall 1996.

Financial assistance for tuition, thesis research funding and a research assistantship stipend will be offered to the successful candidate. For more information about this program contact Dr. Richard Vlosky, 227 Forestry, Wildlife and Fisheries Building, Louisiana State University, Baton Rouge, LA 70803. Phone: (504) 388-4527; FAX (504) 388-4251; E-Mail: vlosky@unix1.sncc.LSU.edu

Research Assistantships in Wood Composites/Mechanics at the University of Maine There are four graduate research assistantship positions available immediately, at both the M.S. and Ph.D. level for work in the general area of Wood Composites. The research projects include investigations of microstructural behavior of wood/fiber reinforced polymer hybrids, experimental micromechanics using 3-D vision systems, and development of simulations/models.

Our facilities contain state-of-the-art equipment including: 200-ton position controlled press; 2 Silicon Graphics Workstations; Environmental Scanning Electron Microscope; Hi-res CCD cameras (1600 x 1100 pixels); Perkin-Elmer DMA; Seimpelkamp Vertical Density Gradient Scanner; Several Image Analysis Systems; as well as the usual assortment of testing machines, environmental chambers, etc.

The ideal candidates will have a background in wood science with strengths in engineering mechanics and good computer skills. The stipends range from \$12,000 - \$15,000 for the calendar year. The University of Maine at Orono is located 45 minutes from Acadia National Park and the beautiful Maine coast, 90 minutes from Mount Kathadin (the northern terminus of the Appalachian trail), 2 hours from Sugarloaf and Sunday River downhill ski complexes (best in the east I am told), and 10 minutes from the nearest Lobster pound. Inquiries can be directed to: Dr. Stephen Shaler; Associate Professor of Wood Science; 5755 Nutting Hall University of Maine; Orono, ME 04469-5755; Phone: (207) 581-2886; Fax: (207) 581-2858; email: steve@pith.umenfa.maine.edu
WWW: <http://pith.umenfa.maine.edu/~steve>

Assistantships available in Forest Products Marketing Oregon State University Marketing of forest products offers an exciting challenge in today's fast-paced, world-wide business arena. You can be part of this by pursuing a graduate degree specializing in Forest Products Marketing at Oregon State University.

At the M.S. level, half-time assistantships consist of \$11,460 per year with a tuition waiver (approx. \$7.100/yr) and the opportunity to compete for fellowships (\$500-\$5000/yr.) that are awarded in addition to assistantships. The class curriculum will include Forest Products as well as MBA level Marketing and Business courses. A

variety of research possibilities are currently available.

If you would like more information about this or other graduate degree opportunities in Forest Products at Oregon State, please contact Eric Hansen at (503) 737-4240 or hansenen@frl.orst.edu.

K-12 Science Education Needs Your Help

The December 6, 1995, release of the National Science Education Standards for K-12 was devoid of reference to food, agriculture, or renewable resources. The absence of these topics illustrates an absence of our disciplines in general education, but it poses an opportunity to identify the unique contributions of our disciplines which could help develop student understanding of science.

The Challenge

As scientists and professionals, you can help identify those unique contributions of food, agriculture, and renewable resources which relate to the educational elements appropriate for ALL LEARNERS. These elements include understanding the natural world and the role and processes science play in leading to more productive, healthy lives and making sound personal, social, and political decisions.

The Coalition for Education about Environment, Food, Agriculture, and Renewable Resources (CEEFAR) and SWST enlists your help to:

1. Identify the concepts, understandings, processes, theories, and skills which are unique to environment, food, agriculture, and renewable resources and which serve to distinguish our disciplines from other areas of science inquiry.
2. Identify examples from within our science and professional domain which can be used by educators to develop understanding and relevance of science for all learners.

We need your ideas to ensure science literacy includes environment, food, agriculture, and renewable resources. Help provide the best possible connections by sending your comments and suggestions (a response form is included on page 5 of this newsletter) to:

Vernon Cardwell

CEEFAR Interim Coordinator

University of Minnesota

Agronomy Department

1991 Upper Buford Circle

St. Paul, MN 55108-6026

e-mail: cardw001@maroon.tc.umn.edu

or

[Vicki Herian](#)

SWST

Note: Copies of the National Science Education Standards are available from: The National Academy Press; 2101 Constitution Ave., N.W.; Washington, D.C. 20418; ISBN 0-309-05326-9, price \$19.95 plus postage and handling.

{Editor's Note: A table condensed from the National Science Standards, identifying eight science categories and within each category the major concepts and processes to be developed over the K-12 education, is available.

Contact [Vicki Herian](#) or [Doug Stokke](#) for a copy}.

Science Education: From Discussion to Action. A Survey of Interests

Science education for K-12 has been a topic of discussion and debate since 1986 when the American Association for the Advancement of Science initiated Project 2061 and followed by the National Science Education Standards of the National Academy of Sciences, officially released December 6, 1995. Both Project 2061 and the National Science Education Standards call for major changes in what, how and for whom science is to be taught in K-12. Neither of the efforts have attempted to define a curriculum. Reference to environment, food, agriculture, and renewable resources was conspicuously absent from the National Science Education Standards. The absence of these topics illustrated a failure within the food, agriculture, and renewable resource communities to integrate materials and concepts into general education and general science.

An opportunity exists to begin developing materials and resources to support educators at all levels as efforts are made by educators and school systems to implement recommendations of Project 2061 and/or the National Science Education Standards.

As a result of endorsement by 40 scientific and professional organizations (including SWST) the Coalition for Education about Environment, Food, Agriculture, and Renewable Resources (CEEAFAR) has been formed to help our societies better serve the education community.

VISION FOR CEEAFAR

CEEAFAR unites a diverse assembly of scientists, educators, and other professionals to promote a better understanding of the Environment, Food, Agriculture, and Renewable Resource (EFAR) systems and to enhance science literacy of all citizens.

MISSION STATEMENT FOR CEEAFAR

CEEAFAR will serve as a forum for collaboration and facilitation of the scientific, educational & professional communities to develop, validate and support educational initiatives, standards, frameworks, programs, and materials, which promote and enhance the study and use of Environment, Food, Agriculture, and Renewable Resource (EFAR) topics for all learners.

OBJECTIVES OF CEEAFAR

- Develop an EFAR communication and information-sharing system.
- Initiate a collaborative network among EFAR-related organizations, scientists, educators and other professionals.
- Add relevance to formal and informal science education by integrating EFAR topics into educational activities.
- Elevate the importance of teaching/education among scientists and other professionals within EFAR-related societies, public and private agencies and institutions.

[\[Beginning of Newsletter\]](#) [\[Return to Main Newsletter Page\]](#) [\[Return to the SWST Home Page\]](#)

Last updated: 1/2/97

For further information, please contact Vicki Herian at vicki@swst.org