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# AGRONOMY NEWS

Convention Edition

Wednesday, October 24, 1990

Convention Edition

## Borlaug Headlines Practitioners Symposium

It was standing (sitting, actually) room only when Nobel Prize winner Dr. Norman Borlaug was the final speaker Tuesday's Symposium on Agronomic Practitioners and the System Approach.

In his address, Dr. Borlaug described his personal experiences in the food production field in the Third World, and voiced his concerns about the state of America today.

(The complete text of his remarks on the latter topic is reprinted below.)

The first speaker in the symposium was Vernon Cardwell, of the University of Minnesota-St. Paul.

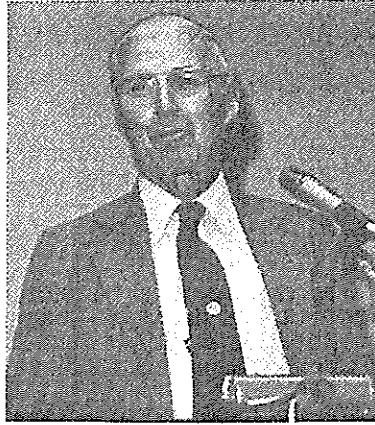
He outlined the "dramatic change in farm population and farm size" and recent years, noting that over 50 percent of farmers earn less than \$10,000 annually from farming, with 22 percent in the \$10-39,000 level and another 23 percent earning between \$40,000 and \$249,000.

"This skewing presents a great number of challenges," said Cardwell. "Society is causing us to evaluate where we put our effort. We have a dilemma."

Exacerbating the problem is the fact that "fewer counties are now basically agricultural, which translates into lost political clout. Fewer representatives are elected from primarily agricultural areas."

The population shift to urban and metropolitan areas has "caused a tremendous change in rural communities."

While there is now a more efficient use of pesticides because of new technology, the increased effi-



Dr. Norman Borlaug

ciency has translated into a lower price for the crops. The result: a cost-price squeeze.

"There is a sense of conflict, as each level -- the farmer, agribusiness, and the consumer -- have different agendas," Cardwell said.

He stated, "We need to look at agriculture differently than in the 70s and 80s. Agriculture is embed-

ded in the natural ecosystem and the human social system. It is the bridge between them."

D.M. Vietor, of Texas A&M University, described how "agronomists 10-12 years were oriented to action," but he now sees "a challenge that we have to be concerned with world goals. We now have different methods of looking at and solving problems."

Agronomists' goals, he maintained, "are often at conflict with those outside the system, and we need to operate in a more holistic fashion if we are to interact with them. We also need to take advantage of systems science and systems analysis."

Robert H. Beck, Cenex/Land O' Lakes, presented an example of an integrated system in his presentation, "Real World Agronomists, the Need for Information to be Profitably, Environmentally and Agronomically Sound."

The Cenex/Land O' Lakes Cooperative is a joint venture between a petroleum/chemical firm and a dairy company. It has "attempted to put this system into practice, one that has human expertise, information gathering and information delivery."

The key points, Beck continued, are a quality program, accessibility, reliability, local expert status, and timely delivery of information.

Thomas Ruehr, Cal Poly State University-San Luis Obispo, concentrated on "The Practitioner's Role in Value-Laden Decisions in Management,"

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### "My Concern About America"

(Ed. Note: Following is the text of Nobel laureate Dr. Norman Borlaug's closing remarks at Tuesday's Symposium for Agronomic Practitioners and the Systems Approach.)

Were Thomas Jefferson's apprehensions well-founded?

Nearly 200 years ago President Thomas Jefferson, while acknowledging the great achievements of the United States during its first four decades as a nation and considering its accomplishments on the social, economic and political fronts, was apprehensive about its longtime future and expressed his doubts as follows:

*"Ease and Security were these the drugs that abated the external challenges in the minds of men? And did nations, like men, grow sluggish and apathetic when well fed and bodily comfortable?"*

When I return home to the U.S.A. after living and working for more than four decades in food deficit, developing countries, I have become fearful that Thomas Jefferson's apprehensions are likely to become realities unless we wake up soon.

During the 20th century, the United States developed into the world's greatest political, industrial, agricultural, and economic power. Our democratic traditions, hard work, level of general education and inventiveness were the envy of the world. Today, when I return home after 46 years of working in the Third World, I think I see the United States afflicted with the debilitating co-viruses of affluency and complacency.

The fiscal irresponsibility of our federal government has led to horrendous indebtedness, resulting in massive and growing debt-servicing charges. Our industries in many cases can no longer compete -- cost-wise or quality-wise -- with Germany, Japan or the Pacific Rim countries. Meanwhile, many U.S. financiers and corporate leaders are engaged in preying on one another in hostile takeovers for short-term gains, or in stripping the savings and loan associations into the pockets of the few, rather than dedicating their energies to the long-term growth and vitality of the American economy.

I fear that our past national goals of excellence and achievement are being replaced by the pursuits of pleasure and comfort. We seem to want more pay for less work, yet don't know how to use the additional free time constructively. Despite more privileged and healthy lives than any previous generations, we are increasingly traumatized by synthetic chemical compounds and processed foods, suspecting them to be carcinogenic, mutagenic, or teratogenic, while at the same time we are the world's greatest "pill-poppers" and consumers, by far, of illegal hallucinogenic drugs.

How can we rationalize this enormous contradiction?

While we pursue the utopian will of the wisps of the risk-free society, we appear quite confident that if we pass a few more laws we will soon achieve a risk-free immortal life. But in this pursuit we fail to realize that one of the greatest biological risks over which we have no control takes place in the second in which we are conceived -- when we draw the genetic hand of cards that we will hold all of our lives.

Although we can exploit more of the potential longevity of that genetic hand of cards by living a healthy lifestyle, we all still have a biological clock with us, as all life species do, that will determine longevity. It seems we are fast becoming a nation of "healthy" hypochondriacs with a diminished gene frequency for common sense. We try to die young as late as possible.

Yet we remain oblivious and unconcerned about the dangerous course that our nation steers. I pray we will wake up in time to realize our folly before it is too late.

Finally, a word to the students.

I want to challenge you to utilize your years at school to the fullest to develop the potential genetic talents that you have inherited from your parents, grandparents, and those before. Don't waste these years. Don't be satisfied with mediocrity; reach for a star. Although you will never reach the star, if you exert yourselves sufficiently you will get some stardust on your hands. With

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## Applications Invited for Congressional Fellowships

The American Society of Agronomy (ASA) and the Weed Science Society of America (WSSA) invite applications for the 1991-1992 Congressional Science Fellowship. The Fellow selected will spend up to 15 months in the office of an individual member of congress, a congressional committee, or an agency advising on a wide range of scientific issues as they pertain to public questions. Guided by ASA, WSSA, and the American Association for the Advancement of Science, the Fellow selects a position in which he or she can work on major policy and legislative issues.

The Fellow's purpose is to make practical contributions to the more effective use of science and technical knowledge in government, to demonstrate the value of such science-government interaction, to inform the scientific and educational communities about public policy and the legislative process, and to provide a unique public policy learning experience.

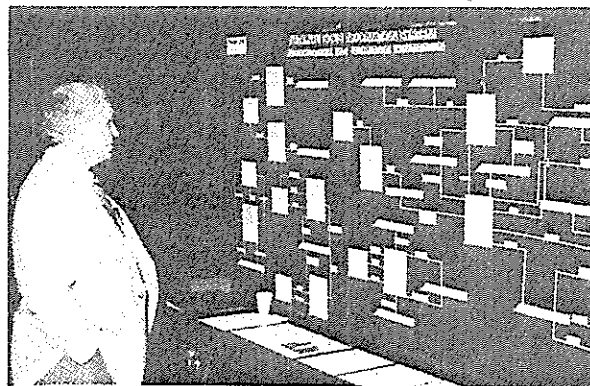
The program is aimed at qualified scientists and educators in early- or mid-career. Candidates should have exceptional competence in some area of the agronomic, crop, soil, weeds, or related fields of science and education;

cognizance of a broad range of matters outside the Fellow's particular area; and a strong interest in working on a range of public policy issues.

The Fellowship carries a \$30,000 annual stipend and reasonable relocation and travel allowances.

Procedures for application and detailed requirements are available in the agronomy, crop, or soil science departments of most U.S. colleges and universities or from the Executive Vice President, American Society of Agronomy, 677 S. Segoe Rd., Madison WI 53711-1086.

Applications will be accepted until the position is filled.



Earl Blakely, of the Soil Conservation Service, Fort Worth, Texas, studies the poster on "National Information Systems, Soil Interpretation, and Data Dissemination." Poster sessions continue Wednesday and Thursday at the Convention Center.

## Mrs. Mott Guest at Award Presentation

Special guests at the CSSA Luncheon Tuesday noon was Mrs. G.O. Mott, her son, and daughter-in-law. They were there for the presentation of the G.O. Mott-CSSA Graduate Student Award, which went this year to Brent D. Jacobson, M.S. degree candidate at Oklahoma State University. Mrs. Mott lives in Gainesville, FL; their son, Dr. Glenn Mott, is a San Antonio resident.

It was also announced at the luncheon that the award program is being expanded. Currently it consists of a single \$500 scholarship. Plans are underway to both increase the monetary

amount of the national award and also to award a certificate each year to an outstanding M.S. or Ph.D. candidate in crop science at each graduate student institution in the USA.

The local awards would be presented early in each calendar year and those winners would be encouraged to submit applications for the national award. The application deadline for next year's award will be 1 March 1991.

The formal announcement and application details will be published in a future issue of the monthly Agronomy News.

G.O. Mott had 45-year-long long career of teaching and research in pasture and forage management and was the first president of CSSA. He died of a heart attack minutes after presenting a paper at the 1934 annual meetings of the tri-Societies.

### Soil Mineralogy News

The SSSA Outreach Committee is receptive to proposals for joint topical meetings with other outside groups. Funding may be available. Contact Wilford Gardner, past president of SSSA.

The National Issues Committee is developing a list of quick response experts to respond to calls on critical issues. Contact J.B. Dixon or other SSSA Board representatives to add your name to the list.

The Clay Materials Society will meet in Houston, TX, October 6-10, 1991. Symposia will cover soils and clays in environmental research, physics and chemistry of clays, clays in space research, and clay in geothermometry. J.B. Dixon is the program chair.

The International Micromorphology meeting will be in Australia in July 1992. Contact Dick Drees.

The International Clay Conference, joint with ISSS Commission VII, Soil Mineralogy, will meet in Australia in 1993. Field trips will visit New Zealand and others Australia. The AIPEA Instruction Committee is trying to develop partial student travel grants. See AIPEA or Clay Minerals Society newsletters for announcements.

### Donors, Guests Honored by ASF

About 150 donors and other special guests were honored Tuesday evening at a reception hosted by the Agronomic Science Foundation (ASF) and the tri-Societies.

Dr. Noble Usherwood, Chair of the ASF Board of Directors, expressed his appreciation to those in attendance for their enthusiastic support of ASF and the tri-Society programs. He also introduced Dr. Carol Whitman and Dr. David Johnson, this year's Congressional Fellows.

Dr. Arden Balteasperger, ASA President, identified a few of the projects that are receiving funds from ASF. Dr. Don Duvick, incoming ASA President, highlighted plans for ASF and the International Crop Science Congress, to be held in Ames, IA, in 1991.

Dr. Robert F Barnes, tri-Society Executive Vice President, shared his views on the role ASF will play in future tri-Society programs.

The Agronomic Science Foundation needs your continued support. To learn more about how to give directly or if you would like to have information on estate planning, taxation, wills, etc., stop at the ASF booth at the entrance to the Convention Center exhibit hall. After this week you can again receive information by calling the tri-Society Headquarters at 608/273-8080.

## Papers Sought for Workshop On Transport Phenomena

Papers are sought for an upcoming workshop on "Characterization of Transport Phenomena in the Vadose Zone," which will be held April 2-5, 1991 in Tucson, AZ.

The American Geophysical Union and SSSA are co-sponsoring the event, which is designed to focus on mutual problems and areas of interest concerning the unsaturated zone. Topics to be dealt with include methodology for characterizing heterogeneities, site

characterization from existing auxiliary information, measurement and prediction of biological and chemical transformations, and multiphase transport and preferential pathway flow.

For further information, contact A. W. Warrick, Soil and Water Science Department, 429 Shantz Bldg., Box 33, University of Arizona, Tucson, AZ 85721. His phone number is 602/621-1646, and his fax number is 602/621-1647.

## New International Association To Research On-Farm Systems

An organization to be called the Association for Farming Systems, Research, and Extension (AFSR/E) has been formed by an international group of scientists, including some from the tri-Societies.

The stated goal of the new organization is to enlist the aid of male and female farm household members to research and develop on-farm systems that would meet the socio-economic needs of those families; then develop an extension program that would disseminate the results that research. The long-term goal would be to use resources in a sustainable and efficient manner to adequately supply global food, feed, and fiber requirements.

Dr. Tim Finian, Anthropology Department, University of Arizona, Tucson, AZ 85721, is secretary-treasurer of the new organization. Tri-Society

members Peter Hildebrand and Eduardo Zaffaroni are in San Antonio this week and can give additional information.

The 1991 World Congress on Cell Tissue Culture is scheduled for 16 to 17 June in Anaheim, CA. The congress is sponsored by the Tissue Culture Association and the Japanese Tissue Culture Association.

Plant cell topics will include field testing of transgenic plants, developmental biology of embryogenesis, batch production and fermentation, culture of cells from endangered species, robotics for cell culture, spatial and temporal promoters, and pollen culture and androgenesis. A workshop on industrial strategies for biotechnologies has also been scheduled.

For information, phone 301/592-0946 or 301/869-2900.

## My Concern About America...

*Continued from page 1*

that as a catalyst, you will be surprised at what you will be able to accomplish for yourselves, your families, your state, your nation, and for the well-being of humankind in the broadest context.

Moreover, remember that education should be a lifelong continuing process, as has been so poignantly put by the late philosopher-historian Will Durant, when he cautioned us to distinguish between knowledge and wisdom:

*In my youth, I stressed freedom and in my old age I stress order. I have made the great discovery that freedom (liberty) is a product of order, not of chaos. Sixty years ago, when I was 19, I knew everything and my father knew nothing. When I was 29, I was surprised to see how much my father had learned in the past 10 years. Now, at 79, I know nothing. So, in effect, education is a progressive discovery of our own ignorance.*

Perhaps Will Rogers, the late Oklahoma country-styled philosopher-humorist, said it even better in fewer words:

*We're all ignorant; the only thing is that we are ignorant about different things.*

To this I might add, as we become more and more specialized, our ignorance becomes more and more expansive.

Now, good-bye, good luck, and keep reaching for that star.

### Division S-2 Sets Business Meeting

The business meeting for Division S 2 will be held at 4:45 p.m. Wednesday in room Plaza A on the upper level of the Convention Center.

Position papers will be given on professional development and a number of issues important to the Division and SSSA will be discussed; all members will want to attend.

More information can be obtained from any of the officers, who include Domy Adriano, Chair; Dick Loeppert, Chair-elect; Lucian Zelazny, incoming Chair-elect; Don Sparks and Paul Bloom, past Chairs; and George O'Connor, SSSA Board Representative.

### Division A-1 to Hold Business Meeting Wednesday Afternoon

The second business meeting for Division A-1 will be held at 3:20 p.m. Wednesday in Salon A of the Marriott Riverwalk, immediately after the A-1, A-8 (provisional) session on "Teaching, Learning, and Development Evaluation," which begins at 1:25 p.m.

Program organizers promise that the divisional business meeting will be over in plenty of time to allow you to get ready for the annual ASA Banquet.



Dr. Borlaug addresses a "full house" during the Symposium.

## Symposium on Systems Approach ...

*Continued from page 1*

maintaining that "we need to be dealing openly with humanities in the environment."

According to Ruehr, "We need to be examining our values for consistency, and must learn to be more respectful of the values of others.

"Science is not value-free. Everything we do is value-laden. People's values must be honored."

Ruehr told symposium attendees, "We as a profession should assess all factors and move in those directions which will provide the greatest benefit for society as a whole."

Agronomists "need to make an honest appraisal of the technological information needed, and admit we don't have all the answers. We must compare each alternative one at a time against other options," he said.

Ruehr admitted, "This process is not easy. We have to weigh benefits against benefits, and risks against risks. We have to make a reasonable and consistent weighing of alternatives.

"Possession of a new technology creates no mandate to use it."

Noting the many environmental initiatives on the California ballot, Ruehr stated, "Change is normal and healthy. However, most organizations and bureaucracies are established to prevent change. We need to help growers change, not hold their hands and console them when it is forced upon them. Self-deception is our enemy; being truthful is very healthy."

He added, "Contrary to popular belief, we do not need to protect farmers. Most farmers want to do the right thing, and they are quite concerned for the welfare of their communities."

Charles Benbrook, of the National Research Council, pointed to the future educational needs for agricultural practitioners, saying the challenges include:

- Appreciation of global interdependence;
- Dealing with the dynamic for change;
- Understanding and balancing social and economic impacts of new technologies;
- Appreciation of the need to cre-



Robert H. Beck

ate a sustainable society;

- New modes of inquiry; and
- Recognition that the educational curriculum does not develop interpersonal skills.

The aim is not to replace the current curriculum, he continued, but to augment it. "We need to reform the teacher and faculty member more than the curriculum."

Dr. Borlaug was the final speaker, relating his experiences in Mexico, Pakistan, India and Africa in increasing crop yields for the small farmer.

Quite often, the work goes beyond the scientific and planning level, he stated, to the political level.

Among the prime requirements: "You have to get credibility by showing what the technology will do. You also have to know when to change from Dr. Jekyll to Mr. Hyde.

While India is among the success stories in wheat production, increasing five-fold between 1967 and 1989, Dr. Borlaug cautioned, "Don't ever forget that this population monster attacks us on many fronts."

Dr. Borlaug also voiced his concerns about America, seeing the U.S. "afflicted with the debilitating co-viruses of affluency and complacency.



Charles Benbrook

The fiscal irresponsibility of our federal government has led to horrendous indebtedness, resulting in massive and growing debt-servicing charges."

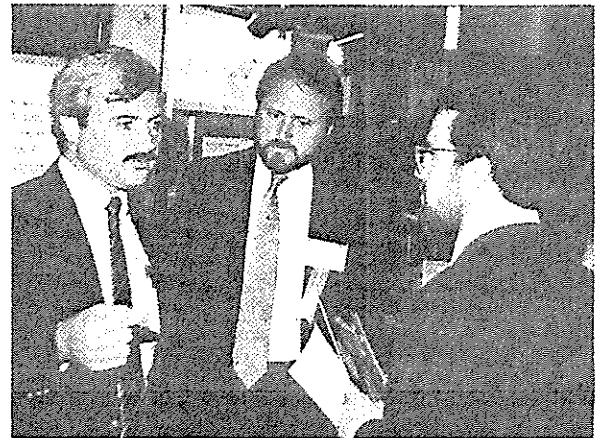
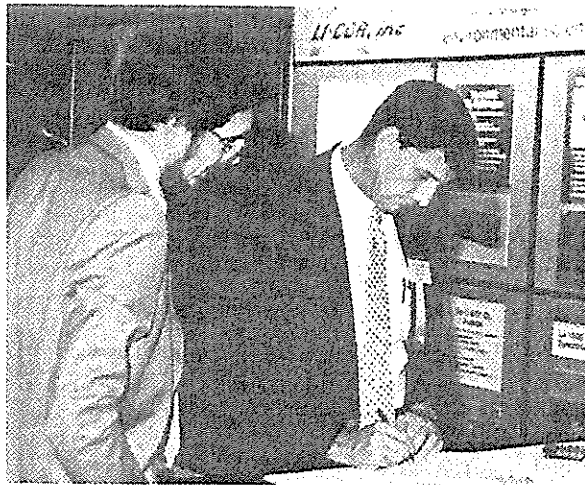
He maintained, "Our past national goals of excellence and achievement are being replaced by the pursuits of pleasure and comfort . . . We are the world's greatest pill-poppers and consumers, by far, of illegal hallucinogenic drugs."

According to Dr. Borlaug, "Yet we remain oblivious and unconcerned about the dangerous course that our nation steers. I pray we will wake up in time to realize our folly before it is too late."

With that, Dr. Borlaug turned to the students in the audience, challenging them to develop their potential to the fullest.

"Don't be satisfied with mediocrity. Reach for a star," he declared. "Although you will never reach the star, if you exert yourselves sufficiently, you will get some stardust on your hands. With that as a catalyst, you will be surprised at what you will be able to accomplish for yourselves, your families, your state, your nation, and for the well-being of humankind in the broadest context."

## Exhibits Draw Strong Turnout



## Planning Underway for Turfgrass Conference

The planning is well underway for the next quadrennial International Turfgrass Research Conference. It will be held in the USA. Dr. James Watson, president of the International Turfgrass Research Society, reported on those plans Tuesday at the C-5 Division meeting.

The conference will be held 18 to 24 July 1993 in West Palm Beach, FL. Plans also include pre- and post-convention tours of turf sites and research facilities.

Several plenary sessions are scheduled on turf-related issues of international concern. The conference will also include research papers, poster sessions, and special symposia. Other activities will include tours and spouse programs.

The organizing committee is chaired by Dr. George Snyder, Everglades Research and Education Center, University of Florida, Belle Glade, FL 33430-8003. The most recent conference was held last year in Tokyo, Japan.

## Plan to Attend the 1991 Annual Meetings

October 27-November 1  
Denver, Colorado