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dren not following organic based diets compared to those who following the consumption of organically labeled foods in their diets. Dr. Elizabeth Guillet, cultural anthropologist from the University of Florida, Gainesville, and her collaborators show that children in Mexico exposed to pesticides are hampered in their ability to grow and develop. More than twice the toxic insecticide load was found in children than adults recently. Modern-day worldwide decline in human sperm counts is highly correlated with the rise of synthetic chemical use (Dr. Warren Porter, endocrinologist at University of Wisconsin, personal communication).

Since 1981, The Rodale Institute has been conducting a long-term Farming Systems Trial™ that has monitored the effects of three distinct cropping systems of corn and soybeans on yields, soil

parameters, and environmental components. The USDA and more than 25 graduate degree studies have aided and verified our results. The experiment includes organic systems utilizing legumes or manure as the primary nitrogen source and a chemically based agricultural system.

Organic systems need not depend on off-farm pesticide nor chemical fertilizers. After collecting data for 22 years, we have seen no advantage to the chemically based system in yield overall.

However, in drought years this system functions at a distinct disadvantage, showing yields reduced by more than 25 percent in corn and soybeans when compared to the two organic systems. Organic systems use 37 percent less energy when compared to the energy input of the chemically based system.

The highest energy requirement in chemically based corn

production is for nitrogen fertilizer production. In terms of economics, work conducted by the University of Maryland with our data shows that even when organically produced crops are sold at conventional prices, the organic systems out perform their conventional counterparts by returning more net income to the farmer. When you figure in the price premiums that organic products return, as much as 50 to 267 percent more than chemically based commodity prices, the organic systems look even better. These prices are based on the high demand for organic food for human consumption and livestock feed.

We have also shown that winter vetch legume and cover cropping can produce optimum amounts of nitrogen for nitrogen-hungry crops such as corn without chemical fertilizer dependence. Moreover, while chemically based systems sprout chemically resistant pests and deplete soils of their ability to manage water and maintain biological activity, the organic systems have shown increased organic matter quantity and quality, greater diversity of biological components, increased soil nitrogen over time, and greater stability under stress such as drought.

Consumers are driving a 20

percent per year increase in the production and marketing of organic agricultural products because they do not buy the argument of "safe" chemical levels. These levels are only "safe" for the chemical producers. We agree with the authors we are rebutting from the American Potash and Phosphate Institute, that the Earth has large reserves of nutrients to sustain agriculture and produce abundant safe food (*Foraging Around*, Feb. 22, p. E22). However, neither the synthetic chemical inputs nor the

toxic processes and principles sustain and regenerate family farms and the communities. This is only done by following sound biological practices based on natural and regenerative principles. While chemicals do not produce abundant healthy food for consumers and farmers alike, organic agriculture does.

— Paul Hepperly, New Farm Training Research Manager
Jeff Moyer, New Farm Operations Manager
The Rodale Institute, Kutztown

Penn State Grad In Leadership For American Shorthorn Association

OMAHA, Neb. — The American Shorthorn Association (ASA) has announced that Dr. Ronald P. Bolze, Jr. will come on board as the new executive secretary/treasurer of the ASA on May 1.

Bolze, raised on a dairy farm in south central Pennsylvania, comes to the ASA with experience and knowledge in the beef industry.

A graduate of Penn State, Bolze received a Bachelor of Science degree in Animal Science. While at Penn State, he participated on the livestock and meats judging teams and was very active within the college.

During his senior year, Bolze was recognized as the Outstanding Senior in the College of Agriculture.

After graduation, Bolze returned to his family farm near Lancaster and spent the next five years developing a commercial cow/calf operation and cattle feeding enterprise.

Bolze returned to the academic scene in 1981. In 1985, under the guidance of Dr. Larry Corah, he graduated from Kansas State University with a Ph.D. in Reproductive Physiology. His re-



Dr. Ronald Bolze

search dealt with factors that involve dystocia in beef heifers under various conditions.

Bolze has worked with numerous entities within the beef industry; gaining valuable knowledge in all facets of the industry.

He will be taking over as Dr. Roger E. Hunsley steps down after a 20-year career with the Shorthorn breed.

Bolze and his wife, Rebecca, currently live in Colby, Kan. with their six children.

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The annual *Lancaster Farming Animal Health and Housing Book* is scheduled April 5. Focus will be on herd health and odor control, including silo management, and nutrient management planning for confinement houses.

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