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Minnesota Applied Economist

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A Newsletter for Alumni and Friends of the Department of Applied Economics University of Minnesota

Department Head's Notes

Recently, the public media has been filled with reports about declining state support for the University and the University's decision to make up some of the difference by charging students higher tuition. In this article I will give you a brief overview of how these changes are impacting our undergraduate and graduate programs, and how the department is adjusting to this reduction in state funds.

Undergraduate Numbers Continue to Increase

The beginning of an academic year is always an exciting time on the University of Minnesota campus, and the fall of 2002 is no exception. The number of students in our two undergraduate majors—Applied Economics, and Agricultural and Food Business Management—increased to 249 this year (up 7 percent from last fall). An increase in the number of majors is particularly good news given our large graduating class last spring, because it means we attracted enough new students to more than make up for those who graduated. The job market for graduates with a bachelor's degree was tighter last spring than in previous years, but our majors found jobs at salary levels equal to or above the previous year, suggesting they have the skills employers want. The attention our faculty gives to improving the undergraduate experience and the strong placement results are major reasons the number of students in our undergraduate majors continues to grow.

Graduate Numbers Are Steady

Currently, we have a total of 83 graduate students in the department, 28 M.S. and 55 Ph.D. students. As with the undergraduate program, academic standards are increasing and we provide computer support and other services that keep graduate training in the department at the forefront

of the profession. As evidence of this, our graduates have been *very* successful in the job market in recent years. For example, from January 1998 through June 2002, over half of our M.S. graduates accepted jobs with businesses, one-fourth have gone on for another degree, and the remaining one-fourth accepted government or academic positions. During the same period, three-fourths of our Ph.D. graduates accepted academic positions and the remaining one-fourth found jobs in business or government.

Attracting Outstanding Students Requires Strong Financial Support

Although our recent graduates have done well in the job market, a three-pronged approach is necessary for the department to continue attracting the very best students. First, we need a strong faculty; second, we need, an outstanding academic program; and third, we need strong financial support for the students themselves. We have the first two "prongs" in place
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at both the undergraduate and graduate levels. Higher tuition rates, however, have increased the need to provide scholarships to recruit outstanding undergraduates. At the graduate level, higher tuition rates are increasing the cost of supporting our students just when cuts in state funding are reducing our ability to fund them. Here are some of the changes we are making in the department to provide continued financial support for our students.

Undergraduate Scholarships

The department has initiated an endowment fund to provide scholarships for undergraduate students in our two majors. This fund will be used to recruit outstanding undergraduates to the program and to support strong students who are already enrolled. If a student receives a scholarship from the department, continuation of support over multiple years is contingent on strong academic performance and satisfactory progress towards graduation. In addition, support offers are coordinated with other scholarships provided by the College of Agricultural, Food, and Environmental Sciences.

Staff Cuts and More Grant Funds Are Supporting Graduate Students

Currently, the department is adjusting to reduced state support by making two major changes. First, we are cutting the number of support staff, teaching assistants, and research assistants who are paid from state funds. And second, we are increasing the number of research assistants who are paid from *grant* funds. The move to grant funds, however, is not without problems, especially when it comes to matching students' research interests with the funding source.

Grant funds and contracts are an excellent way of supporting students after they are in the department and their research interests are known. Grant funds, however, are not a very effective way to fund *new* graduate students. The uncertainty that grant applications will be approved and the uncertainty about which students will accept our offers, makes it difficult to match grant support with the research interests of incoming students. Thus it is important to have a source of funding to recruit new students and provide financial support for them for a period of up

to one year, while they develop a working relationship with a faculty advisor and the two of them write a grant application to support the student.

Departmental Centers Are Financing More Students

Although state funding is being reduced, several of the department's centers are coming to the rescue by increasing the number of students they support. The Food Industry Center, Farm Financial Management Center, and Center for International Food and Agricultural Policy have already stepped up their support of graduate students. All three centers operate primarily on grant funds, so they can work most easily with students who are already in the program. The three centers are actively seeking more funding for students.

Endowment Funds Are Being Created

Currently, the department is actively seeking gifts that can be placed in endowments to provide support for undergraduate scholarships and graduate assistantships. Earnings from these endowments, we hope, will become an important component of the financial support we use to recruit outstanding students—for both our undergraduate and graduate programs.

If you are interested in making a donation to one of our student-oriented endowments, please contact Sue Shepard, Director of Development for the College of Agricultural, Food, and Environmental Sciences, or contact the department for more information. Sue Shepard's contact information, please note, is given on the insert included with this issue. We hope you will contribute.

Vernon Eidman

Matthew G. Smith Receives the Department of Applied Economics' Outstanding Alumni Award for 2001–02

Each year the Department of Applied Economics recognizes an alumnus or alumna who has attained unusual distinction in his or her field or profession, and who has demonstrated outstanding achievement and leadership on a community, state, national, or international level. Candidacy is limited to students of a degree program offered by the department.

The department's Awards Committee selected Matthew G. "Matt" Smith, Commissioner, Minnesota Department of Revenue, as the recipient of the Alumni Award for 2001–02. The Committee notes that Matt has had a major influence on Minnesota tax policy, and praises his efforts to change the tax system in ways that enhance economic efficiency. His recent contributions include a major hand in formulating the proposals for the sales tax rebates and permanent tax relief.

Twin Cities Agricultural Issues Round Table

The Round Table brings together area business, academic, government, and non-profit leaders for lunch and an expert speaker. Each of the following sessions will meet at the Four Points Sheraton Minneapolis, 1330 Industrial Blvd. The group will start assembling at 11:30, with lunch served promptly at noon and the program and discussion to follow. Luncheon cost is \$25 and space must be reserved at least 3 business days in advance of the session. RSVP to Sue Pohlod at spohlod@appec.umn.edu or 612-625-8779.

January 23, 2003 - *"The Doha Round: Ag Trade Liberalization, Changes in World Trade and Economic Growth,"* Terry Roe, Department of Applied Economics

February 20, 2003 - *"International Reaction to U.S. Agricultural Policy,"* C. Ford Runge, Department of Applied Economics

March 20, 2003 - *"Our Approach to Marketing Branded Beef,"* Ronald Fielding, Group VP of Meat Products, Hormel Foods, Inc.

April 17, 2003 - *"The Impact of Technology and Consolidation on the Supply Chain for Farm Inputs,"* George Thornton, President and CEO, Agrilience LLC

Alumni, family members, students, and faculty attended a reception held in the departmental conference room on September 13, 2002 to honor Matt and to hear his seminar, "Tax Policy vs. Economics: The 90s in Minnesota."



l to r: Vernon Eidman, Matt Smith, and Philip Raup

Matt received his M.S. in agricultural and applied economics in 1984 from the University of Minnesota where Professor Philip Raup was his advisor. After graduation, Matt began his career as an economist with the Economic Research Service of the USDA and, in 1988, joined the staff of the Minnesota Department of Revenue as the department's agricultural economist—with additional responsibilities related to the property tax system. Over the years, he moved to positions of increasing responsibility within the Department of Revenue—including, from December 1994 onwards, a stint as acting commissioner and deputy commissioner. In January 1999 he was appointed commissioner, a position he held through September 2002, when he accepted the position as director of the Office of Financial Services of the city of St. Paul, Minnesota.

The department has recognized one of its graduates each year since 1985–86. The previous 16 individuals selected include departmental graduates who have had distinguished careers in academia, international development, finance in the U.S. and other countries, farming, business, and government service. We are pleased to add Matthew G. Smith to our list of outstanding graduates.

Dr. Naomi Zeitouni Joins the Department



Dr. Naomi Zeitouni joined the department at the beginning of September in a non-tenure track position that combines both teaching and research. Dr. Zeitouni has a B.A. in economics and statistics from Tel Aviv University, a Ph.D. from the University of Rhode Island, and expertise in water re-

sources and environmental economics. For the past 10 years, she worked in a teaching and research position at the Department of Economics, University of Haifa, Israel.

Dr. Zeitouni received the Outstanding Dissertation Award from the American Agricultural Economics Association in 1991 for her dissertation, "Efficient Management of Groundwater Quality: An Evaluation of Spatially Differentiated Policies." As a lecturer at the University of Haifa, she published many papers dealing with water management and allocation, mitigating externalities, and water markets. She will be developing a research program at Minnesota in the broad area of water resources.

During the Spring Semester 2003, Dr. Zeitouni is offering a graduate course in resource and environmental economics for non-majors. The course is designed for graduate students with a background in another discipline and an interest in water resource issues. We have many research and teaching opportunities in the water resources field, and we welcome Naomi Zeitouni to our staff!

Faculty Receive Awards for Outstanding Journal Articles

Two departmental faculty members, Terrence Hurley and Ben Senauer, were recognized in July at the Joint Annual Awards Ceremony of the Western and the American Agricultural Economics Associations for the outstanding journal articles they published in 2001.

Terrance Hurley and his coauthors, Bruce Babcock and Richard Hellmich of Iowa State University, received the Outstanding Journal Article Award from the Western Agricultural Economics Association for their article "Bt Corn and Insect Resistance: An Economic Assessment of Refuges." This article, published in the July 2001 issue of the *Journal of Agricultural and Resource Economics*, suggests that when much of the corn crop in a particular region is composed of genetically engineered plants, its ability to control pests is reduced. In addition, the authors describe the necessary tradeoffs farmers must make between crop productivity, conventional pesticide use, and insect resistance when Bt corn is planted to control European corn borer in the north-central United States.

Ben Senauer and Mona Sur of the World Bank received the Outstanding Journal Article Award for their article, "Ending World Hunger in the 21st Century: Projections of the Number of Food Insecure People," published in the spring issue of the *Review of Agricultural Economics*. In this article, the authors estimate there are 1 billion food-insecure people in the world today and—at current rates of population and economic growth—this figure will decline to only 830 million by 2025. However, their analysis indicates this number could be reduced much more with an emphasis on economic growth policy which favored the poor, so that they experienced higher rates of growth than the average. Historical examples of such pro-poor growth strategies for countries in East Asia have placed a high priority on investments in human capital, especially basic education and health care, on the creation of income-earning opportunities for the poor, and on agricultural growth in the early stages of development. With pro-poor growth and a decline in real food prices, the number of food insecure people could be reduced to 380 million (in other words, 450 million fewer hungry people) by 2025. As a result, the authors conclude that ending chronic hunger in this century is a realistic and achievable goal.

Larry D. Buegler Receives the University of Minnesota Outstanding Achievement Award

Larry D. Buegler was awarded the University of Minnesota Outstanding Achievement Award on September 17, 2002. Initiated in 1948, the award is conferred on a graduate who has attained unusual distinction. The University has bestowed just over 1,100 Outstanding Achievement Awards to its many graduates and, of those, the College of Agricultural, Food, and Environmental Sciences has bestowed 126. Receiving this award is a high honor.

Larry Buegler received a Bachelor of Science degree in agricultural economics in 1959 and began his career with Norwest Bank of St. Paul, where he advanced through positions in trust real estate, farm management, and estate planning. Success in these positions led to responsibilities as senior vice president in various divisions including correspondent banking, commercial real estate, dealer finance, and commercial loans. He completed his 27-year career with Norwest Bank, where he served as chief executive officer and chairman of the board of Norwest Bank of St. Paul from 1981 to 1986.

In the mid-1980s, the Farm Credit Bank of St. Paul was in considerable difficulty and appeared to be destined for bankruptcy. Fortunately in 1986, the bank hired Buegler as president and chief executive officer. He immediately developed a bold plan to control costs and restructure loans, turning the largest agricultural lender in the nation from \$1 billion in losses in 1984 and 1985 to financial performance in the top quartile of all financial institutions in the nation. He also helped develop federal and state legislation providing remedies for creditors to mitigate the lending crisis that existed in agriculture during the 1980s. He completed his career in 1992 with Farm Credit of St. Paul by negotiating a merger of the Farm Credit Banks of St. Paul and St. Louis to create AgriBank FCB, a lender serving 25 percent of the nation's farmers.

In 1992 Buegler was selected to serve as the first director ("chief of party") for the Newly Independent States Farmer-to-Farmer Program in Russia where he dedicated himself to developing a workable rural credit system. He was successful in identifying many Russian farmers and business people who wanted to adopt western principles of banking and finance. Today, many of them participate in the Russian American Lending Program through ACDI/VOCA, which is funded by USDA and USAID.

From 1994 to 1996 Buegler was director of the Department of Planning and Economic Development for the city of St. Paul. Former Mayor Coleman credits Buegler with bringing financial discipline to the running of the department and for bringing the private sector into partnership with city government to revitalize St. Paul.

Larry Buegler had an outstanding career in finance and banking at Norwest Bank. His contributions from 1986 to 1992 have earned him a prominent place in the history of the farm credit system in the U.S. In addition, he made major contributions to the formation of a cooperative credit system in Russia and to the efficient management of the city of St. Paul. We are pleased that his name has been added to the list of recipients of the University of Minnesota Outstanding Achievement Award.



l to r: Former Chairman of Board for Farm Credit Bank of St. Paul Bruce Bohnsack, Attorney with Linquist & Vennum Tom Fabel, University Regent Lakeesha Ransom, Larry Buegler, COAFES Dean Charles Muscoplat, and Department Head Vernon Eidman.

Philip Raup—50 Years of Service to the Department

Professor Philip Raup joined the faculty at the University of Minnesota in 1953 as professor of agricultural economics. Although he retired in 1984, he has remained active as a professor emeritus and is now in his 50th year with the department!

Professor Raup is probably best known by farmers and real estate agents in Minnesota for his reports, which he published annually for four decades, on the rural real-estate market. The department continues to receive requests for the current year's report even though he published his last summary of land prices in 1992. Of course the land market surveys were only a small part of his professional writings. Among his peers around the world, he is known for his many insights and extensive writings in two broad areas: land policy and land reform, and world agricultural policies and their relationship to economic development.

As a land economist, Professor Raup was concerned with improving the quality of the data that are used to describe structural change in agriculture. He was a frequent contributor to the debate on collecting data that accurately reflect the size and ownership of farms by type of unit and region of the country. Other articles addressed the issues surrounding the question of how to accurately reflect the value of land. He extended this work to other countries and made frequent contributions to the literature aimed at bridging the gap on land-tenure issues in the U.S. and abroad—including papers about the lessons learned from European Land Policy.

Some colleagues find his contributions to the discussion of agricultural policy of equal or greater importance than his work in land economics. His first journal article, published in the *Journal of Farm Economics* in 1950, analyzed the reasons for the rapid recovery of crop yields and livestock production in Germany following World War II. In addition, the article notes policy issues of concern to German and U.S. farmers, the importance of sending the appro-

priate price signals to German farmers, and the implications of rapid increases in German crop production for reduced U.S. exports. He has written periodically on European agricultural policy throughout his career. In a 1968 paper, "An American View of the European Agricultural Policy," Professor Raup discussed the likely impact of the Common Agricultural Policy (CAP) on European agriculture, on world trade, and on European consumers. He referred to the CAP as a "walled fortress," and argued that technology and high prices would cause production to expand without benefiting consumers.

In a paper he presented to the 2001 annual meeting of the American Agricultural Economics Association, Professor Raup discussed some of the international consequences of the agricultural policy of the U.S. over the past 80 years. Laced with his characteristic historical detail, Phil argues that the impact of U.S. farm policy on productivity and infrastructure development has made a contribution to the concept that trade is a solid basis for food security.

Professor Raup comes to his departmental office on a regular basis, attends faculty meetings and seminars, and interacts with faculty, visitors, and graduate students on an ongoing basis. We hope he will continue this active role in the department for many years to come.

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Six Russian and Yugoslavian Faculty Visit the Department

As part of the USDA Faculty Exchange Program, six faculty members from Russia and Yugoslavia are visiting the Department—and will be here from July through December 2002. While in the Department, these visiting faculty members will observe our teaching methods, develop courses they can teach at their home universities, and participate in a variety of local and national field trips. Here is a brief snapshot of the areas of interest of each of the six visiting faculty members.

- *Jelena Birovljev*
Jelena is a full professor at the University of Novi Sad in Yugoslavia, where her major area of interest is farm management—with secondary interests in grain marketing, international trade, and agribusiness finance. While in the Department, she is working with Kent Olson and William Lazarus and is attending courses taught by Glenn Pederson.
- *Oxana Didovich*
Oxana is interested in land markets, agricultural economics, agricultural law, and agribusiness and is an assistant professor at the State University of Land Management, Moscow. Currently she is working with Phil Raup and Steve Taff, and is also attending courses taught by Ben Senauer, Jean Kinsey, Glenn Pederson, Ed Usset, and William Easter.
- *Mikhail Dmitriev*
Mikhail, who comes to us from St. Petersburg State Agrarian University where he is a senior lecturer, is interested in strategic management and agricultural and food marketing. While in the Department, he is attending courses taught by Ben Senauer and Glenn Pederson.
- *Elena Kotcherova*
Elena is a professor at Tver State Agricultural Academy in Russia where she teaches mathematical programming and optimal control theory, as well as various computer applications

in agricultural economics. While with us, she plans to develop a course in e-commerce and is attending courses taught by Terry Roe and Philip Pardey.

- *Liudmila Pterskaya*
Liudmila, whose areas of interest include financial management and agricultural investment, is professor and head of the Financial Management and Banking Department at Stavropol State Agrarian University, Russia. She is attending courses taught by Philip Pardey, Glenn Pederson, and Ed Usset.
- *Rostyslav Pynda*
Rostyslav is an associate professor at Ternopil Academy of National Economy in the Ukraine and is interested in agricultural and food marketing. As an expert in these fields, Rostyslav is collaborating with marketing instructors in the Carlson School of Management and is attending courses taught in the Department by Ben Senauer and Jean Kinsey.

The program funds the visiting faculty for six months in the U.S. and also pays for a limited number of U.S. faculty to meet with the visitors in their home university. These follow-up trips have proven quite effective in helping our visitors implement course changes they develop, and to improve the support we provide for next year's visiting faculty. This is the third year we have participated in what we feel is a very successful exchange program.



*l to r: front - L. Pterskaya, J. Birovljev, and O. Didovich.
back - M. Dmitriev, E. Kotcherova, and R. Pynda.*

RECENT PUBLICATIONS

For information on locating a copy of a publication not available on the Internet, contact the underlined author at the department by calling 612-625-1222.

GLOBAL PERSPECTIVES

Accessing Other People's Technology for Non-Profit Research by Carol Nottenberg, Philip Pardey, and **Brian Wright**. As patents and other forms of intellectual property become more pervasive in the next generation of biotechnologies, designing policies and practices to ensure sufficient freedom to operate (i.e., the ability to practice or use an innovation) will be crucial for non-profit research agencies, especially those intent on developing technologies destined for commercial release. In this paper the authors evaluate various options for accessing other people's technologies. IN: *Australian Journal of Agricultural and Resource Economics*, v.46, no.3, September 2002, pp.389-416.

Agricultural R&D, Productivity, and Global Food Prospects by Philip Pardey and **Brian Wright**. This chapter provides an overview of the changes in agricultural production and productivity that have occurred over the past century, particularly during the past several decades, and emphasizes the role science played in these developments. The authors describe how the biggest challenges to global food supply in the future will come from income not population growth, and discuss the adequacy of current investments in, and institutional changes concerning, agricultural R&D in meeting these future challenges. IN: *Plants, Genes, and Crop Biotechnology*, by Maarten J. Chrispeels and David E. Sadava. Second Edition, Sudbury, MA: Jones and Bartlett Publishers, 2002, pp.22-51.

Barriers to Efficiency and the Privatization of Township-Village Enterprises by **Xiangming Fang** and Rodney Smith. This paper presents a provincial-level comparison of the economic performance of private enterprises (PEs) and township-village enterprises (TVEs) in China. The study shows PEs consistently outperform TVEs and the eastern provinces consistently outperform their central and western counterparts. The

study also suggests the lack of credit is one reason underlying the relatively poor economic performance of TVEs relative to PEs, and for the varying economic performance across regions. Presented at the American Agricultural Economics Association Annual Meeting; July 28–31, 2002; Long Beach, CA.

[<http://agecon.lib.umn.edu/aaea02/sp02fa04.pdf>]

Can Economic Growth Be Sustained?: A Post-Malthusian Perspective by Vernon Ruttan. In the classical model of Malthus and Ricardo, economic growth is constrained by an inelastic supply of natural resources. In this article I show that future economic growth in advanced countries such as the United States will be constrained by service-sector productivity growth. An implication is that it will be difficult for the U.S. economy to maintain long-term rates of growth in output and productivity that come anywhere near the rates achieved since the mid-1990s. IN: *Population and Development Review*, v.28, no.1, March 2002.

The Challenge of Agro-Bioterrorism by C. Ford Runge. If a significant agro-bioterrorist event occurred in a major market, the most likely significant impact would be on commodity prices. At an international level, the threat of agro-bioterrorism poses additional challenges to the world trading system. IN: *Syngenta Lectures, Issue 1*. Syngenta International AG, 2002.

The Contribution of Technological Progress to Aggregate and Sectoral Production of the Taiwanese Economy by **Pei-chien Lin** and Terry Roe. This study sought to better understand how Taiwan was able to maintain high growth over the last 20 years and avoid the negative business cycles of Indonesia, South Korea, and Thailand. The answer lies in the country's ability to maintain high rates of technological change. IN: *Productivity and Economic Performance in the Asia-Pacific Region*, edited by Tsu-Tan Fu, Cliff Huang, and C.A. Know Lovell. Northampton, MA: Edward Elgar, 2002, pp.161–183.

Developing Country Interests in Agricultural Reforms Under the World Trade Organization by **Xinshen Diao**, Terry Roe, and **Agapi Somwaru**. This study shows that the policy instruments used to support the incomes of farmers in the U.S. and the European Union (E.U.) amount to implicit taxes on farmers

in Africa and Latin America who produce crops requiring relatively large amounts of labor and water. However, because African countries trade mostly with the E.U., E.U. policies tend to have large impacts on farmers in Africa. In contrast, U.S. policies have large impacts on countries in Latin America and some countries in Asia but little impact on African farmers. If decoupled instruments were used to transfer support to U.S. and E.U. farmers, world prices would rise by an average of 12 percent. IN: *American Journal of Agricultural Economics*, v.84, no.3, August 2002.

Efficiency Estimation Using the Simulated Maximum Likelihood Approach: The Case of the Polish Cooperative Banks by Tamar Khitarishvili. This paper applies the simulated maximum likelihood (SML) method to measuring the efficiency of Polish cooperative banks. The vast majority of efficiency studies assume that the sample firms are clustered near full efficiency. This assumption is made due to its analytical tractability. The SML method allows us to drop this assumption and, as a result, may make the conclusions more accurate and realistic. Presented at the American Agricultural Economics Association Annual Meeting; July 28–31, 2002; Long Beach, CA.

[<http://agecon.lib.umn.edu/aaea02/sp02kh01.pdf>]

Endowing Future Harvests: The Long-Term Costs of Conserving Genetic Resources at the CGIAR Centers by Bonwoo Koo, Philip Pardey, and Brian Wright. The 11 genebanks maintained by the international agricultural research centers, collectively known as the CGIAR, now conserve over 660,000 accessions (plant or seed samples) of crops grown mainly by poor people, staple food crops grown throughout the world, and tree species used in agroforestry systems. As a result, the CGIAR genebanks contain approximately 30 to 40 percent of the unique entries in genebank collections worldwide. Our report presents estimates of the annual and in-perpetuity costs of conserving and distributing the genetic material presently held in the CGIAR genebanks, and illustrates the sensitivity of these estimates to a number of factors. Rome, Italy: International Plant Genetic Resources Institute, 2002.

Forward by Jean Kinsey. Comparing the supply chain for pork in China with that of the U.S. illustrates the differences in approach to supplying food to large numbers of people. In China, about 80 percent of hog production occurs in the back yards of households. Demand from urban supermarkets, restaurants, and internationally-owned meat plants is gradually pulling some of the hog production onto larger, more sanitary facilities. Rising incomes and urbanization in China suggests that commercial pork production will grow rapidly. IN: *The Supply Chain of Pork: U.S. and China*, by Chenjun Pan. Rabobank International, Food and Agribusiness Research, 2002; pp.2–3.

Globalization of the Economics Research Industry by Philip Pardey. This talk examined the changing conduct, structure, and performance of the economics research industry worldwide, drawing on new data that indicates the changing number, nature, and geographical location of the professional economics societies over the past century. Data on student trends were also presented and discussed to illustrate the substantial shifts in the composition of the student population in the United States, and especially the internationalization of the U.S. graduate student population during the past few decades. The number of foreign graduate students (across all fields of study) in the United States almost doubled from 67,000 students in 1982 to 127,000 in 2000, so that now one in four students in U.S. graduate programs is from another country. The share of foreign students in economics shot up from 30 percent in 1982 to 53 percent in 2000. A survey of key agricultural economics departments in the United States conducted by the author indicates that these programs are even more heavily oriented to servicing rest-of-world clientele. Presented at the American Agricultural Economics Association Annual Meeting; July 28–31, 2002; Long Beach, CA.

The Globalization of the Food and Agricultural Systems: The Nexus of Consumer, Environment, and Science by Jean Kinsey. A major characteristic of the food industry in that location matters for both production and retail sales. This implies that a very large number of economic agents with various skills and decision-making authority are involved in the food chain, and that this leads to a wide variety of competitive advantages. The industry is moving from neat linear supply/demand chains to web-like systems that with brings together a variety of literature in agricultural economics. This web resource began as a project to capture fugitive working papers and has evolved into a major web archive for literature in the field. Many partners are involved in the endeavor and it serves as a prototype for projects in other disciplines. IN: *Issues in Science and Technology Librarianship*, no.34, spring 2002.

[<http://www.istl.org/02-spring/article3.html>]

Institutional Innovation in International Governance to End Hunger by C. Ford Runge. While many criticisms of the global economy and global institutions are well-founded, it is hard to think of a future in which international trade and global institutions play no part. The task is to *redefine* objectives in a global economy and to *restructure* institutions to meet these objectives. My forthcoming book (*Ending Hunger in Our Lifetime: Globalization and Food Security* by Runge et al.) focuses on detailed proposals for restructuring institutions, whereas this paper focuses on redefining objectives. IN: *American Journal of Agricultural Economics*, v.84, no.3, August 2002, pp.839–844.

Intertemporal Permit-Trading for Stock Pollutants with Uncertainty by Nori Tarui. Emissions permit trading is an important policy instrument in pollution regulation. The trading scheme may need to be updated when the regulator obtains more precise information about the costs and benefits of regulation over time. This paper examines how to design a permit-trading scheme using such updated information. IN: Center for International Food and Agricultural Policy Working Paper WP02-1 and presented at the American Agricultural Economics Association Annual Meeting; July 28–31, 2002; Long Beach, CA.

[<http://agecon.lib.umn.edu/mn/wp02-01.pdf>]

Markets, Human Capital, and Inequality: Evidence from Rural China by Paul Glewwe, et al. This paper uses household survey data from rural China to examine the nature of inequality in Hebei and Liaoning provinces. We find that increases in inequality of non-agricultural incomes is the driving force behind rising inequality in rural China, and that the better-educated people are better placed to take advantage of new economic opportunities. IN: *Inequality Around the World*, edited by Richard B. Freeman. New York, NY: Palgrave Macmillan, 2002, pp.87–127.

A Partial-Equilibrium Simulation of Increasing the U.S. Tariff-Rate Sugar Quota for Cuba and Mexico by Daniel Petrolia and P. Lynn Kennedy. A model consisting of Cuba, Mexico, the U.S., and an aggregated “Rest of the World” was developed to simulate increases in U.S. sugar imports from Cuba and Mexico. Our results indicate that increased imports would generate up to \$505 million in U.S. net gains, and that world prices would increase only minimally. Presented at the American Agricultural Economics Association Annual Meeting; July 28–31, 2002; Long Beach, CA.

[<http://agecon.lib.umn.edu/aaea02/sp02pe07.pdf>]

A Pro-Poor Growth Strategy to End Hunger by Ben Senauer. Over 800 million people in the world are estimated to be chronically hungry. They are hungry primarily because they are poor. A key element of a pro-poor economic growth strategy to reduce poverty is investing in people in terms of improved education, health, and nutrition, which economists refer to as human capital. IN: *American Journal of Agricultural Economics*, v.84, no.3, August 2002, pp.826–831.

Schools and Skills in Developing Countries: Education Policies and Socioeconomic Outcomes by Paul Glewwe. This paper reviews the literature on the impact of school and teacher characteristics on the academic performance (as measured by test scores) of school children in developing countries. It points out that there are formidable barriers to obtaining unbiased estimates of these impacts. In addition, the paper reviews recent studies and provides suggestions for future research. IN: *Journal of Economic Literature*, v.40, no.2, June 2002, pp.436–482.

Social Science Knowledge and Institutional Innovation by Vernon Ruttan. In this paper I advance a model in which institutional innovation is induced by changes in resource endowments, cultural endowments, and technical change. I also incorporate the role of advances in social science knowledge as a source of institutional innovation. Staff Paper P02-07.

[<http://agecon.lib.umn.edu/mn/p02-07.pdf>]

Supply-Chain Design for High-Quality Products: Economic Concepts and Examples from the United States by Robert King. As the food system evolves toward greater reliance on integrated supply chains, farm managers will need to adopt new ways of thinking and new perspectives on collaboration with trading partners. This paper begins with brief descriptions of emerging supply chains for high-quality food products in the U.S. These supply chains fall into three categories: a branded product chain, a genetics-based chain, and a production-practice based chain. In addition, the paper provides an overview of the economic concepts that help expand the scope of analyses of farm management problems in a supply-chain context. These concepts are used to explain structural differences in the three illustrative cases. Presented at “The Feed the World, Please the Consumer, Maintain the Environment: 13th International IFMA Congress of Farm Management”; July 7–12, 2002; Arnhem, The Netherlands.

Sustaining a Revolution: A Policy Strategy for Crop Engineering by David Victor and C. Ford Runge. The long-term strategy outlined here urges governments to reinvigorate their commitment to public agricultural research as well as practical “extension” activities that help farmers apply innovations in the field. Although the private sector in advanced industrialized countries is already investing in crop engineering, the rural poor in developing countries are not attractive prospects for private investors. A stronger public role is therefore needed. Inauspiciously, budgets for both international agricultural research and many national agricultural research centers in developing countries have shrunk in recent years. A Council on Foreign Relations Paper, New York, NY: Council on Foreign Relations Press, 2002.

ISSUES IN THE U.S.

AgEcon Search: Partners Build a Web Resource by Louise Letnes and Julie Kelly. The free web resource, “AgEcon Search: Research in Agricultural and Applied Economics” (<http://agecon.lib.umn.edu>) brings together a variety of literature in agricultural economics. This web resource began as a project to capture fugitive working papers and has evolved into a major web archive for literature in the field. Many partners are involved in the endeavor and it serves as a prototype for projects in other disciplines. IN: *Issues in Science and Technology Librarianship*, no.34, spring 2002.

[<http://www.istl.org/02-spring/article3.html>]

Agricultural Economics by Louise Letnes and Patricia Rodkewich. This book describes the resources available for the study of the various subjects within the field of agriculture. The chapter on agricultural economics includes discussions of the literature in this field—including abstracts and indexes, bibliographies, core literature, dictionaries and encyclopedias, directories, handbooks, journals, proceedings, statistics, web sites, and so on. IN: *Using the Agricultural, Environmental, and Food Literature*, edited by Barbara S. Hutchinson and Antoinette Paris Greider. New York, NY: Marcel Dekker, 2002, pp.15–52.

Analysis of the Threshold and Expected Coverage Approaches to the Probabilistic Reserve Site Selection Problem by Stephen Polasky, et al. Conservation planning to protect species often must be done with incomplete information about the geographic ranges of the species. Two approaches to conservation planning at potential biological reserve sites with uncertain species occurrence data were compared. These two approaches are as follows: the expected-coverage approach, which maximizes the expected number of species occurring in biological reserves; and the threshold approach, which maximizes the number of species whose probability of existing in biological reserves exceeds some threshold. IN: *Environmental Modeling and Assessment*, vol.7, no.2, June 2002, pp. 81–89.

A Disaggregated Perspective on Post-War Productivity Growth in U.S. Agriculture: Isn't That Spatial? by **Albert Acquaye, Julian Alston, and Philip Pardev**. In this paper annual data for 48 states are used to account for changes in the composition of input and output aggregates over space and time, and thereby to obtain new evidence on changes in inputs, outputs, and productivity in U.S. agriculture. The measures change significantly when state-specific rather than national prices are used, and when allowance is made for changes in the composition of the aggregates, especially of labor and capital inputs. These new estimates are compared with those reported by the USDA (Ball et al., 1999). The national estimates are similar but substantial differences are found in state-level productivity growth. IN: *Agricultural Productivity: Measurement and Sources of Growth*, edited by V. Elton Ball and George W. Norton. Boston, MA: Kluwer Academic Publishers, 2002, pp.37–75.

Collective Bargaining by Dairy Farmers by Richard Levins. Value-added production does not guarantee that value will be retained. A strong organization with market power is required to retain value. IN: *Minnesota Agriculture*, v.46, no.8; August 20, 2002; p.3.

Continuity and Stability: Dynamics of Child-Care Subsidy Use in Oregon by Roberta Weber and Elizabeth Davis. As part of a larger five-state project, this report provides a detailed look at the characteristics of families receiving child-care subsidies in Oregon and the factors associated with the length of subsidy receipt and stability of child-care arrangements. The report finds that the median duration of subsidy use in Oregon is only three months, with 40 percent returning for additional assistance within a year. The authors suggest that short spells of subsidy use are potentially problematic for parents' economic and employment stability, and for children's stability of care. New York, NY: National Center for Children in Poverty, 2002.

The Dynamics of Child-Care Subsidy Use: A Collaborative Study of Five States by Elizabeth Davis, et al. As parents move from welfare to work, child-care subsidies are an increasingly important public policy to support low-income working families. This report compares the characteristics of services and families in child care subsidy programs in five states. The authors find that the assistance that families receive does not last very long and may be associated with substantial turnover in their children's care arrangements. Cross-state variation in continuity of subsidy use is only partly explained by observable differences in state policies. New York, NY: National Center for Children in Poverty, 2002.

Estimating the Effect of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) on Children's Health by Andrea Carlson and Ben Senauer. The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides nutritious foods to low-income women who are expecting, have new babies, or have children up to five years of age. The program had 7.2 million participants in fiscal 2000. This analysis shows that the WIC program significantly improves the health of participating children. Presented at the American Agricultural Economics Association Annual Meeting; July 28–31, 2002; Long Beach, CA.

[<http://agecon.lib.umn.edu/aaea02/sp02ca01.pdf>]

Farmers Hold the Key to Higher Income by Richard Levins. A principal cause of low farm income is competition among farmers. Those who buy from and sell to farmers are larger and are able to play competitive farmers against each other. IN: *Hoard's Dairyman*, v.147, no.14; August 25, 2002; p.549.

If Capital Income Taxes are So High, Why Do We Collect So Little Revenue? A New Summary Measure of the Effective Tax Rate on Investment by Roger Gordon, Laura Kalambokidis, and Joel Slemrod. The past literature investigating taxes on capital income provides a striking contrast between papers that fall into two categories. The first reports very high effective tax rates on new investment—with the accompanying distortions. And the second report very low additional tax revenue compared with a tax

that does not distort savings and investment decisions. The very low reported revenue from existing taxes could imply that past measures of effective tax rates may be biased upwards. In this paper we develop a new approach to measuring the effective tax rate based on measurements of the net revenue collected by taxing capital income. This new measure captures the effects of several complications that, in practice, have been omitted from the effective tax rates derived with traditional methods. Paper presented at the CES-Ifo Conference on Measuring the Effective Taxation of Capital, Venice, Italy; July 15–16, 2002.

Managing Risks and Profits with Market Power by Richard Levins. Our traditional approaches to risk management and profitability must still be pursued. But we must also consider strategies to increase market power in the farm sector. Presented at the 2002 Risk and Profit Conference, Farmers Divided; August 15–16, 2002; Manhattan, Kansas.

New “Commodity Agriculture” Could Be Profitable for Farmers by Richard Levins. What makes a “commodity” low in value? Low value is not inherent in the product. Rather, it arises from the low market power of those producing that product. IN: *Minnesota Agriculture*, v.46, no.4; April 23, 2002; p.3. IN: *The Country Today*; April 24, 2002; p.2B. And IN: *The Ortonville Independent*; April 23, 2002; p.2B.

Niches in the Urban Forest: Organizations and Their Role in Acquiring Metropolitan Open Space by Jane Ruliffson, Frances Homans, et al. In an effort to understand land protection in the Chicago metropolitan region, we interviewed representatives of 15 organizations to understand the land acquisition process—the structures and functions of the groups involved, their acquisition goals, and the cooperation among groups. Our findings reveal strength in diversity; a variety of groups working at different levels with complementary goals can help meet the complex challenges of land protection in rapidly urbanizing areas. IN: *Journal of Forestry*, v.100, no.6, September 2002.

The Nine Million Cow Dairy by Richard Levins. In total, all of the dairy farmers in the United States have about nine million milking cows. If all of those farmers

acted through a common agency to price milk, higher milk prices might be possible. Presented at Vermont/New Hampshire Milk Marketing Study Group Meeting, Wells River, Vermont; July 15, 2002.

Patent Rights and Trade: Analysis of Biological Products, Medicinals, Botanicals, and Pharmaceuticals by Pamela Smith. This paper analyzes the effects of foreign patent rights on U.S. bilateral exports. The empirical analysis covers three highly disaggregated drug industries over three decades. We estimate bilateral trade equations for each industry using cross-country data on the strength of national patent rights. The findings show that strong foreign patent rights enhance the market power of U.S. drug exporters across countries with *weak* imitative abilities. In contrast, strong foreign patent rights stimulate the market expansion of U.S. drug exports across countries with *strong* imitative abilities. These effects are larger in magnitude during the 1980-90s relative to the 1970s. IN: *American Journal of Agricultural Economics*, v.84, no.2, May 2002, pp.495–512.

Providing Equitable Spatial Distribution of Protected Natural Areas in a Metropolitan Setting: An Application of the Location Set-Covering Problem by Jane Ruliffson, Frances Homans, et al. In response to rapid conversion of forest, agricultural, and other open land to residential and commercial uses, local governments in metropolitan areas in the United States are raising funds to acquire and protect open space. We addressed the problem of allocating a fixed budget for open-space protection among eligible natural areas with the twin objectives of maximizing public access and species representation. The study adds a new dimension to the reserve-site selection problem by recognizing the importance of site accessibility as a goal in metropolitan open-space planning. Presented at the American Agricultural Economics Association Annual Meeting; July 28–31, 2002; Long Beach, CA.

[<http://agecon.lib.umn.edu/aaea02/sp02ho04.pdf>]

The Roles of Beliefs, Information, and Convenience in the American Diet by Lisa Mancino. This study presents an analysis of how situational factors and long-term health objectives affect our realized food choices. By incorporating advances in behavioral economics into

the analysis of nutrient intake, this approach improves our understanding of observed consumption. The results show that certain situational factors contribute to more time-inconsistent behavior. Namely, as individuals become hungrier and busier, their use of information and long-run health objectives play a smaller role in food choice as they seek more immediate gratification. Presented at the American Agricultural Economics Association Annual Meeting; July 28-31, 2002; Long Beach, CA.

[<http://agecon.lib.umn.edu/aaea02/sp02ma05.pdf>]

Seeking New Vision for Agriculture by Richard Levins. In a world of globalization, competition among farmers in different countries does not work to the advantage of any of those farmers. Strategies based on global cooperation among farmers should be pursued. IN: *The Western Producer*; June 27, 2002; p.8.

Understanding the Retail Sector: Towards Traceability in the Meat Production Chain by Brian Buhr. U.S. food-processing companies are currently considering tracing products from the farm to the consumer. In this paper, I present some case studies about European firms that are already employing traceability. The studies suggest that, in addition to anticipated consumer preference, there are production cost and management benefits as well. IN: *Proceedings of the London Swine Conference: The Pork Industry in the 21st Century—Conquering the Challenges*. April 11–12, 2002; London, Ontario, Canada. Edited by J.M. Murphy and C.F.M. de Lange and published by: Ontario Pork; Ontario Ministry of Agriculture, Food, and Rural Affairs; and the University of Guelph.

Urban Planning and the Location of Environmental Amenities by Elizabeth Marshall and Frances Homans. In this paper, we use a simple urban economic model to study how choosing park locations within a city might contribute towards urban planning goals. We find that, as a prescription for reducing urban sprawl, park provision has mixed results. When placed close to the central business district, the park can result in an increase in the density of inner-city housing; such placement, however, could help to ame-

liorate the problem of commuter traffic congestion caused by urban sprawl. Parks placed further out toward the periphery, although consistent with improved accessibility and utility maximization, have the opposite effect and pull residents away from the central business district—thereby worsening the congestion caused by commuter traffic. Presented at the American Agricultural Economics Association Annual Meeting; July 28–31, 2002; Long Beach, CA.

[<http://agecon.lib.umn.edu/aaea02/sp02ho03.pdf>]

Whole Health for Self-Care: A New Nutrition? by Jean Kinsey. Two strong trends in diet and health illustrate further diversity in our population of food consumers. One is the trend towards obesity—with the number of obese adults and children more than doubling during the past decade. The other is the trend towards selecting foods that support a whole-health lifestyle—that is, foods that are believed to help prevent chronic or dread diseases and boost vigor and longevity. The later is consistent with rising incomes since the opportunity cost of illness rises with affluence. The former is consistent with the quest for convenient fast food and buying food ready-to-eat, with little information about, or interest in, the calorie content of individual foods. This paradox presents economics, health, and nutrition educators with great challenges. IN: *Cereal Food World*, v. 47, no.5, May 2002, p.193–194.

REGIONAL TOPICS

The Economics of Applying Nutrient-Dense Livestock Waste at Low Rates by William Lazarus and Robert Koehler. The role of the custom applicator needs to be considered in the design of policies for discouraging over-application of manure. This article analyzes the economics of applying nutrient-dense swine finishing manure from the different perspectives of a producer and a custom manure applicator. The analysis shows that the fertilizer savings that result from lowering the application rate and covering more acres may cover the cost of the applicator investment. IN: *Review of Agricultural Economics*, v.24, no.1, spring/summer 2002, pp.141–159.

Minnesota Farm Real Estate Sales: 1990–Present by **Steven Taff**. Click here [<http://www.apec.umn.edu/faculty/sjtaff/parcels/index.html>] for charts showing the distribution of lower-priced (under \$30,000 per acre) properties in each of the seven Twin Cities Metropolitan Area counties. The values were compiled from parcel-level estimated values in the recently-released MetroGIS Regional Parcel Data Set. A per-acre value for each parcel was calculated within ArcView GIS, exported to SAS for frequency tabulation, then exported to Microsoft Excel for charting. A printable version of this report (PDF format) is also available. Staff Paper P02-6. [<http://agecon.lib.umn.edu/mn/p02-06.pdf>]

Road Finance Alternatives: An Analysis of Metro-Area Road Taxes by **Barry Ryan** and **Thomas Stinson**. Less than 30 percent of the amount spent on the road system for the Twin Cities Metro Area comes from the motor fuels tax; the remainder comes from fixed or hidden taxes that are unrelated to road use. The price signals this financing system provides offer little incentive to change travel decisions and are unlikely to redirect the path of development. Center for Transportation Studies, CTS 02-04, Transportation and Regional Growth Study Report 9. [<http://www.cts.umn.edu/trg/publications/pdfreport/TRGrpt9.pdf>]

Tips for Trimming Machinery Costs by **William Lazarus**. You can do a lot to improve your dairy farm's profitability simply by keeping machinery costs under control. This article reviews the machinery cost information available from the University of Minnesota Extension Service, looks at the repair-versus-replace decision, and assesses machinery sharing as a cost-cutting strategy. IN: *Dairy Initiatives*, v.11, no.2, summer 2002, pp.10–11.



The Food Industry Center
UNIVERSITY OF MINNESOTA

Center Feature: The Food Industry Center

The mission of The Food Industry Center (TFIC) is to be a leading source of knowledge on the food industry and help develop leaders for the industry's future. TFIC conducts a wide range of research and educational programs to improve the understanding of the industry. The Center opened in 1995 with a grant from the Alfred P. Sloan Foundation and was the Foundation's ninth industry center at a major university. Each center studies a different industry, such as automobiles at MIT, financial services at the University of Pennsylvania, and semiconductors at the University of California, Berkeley. TFIC is now operating on its third three-year grant from the Sloan Foundation, bringing in over \$4.3 million to the University of Minnesota.

The work of the Center is carried out by faculty and graduate students in the Department of Applied Economics, the Department of Food Science and Nutrition, and in several departments of the Carlson School of Management. More than \$500,000 of grant money was used to support the research and faculty in the Department of Applied Economics. The current co-directors of the Center are Jean Kinsey and Ben Senauer (both faculty members in the Department) and the Center offices are located in the Department. TFIC has a Board of Advisors with members who are at the CEO-level of companies such as General Mills, Hormel, International Multifoods, Sysco, and SuperValu. The Board meets annually to help set major directions for the Center's activities. A new Program Leadership Board—with representatives from companies such as Jennie-O Foods, Land O'Lakes, and Unilever—will meet semi-annually and advise the Center on specific programs, especially education and training activities.

(Center Feature continued on page 16)



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Knowledge for a changing world

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Minnesota Applied Economist

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(Center Feature continued from page 15)

Major research projects of the Center include the Supermarket Panel, which is managed by Departmental faculty member Rob King. In 2002, over 800 stores participated in our Supermarket Panel that gathered detailed information on store management and operations, provided a unique database to improve store performance, and conducted research. The Center is also initiating a new Customer Survey allowing shoppers at participating supermarkets to complete a web-based questionnaire about their shopping satisfaction. Stores participating in both the Supermarket Panel and Customer Survey will be able to link shopper satisfaction to store performance. Other TFIC activities in 2002 included hosting a forum in June that brought together academic experts and food-industry leaders for an intensive discussion about issues shaping the food industry's future.

As the Center nears the end of its third major grant from the Sloan Foundation, it is at a crucial juncture since future support for its activities will have to come increasingly from the industry, government, and other sources. If you would like to learn more about the Center, please visit the recently redesigned website at <http://foodindustrycenter.umn.edu>.