Scientists: Crop ‘trash’ may have disease-fighting agents

By Jim Barlow

Instead of traveling to Brazil’s tropical rain forest or diving into the ocean, a team of UI scientists are looking for disease-fighting compounds closer to home, harvesting potential agents from the trash piles of byproducts at crop-processing plants.

Initial laboratory tests on cultured mammalian and human cells indicate an ethanol extract of soybean molasses represses the ability of at least one dietary carcinogen to damage the DNA of normal cells, the researchers report.

A report is being published in the May issue of Agricultural Research Magazine. More details will appear later in the journal “Teratogenesis, Carcinogenesis and Mutagenesis.” At the Environmental Mutagen Society Meeting, March 27 to April 1, in Washington, D.C., the team announced that the structure of the active compound — named phytochemical complex 100 (PCC 100) — contains a combination of chemicals known as saponins. Very little work has been done on their biological effects.

The team also reported at the meeting that PCC suppresses the growth rate of cancer cells and that an isolated soy-protein fraction drastically reduces the growth rate of human colon cancer.

During crop processing, raw materials are modified by mechanical disruption, chemical extraction and changes in temperatures and pressures. Agents you take out of plants for food or processing products may not necessarily be the ones that are actually in the plants or seeds themselves. They may have been modified.”

Plewa’s team includes UI colleagues A. Lane Rayburn, B. A. Francis and several students, and M. Berhow of the U.S. Department of Agriculture. Collaborative work is continuing with BIBRA International in the United Kingdom and Archer Daniels Midland Co. in Decatur. Funding for exploring the byproducts and developing assays to find anti-mutagens and anti-carcinogens comes from the U.S. Soybean Board and Illinois Soybean Operating Board.

“We are looking to prevent environmental carcinogens ingested in our diet from affecting normal cells in our bodies, and to isolate agents that slow down the growth rate of already existing cancer cells,” Plewa said. “If we can repress their growth, we might be able to extend the use and heighten the effectiveness of therapeutic drugs, chemotherapy and radiation.”

Timing of cockpit members’ crisis communication is critical

By Mark Reutter

When there’s a crisis in the cockpit, why do some flight crews think on their feet and react swiftly, while other crews make potentially fatal mistakes?

The question long has preoccupied airline operators where passenger safety can rest on the capacity of pilots to cope with bad weather and equipment failures at the same time. Airlines have trained crews to follow three procedures with special care during an emergency – collecting information about the situation, discussing the importance of the tasks and distributing the tasks among the members.

Research by a UI professor, however, suggests that an important element is missing – a recognition that the timing of crew communications greatly affects performance.

“The conventional wisdom is ‘more is better’, meaning that the more a crew engages in communications in an emergency, the better their performance,” said Mary J. Waller, a professor of business administration.

Waller coded crew behaviors at 10-second intervals after they were notified that the loss of nose-wheel steering.

Waller based her findings on a unique "micro" study of 10 crews that were similar in experience and training. The three-person crews (all white males) worked for the same airline and were videotaped in a sophisticated B-727 flight simulator.

Each crew "flew" the same pattern and faced a battery of problems, including a hydraulic system failure, bad weather and the loss of nose-wheel steering.

Waller coded crew behaviors at 10-second intervals after they were notified that weather conditions prevented them from landing at the scheduled airport. From then on, the crews were under uniform levels of time pressure, workload and rapidly changing conditions.

Waller used three senior commercial pilots to rank crew performances. She then cross-checked the performances with the type and quantity of conversations held during the emergencies.

“I tried to capture actual behavior as opposed to the more theoretical procedures often used in evaluating crew performances,” Waller said. “My aim was the tear-apart patterns of behavior in groups on a micro level.”

She found that crews who made mistakes had the same number of conversations as the high-performing crews, but did not engage in information exchange at the right time. “While high-performing crews were very targeted and specific when an emergency arose, the low-performing crews tended to sprinkle their exchanges over the whole simulation. This amounted to a big disconnect between training and actual conditions.”

“My research suggests that airlines – or any organization where safety relies on team performance – consider the issue of ‘behavior timing’ as a crucial element in the training of crews,” the UI researcher said.

Mary J. Waller, a professor of business administration, has done research on cockpit crew communication during a crisis. Her research suggests the timing of crew communications greatly affects performance.
College Print Preview Program set for May 25
The Office of Admissions and Records is hosting a College Print Preview Program at 7 p.m. May 25 in the Levis Faculty Center Reading Room. The program is designed for UI faculty and staff members who want to become familiar with the college selection process with their high school juniors, sophomores and freshmen. The program will discuss the application process, differences between colleges and universities, as well as provide information about the UI. A representative from the Office of Admissions and Records and the Office of Student Financial Aid will be available to answer questions.

One-hour presentation is open to all UI staff and faculty members with high school-age students. Anyone interested in attending may register by contacting Kal Lwanga at lwanga@uiuc.edu or 333-0824. E-mail reservations should be sent to mlock@uiuc.edu. Please indicate name, address and phone number, and number of people attending.

Conference on Ukrainian Subjects
The 18th annual Conference on Ukrainian Subjects will be held June 14-19 at the UI. The theme of the conference is “Between Modernism and Postmodernism: New Developments in Ukrainian Philosophy, Art and Literature.” Sessions, which are free and open to the public, are scheduled for 9 a.m. to noon, 1-3 p.m. and 3:30-5:30 p.m. each day in Rooms 314 A and B of the Illini Union.

Phlederer Zimmerman to the field of music education.

Jean Piaget,” said conference organizer Eunice Boardman, UI professor emeritus of music education.

“Dr. Zimmerman was one of the first music educators to commemorate the contributions of the late Marilyn Phlederer Zimmerman to the field of music education. Zimmerman was the founder and first director of the UI music education faculty from 1984-1995.

“Dr. Zimmerman was one of the first music educators to examine the relationship between cognitive process and musical learning, building her studies on the theories of Jean Piaget,” said conference organizer Eunice Boardman, UI professor emeritus of music education.

The conference keynote speaker is Harvard University professor Howard Gardner, whose research in the fields of developmental psychology and neuropsychology led to the development of educational theories that have placed him at the center of school-reform efforts in the United States. Gardner is best known for his theory of multiple intelligences, a critique of the notion that there exists but a single human intelligence that can be assessed by standard psychological instruments, such as IQ tests. According to Gardner’s theory for understanding human intelligence, each individual possesses autonomous “faculties” that can be either developed or inaptly investigated. Gardner originally identified seven such faculties, one of which is musical intelligence.

Gardner is the author of several books, including “The Developed Mind: What All Students Should Understand,” just released by Simon & Schuster.

Gardner’s keynote talk at the UI conference, “Music in the Family of Human Intelligences,” is free and open to the public. He will speak at 7 p.m. June 3 in Smith Hall. He will also lead a workshop for UI faculty members, “Applying the Theory of Multiple Intelligences to College Teaching,” from 10 a.m. to noon June 4 in 406 Illini Union.

Other featured conference speakers: Jeannie Bamberger, professor of music education, Massachusetts Institute of Technology; David J. Hargreaves, professor of education, University of Durham; Francis Rauscher, professor of psychology at the University of Wisconsin at Oshkosh.

Conference co-sponsored by the Vernon K. and Marilyn Pifer Zimmerman Foundation; the colleges of Education, Engineering, Agricultural, Consumer and Environmental Sciences; Office of Instructional Research; and UI Teaching Advancement Board.

The cost of the conference is $90; students, $40. For more information on the conference schedule and session information, or to register, call 333-1027 or 244-5808; e-mail phsott@uiuc.edu or harwood@uiuc.edu; or see the conference Web site: http://www-caml.music.uiuc.edu/crme/cognitconference/default.html.

Conference honors music educator
Researchers and educators from throughout the world will gather at the UI June 3-5 for a conference on “Cognitive Processes of Children Engaged in Musical Activity.” Hosted by the UI College of Fine and Applied Arts and School of Music’s Division of Music Education and Counseling, the conference has been organized to commemorate the contributions of the late Marilyn Phlederer Zimmerman to the field of music education. Zimmerman was the founder and first director of the UI music education faculty from 1984-1995.

“The conference, which will be conducted mostly in the Ukrainian language, is being held in conjunction with the UI Summer Research Lab, a function of the Russian and Ukraine and the United States—will present papers.

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I get to spend 10 days in Orlando. Disneyworld is my place. I would stay.

Do you go to a lot of performances at Krannert?

Do you go to a lot of conferences?

Do you like getting involved with the students?

Do you go to a lot of performances at Krannert?

The Barry Manilow thing — you’ve been an active president of the local Barry Manilow Fan Club for years. Are you still involved?

How many times have you seen him in concert?

I quit counting after 250 in August 1997. When I first started going it was

How often do you go to Krannert Point productions?

Do you go to a lot of performances at Krannert?

How many times have you seen him in concert?

I have a huge collection. And I have a huge collection. And I have a huge collection.

Do you go to a lot of performances at Krannert?

How many times have you seen him in concert?

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Agricaltural, Consumer and Environmental Sciences, College of. Media communications specialist-graphic design. Bachelor’s and two year’s graphic design production experience. Candidate must have excellent graphic design skills as well as possess a working understanding of job preparation and/or Web design a plus. Available immediately. Contact: Larry Ecker, 333-9432, l-ecker@uiuc.edu Closing date: June 9.

Research and Technology Management Office, Office of Mechanical Engineering, University of Illinois at Urbana-Champaign. Research and Technology Management Office, Office of Mechanical Engineering, University of Illinois at Urbana-Champaign. Currently has an opening for a Mechanical Engineering Specialist to be located in the University of Illinois at Urbana-Champaign. Closing date: May 31.

Operations and Maintenance Division. Mechanical engineering specialist/professional services required. Bachelor’s in mechanical engineering. Additional consideration will be given to candidates who have experience with mechanical systems, one or more advanced engineering degrees or professional certifications. Experience required. Available immediately. Contact: Kent V. Reifsteck, 244-2865. Closing date: May 23.

Publications and Marketing, Office of. Media communications specialist. Master’s degree in media communications. Bachelor’s in English, journalism or related field required. Additional experience is preferred. Available immediately. Contact: Robert E. Harper, 244-2865. Closing date: May 23.


Office of Agricultural Communications, University of Illinois at Urbana-Champaign. Assistant editor. Master’s degree required. Experience in print media writing and design preferred. Available immediately. Contact: Kathy Harper, 244-2865. Closing date: May 23.


Office of Communications, University of Illinois at Urbana-Champaign. Assistant media specialist. Bachelor’s degree in journalism or public relations required. Available immediately. Contact: Kathy Harper, 244-2865. Closing date: May 23.


Office of the President. University of Illinois at Urbana-Champaign. Available immediately. Contact: Kathy Harper, 244-2865. Closing date: May 23.


