IFAS Programs in a Period of Transition

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It is a real pleasure for me to welcome each of you to Gainesville and encourage you to visit our campus during your stay. The Institute of Food and Agricultural Sciences (IFAS) is pleased that you are able to attend this educational activity that is filled with excellent program material.

The Dairy Science Department has made some outstanding strides in recent years. The teaching programs have grown steadily. We now have 50 undergradua and 25 graduate students. The quality of the teaching programs has also continued to improve.

Perhaps those here at the University that are most familiar to you are our two Extension Dairy Specialists, Dr's Harris and Webb. Both are recognize nationally and have been exceedingly effective in working closely with the industry.

Our Research and Extension staffs continue to provide technological suppo for the industry. Programs having shown success or offering outstanding poten include reducing embryo death in cattle, synchronization of ovulation in cattl utilization of by-products for feeding dairy cattle, study of hormonal factors controlling mammary gland growth and initiation of lactation, study of the physiological basis for lipolysis induced milk flavor defect, and the effect o artificial shade on cow production and reproduction, just to name a few.

Today, I would like to visit with you about the overall scope and trend in IFAS programs--particularly in research. We are in a period of transition in Florida agriculture. I'd like to give you a very brief look at recent history and then tell you about the new direction our research and education programs are taking. You may recall the IFAS AGUA conference over five years ago. We said then that Florida agriculture faced the challenge of remaining competitive on the world market and at the same time compatible with the most rapid urbanization in the nation. From that conference IFAS committed itself to programs addressing that challenge. Land use planning, water management, integrated pest management to maintain Florida's delicate environment and aquatic weed control were some of the major programs receiving new emphasis. Overall, it appears that Florida agriculture responded well to the AGUA challenge of competitiveness and compatibility. However, today's Florida agriculture scenario is one of rising energy costs coupled with the stresses of a widepsread economic recession resulting in reduced net income to many producers. The risks and uncertainties of farming have also been compounded b increasing and sometimes unexpected government actions, skyrocketing interest rates for farm credit in addition to double-digit inflation rate, all causing a serious cost-price squeeze for producers.

Increasingly, Florida agriculture has become vulnerable to external forces beyond the control of individual producers or even organized groups of produce Government actions on tariff and trade issues for agricultural products have become integrated with broader policies involving national defense or security.

New economic difficulties in Florida in 1980 are due in part to general monetary and fiscal policies of the federal government. And, perhaps most of all, an oil embargo started in 1973 on the other side of the planet began to take an insidious toll late in the 70's. And unfortunately, agricultural interests in Florida have very little influence on such global happenings.

About three years ago, it became apparent that the energy crisis was potentially lethal to Florida agriculture, IFAS underwent a major redirection of its research and education programs to develop as rapidly as possible, a new low-energy agricultural technology. This effort was designed to overhaul our complete agricultural research and education system.

The IFAS low energy technology (LET) research program was developed during 1978 and put into place during 1979. The primary goal of the LET planning effort was to reduce the amount of energy utilized in the management of agricultural, horticultural, and natural ecosystems. The LET research program recognized Florida's dependence on large sources of cheap energy, and in order for Florida's agriculture to survive and compete it would be necessary to increase efficiency in energy utilization at all points in the production, transportation, harvesting, processing and marketing systems. Overall energy efficiencies could be improved by either reducing the amount of fosssil fuels used directly or indirectly by reducing the amount of pesticides, fertilizers, tillage, and other energy consuming components.

In general, the research plan consisted of redirection of the base program and development of new research activities to satisfy both lon and short term needs. Redirection was accomplished by asking each scientist to review his or her existing project(s) and to determine whether or not the project (s) as planned recognized the increasing costs of energy. Projects that did not were revised. The primary focus of new projects oriented to satisfy short term concerns was in applied research and these activites were closely coordinated with extension demonstration and educational programs. In contrast, long term needs were addressed through the development of new research projects which were characterized primarily by fundamental to basic types of research.

The direct use of fosssil fuels in agriculture could be reduced through the development of alternate, less fuel consuming, methods of on-farm transportation, more energy efficient systems of pumping water, more energy efficient systems for harvesting, processing and marketing, and more energy efficient systems for applying fertilizers and pesticides. The indirect consumption of fossil fuels in agriculture can be reduced in a variety of ways including the development of plant and animal selections which are most efficient in converting nutrients into biomass, plants that are more efficient in taking up nutrients and water from the soil, alternates to the use of pesticides in controlling pests such as the more wide-spread use of resistance and biological controls, and pesticides that can be produced by natural systems such as biologicals.

The low energy technology research program was developed around the following program thrust areas which were used as a basis for program planning and management.

1. Adopting alternate energy source technologies
2. Plant and animal improvement through genetic and tissue culture mechanisms
3. Root-microbial interactions and their role in agriculture and natural resource production

4. Counteracting biological and physical stress on plants and animals
5. Technical adjustments for processing and transportation
6. Enhancing food quality and safety
7. Enhancing the development of Florida's renewable resources

These new program initiatives will be integrated with and/or layered on existing traditional programs and not in lieu of such programs.

Along with changes in our research programs, extension efforts have intensified along two themes--conservation practices and adaptation of existing technology to improve energy efficiency.

And so we have programs in trasition at IFAS to match a time of transition in our economy and social structure. Looking ahead, I'm an optimist. I think in the long run agriculture has a bright future. New technology will be successful in cutting energy-related production costs and world demand for food will increase considerably.

We know now that we can no longer do things the old way. We must move forward to a technology appropriate for today's world. I feel that a key is cooperation with industry and our land grant universities. I'm most pleased with the close working relationship for the Florida Dairy Industry and with IFAS.

And at this point I would like to thank Bill Boardman for his help and advise in connection with the IFAS budget request now before the legislature.

With such support, I know that IFAS will be able to continue to serve the Dairy Industry for many years to come.