Soybean research

The following article summarizing highlights from the World Soybean Research Conference held in Buenos Aires, Argentina, earlier this year was prepared by Keith J. Smith, staff vice president for research and utilization for the American Soybean Association.

The Fourth World Soybean Research Conference, held in Buenos Aires, Argentina, during March 5–9, 1989, featured more than 560 scientific papers covering soybean production and utilization. The conference was attended by 761 persons representing the world's soybean research community.

The meeting was the first world soybean research conference held outside the U.S. Previous conferences were held at the University of Illinois (1975), North Carolina State University (1979) and Iowa State University (1984). The conference was truly international, with attendees coming from throughout the world. The largest delegations were from Argentina, Brazil and the U.S., the soybean-producing superpowers.

The highlight of the conference was a reception at the Argentine Grain Exchange and a welcome by Argentine President José Alfonsin. President Alfonsin praised soybeans as a crop of vital importance to the Argentine economy.

The conference format was to start each day with a plenary session on topics of general importance. Topics discussed were global cooperation in improving soybean research and development, biotechnology, soybean insect pest management, regulation of soybean photosynthesis, soybean physiological advances, soybean composition improvement and soybean tillage systems.

The conference included sessions on soybean genetics and breeding, entomology, physiology, pathology, rhizobiology, weed control, cropping systems and soybean utilization. Presentations included review papers and original research. Technical sessions were highly attended.

The Argentine Soybean Association hosted the conference. Antonio J. Pascale, conference president, organized the scientific committee which assisted in inviting papers, organizing technical sessions and conducting activities related to the success of the conference.

During one evening, soybean breeding interests in South America honored five soybean breeders for their contributions to world soybean production. Those honored were: Edgar Hartwig, breeder, U.S. Department of Agriculture's Agricultural Research Service (ARS), midsouth area, Stoneville, Mississippi; Richard Bernard, ARS breeder, midwest area, Urbana, Illinois; Richard Cooper, ARS breeder, midwest area, Wooster, Ohio; James Wilcox, ARS breeder, midwest area, West Lafayette, Indiana; and Charles Caviness, soybean breeder, University of Arkansas, Fayetteville, Arkansas. Silver plaques were given for years of dedication to developing soybean varieties important to soybean farmers.

Post-conference tours to various soybean production areas in Argentina were popular, giving scientists an opportunity to see the Argentine crop.

The conference proceedings are published in four volumes and document the papers presented. For information about how to obtain these proceedings, contact the Asociación Argentina de la Soja, Avenida Corrientes 127, 3er piso, 1043 Buenos Aires, Argentina.

Pact with Russia

The American Trade Consortium, a consortium of six U.S. companies, has signed a trade agreement with the Soviet Foreign Economic Consortium that is hailed as a breakthrough in commercial relations between the two superpowers.

The agreement establishes a legal and business framework for as many as 25 joint ventures now being negotiated individually by the companies in the U.S. consortium. The six companies are Archer Daniels Midland Co., Chevron Corp., Eastman Kodak Co., Johnson & Johnson, Mercator Corp. (which is both a member of the consortium and its merchant banker) and RJR Nabisco Inc. A seventh company—Ford Motor Co.—pulled out at the last minute.

The joint ventures being negotiated by the U.S. companies include projects in sectors as diverse as energy, agribusiness, health care and medical products. The American Trade Consortium's partner is a Soviet group representing organizations engaged in foreign trade, including the Ministry for Foreign Economic Relations, the Bank for Foreign Economic Affairs, the Finance Ministry, the State Planning Committee and 23 enterprises and production associations under nine different industrial ministries.

Archer Daniels Midland is negotiating three to four joint agro-industrial projects, including oilseed processing, edible oil refining and the production of starch and sweeteners. RJR is discussing joint ventures to manufacture crackers, biscuits, cereals and tobacco. Johnson & Johnson is discussing projects concerning medical and pharmaceutical products.

Anderson milestone

Anderson International Corp. is beginning its second century of service to the fats and oils industry. Founded in Cleveland by Valerius D. Anderson in 1888, the company first introduced the Expeller press to extract oil from oleaginous seeds and nuts. Today, over 80 varieties of oil-bearing seeds and nuts have been processed through the Expeller press in 90 countries. According to the company, over 8,000 Expeller presses have been manufactured and most are still in service.

In the 1950s, Anderson technology improved dry-

ing efficiencies by introducing a new method for the synthetic rubber industry. This included use of the Expander/Dryer. The company also developed the Anderson Expander-Extruder-Cooker as a continuous means of cooking grains and making them more digestible. Today, this invention is used around the world in such applications as the production of pet foods, poultry and hog feed, fish feed for fish farms, meat extenders and gelatinized starches. Anderson also invented the Solvex Series Expander which preconditions seeds to increase yields while saving on hexane and steam use in solvent extraction.

In other company news, James Crawford has joined the company's Capital Equipment Sales & Service Group as a sales engineer.

Research briefs

Diet and malaria

U.S. Department of Agriculture (USDA) and University of Miami researchers have reported that a change in diet—to one high in unsaturated fat—prevents even the most drug-resistant malaria parasites from taking hold in mice. If people respond in similar fashion, a dietary approach holds promise for the prevention and treatment of this recalcitrant disease, researchers said.

"With two and a half million malaria deaths a year and the rapid spread of a drug-resistant form of the disease, we are excited about our results," according to Orville A. Levander, a chemist with USDA's Agricultural Research Center in Beltsville, Maryland.

Levander oversees preparation of the special diets—which contain a generous helping of fish oils and no vitamin E to prevent their breakdown. The two factors work together to make the parasite self destruct, he believes.

Microbiologist Arba L. Ager Jr. and colleagues at the University of Miami's Center for Tropical Parasitic Diseases begin feeding the diet to mice one to four weeks before injecting them with the parasite—a single-celled protozoan—and continue the diet until the parasites are gone. He noted that after three or four weeks, the animals are free of the parasites. Ager said he hopes the diet treatment can be shortened to a more practical one-to-two-weeks for human use, both for prevention and cure.

Levander and Ager rekindled a dietary treatment reported 30 years ago to cure malaria in mice. The idea is to change the fatty acid composition of the membranes of both the parasite and the host's red blood cells, which harbor the parasite, making both more vulnerable to oxidation. The team so far has tested four fish oils—cod liver, anchovy, salmon and menhaden. Linseed oil, also studied, was somewhat less effective than the fish oils. Rapeseed oil, with about 10% highly unsaturated fat, was ineffective in tests.

The researchers hope to begin testing the diets on human subjects in Thailand and South America in the next year.

DNA damage

Researchers have determined the chemical structure of a major type of DNA damage caused by oxygen-derived free radicals. Such free radicals—highly reactive groups of atoms with an unpaired electron and very short lifetimes—have been linked to cancer, among other ailments.

National Institute of Standards and Technology (NIST) researchers have used methods that may help scientists study this type of DNA damage in living cells and gain deeper understanding of its biological effects. In their studies, the NIST researchers uncovered the structure of hydroxyl radical-induced DNA-protein crosslinks, which is damage caused when DNA forms a chemical bond with proteins inside the cell nucleus. This damage to DNA, NIST said, eventually causes chemical changes in the cell that result, for example, in altered proteins. For more information, contact NIST, U.S. Department of Commerce, Gaithersburg, MD 20899.

News briefs

Terence D. Crouch has been appointed vice president and general manager of **Groen's Process Equipment Group.**

Ralston Purina Co.'s board of directors had authorized the purchase of up to two million shares of the company's common stock. The authorization allows the company to purchase the common stock from time to time at prevailing market prices. Also, **Garry L. Norder** has joined **Ralston Purina International** as director of agri-sales and marketing.

Bristol-Myers Co. has introduced **Questran Light**, a low-calorie less-bulky formulation of its cholesterol-lowering drug, Questran.

Umberto Bracco of Nestlé and Louis Faur, longtime researcher with Astra Calvé à Asnières were awarded the **1988 Chevreul Medals** given by the **Association Française pour L'Étude des Corps Gras.** Bracco was cited for his work on chocolate and novelty confectionery fats as well as research on the nutritional and biochemical aspects of lipids; Faur was recognized for his longtime work related to margarines.

Leonard Lewandowski has been named senior account executive for **Capital City Products Co.'s Food Processor Division.** He will be based at the company's Kearny, New Jersey, facility. Meanwhile, **Michael Scanlan** has been named regional sales manager for the division; he will be based in Chattanooga, Tennessee.

Peter M. Scott, a research chemist with Health and Welfare Canada, Health Protection Branch, has received the **1989 Harvey W. Wiley Award** for his contributions to the field of analytical chemistry in the area of mycotoxins. The award is given by the **Association of Official Analytical Chemists.**

AOCS member **David B. Min,** professor in the Department of Food Science and Nutrition at Ohio State University, has received a plaque of appreciation from the Inter-University Food and Nutrition Center, Bogor University, Indonesia, in recognition of his contribution to the development of research and teaching programs in lipid and flavor chemistry at Bogor University.

Joann Hallquist has been hired by the **National Renderers Association** to help resolve problems in the European Economic Community and elsewhere as a result of worldwide implementation of "Harmonized Systems Tariffs."

KRI International Inc., a Japanese research and consulting institute based in Koyoto, is developing a series of technical reports addressing breakthroughs and developments in the field of advanced materials in Japan. The project is designed to assist chemical and other technology companies in other countries in acquiring access to information about related Japanese developments. The company has U.S. offices in San Jose, California.

Dow Chemical Co. and **Eli Lilly & Co.** have announced intentions to form one of the largest research-based agricultural companies in the world. The new company, to be called **Dow Elanco Inc.,** will be located in the Indianapolis, Indiana, area.

Biotech briefs

Genzyme Corp. has signed a letter of intent to acquire **Integrated Genetics Inc.** of Framingham, Massachusetts, in a stock swap valued at about $23.8 million. The acquisition would combine two Boston-area biotechnology concerns with complementary technologies.

Allelix Inc. has formed a new company called **Allelix Crop Technologies. Jeremy C. Gawen** has been named president and chief executive officer. The company's mission is to develop and market superior products for crop agriculture through the application of classical scientific techniques and biotechnology.

Calgene Inc. has signed an agreement to acquire **Plant Genetics.** The acquisition, which is subject to approval by Plant Genetics' shareholders, is expected to be completed in June. Also, Calgene's **Agro Ingredients** subsidiary has been renamed **Calgene Chemical.**

International Bio-Synthetics (IBIS) Inc. has appointed **Jim Davis** vice president of business development for its U.S. operations headquartered in Charlotte, North Carolina.

Four members of a research team at **Genentech Inc.,** South San Francisco, California, have been named co-winners of the **1989 Inventor of the Year Award** for their development of a drug product containing human tissue plasminogen activator, better known as **TPA.** The drug is used in dissolving blood clots in heart attack victims. The four are **David V. Goeddel, William J. Kohr, Diane Pennica and Gordon A. Vehar.** The award was given by the Intellectual Property Owners Foundation.

Degussa AG has opened a new technical center at the Halle-Kunsebeck factory of its subsidiary **Asta Pharma AG** to study fermentation processes. The center will test the fermentative procedures used in the manufacture of products for pharmaceutical foodstuffs and animal feed. The company currently is focusing attention on developing a fermentation procedure for the production of L-lysine.