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State of the Division speech

ANR is driven by issues and opportunities, says Gomes

Today the Division is “remarkably different” than it was just two years ago when ANR held its first biennial academic statewide conference, observed Vice President *Gomes* in his “State of the Division” address at “Odyssey 2001.”

“We’ve not only changed our structure, we’ve changed our approach,” *Gomes* said. Although ANR is still made up of components, “we have melded those parts to accomplish goals and to reach our objectives.” The Division, he said, is now driven by issues and opportunities.

A current snapshot of the Division shows that:

“We’re still doing great research—and in many cases in areas we never thought of 10 years ago,” he said.

“We’re still doing a marvelous job of serving great clientele—we’re serving many more of them, in more diverse

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Statewide conference garners high marks from participants

Ontario airport was filled with many familiar faces on Feb. 22-23 as nearly 475 members of the Division from every corner of the state converged on nearby Riverside for “Odyssey 2001,” ANR’s statewide conference. And judging by the evaluations turned in at the end of the event, the conferees were glad they had made the trip.

Two-thirds of the respondents gave the conference an overall rating of “excellent” or “very good.”

Most enjoyable and useful to them, they said, were the networking/collegial interactions and the 30 breakout groups. They also praised the keynote speeches, poster session and stakeholder panel.

The attendees included 177 county directors, superintendents or advisors; 156 specialists or faculty; 80 support staff and 26 administrators.

“Odyssey 2001” was organized to give ANR academics an opportunity to meet new colleagues, renew friendships, discuss their work and obtain and present new information on some of the hot topics in the agricultural, natural and human resources areas. Poster displays called attention to a wide range of ANR research and extension projects. Many of the informational booths offered hands-on demonstrations—on video-conferencing, for instance—as well as

handouts on the services academic staff can obtain from ANR support units.

“It was a very good conference, and it was great to see everyone,” said UC Berkeley ag economist *George Goldman*. “I wish we could have these every month. In an organization as far-flung as ours is, it is very useful to get together as often as we can.”

Several suggestions were offered in the evaluations, such as holding the poster session in a larger space and allotting more viewing time next time. Also requested were additional time for networking and informal gatherings, and more events where participants can share information with each other, especially across program areas.

Included in this *ANR Report* are some highlights of conference activities.

Grossi: Public value of farmland not recognized

By *Janet Byron*

UC researchers and extension advisors can play a critical role in educating the public about land-use issues and developing analytical tools to assess the value of farmland, American Farmland Trust (AFT) president *Ralph Grossi* told the ANR conference Feb. 22.

In his keynote speech, *Grossi* said that privately owned farms provide numerous public amenities, such as food, open space and wildlife habitat, but these values are not fully considered

when land-use decisions are made.

“How do you put a number on a mallard duck or a view?” asked *Grossi*, a Marin County rancher. “We need a method for assessing the impacts of farmland loss.”

While it is difficult to quantify the public value of farmland, the negative impacts of “sprawl” into agricultural acreage are well-documented. More than 60 AFT studies have shown that low-density residential developments cost cities about \$1.25 to \$1.50 for every \$1.00 they contribute in



Ralph Grossi

taxes, while agriculture typically receives only 20 to 30 cents for every dollar it contributes, *Grossi* said. “Cows don’t go to school. People do.”

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Gomes on the state of the Division *(from p. 1)*

populations—even though there are not enough of us.

“And we’re still finding new ways to improve our research and our effectiveness in getting research-based information to those who need it.”

As he talked about some of the new developments, he asked the members of the audience to pick up and examine the colorfully illustrated cube that had been placed at each seat.

“Part of our mission is telling the story of what we do,” Gomes said. “The cube is being premiered here today as a tool that will help carry that message and serve as a reminder to those who receive it. I hope you’ll use it in your counties and on the campuses to help folks understand who we are—and how seriously we take our mission.”

Below are excerpts from his presentation. He used the following themes, which are written on the cube, to frame his discussion.

■ We value natural California

“At the base of everything we do in the Division is our commitment to value natural California,” Gomes said. “This value can be found across our many programs—statewide programs like SAREP, IPM, the Water Resources Center and beyond.”

He cited the Natural Reserve System’s HOST Program (Hands On for School Teachers) as a “marvelous example of the new way we do business by partnerships and across geographical boundaries.” The HOST program, conducted in collaboration with the UC

Systemwide Early Academic Outreach Program, aims to improve opportunities for hundreds of students in underprivileged high schools by training teachers in the environmental sciences at NRS reserves.

■ We discover so we may share

“There is no finer resource for carrying out the University of California’s mission than the resource we have in this room—our people,” Gomes said as he read the University’s mission statement, affirming its commitment to teaching, research and public service.

■ We yield new ideas

The Division succeeds “by strengthening the continuum of fundamental research, adaptive research and extension,” Gomes said. He went on to describe the roles of the Agricultural Experiment Station, the Executive Council, Cooperative Extension and the Program Council in this process.

■ We nurture the future

Gomes cited the work of the 4-H Youth Development Program, which today serves 135,000 youth and includes 25,000 volunteers.

■ We help those who feed and clothe

The Division’s best known role, Gomes said, is providing research and information that allows Californians to do a better job of producing, processing and distributing food and fiber. ANR carries out its responsibilities in this area through advisors, task forces, special initiatives, committees, short-term ap-

pointments and interaction with multiple agencies on issues such as waste management, water, and pest management.

■ We care for health and well-being

Gomes pointed out the part played by the ANR Development Office in helping facilitate a contribution from the Oakland Rotary Club to the Nutri-Link program in Alameda County. The funds were then matched by the UC Links program and the Oakland YMCA. “New ideas. New partners—you can find examples like these over our entire Division,” he said.

■ We serve the land and its people

The workgroup process

has been strengthened and involves stakeholders such as industry representatives and community leaders in planning and carrying out Division programs. “We build relationships in communities and extend information so that communities may flourish,” Gomes added.

He said ANR is currently pursuing five special initiatives in the following high-priority issues:

• **Expanding Cooperative Extension**—an additional \$3 million in permanent annual funding has been obtained from the state so far and ANR will ask the University to include another CE augmentation in next year’s Regents’ budget.

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The ANR cube: a brand new tool for telling our story

Similar to a Rubik’s cube, the colorful, fun-to-manipulate ANR cube is composed of eight smaller cubes—faced with photos and themes—that can be configured in several ways. One face forms an image of the blue and gold ANR logo set against a backdrop of shelled almonds.

The 2³/₄-inch cube gives a good sense of the scope of ANR’s work, which spans a complex mix of programs, units and people dedicated to a wide variety of interrelated issues.



Four smaller cubes make up this face of the ANR cube.

Suzanne Paisley

It will be used throughout the coming year in meetings with external stakeholders, and its photos and themes will be featured in brochures about ANR programs.

The design was developed by a team consisting of *Peggy O’Brien*, from Vice President Gomes’ office, and *Suzanne Paisley* and *Shawn Turner*, from Communication Services.

UC scientists discuss hot topics in California forestry

By John Stumbos

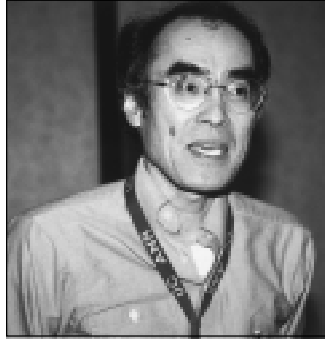
Fire, biomass, biological control and global change were the hot topics in an “Odyssey 2001” concurrent session on emerging issues in California forestry, chaired by Gary Nakamura, the UC Berkeley area forestry specialist based in Redding.

Richard Minnich, professor of geography and earth sciences at UC Riverside, discussed his thought-provoking research into fire management in California and Mexico. Minnich described a 20- by 60-mile, never-logged forest in northern Baja California called the San Pedro Martir, where he believes catastrophic subcanopy fires occurring about every 50 years have helped maintain the range’s open, park-like structure populated with large old growth trees. Based on this work and studies in the forests of Kings Canyon, Sequoia National Park and Yosemite, he suggested fire management in California “may be missing the mark” by not burning hot enough to clear out dense stands of younger trees and undergrowth.

The state’s current energy crisis has created renewed interest in biomass. John Shelly, advisor in the UC Forest Products Lab in Richmond, presented an overview called “Extending California’s Wood Resources Through Biomass Utilization.” Until recently, electricity from biomass-fueled power plants was not competitive. The production cost averaged 8 cents per kilowatt hour compared to 4 cents per kilowatt hour for electricity derived from natural gas. Other advantages of developing economic uses for biomass resources are that they reduce fire hazards in overstocked forests and in the urban-wildland interface, reduce landfill disposal problems, foster economic development and produce compost, pulp chips, firewood chips, solid wood products, composites, liquid fuels and organic chemicals.

Don Dahlsten, professor at the UC Berkeley Center for Biological Control, discussed his work in urban forest pest management. It’s an increasingly complex field exacerbated by California’s growing population and the increasing use of exotic plants in the urban landscape. In 1985 there were no eucalyptus pests, for instance. There are now 16. In Sacramento, Dahlsten’s team has been developing IPM (integrated pest management) for elm leaf beetle. An attempt at introducing a native parasite for biological control of elm leaf beetle failed. However, they did develop a monitoring technique that is reducing pesticide use by targeting life stages during which the pest is most susceptible to the pesticide.

Mark Schwartz, environmental sciences and policy associate professor from UC Davis, talked about global change



Gary Nakamura, session chair

Suzanne Paisley

and California forest diversity. Global climate change is not fully reflected in circulation models, he said. What really matters is the variability creating weather extremes.

Other California issues affecting forest diversity include fire suppression efforts that increase stress on forests, weed control in the Sierra Nevada and air pollution. In spite of improvements, Southern California still exceeds federal ozone standards by 100 days each year.

Urban forestry, an emerging discipline

Every year California cities spend more than \$71 million to remove and replace sidewalks damaged by trees. Dave Burger, chair of the environmental horticulture department at UC Davis, has been studying the problem for five years and has focused his research program on genetic differences in green ash, Chinese pistache and zelkova, three tree species suggested by municipal arborists. He is selecting shallow- and deep-rooted progeny to propagate vegetatively in the hopes that clones will provide more control.

That’s just one of the many issues in the emerging field of urban forestry addressed in a concurrent session at the DANR statewide conference. The session was chaired by Larry Costello, environmental horticulture advisor from San Mateo/San Francisco counties.

Costello acknowledged there is no clear consensus on just what urban forestry is because its domain is large and the issues diverse—city and national parks, golf courses, amusement parks, the urban-wildland interface, aesthetics, wildlife, carbon sequestration, fire hazards, Sudden Oak Death, power line and infrastructure impacts. In addition to Burger, other panelists included:

- Greg McPherson, project leader of the Western Center for Urban Forestry Research and Education, a part of the U.S. Forest Service’s Pacific Southwest Research Station. His program focuses on the environmental benefits of urban trees, and he is conducting a study to determine how an extensive tree planting program would help California’s energy crisis.
- Dennis Pittenger, area environmental horticulture advisor at UC Riverside. He is interested in what species are going to be most suitable for a site, particularly in regards to water requirements. Pittenger described an irrigation trial examining a range of water treatments to identify those that meet the needs of various landscape species.

An issue that arose in a question and answer session following the presentations is the need for more Spanish-language publications. Costello noted that his publication “Recognizing Tree Hazards: A Photographic Guide for Homeowners,” is currently being translated.—John Stumbos

Study discovers high incidence of iron deficiency in some kids

By *Jeannette Warnert*

Preliminary results of a UC study conducted with 200 children enrolled in the federally funded WIC program in Contra Costa County found that 30 to 50 percent of them were iron-deficient, according to *Sheri Zidenberg-Cherr*, UC nutrition specialist.

“This is significantly higher than national averages,” she said. The number was especially surprising considering that the WIC program, a supplemental nutrition program for women, infants and children, provides iron-fortified formula, cereal and other products to its clientele.

Thirteen percent of the children tested were found to suffer from iron-deficient anemia, a condition that can cause fatigue, decreased exercise tolerance, irritability and loss of appetite. The results from the Contra Costa County study and a similar study in Tulare County indicate that a comprehensive nutrition education program is needed to reduce the risk of iron deficiency in these children, Zidenberg-Cherr said.

Flavonoid research piques the appetite of DANR conferees

For chocolate lovers, the research presented by UC Davis nutrition department chair *Carl Keen* was good news. The level of healthful flavonoids in test subjects’ blood rose sharply after eating dark chocolate, he said, and fell within 6 hours.

“But I’m not suggesting you eat chocolate three times a day,” he added quickly to disappointed sighs.

He did suggest that UC scientists are gaining a better understanding about the role of certain plant chemicals in the diet, which may scavenge free-radicals in the blood stream so lipids will not become oxidized. A reduction in oxidation may be good for cardiovascular health. The flavonoids may also protect against stroke. Subjects who drank a cocoa beverage or non-alcoholic red wine had a marked reduction in the tendency for platelets to clot. This is the type of effect that people are trying to achieve when they take aspirin daily.

“What you eat in a single meal may have an effect on your health,” he said.

Foods rich in flavonoids include dark chocolate, strawberries, blueberries, green tea and red wine.

On the downside, Keen said, there is a remote possibility that some phytochemicals can harm a developing fetus.

“Should pregnant women be cautioned against eating fruits and vegetables?” Keen said. “We have to carefully explore this and study flavonoid-rich foods’ benefit to risk ratios.”

—*Jeannette Warnert*

UCCE and diabetes education

Diabetes, a chronic disease that shortens the average life span by 15 years and can cause severe complications, is becoming more prevalent, according to UC community nutrition specialist *Lucia Kaiser*. In California, 1.3 million people have been diagnosed with the debilitating disease. (Experts estimate that only two-thirds of diabetics are diagnosed.) Nationally, cases rose 33 percent from 1980 to 1998.

Kaiser believes UC Cooperative Extension can play a role in helping Californians prevent and cope with diabetes.

“The American Diabetes Association has outreach programs in place, but they depend heavily on partnerships to get the information out,” Kaiser said.

She pilot-tested a diabetes education curriculum by comparing it to the EFNEP unit. “People who took lessons focused on risk were more likely to decrease the use of lard and sweets and increase consumption of fruits and vegetables,” she said.

—*Jeannette Warnert*

Grossi *(from p. 1)*

“We have been subsidizing the wrong kind of land-use behavior,” he said.

Farmland is being converted to urban uses at increasing and “alarming” rates in California, Grossi said. Between 30,000 and 35,000 acres of California farmland have been developed annually over the last 10 years.

“Obviously we are using land at a less-efficient rate than ever before,” Grossi said. By simply increasing housing density from three to six units per acre in the Central Valley, California could save 500,000 acres of farmland and \$1 billion in annual service costs by the year 2040.

Unfortunately, much of the current urban development is also occurring on the state’s most productive farms rather than marginal acreage, Grossi said, because “our ancestors settled on the

best land.”

The term “sprawl”—which describes piecemeal development into open space and farmland—also incorporates the public’s frustration with increased congestion, traffic and urban decay, Grossi said.

AFT is a nonprofit organization that is working to stop the loss of farmland nationally and promote environmentally friendly farming practices. Founded in 1980, AFT promotes a variety of “antidotes to sprawl,” Grossi said, such as easements, better land-use planning, conservation funding, compact housing development and “smart growth.”

At the same time, farmers must “be educated about their responsibility to the public,” Grossi said. “Stewardship has to be part of the discussion. Well-managed farms are an asset-builder for the community.”

Noted evaluation expert Michael Quinn Patton challenges organizations to be results-oriented

Job 1 in results-oriented organizations is finding out whether they are making a difference in people's lives, an internationally renowned evaluation specialist told Division members.

"Results-oriented organizations make sure that they are not just paying attention to the delivery [of programs], but that they're following up to find out whether or not they are achieving results," *Michael Quinn Patton* said during his keynote address at the Division's statewide meeting.

These organizations take this additional step not because of reporting requirements but because they want to be more effective.

"Your life on this earth is too short to waste your time on stuff that doesn't work," Patton said.

To become results-oriented, an organization needs to ask itself these questions, he said: "How do you know that what you created is good? What are your criteria? From what data do you base your judgment? What results were you hoping to achieve? And ... [how do you make] a fair and unbiased evaluation?"

Most organizations focus on activities and rarely make the effort to determine the actual impact of what they do or the effects of organizational changes they implement, he said.

He cited several studies that investigated the results of major restructuring in the corporate world. In one study of Fortune 500 companies, only 30 percent could document productivity gains. A study of 700

companies revealed that most restructurings had "fizzled." A key reason they failed, Patton said, was that there were "no mechanisms in place to monitor whether or not the new directions were working."

Patton, a former president of the American Evaluation Association, acknowledged that "reality testing is tough stuff, it's not easily done; it's scary; it can be challenging."

But institutions making a successful transition to a results-orientation "find that it changes everything that they do," he said. "It changes their staff meetings, changes their newsletters, changes their job descriptions ... changes the way they talk to each other because they are talking about outcomes instead of activities, services and administration.

"They put results at the center of what they are talking about ... it's always there."

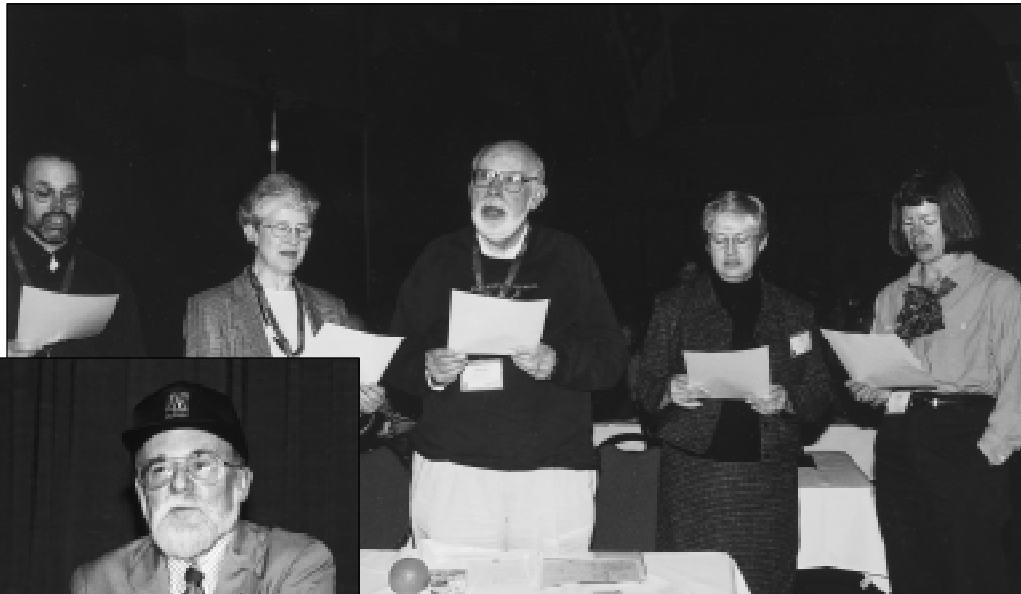
In addition, they make it a point to ask their clientele how they are doing. "Results-oriented organizations have feedback links to communities, stakeholders, clients and are using that information—not just getting that information, but using the information and thinking about its implications," he said.

Patton cautioned that "outcome statements are also value statements," and that in the course of evaluating their work, organizations are likely to "run into issues of competing values, issues of politics."

"I want to remind you," Patton said, "that in a diverse world with competing perspectives, a part of what you are engaged in is negotiating these competing perspectives about what the desirable outcomes are."

Patton is a faculty member of the Union Institute Graduate School. He previously spent 18 years on the faculty of the University of Minnesota, including five years as director of the Minnesota Center for Social Research and 10 years with Minnesota Extension Service.

The author of "Utilization-Focused Evaluation: The New Century Text," which is used at more than 300 universities, Patton has brought his vision of results-oriented evaluations to organizations and agencies around the world.



At the end of his presentation, keynote speaker Michael Quinn Patton (insert) asked audience members who had attended his pre-conference workshop to join him in singing the "evaluation hymn." Pictured in this group of singers are (from left) Dave Campbell, Joan Wright, Al Sokolow, Ella Madsen and Diane Barrett.

Suzanne Paisley

Lund on key issues facing the Division— and some new opportunities

In a presentation designed to stimulate discussions about key issues and opportunities confronting ANR, Assistant Vice President *Lanny Lund* called on his colleagues to remember that they have unique responsibilities within UC as “standard bearers for the land-grant mission.”

“We need to continually show how the mission of ANR is important to the University and California,” Lund said in the closing speech of the conference. “We need to be forward-looking and proactive. As a Division, we need to foster an environment where new ideas are proposed and tried.”

Lund described some of the most important external issues having an impact on the Division’s work. His list included the changing face of California agriculture, population surges, increasing rural/urban conflicts, changing social trends, increasing competition for natural resources and agricultural literacy.

He also drew attention to emerging opportunities—new ways of meeting local needs, for example, and new partnerships for funding, research and outreach.

A recurring theme in his overview of internal issues and opportunities was that there must be strong linkages between research and outreach for the land-grant continuum to be successful.

ANR has already taken actions to strengthen these linkages, he said, including providing funding for Division workgroups. Statewide meetings and other conferences in which AES and CE academics share ideas and

get to know each other better are also forging closer ties between research and extension. Regional directors and associate deans are also working to bring county and campus-based academics together. And the Program Council is discussing a different program area each month “as we try to understand where these programs are going and perhaps help shape programs to better address the mission,” he said.

Moreover, the Division plans to reinstate a statewide orientation program for new advisors, specialists and AES scientists, in which the continuum will be an important part of the agenda. He also suggested that all Division academics be evaluated on “how they are contributing to their part of the continuum and the Division mission.”

On another front, Lund noted that the visibility of ANR programs within the University system has grown significantly over the last two years, in part because of the formation of the President’s Advisory Commission on Agriculture and Natural Resources. Both President *Atkinson* and Provost *King* regularly attend the meetings.

As a result of these and other efforts, ANR has had the opportunity to submit special budget initiatives to receive AES and CE funds outside the student workload model, he said.

“You represent the best,” Lund added in praising ANR academics for their outstanding research and extension programs and their quick response to critical problems such as declining science literacy, Sudden Oak

Death and Pierce’s disease.

“Our goal as administrators,” he said, “should be to do everything we can to support you in your jobs and create as few roadblocks as possible. As Vice President *Gomes* told you yesterday, we continue to try to build the base budget for the Division so there will be more of you to spread the workload around and to provide more base support for you that are already here.”

That focus, he said, also includes reducing administrative workloads at all levels of the organization—for instance, by going to web-based submitting of workgroup proposals and ushering in a longer funding period.

He went on to say that Division administrators are also trying to expand the pool of potential new hires—and are seeking to encourage more academics to take on administrative responsibilities. Internship programs may help address both of these needs, Lund said.

In addition, as new academics are hired, “we must provide the resources to help them succeed,” he said. Therefore, ANR is adopting the campus practice of providing startup funds to new advisors.

Likewise, he said, “our deployment of program funds to advisors this year may be a first step in supporting advisors in getting training they feel they need.

“We need to continue to explore how we are going to maintain the relevant expertise in the Division.”

Lund said that his overview “probably didn’t tell you much that you didn’t al-

ready know.” However, he said, it was his hope that “by surfacing these points collectively, we can continue a dialog on how to bring these issues and opportunities to the fore as we all contribute to Division programs.”

Gomes (from p. 2)

- **Building a Central Coast Research and Extension Center.** Both funding and a land donation are being sought.
- **Strengthening the infrastructure at selected UC-operated field sites** and creating an innovative program of research and training in the environmental field sciences through a network of site-based interdisciplinary fellowships and traineeships. This initiative is a joint effort by five UC campuses and the NRS.
- **Increasing funding for research in invasive species.** Gomes said \$1.9 million—to be awarded competitively—has already been obtained to study Pierce’s disease (see story on p. 7), plus \$1.25 million—also to be awarded competitively—to study exotic pests and diseases.
- **Funding for an Agricultural Genomics institute.** Both state and foundation funding are being pursued.

As these examples suggest, the Division is “reaching out and embracing new concepts, new ideas—and new ways to contribute through cooperation, collaboration and congeniality,” Gomes said.

Vaux on how the new structure is measuring up

The Division is making great strides toward organizational effectiveness

A little more than 18 months after adopting a new structure, the Division has made substantial progress in meeting its criteria for organizational effectiveness as set forth in its strategic plan, Associate Vice President *Henry Vaux Jr.* told the participants of “Odyssey 2001.”

“Although much work remains to be done, there is every reason for all of you to be proud of what you have accomplished in the last two years, and there is every reason for me to encourage you to go out and accomplish twice as much in the next two years,” Vaux said.

He offered strong evidence that the new structure is operating according to the criteria developed in the planning phase of the reorganization by the organizational strategy teams (OSTs), composed of ANR academics.

“We enjoy strong public support, we are building and strengthening the research/extension continuum, we are functioning collaboratively and as a team, we use and take advantage of electronic communication technology, we are strengthening county-based Cooperative Extension and our programs are adaptive and flexible,” Vaux said.

He added: “We are in the midst of the best times that I can remember in my nearly 31 years with this Division.”

Vaux gave multiple examples of success in each of the eight criteria for organizational effectiveness listed on page 20 of ANR’s strategic plan, “The Challenge of Change.” Here are excerpts from his presentation:

■ Cooperation, collaboration and teamwork

“The regional directors work as an effective team, jointly assessing priorities within each region and collaborating with the special statewide program and project directors, the associate deans and the program leaders to make the program planning process work efficiently and effectively.”

■ Programs are adaptable, flexible and responsive to high priorities

“We annually reassess program priorities and make funding decisions to support the high-priority activities identified by the workgroups.”

■ Strong local or county connections for delivery of DANR programs

“When all of the new advisor positions ... are filled, county-based Extension will have grown by more than 10 percent. We are in the process of filling an extraordinarily large number of positions in an orderly fashion.”

■ There is access to and widespread use of electronic technology throughout DANR

“Virtually everyone in the Division has access to the web ... [and] is using email and the web to conduct Division business. We have become completely electronically accessible in just four years.”



John Stumbos

The well-attended poster session at the statewide conference was held in the Music Room of the landmark Mission Inn.

■ Administration is streamlined and responsive to programs

“Administrative coordination under Assistant Vice President *Lanny Lund’s* leadership is the rule, not the exception.”

■ There is a continuum between research and extension

“The criteria that the Executive Council have issued to guide the investment and allocation of the Division’s resources require that each investment or reallocation strengthen the research/extension continuum.”

■ There is equal respect and status for all academics in DANR

“We have succeeded in bringing the specialist’s salary scale into parity with that of Senate faculty. We are working actively to address salary and other welfare issues that affect county-based Extension personnel.”

■ There is public understanding and support for Division programs

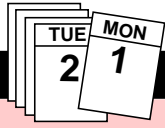
“We have received a permanent \$3 million augmentation to our CE appropriation. More than anything else, this attests to the public understanding and support which we currently enjoy.”

Funding—Pierce’s disease research

The Division is soliciting research proposals for targeted research to address the threat of Pierce’s disease to the grape industry. The full announcement is posted on the ANR webpage (<http://danr.ucop.edu>).

About \$1.7 million is available. Both mission-oriented studies and fundamental studies will be considered. Proposals, for either one year or two years, **are due by April 20**. Awards will be announced by mid-June.

Send proposals to: *Robert Webster*, project director; Department of Plant Pathology, One Shields Avenue, 354 Hutchison Hall, University of California, Davis CA 95616.



COMING UP

APRIL

Intermittent Streams Workshop
April 11-12; San Luis Obispo; Bill Tietje (805/781-5938; wd tietje@ucdavis.edu)

Sierra Foothill REC Beef & Range Field Day

April 19; Browns Valley; Chris Feddersen (530/639-8800; cafeddersen@ucdavis.edu)

Natural Resources Coordinating Conf.
April 24-25; Newport Beach; Field Tour April 25, Camp Pendleton; Joni Rippee (rippee@nature.berkeley.edu)

MAY

Nickels Field Day
May 3; Arbuckle; John Edstrom (530/458-0570)

Ag Futures Conference
May 8; Kearney REC; Fred Swanson (559/646-6060; fswanson@uckac.edu)

Precision Agriculture Conference and Workgroup

May 8-9; Davis; Stu Pettygrove (530/752-2533; gspettygrove@ucdavis.edu)

Finding the Right Blend: land use planning, environmental regulation and the wine industry (UC Davis Extension)

May 23-24; Healdsburg; (800/752-0881)

Calif. Marine Research and CE Conf.
(Abstracts due April 23; travel/lodging funds requests also due April 23)

May 31-June 1; Sacramento; Paul Olin (707/565-2621; pginolin@ucop.ucdavis.edu)

JUNE

Plant Diagnostic Workshop
June 4-5; Davis; Weed Research & Information Center (<http://wric.ucdavis.edu>)

Sustained Management of Irrigated Land for Salinity and Toxic Element Control

June 25-27; Riverside; <http://www.ussl.ars.usda.gov/issc-b3/issc.htm>

Conservation Tillage 2001

June 26; Five Points
June 28; Davis; Jeff Mitchell (559/646-6565; mitchell@uckac.edu)

SEPTEMBER

Calif. Communities Continuing Conf.
Sept. 11-12; Davis; Dave Campbell (530/754-4328; dave.c.campbell@ucdavis.edu)

Trainers of Pesticide Handlers and Ag Fieldworkers

Sept. 19 (English); Sept. 20 (Spanish)
Winters; <http://www.ipm.ucdavis.edu/IPMPROJECT/workshops.html>

To list events, call 510/987-0631 or send to ANR Report

Breakout groups

Crop biotechnology: a reality check

By Pam Kan-Rice

Soybeans and cotton enhanced by biotechnology represent over half of the acreage of these crops in the midwestern and southern United States, but what about California, the nation's largest agricultural producer?

Kent Bradford, director of the Seed Biotechnology Center at UC Davis, noted that the diversity of California's crops has delayed the development of biotech varieties. Registering a new genetically modified variety for sale can cost \$1 million to \$10 million, a considerable financial hurdle for vegetable crops grown on small acreages.

In contrast, Robert Hutmacher, associate cotton specialist, reported that about 250,000 of California's 920,000 acres of cotton planted last season were transgenic varieties, predominantly herbicide-resistant.

Research into modifying fruit and nut crops is aimed at achieving disease and insect resistance, said Abhaya Dandekar, UC Davis pomology professor, with some of these varieties becoming available soon.

Andrew Walker, professor of viticulture and enology, is working on introducing into grapes genetic resistance to Pierce's disease and other pathogens. Modification of only one or a few genes could achieve the desired result without altering the unique characteristics of traditional wine grape varieties.

Ornamentals enhanced by biotechnology, including new flower colors and easy-care turf varieties, may find an easier route to market because they are not eaten by humans, said David Burger, UCD professor of environmental horticulture.

More photos of the statewide conference and additional highlights of breakout sessions will appear in the next issue of ANR Report.

Job opportunities

■ Community and Rural Development Advisor

Location: Inyo/Mono Counties
#ANCM-01-02
Closing Date: April 15

For more information, go to the ANR website or contact Sydni Gillette (530/754-8509; skgillette@ucdavis.edu).

■ Water Resource and Irrigation Advisor

Location: Monterey (headquarters), Santa Cruz and San Benito Counties
Position: #ACCSO-01-02
Closing date: May 15

■ Ag/Environmental Science Advisor

Location: Ventura County
Position: #ACCSO-01-01
Closing date: June 8

For more information, contact Cheryl Gneckow (909/787-2529; ccsracadrecruitment@ucdavis.edu; Fax: 909/787-2328)

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