

# World Population Places Heavy Burden On Ag

UNIVERSITY PARK (Centre Co.) — Increases in world population and per capita income in the next several decades will place a heavy burden on agriculture to produce sufficient supplies of food and fiber to satisfy demand.

But advances in conventional technology will be hard pressed to expand production enough to meet those needs.

That forecast is one of many proposed by University of Minnesota agricultural economist Dr. Vernon W. Ruttan, who will be the premier lecturer in the Penn State College of Agriculture Distinguished Lecture Series, April 22-24.

"The series is designed to bring to Penn State a world-class scientist to interact with our faculty, staff and students, and the community," said the college's dean, Lamartine F. Hood. "Dr. Ruttan is a highly respected agricultural economist, scientist, and educator who will bring significant prestige to the series."

Ruttan said the world is completing one of the most dramatic transitions in the history of agriculture. "Prior to this century, almost all the increase in food production was obtained by bringing new land into production," said Ruttan. "By the first decade of the next century, almost all increases in world food production must come from higher

yields and more intensive cultivation of areas already used for agricultural production."

During the next 25 years, higher yields will be obtained primarily by advances in conventional technology, such as improvements in conventional plant and animal breeding; more intensive and efficient use of technical inputs, including chemical fertilizers and pesticides; and more effective animal nutrition.

But, said Ruttan, productivity gains from conventional sources are likely to come in smaller increments than in the past and will require closer cooperation between suppliers and users of new knowledge and technology.

Ruttan said as we move into the second decade of the 21st century, conventional technology will be inadequate to sustain the expected increase in food demand. But to take advantage of scientific advances in microbiology and biochemistry, we must reorganize the way we do agricultural research. That means creating incentives to attract more private

sector resources and institutionalizing agricultural research in developing countries.

In addition, said Ruttan, agriculture must find ways to overcome various environmental constraints on growth. Ground and surface water contamination, global warming, and climate changes and

soil erosion are among the challenges facing the agricultural sector.

Ruttan will address these and other topics in three lectures to be held in 101 Agricultural Sciences and Industries Building. At 8 p.m. on April 22, he will present "Constraints on Agricultural Develop-

ment: Into the 21st Century." On April 23 at 8 p.m., he will discuss "Induced Technical and Institutional Innovation." His final lecture, at 11 a.m. on April 24, is titled "Ethical Responsibility in Agricultural Research." Admission is free.

## Ag Health, Advisory Board Organizes

COOPERSTOWN, N.Y. — The advisory board for the New York Center for Agricultural Medicine and Health (NYCAMH) recently held its organizational meeting and elected its first chairman.

Michael H. Donovan, general manager of the Syracuse-based Eastern Milk Producers Cooperative, will head the 12-member board for the next year.

"The overriding goal of both the advisory board and the staff of the center will be to make New York the safest state in the nation for our farm population," Donovan said.

He noted that farming has become one of the most dangerous

occupations in the nation, with a death and injury rate "nearly four times greater" than that of other occupations.

"The Center has a lot of programs and exciting research in the works," Donovan said.

He said the center, under the direction of Dr. David Pratt, Dr. John May, and Administrator Janet Ivory, operates a farmer clinic at the Mary Imogene Bassett Hospital, spearheads nationally sponsored research, conducts a growing list of outreach programs

for children and adults in rural areas, and plays a leading role in national health and safety conferences.

"That legislation," Donovan said, "capped a long list of recognition for what started out as the simple curiosity of two physicians over a flu-like illness afflicting farmers and quickly mushroomed into full-blown scientific research and educational programs. Today the center is a resource on rural medicine for physicians across the country."



Dr. Vernon W. Ruttan

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