# Proceedings of the 1991 Program of the Research Center Administrators Society

# February 4 and 5, Ft. Worth, TX

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College of Agriculture GEORGIA AGRICULTURAL EXPERIMENT STATIONS

Membership Research Center Administrators Society Southern Association of Agricultural Scientists

Dear Members:

It has really been an honor for me to serve in the progression of offices of our RCAS over the last several years. I feel that I have learned so much from my association with other superintendents and that has helped me to do a better job with my station.

Our organization has developed and matured so much since the early days as a result of the dedication of the people who have led the organization. I believe the RCAS has grown because of the quality programs. Because of the way the programs are put together, each and every member has the opportunity for input through the state representatives.

Even though our attendance at the annual meeting has improved greatly, we still have many who don't attend. We should continue to encourage these to become active. We also should keep our respective college administrators informed about our activities and solicit their support.

I would like to express my appreciation to the membership for allowing me to serve as your chairman. This has been a very rewarding experience for me.

Sincerely,

- clover f (

Edward E. Worley Superintendent 1990-1991 Chairman

EEW:lm

## **Acknowledgements**

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Howard Malstrom Editor

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# TEXAS AGRICULTURAL EXPERIMENT STATION OVERVIEW AND FUTURE DIRECTION

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The Texas Agricultural Experiment Station (TAES) is a state agency chartered by the federal government and the State of Texas to conduct research to benefit the agricultural industry and Texas consumers. Its mission is to implement research programs that ensure a safe, affordable, and reliable food supply, maintain a viable and environmentally sound production and distribution system, and train the next generation of leadership for the food and fiber industry.

Agriculture is the second largest industry in Texas behind oil and gas. The farm gate value of agricultural products in 1989 was \$11 billion, with a total contribution to the state economy of \$74 billion, including agribusiness and food and fiber processing. Agriculture constitutes 20 percent of the state's employment.

Texas is a diverse state with 15 distinct physiographic regions, each with a somewhat unique agroecosystem. Climatic extremes range from 48 to 8 inches of annual precipitation on an east to west gradient, and 58 to 74 degrees F on a north to south cline. Soils range from deep sands to impermeable heavy clays. The climate in Texas varies so dramatically that there is no average year.

More than 60 commodities are produced in the state. Of the 25 million acres of agricultural crops, wheat, sorghum, cotton, rice, and corn tend to dominate. Vegetables are grown in almost every region of the state, but the Rio Grande Valley is the largest area of concentration. Texas ranks among the top 10 nationally in timber production, with a substantial wood products manufacturing industry.

Texas leads the nation in beef cattle production with a large cattle feeding industry concentrated in the northern high plains. Sheep and goats are important livestock species for the west-central region, making Texas a major producer of wool and mohair. Texas also ranks in the top 10 states in milk and poultry production. Dairying has become a significant industry in the northcentral region, with the relocation of large dairies from Arizona and California.

To serve this complex agricultural system, TAES operates a network of 14 Research and Extension Centers located in all of the major production regions in the state. These are large, well-equipped facilities with a multidisciplinary cadre of research and extension faculty dedicated to addressing problems important to the region.

Center faculty maintain disciplinary linkages with campus departments through joint research projects and the support of graduate students for thesis research. At five of the centers, the USDA Agricultural Research Service USDA/ARS maintains a scientific staff for research in collaboration with TAES. The centers are administered by a Resident Director of Research. Research on the campus of Texas A&M University is conducted through 14 departments in the College of Agriculture and Life Sciences and 3 departments in the College of Veterinary Medicine. TAES also maintains affiliations with several other TAMU colleges to serve specific mutual interests or to gain access to various research services.

The departments serve as the focal point for the multiple missions of teaching, research, and extension for Texas A&M University. Almost all departmental faculty have joint appointments for research and teaching and to a lesser degree, extension.

In addition to its research mission, TAES is responsible for several regulatory and service functions. The Feed and Fertilizer Control Service, the Apiary Inspection Service, and the Poultry Pullorum and Typhoid Control Program are statewide regulatory programs assigned to TAES through legislative statute. The Texas Water Resources Institute and the Department of Agricultural Communications are two service organizations that support research and communications efforts for TAES.

The agency has more than 2,000 employees, including 500 faculty members. Approximately two-thirds of the faculty are located in campus departments and the balance at the Research and Extension Centers. TAES has an annual operating budget approaching \$100 million. About 50 percent of the funding comes from federal and state appropriations, 36 percent from grants and contracts, and the balance from internally generated income.

Almost 1 million square feet of space is distributed throughout the 14 Research and Extension Centers and allied stations. Of the total departmental space for all three functions, 800,000 square feet is assigned for research. In the last 15 years, almost 80 percent of the campus research programs have moved into new or renovated space. Agriculture is gradually moving from the central campus to a newly formed West Campus where the Colleges of Medicine and Veterinary Medicine are located.

Land resources that support TAES research are scattered throughout the state. Approximately 40,000 acres are owned and an equal amount is leased. Much of the regional research is conducted on cooperator property through informal agreements.

TAES maintains cooperative relationships with every other public institution engaged in agricultural research. USDA/ARS has a major presence in the state, both at the Research and Extension Centers and on the TAMU campus. Strong collaborative programs exist in many areas of science and across all of the major commodities. The joint research program in rice at the Beaumont Center and on the campus is a model for agency cooperation.

TAES funds research at Prairie View A&M University, Texas A&I University, and Texas Tech University. This funding enhances cooperation between the faculties at these institutions and at TAES. Cooperative agreements also exist with Tarleton State University and San Angelo State University for graduate students to conduct research under TAES sponsorship. Similar agreements are expected with Texas A&M University at Galveston and West Texas State University.

Many issues affect agricultural research and will significantly influence its character and future direction. As a result, TAES and other publicly supported research organizations must make adjustments. The following is a summary of several of these critical issues:

## Changing Demographics

The population of the country is increasingly urban and detached from production agriculture. Growing minority populations are not attracted to the agricultural field, creating further separation from the nation's food production system. Agriculture must adjust its attention to the urban sector to enhance its constituency within U.S. society.

#### Dominant Consumer Concerns

The consumer is a constituency of agriculture that must be courted and informed. The consumer's agenda for food does not include reduced prices. The U.S. family spends 11 percent of its disposable income for food, the lowest percentage in the world. The new consumer agenda includes food safety, health and nutrition, environmental quality, and natural resource conservation.

## Increased Regulatory Requirements

Increasingly, research is subjected to expanded regulatory requirements. Hazardous chemical use, recombinant DNA testing, experimental animal care, human subjects, etc., create a new bureaucracy for scientists. If not handled in a balanced manner, these requirements can affect the selection of research topics by scientists and create an unhealthy bias in the nation's research programs.

# Social Implications of Research

Society is increasingly questioning the value of new technology. Concerns range from developing labor-saving devices that may displace farm workers, to using recombinant organisms in food production, to adding chemicals for pest control. These are trends that cannot be ignored as the agenda for future agricultural research evolves. Accurate information and education are critical in keeping the public informed about the impacts of new technology on social values.

## Changing Funding Patterns

State agricultural experiment stations (SAES) can no longer depend on traditional federal formula funding (Hatch funds) and state appropriations to sustain their research programs. These sources of funding have remained relatively flat for the last 5 to 10 years. Growth in research funding, particularly at the federal level, has been primarily from competitive grants programs. Some commodity organizations have organized industry-supported check-off programs for research and promotion.

This pattern of funding will likely continue for the foreseeable future, thus requiring a different strategy for acquiring SAES funding. This situation may influence the research agenda as funding agencies and organizations establish their own research priorities.

## Protection of Intellectual Property

Much of the new technology emerging from public research laboratories can only be utilized through involvement by the private sector. For such commercialization to be attractive, the technology must be protected to preserve its monetary value. Universities are now requiring invention disclosures by faculty members who develop technology with commercial potential. Income from royalties is usually shared between the institution and the inventor.

This arrangement has the potential to interrupt the free flow of scientific information through the normal channels of publications and presented papers. Protection of improved plant materials by SAES is causing strained relations with the seed industry, which is accustomed to gaining access to public plant material at no cost.

# New Alliances Between Public and Private Research

Public and private partnerships are often developed when technology from a public laboratory requires further development for commercialization. Agreements are made to jointly pursue research development, technology protection, licensing arrangements, and income sharing.

This type of partnership is a new venture for most public research institutions and requires personnel who are knowledgeable about patenting, licensing, research development agreements, and the overall management of intellectual property. It puts the faculty member (inventor) in an unfamiliar environment that is often confusing, time-consuming, and confining.

# <u>Global Competitiveness</u>

With few exceptions, the countries of the world have a substantial capacity to produce food. There is no global food shortage, only a distribution problem. Competition for agricultural markets is intense, particularly among the developed and mid-tier countries. Primarily because of market protection for agricultural products, GATT negotiations are at a standstill.

The U.S. must maintain its competitive position in world markets by improving its production efficiency and adding value to raw products. Technology is needed to provide this competitive edge while maintaining an economically viable agricultural industry. The Texas research agenda must reflect these issues affecting U.S. and world agriculture and provide answers to the perplexing problems challenging the agricultural sector. Because of its major export facilities and capacity, and its diverse climate and geography, Texas must be apprised to global agriculture and all of its dynamics. TAES recently completed a strategic plan for agricultural research in Texas and the following research initiatives were identified as areas of critical importance:

Molecular Biology for Crop and Animal Improvement Sustainable Use of Natural Resources International Trade and Competitiveness Environmental Quality Integrated Management Systems Food Safety and Nutrition Adding Value to Raw Products Integrated Pest Management Global Climate Change Agricultural Diversity Social Impacts of Technology

# REDIRECTION OF EXPERIMENT STATION RESEARCH INTO YEAR 2000: MANAGEMENT CHALLENGES

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# INTRODUCTION

"Change." No other single word so completely captures the essence of contemporary society and its enterprises, and no other characteristic of the New Age poses more demanding problems for executives....Technical innovations, global communications, and fierce competition can bring changes overnight that once took decades or even centuries to manifest themselves" (Hickman and Silva, Academia has not been insulated from our rapidly changing global 1984). Indeed, various impacts of change have weighed heavily on environment. administrators of land-grant research systems, especially during the past decade. The pressure has been cumulative in most cases, originating primarily from the need to participate in advancing technology but constrained by prolonged stagnant or progressively declining resource bases and a generally apathetic to negative societal attitude toward the importance of agricultural research. Thus, the nation's entire agricultural research system has been in a protracted state of philosophical and fiscal transition (see Busch and Lacy, 1986). Yet, this has been and is a time of great opportunity for agricultural research. The need to amplify research has been punctuated by a series of benchmark technological and intellectual advances that have shaped future directions.

The agricultural research system has responded by initiating the redirection of programs to become more relevant in terms not only of production agriculture's needs but society's expectations. Although still in the throes of change, I propose that the process of redirection has advanced to the point that the kinds of research to be conducted during the next decade or so can be reliably projected. Further, I suggest that the research will be sensitized more than ever before by three major considerations: <u>economics</u>, <u>environment</u> (ecology), and <u>ethics</u>; and, that these dimensions will influence the face of the research system for decades to come.

# AGRICULTURAL RESEARCH: THE CHANGING PARADIGM

I am mindful that although each experiment station is unique, all share an over-riding common feature; they are driven by a central charge that was legislatively mandated some 100 years ago. The essence of that charge, the foundation of our mission, is as relevant today as it was the day of its enactment. As agricultural research is redirected toward the year 2000 and beyond, it is critical that the spirit and intent of the land-grant mission not be abandoned. However, care must also be exercised when identifying research critical to satisfying this mission with an eye toward building the importance and credibility of our efforts in the minds of all potential users of our products.

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Agricultural research has, in the main, worked toward the objective of maximizing production of food and fiber on a per-land-unit basis. Considerable of the research has been directed toward "picking the winner" from among various technologies to achieve this objective with yield or some index thereof being the primary variable for comparison. In the late 1970s and early 1980s, it began to become clear that agricultural research must more fully embrace criteria based on economic performance. And much has been achieved in that regard.

During the last decade and largely precipitated by the outcomes of economic analyses at the firm level, a great deal of effort has been directed toward better understanding the entire production system-- to take a more holistic approach to research. In addition, concern over the potential negative impacts of various agricultural practices on the environment have augmented the systems approach to agricultural research. These factors have contributed significantly to the emergence of transdisciplinary ( both multi-and interdisciplinary) research as the appropriate mode for dealing with many problems facing agriculture today.

In essence, then, we in experiment station research are in the midst of <u>a changing paradigm</u>. Research is being redirected toward optimizing input-output functions (economic and biological) in agricultural systems with improvement of environmental quality as a primary driving force for conducting the research. The growing idea is to increase net productivity of agroecosystems rather than emphasizing gross production of a given field or farm.

Appropriately, an entitlement was associated with the charge embodied by the Hatch Act to ensure some degree of fiscal capability for the responsible institutions. The reality, however, is that the relative effectiveness of the entitlement has not kept pace with growing dynamic expectations and needs of our clientele (Busch and Lacy, 1986).

## "NEW" DIRECTIONS FOR AGRICULTURAL RESEARCH

The changing paradigm is the natural outcome of rational thought processes followed by expressed need for change. Research inherently represents constant change through a dynamic continuum from which new ideas, concepts and technologies are constantly emerging (Groen, Smit and Eijsvoogel, 1990). Thus, the descriptor "new" is always relative when discussing research direction and change. When discussing change in research we are, in fact, verbally identifying and characterizing those ideas and concepts which, for one reason or the other, have gained a level of acceptance in the research community and among users.

Three emergent areas, however, have clearly set the national research direction for the next decade or so: <u>biotechnology</u>, <u>systems science</u>, and <u>environmental management</u>. There is logical argument against separating systems science and environmental management. However, in my opinion, to do so would not acknowledge the pervasive importance of systems science. The latter two areas also are the more obvious products of the changing paradigm for agricultural research and, more recently, for production agriculture. Unfortunately, until recently, agricultural research has found itself reacting to these expressed areas of need rather than setting the necessary agenda to mold future directions. <u>Agricultural research faculty and administrators must continue to stress</u> <u>proactive analysis of research needs and directions.</u> The term "proactive" has been emphasized by research administrators to the point of almost becoming a cliche. However, we must continually emphasize the active participation of the scientific community in setting the direction for research rather than reacting to agendas external to agriculture.

We, as a research system, have made progress in planning but there is still room for improvement. For example, some faculty and administrators in agricultural research still consider biotechnology to be a "new" direction. However, industrial researchers were making decisions as to the potential of recombinant DNA research in the early 1970s (Hounshell and Smith, 1988). By the late 1970s, the potential of genetic engineering was attracting a great deal of attention from the U.S. scientific and business communities; and, biotechnology is now recognized as a catalyst for future direction of research on a global basis (Naisbett and Aburdene, 1990).

This relatively recent emphasis on basic biology in agricultural research and its relatively high cost have caused consternation among many land-grant university scientists. However, the commitment to biotechnology research has been consummated, although at varying levels of resolution, by most major institutions. And rightly so, as the combination of biotechnology with traditional agricultural research offers the potential for greatly strengthening the competitive advantage of agriculture.

Nevertheless, the rise in prominence of research and development efforts in biotechnology during the past few years at land-grant institutions has, regretfully, been largely in response to the example set by industry. Agricultural research must work to progressively assume the leadership role in biotechnology research (in this context, biotechnology is defined as "..the use of technologies based on living systems to develop commercial processes and products..now includes the techniques of recombinant DNA, gene transfer, embryo manipulation and transfer, plant regeneration, cell culture, monoclonal antibodies, and bioprocess engineering" [Hess, 1987]).

Like biotechnology, systems research has been steadily emerging but with considerably less fanfare for the last 30 years. Its relatively humble beginnings in the general field of modelling have been steadily augmented by dramatic increases in computing speed and capability. These technological advances have been paralleled by developments in applications of machine logic to solving real-world problems. Systems concepts, although still not totally practiced by a significant body of agricultural researchers, are now pervasive to the agricultural research system. Terms such as knowledge-based ("expert") systems, geographic information systems, intelligent GIS and others are a part of the daily dialogue among agricultural researchers and administrators.

Another seemingly abrupt but, in fact, progressive change influencing agriculture lies in the areas surrounding rational environmental management. Agriculture has moved from the mechanical era through the chemical era and now must make the transition, albeit it onerous (because the theme may be interpreted as threatening), into the environmental era. These changes parallel the general evolution of the ecological sciences from the descriptive to investigating the

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mechanisms and processes in nature, and to an increasing interest in agroecosystems on the part of professional ecologists (see discussion papers by Jackson and Piper, 1989; Paul and Robertson, 1989; Elliott and Cole, 1989).

Yet, the continued economic viability of agriculture, in general, and each state's important agricultural enterprises, in particular, are critical concerns. Profitability is measured in terms of total revenues minus total costs, where total costs are interpreted differently depending upon the time frame of the decision and the existence of externalities. When agricultural production creates, or is suspected of creating, adverse impacts (or externalities or costs) on others, the market fails to adequately account for them and the government may become involved by imposing regulations. Satisfying environmental constraints, whether expressed in terms of reduced use of fertilizers and pesticides, reduced pesticide residues in foods, or improved farm worker safety, all increase the "costs" of agricultural production. To the extent that yields decline because of changes in practices employed, the profitability of our traditional enterprises will be further reduced. Thus, agricultural research which increases output per unit of input and/or reduces costs per unit of output, and biotechnology research offers real potential in this regard, will be critical to the future of agriculture. Likewise, development of alternative management practices and enterprises which reduce adverse environmental impacts, but maintain economic viability, are becoming increasingly important.

In sum, these changes translate into refining concepts such as "sustainable agriculture", "best management practices" and others. Increasing net productivity of the agroecosystem must include the idea that agricultural practices, to be truly sustainable, must be sufficiently profitable to cover both the production and environmental costs. If producers are asked by society to bear all costs, then technology which increases output per unit of input will take on even greater importance in agriculture at a time when funding is seriously constrained.

Taken in concert with increased activities in genetic engineering, concerns over food safety, and the growing public awareness of animal welfare, environmental concerns have amplified considerations of the ethical and ecological ramifications of agricultural research. Much time and effort will continue to be directed toward substantiating the responsiveness of agricultural research to moral issues.

### THE CHANGING MANPOWER AND RESOURCE BASE

As relatively dramatic changes in research direction are solidifying, so have a number of changes in the operational framework for agricultural research. Because of the traditional paradigm and the history of the entitlement, some faculty resist the idea of, rather than participate in making, change. Faculty sentiment, perhaps even the inability to change for whatever reason, especially of long-established faculty, is a primary factor which slows program redirection. The usual first thought when considering redirecting programs is to hire faculty to meet new program needs.

However, the realities associated with institutional carrying capacity are pivotal to successful program redirection. Finite available resources place real bounds on the numbers and kinds of research programs and the prospects of adding faculty. Thus, every research system has a given program carrying capacity at any given point in time. Fiscal creativity allows that carrying capacity to be exceeded from time to time, perhaps even significantly so. Still, the idea of program capacity is basic to planning and decision making.

Given this context, one could easily project that land-grant institutions and their agricultural research arms will embrace the idea of more effectively utilizing nontenure-track positions. This could be envisioned as building around a "core faculty" of tenured positions, but emphasizing the importance of the post doctoral research experience and placing a higher value on tenure-track positions. There are both advantages and disadvantages to this approach, the strong advantage being the prospect of building the core faculty around more experienced and proven individuals. Present disadvantages lie in competitive recruiting, but those are likely to diminish somewhat as all universities begin to deal with the realities of carrying capacity.

As the costs of research continue to escalate without concomitant increases in available federal funds, research programs have become more dependent on their respective states and private sources for funding (Busch and Lacy, 1990). <u>Competitive funding, public and private, will become increasingly important in</u> <u>driving research direction.</u> The constant drift toward competitive funding is playing a strong role in changing the paradigm of agricultural research. Critically important dimensions of the changing pattern is the earmarking of competitive funds, increasing resistance of granting agencies to pay indirect costs, the increasing competitiveness demanded by private funding sources, and the trend toward matching fund requirements. As this scenario unfolds, the "priority" research areas generally become those for which there is a funding source. Thus, the continuing concern among research managers that extramural funding be matched with the objectives of their mission.

The true creativity of a faculty is exercised when earmarked funds are utilized to move science ahead in the competitive category and simultaneously create applications to the agriculture of their state or region. At this point in time, the broad categorization for most competitive still funds clearly allows these multiple goals to be accomplished. The National Research Initiative is a bench mark in satisfying this need.

In summary, then, the pressures of the last two decades have caused many, if not most, agricultural research programs to assume a down-sizing mentality. The question really becomes, "can downward adjustments in numbers be accomplished and still improve the quality of our output?" "Can manpower be reduced and competitive advantage maintained?"

## MAINTAINING COMPETITIVE ADVANTAGE

<u>Effective program redirection can be expedited by strategic planning.</u> Most research systems have, in one form or another, seriously undertaken strategic planning. The sole purpose of such planning is to develop strategies for achieving competitive and comparative advantage. That no institution or system can become "everything to everybody" is a basic premise of strategic planning. Accepting that rule is the first step toward effectively initiating the redirection process. At this juncture, it should be emphasized that program redirection is a process not a single point in time action. But, equally important, benchmark time standards for the process must be established with the understanding that the process will be continual. The process then becomes the product of the interactions of a series of pointin-time actions so that effective redirection is a gradual process.

# Targeting Goals

During the process of identifying priority research areas, faculty and administrators must attain a clear statement of the production problems and needs for their state and region. This should be obvious, but we have to work to keep the sources of competitive funds from totally driving our research. There will always be production problems specific to crops and production regions. Those site-specific problems may not be amenable to the competitive grants system. Maintaining and improving foundation programs revolve around the theme of economic development and enhancement for the respective states. Thus, initiatives such as value-added and alternative enterprises and systems provide the inertia for goal setting to meet local needs by experiment stations. In addition, the general areas of environmental management, plant and animal systems, biotechnology, economic viability (or competitiveness) and others are perfectly compatible with production of our base commodities.

# Asking the Right Questions: Getting the Right Answers.

There are three basic questions that must be answered completely and objectively for successful strategic planning: What are we? What do we want to be? How do we get there? Additional phrasing might be: What things do we do really well? What are our potential market niches? What are our foundation obligations? These appear simplistic at first consideration but rapidly become complex as the planning process proceeds.

These questions can only be addressed appropriately when the mission of the organization is clearly stated and understood by all those participating in the planning process. This mission statement is derived from a vision that sets the general direction for the organization, and attempts to position it to take advantage of future opportunities. "Essentially, vision is a mental journey from the known to the unknown, creating the future from a montage of current facts, hopes, dreams, dangers, and opportunities" (Hickman and Silva, 1984).

In my opinion, one of the primary constraints to planning, and thus to coping with change, is the demanding task of creating administrative vision. There is a tendency to depend on broad and comfortably prophylactic phrases such as "achieve excellence in research" as the endpoints for vision statements. This is clearly understandable given the diversity and breadth of most state agricultural experiment station programs. However, the message that is invariable purveyed by such all encompassing statements is we intend to do an excellent job of <u>attempting</u> to be everything to everybody. We must take the calculated administrative risks associated with stating clearly and explicitly "what we want and need to be" in the next 5 years, 10 years and beyond.

Strategic planning at every land-grant institution, understanding the basic differences inherent among locations, should parallel the national planning effort by the States Agricultural Experiment Station system. Because the land-grant system is, indeed, a <u>system</u>, the strengths and weaknesses at each location are translated into strengths and weaknesses on a national basis. In that regard, the SAES strategic plan (Clarke, 1990) is the beginning of building a true national agenda for the experiment station system.

Even given the trepidation with which both faculty and administrators face the planning process, it must be approached as a unified effort. The issues facing each state must have input not only from faculty but from the supporting agricultural industries and decision-makers among the various lay publics. This total involvement is couched in two principles. First, the analysis of present status and the need for redirection requires the input of scientists who are actually competing in the research world. Secondly, an effective plan emerges only when both faculty and administration feel the ownership necessary for implementation. Understanding that the process will be biased, at least initially, by territorialism and other frailties, a filtering process must be used which will assure the ultimate "boiling out" of the issues, identifying both discipline-oriented and cross-cutting initiatives. Because the research environment is dynamic, the planning process must be iterative and constant.

# MAKING THE MOST OF PLANNING: MAKING CHANGE

There is no magic formula for implementing change. In that sense, the scientific work place has many commonalities with other management environments. The decision-making process has to deal with both people and programs, remembering that we work in an academic setting where a premium is rightly placed on free thought and opinion. That attribute of the academic environment is a positive aspect for strategic planning. It must also be remembered that research in land-grant systems differs somewhat from other university programs in that it is directed toward satisfying a stated mission.

Implementation of the outcome of the planning process is accomplished by a series of decisions, many seemingly small and innocuous, that in total determine research direction. However, focus (i.e. commitment) is the singlemost important factor in successfully implementing any plan (Hickman and Silva, 1984). The planning process should also be designed to identify potential internal economies and extramural sources of funding. The heavier among the implementation decisions, however, especially in the minds of faculty and clientele, lie in the idea of resource redirection. In this context, resources include available human capital and physical and fiscal resources.

Theoretically, successfully making change requires commitment by all parties. Although this may never be totally achieved, the planning process serves notice of intent and prepares the system for change.

Because many of the changes in research direction are likely in place at the time of emergence of the strategic plan, the idea of building "strength on

strength" may be invoked as an initial step. Active areas of strength likely include both individual and interdisciplinary research programs allowing management to address both discipline-oriented and cross-cutting issues. In this regard, administrators must continue to seriously discuss (1) effective management of interdisciplinary research groups, particularly when these groups are put together by administration to address some important issue or pursue outside funding, and (2) the promotion, tenure and reward system, which tends to focus on contributions of the individual to their discipline rather than those of a group to science. Most important, faculty must be made aware that these issues are of importance to administrators. Too often, faculty feel that issues surrounding interdisciplinary research are theirs alone to reconcile. And finally, reconciliation of interdisciplinary issues by discipline-oriented faculty, especially in the context of the traditional, faculty-driven, tenureawarding processes, often are counter to the goals and premises of interdisciplinary research.

Use of faculty attrition as a tool takes on a special importance in the implementation of the strategic plan. Faculty turnover has always provided the single-most obvious opportunity to approach new organizational goals and objectives. Unfortunately, there has been the tendency to attempt to "replace" faculty rather than to redirect positions with the idea that any new program was to be in addition to the existing "base" program. However, as agriculture is changing so, at least to a certain degree, the "base" program must change...indeed, the directives of strategic planning should be considered as the mechanism to change the base program according to stated priorities.

## SUMMARY: MANAGEMENT CHALLENGES

As we work in the face of continual change, efforts and actions to convert the challenges to opportunities will vary considerably among administrators within and among states, and expectedly so. I have attempted in this paper to avoid second guessing my colleagues and the strategic planning process underway at my own institution. Consequently, the following summary has been intentionally approached in generic terms, but with the belief that there are a number of challenges that are common to all institutions and states.

(1). Among the sharpest challenges to administrators is appropriately interpreting the changing paradigm in the form of research goals that will best fit their respective states. Nevertheless, successful interpretations and subsequent actions will by necessity embrace three basic components: ethics, economics, and ecology. This is most difficult on the short term with appropriate goals becoming more clear as biotechnology and environmental management become pervasive to station-wide research programs.

(2). Building the appropriate resource base to take advantage of new opportunities will require integrated management of appropriated and extramural funding, but the greater challenge lies in redirection of existing manpower and fiscal resources. This necessitates working from a unified plan in which faculty have the appropriate degree of ownership. The redirection process must be focused, well understood, and provide necessary incentives (resource support) to faculty and staff. Redirection must take full advantage of faculty attrition

with the philosophy of faculty replacement being supplanted by program enhancement.

(3). More so than ever before, each experiment station must develop strategies which lead to competitive advantage for its research system and production agriculture. Strategic planning does not necessarily infer dissolution of foundation programs but may require reformatting of some programs to meet overall objectives. Each of these unique planning efforts should be of such a nature that they can become working parts of the experiment stations agenda on a national basis.

(4). Prevailing issues such as appropriately balancing and linking individual-investigator and interdisciplinary research within system programs must be reconciled. This will require a high degree of communication among administrators and faculty ultimately translated into understanding the need to satisfy personal, professional and corporate goals.

These are challenging but exciting times for agriculture and research. Most experiment stations have established planning processes with implementation focused on redirecting programs to become more relevant. The final challenge to management is the development and maintenance of vision, and providing the leadership (including assumption of the risks) necessary for making that vision a reality.

And finally, it must be acknowledged that change has always been, and will always be, an innate feature of daily life, business, and academia. To lean on a quote from Theodore Levitt (1991):

"The world is inherently unstable because it is populated by people with will, energy, and imagination. They do things. They won't leave well enough alone. That is why success is only a transient condition, not a result. Nothing is ever finished or fixed, not even in the paradise of which we just spoke. Adam said to Eve upon their expulsion from the Garden of Eden, 'This, my dear, is a time of transition.' It always is."

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# EXPERIMENT STATION OPERATIONS MANAGEMENT: CHALLENGES AND OPPORTUNITY

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### BACKGROUND

# <u>Need</u>

Agricultural research in developing countries has received increasing attention during the past three decades. International agricultural research centers (IARCs) have played a vital role in directing, conducting and disseminating research. They have also recognized that many national agricultural research systems need to improve their support services. The IARCs sought to help solve this problem, but suffer from the constraint that such an undertaking was outside their rather specific crop and ecological mandates. The demands are such that other resources need to be mobilized to help the developing countries improve their agricultural research support services. This includes upgrading experiment station facilities as well as training the personnel to operate them.

Effective research support services on agricultural experiment stations are critical in facilitating the efforts of agricultural scientists. Frequently scientists that received excellent training in the U.S. or Western Europe return home to conduct research in an environment where the between plot variation is several times the treatment effect, often due to poor planning or management on the part of the farm manager's crew. As a result, the scientist often becomes discouraged and effectively ceases to conduct pertinent research.

In an attempt to address this problem, the University of Arkansas and the Winrock International Institute for Agricultural Development (UA and Winrock) are working together to create a program in agricultural experiment station development, operation, and management. It will bring together international expertise, academic preparation and practical training to serve those who operate experiment stations in developing countries.

Much of the development of the program has been in collaboration with the international centers, notably those of the Consultative Group on International Agricultural Research (CGIAR). It is hoped that we can involve more of the state agricultural research centers within the United States.

## <u>Target</u>

The Experiment Station Operations Management (ESOM) program of UA and Winrock is specifically designed to address the needs of agricultural research support personnel and managers, particularly those of the third world. The curriculum domain is viewed as the total research support environment. Within this domain there exists a wide variety of position titles and tasks. Positions that we address range from "Center Director" to "equipment operator". In general, however, we are looking to offer educational and training support to that person on an agricultural research station who is in the position of being responsible for:

- > Planning, development, and conservation of at least the land resource aspect of the station;
- > Day to day execution of the farm operations;
- > Management of the bulk of the labor personnel on the station; and
- > Responsible for maintenance of the infrastructure, equipment, and stores.

Sometimes the target person has more responsibilities than those listed above and sometimes less. The area that we specifically avoid is "research management". Our target is research support, not research itself.

### PROGRAM FACETS

There are presently five components within the ESOM program:

- > Development and maintenance of research station development, operations, and management <u>curriculum materials</u>;
- > A questionnaire-based <u>diagnostic analysis</u> of existing facilities to establish a base-line performance level, leading to recommendations for improving the experiment station's management and operations;
- > Targeted, <u>on-site short-course</u> training;
- A <u>Master of Science degree program</u> in experiment station operations management offered on-campus at UA;
- > <u>Short-courses</u> within the U.S., at a variety of locations.

# Curriculum Materials

The program is based on a 94-module curriculum covering all areas of experiment station management and operations. The modules are written by international experts with expertise and experience in the particular topic.

Each modular unit will be stand alone and self contained. It will include the basic textual material, laboratory exercises, practical examples, slide sets, video cassettes, extensive references, and other support material. The modules will be updated with each use. It is expected that the University of Arkansas, International Agricultural Programs will be the central repository for these modules, with responsibility to maintain, upgrade, and provide worldwide access to them.

## Diagnostic

The diagnostic analysis is intended to provide a functional review of the performance of agricultural research stations. The questionnaire based analysis was developed by Phil Serafini, former farm manager at the Sahelian Center of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). It incorporates materials supplied by Ernest Nunn of the International Rice Research Institute (IRRI) and John Stewart of the International Center for Maize and Wheat Improvement (CIMMYT).

The procedure was successfully tested in Uganda, Mali, and Niger, and is currently available for use. It is used to establish a baseline profile of station operation from which recommendations can be made and training needs identified.

## Master of Science

The University of Arkansas offers a Master of Science degree in general agriculture focusing on ESOM. It is usually taken as a two year, non-thesis Master's degree and consequently is generally viewed as a terminal degree. It is possible to include a thesis, but significantly more effort is involved.

The program is built around a new two-semester course, "Experiment Station Operations I and II", based upon the 94-module curriculum. Students are also required to take core courses in statistics, computer applications, and financial and human resource management. They have some flexibility in courses that will allow them to establishing some depth and breadth in one agricultural discipline.

Two required summer internships at selected agricultural research facilities will give students hands-on experience to round out their academic training.

### In-Country Short Courses

Topic-specific short-courses are offered, normally in collaboration with international or national research centers, local universities or other regional institutions. This training can be tailored to the specific needs. The trainees may be from a multi-national region, from a nation, or from a region within a nation. This training is usually for a 2 to 4 week period. In the collaborative arrangement, instructors are drawn from the collaborating institutions, from international consultants, and other sources such as other research stations or centers. It is hoped that a diagnostic analysis would precede the training and this would allow more precise targeting of the training. Currently, the diagnostic is done in a limited sense with the trainees, anticipating repeat training that could be targeted more closely to specific needs.

Follow-up visits to the trainees work locations take place whenever possible. The effectiveness of the training is greatly enhanced by providing instructors the opportunity to help relate the concepts from the course to the individuals situation. The interaction involved often provides significant insights for improving the training materials.

Donor funding is usually required. It generally includes travel and per diem for the trainees, as well as instructional costs such as salary and travel for instructors, educational material, and administrative costs.

### UofA Short Courses

Short courses will be offered at the UA for professionals to whom the training is otherwise unavailable. It is expected that these trainees will frequently be trained researchers who may be involved in managing or operating a station. Normally, relevant modules from the general curriculum will be used for the subject-specific training, but may be expanded to include aspects such as project planning and research management.

## IMPLEMENTATION STATUS

### Curriculum Materials

The modules have all been outlined and extensive references collected for each module. We are currently writing, having written, reviewing, compiling, etc. The modules are presently about two-thirds completed. It is expected that this process will be a more or less continuous function.

#### M.S. Degree

This aspect of the program is currently operational, with some students in the program. A maximum of 12 students per year can be accepted for the ESOM M.S. degree program at UA, a limitation based upon available laboratory facilities and summer internship opportunities. The quality and integrity of the program will be maintained through careful supervision and screening of candidates.

Many of the people interested in this education do not have a Bachelor of Science degree or it's equivalent. Often they hold a "higher diploma" which is includes some basic academic training (strongly vocational) in conjunction with internships or job training. We are currently offering a Bachelor of Science degree in agriculture that includes 8 semester hours of experiment station management courses, undergraduate courses in financial and human resource management, and the usual complement of agriculture discipline courses.

# On-Site Short Courses

We have conducted one short course for station managers in Anglophone West Africa in collaboration with International Institute for Tropical Agriculture and have the second coming up in mid-February of 1991. A short course in French is scheduled for Niger in 1991 also. These have been financed under a USAID grant to UofA in collaboration with IITA, and ICRISAT Sahelian Center.

This aspect of the program is fully operational but dependant on outside sources of funding.

## UA Short Courses

The first summer short course is scheduled to be offered in Arkansas in summer 1991. We are encouraging the participation of international students who are presently getting an advanced degree in one of the agricultural sciences and may one day be called upon to participate in the management of agricultural research facilities.

The course will be 6 weeks in duration and will be a multi-site type training utilizing several locations in the mid-south region. We will be drawing on local faculty, center directors, and international consultants for faculty. The course has been constructed to be very pragmatic, drawing strongly on analysis of existing stations to functionally demonstrate basic tenets offered in the classroom side of the course.

## Diagnostic Analysis

Diagnostic analysis is presently available but decisions regarding implementation mode and report format have yet to made.

### CHALLENGES

As funding can be developed, we expect to be using ESOM to strengthen NARS in Latin America and Asia as well as Africa. It is anticipated that the model will be the same as that established in west Africa, beginning with a diagnostic analysis, followed by regional training aimed at strengthening identified weaknesses. Managers and potential managers that demonstrate promise of academic capability are expected to enroll in the UA graduate program in ESOM.

The image of the station manager in the mind of the researcher and the research manager needs improvement. Upgrading the educational and training status of the manager should impact that image.

Management structures vary widely throughout the world. Some farm managers have wide ranging responsibility whereas others are so constricted in their role that they cannot function effectively. One challenge is to define the optimum role(s) of the farm manager to the hierarchy of the agricultural research structure in order to enable changes to be made.

Equipment maintenance in the third world is a severe challenge. In a post course follow-up visit to stations managed by trainees, there was not a grease gun to be found. Much of the equipment was non-functional, either due to lack of maintenance or lack of parts. Effective training is confounded by the fact that for many of the farm managers, equipment procurement and maintenance was not under their responsibility. While this difficulty is beyond the present scope of the training, there is, nonetheless a challenge to communicate the problem, suggest solutions to the research managers, and facilitate adjustments.

In many of the situations observed in west Africa, the station manager suffered from the lack of a representative role model. The use of the IARCs as a role model is of limited value since they usually on a radically different size scale and management scheme. It is suggested that many of the agricultural experiment stations in the United States could serve as a much better role model with similar size scales.

## **OPPORTUNITIES**

UA and Winrock recognize there are others who also can make important contributions to training in experiment station design and operations: other state agricultural experiment stations, other governmental agencies and universities, private sector institutions, and private voluntary and nongovernmental organizations. All have knowledge and expertise that needs to be tapped. Through the ESOM program, it is hoped that linkages can be established that will broaden the capability and effectiveness of training in research support services.

The UA International Agricultural Programs faculty is committed to maintaining the curriculum modules, keeping them technically current and timely to meet the student's needs. The materials will not be restricted and thus will be available for general use throughout the world.

There will be a roster of outstanding specialists in this field to serve as instructors for the short-courses, drawn from the faculties and staffs of the international centers, development institutions, universities, and private consultants. Training for instructors will be offered as demand dictates.

There is an opportunity to utilize existing stations in the U.S. in the summer internship program, in analysis situations for short courses, and as role models for stations in developing countries. Interactions with the program may very well provide insight to improvements within their own institution.

# <u>SUMMARY</u>

There is a strong need for an academic-based diagnostic and training program to improve the management and operations of agricultural research stations in the developing countries of the world. There is very little technical literature in this field, but many individuals and institutions have extensive knowledge and experience that can be collected, consolidated, and updated as the program develops.

The ESOM program will build and maintain a collection of curriculum materials from sources worldwide, then make it available to individuals and institutions as needed. The UA and Winrock are seeking short and long term

funding to support the program as well as collaborative training activities such as the short-courses in West Africa.

ESOM is a comprehensive program capable of fully supporting the current and anticipated training needs of the international centers, national agricultural research programs, and experiment stations in strengthening agricultural research station management and operations throughout the developing world. The program provides for:

o diagnostic analysis

o modular curriculum materials

o training: graduate degree and short-courses

o establishing and maintaining up-to-date materials collection.

It serves to enhance the performance of agricultural research, both public and private, nationally and internationally, that must address the need to produce more and better food and fiber in the future.

# PERSONNEL MANAGEMENT AT SMALL AND MEDIUM SIZED STATIONS

John Eason Sand Mountain Substation Crossville, AL 35962

Many of the factors involved in personnel motivation and management are similar regardless of the size or scope of a particular unit. I will discuss the way we handle personnel management at our small station located in Northeast Alabama. For purposes of this presentation I would like us to look at four phases of personnel management:

- 1. Recruitment and Hiring
- 2. Training for the Job
- 3. Utilization and Retention
- 4. Retirement or Release

We will consider some of the aspects of authoritative relationships, structural organization and accountability as it relates to our unit and these four phases of management. Our university is currently operating under a remodeled Personnel Classification system with over 800 jobs and 23 pay levels within the system.

The first phase begins when a vacancy exists. Announcements for job openings are posted by the Campus Personnel Office for all positions. The lower level positions are usually filled with candidates found by contacts with present employees or by word of mouth in our region. At these levels, when more than one application is received, the decision on who to hire is retained at the station level. Decisions on positions at higher levels of education are coordinated within the Assistant Director's office on Main Campus.

The majority of the population in our area is rural and white. Only one county of a five county area has over 10% non-white population. The available labor pool also has a generally low education level. Only one of the five counties has more than 50% of the population high school graduates.

There is a large competitive job market within a fifty mile radius of our location. Many businesses--bakeries, tire manufacturing, steel processing, automotive rehab, mobile home manufacturing and poultry enterprises--are all competing for the well-qualified. Many of these businesses pay better starting salaries than we do. However our benefits package is probably one of the best in the area.

I will wait for the exceptional employee before I will "rush into hiring." I want to "hire for life." I believe that the screening and hiring process should be very carefully approached. If you can hire an employee who <u>wants to</u> <u>work</u> at your place rather than an employee <u>who just wants a job</u>, your labor problems will be greatly reduced. After the new employee is hired, the training phase begins. This is an indoctrination process where the individual learns that we work for Project Leaders from Campus. Their protocols and project outlines are our operating procedures. These documents justify our jobs. It is especially a time for all supervisors to "practice what they preach."

At our location the twelve employees are assigned to one of four project areas (1) agronomic (2) horticultural (3) beef cattle (4) swine. The majority of work time is spent within the area assigned. However, we cross train, but not as much as Bo Jackson. The area assignment concept helps from the standpoint of allowing an employee feel that doing a good job might be more noticeable. Also it allows more opportunity for project leader and station employee interaction.

Five of our employees hold M.S. degrees, four are high school graduates and three are not. It appears that "all Chiefs and no Indians" might be applicable, but our Chiefs are also Indians. With our high ratio of supervisors to supervised the training process is about equal to a one on one situation.

With a trained research work force, motivation and retention go hand in hand. Motivation when nurtured with administrative support is great therapy for retention. Four of our employees will complete 20 or more years of service in 1991. An additional five have between 10 and 16 years and the remaining three have less than four years each. During the past ten years we have had six individuals leave our employment. Two returned to Campus for M.S. degrees and a third was the wife of one of the M.S. candidates. Two retired and one took another job.

Project leaders can gain input in planning new experiments from all levels at the station. Often the nuts and bolts of daily operations can best be planned by those who do the work. The station superintendent serves as a liaison to help develop a plan which best accomplishes the objectives of the project leader in relation to the resources of station labor and equipment. Many of the innovative labor saving ideas are provided by the people doing the job. Recognition and adoptation when feasible are big morale boosters for workers.

Efficient use of time can be a plus or a minus in determining personnel retention. Best results over long period are usually obtained when a happy medium on work load is achieved. The old military cliche of "hurry up and wait" doesn't foster motivation. The slave driver will lose workers. Likewise, idle minds and bodies are prime candidates to become new job hunters.

Our salaries may not be fully competitive but our benefit package is. Our vacation leave begins at 12 days per year and builds to 20 days after 11 years. Sick leave is accrued at 12 days per year. For a reasonable cost we have a good medical insurance program. Most of our employees have working spouses, therefore, I am very lenient in letting them schedule vacation leave to coincide with that of their spouse.

I mentioned previously our new personnel system as it pertains to pay grade and job description. We are beginning an appraisal system where job performance standards will be weighed by supervisors before an appraisal period begins. This new system is much more centralized than anything we have had in the past. Our employees and I have spent several hours in the last eighteen months implementing this system. Whether the new system is better or worse remains to be seen. In our part of Alabama, a numerical rating of eighty might seem good to one person but to another it might be considered as a slap in the face. Individual perception of numerical scores in some cases can create more problems than verbal descriptive ratings.

The last phase of personnel management can either be a sad or happy occasion. To me it is sad to have to release an employee. During my seventeen years as Superintendent I have faced this situation four times. Fortunately, these were before the time of present day documentation requirements. Supervisor input into retirement options for employees can be a big morale builder. I have been involved three time in helping advise employees on retirement options. At a small unit such as ours we are all very happy for the individual.

In closing, I want to emphasize three principles which supervisors should strive to follow to ensure good personnel relations. Don't ask or tell anyone to do something you wouldn't do yourself, treat all subordinates fairly, and be continually aware that the performance of your employees can make or break you.

## PERSONNEL MANAGEMENT OF LARGE RESEARCH CENTERS

## James Riley Hill, Jr. Edisto Research and Education Center Blackville, SC 29817

Effective management of people is the most important and challenging task that the Director of a large Center faces. It is also the area of management that we need the most help with. As I prepared for this presentation, I was confronted by how far short I fall of doing the kind of job I want to do. I was reminded of how much room I have for improvement.

I hope that as we focus on this subject, you will examine how you motivate and manage the people on your Centers and that we will all be motivated to listen to the professional advice that Mr. Heidler is going to give us in the next talk.

A great deal of my talk will be repetition of what you have just heard from John Eason. Regardless of the size of the unit, many of the basic principles of personnel management are the same, but as the size of the unit increases, the variety of personnel situations encountered and the complexity of personnel management changes. In addition to size, organizational structure and geographical location of the Center relative to the main campus add to the complexity of personnel management. I recognize that there are many organizational structures and that we all face different problems and opportunities. However, I would like to use the Edisto Research and Education Center, which I direct, as an example of the variety of personnel management situations encountered and the complexity of personnel management that can exist.

Edisto is one of four Research and Education Centers in South Carolina. The Center functions as an interdisciplinary off-campus unit. The Resident Director is co-equal with the subject matter Department Heads located on campus. In this organization the Resident Directors and Department Heads report directly to the Deans of Research and Extension. The Center has both a research and education mission. The education activities are primarily extension, but for the last year one or two formal graduate courses per semester were taught at the Center.

Many of the scientists have joint research and extension appointments which present some interesting challenges to personnel management. For example, we must help the faculty member satisfy "two masters," which is not easy.

We have in-house programs which are led by the resident faculty, and service programs in which we function as a field station for scientists from other units. Meeting the demands of these two types of programs adds to the complexity of personnel management and requires effective coordination between many different individuals and units. The Edisto Center is located 150 miles from the main campus. This distance makes it a challenge to keep the faculty feeling like a part of the University. Inviting departments to tour or have retreats at the Center helps alleviate this.

We have 12 tenure tract staff members, unclassified faculty, 30 permanent classified support staff, 15-20 temporary employees and some graduate students. In addition to the resident faculty and staff, we serve as a field site for 25-30 cooperating scientists from the main campus or other off-campus units. The faculty represents 7 different on-campus departments. Encouraging cooperation between scientists is very important, but we must keep on campus faculty from treating the Center faculty like technicians.

Management is complicated by the wide range of duties, the great difference in educational backgrounds and the need to coordinate with many other units. The fact that there are 60 to 70 different personalities ranging in level of education from Ph.D.'s to unskilled labor requires a variety of different management strategies.

The faculty at the centers are subject to peer reviews by faculty in their departments, and evaluations by the Resident Director and Department head. On the other hand, the support staff are evaluated by their supervisors on the Center.

Some of the most important principles of personnel management are:

- o Respect all employees no matter what their personality or job is.
- o Be interested in all employees. An effective way to do this is to let them tell visitors about their work.
- o Help everyone feel important. Look for opportunities to make employees look good and praise them for what they do.
- o Listen to their opinions, even if their opinions are not the same as yours, and when possible involve them in the decision process.
- Delegate authority and responsibility as far down as possible. Faculty and upper level staff want to participate in the mainstream of the operation. For this reason, I assign the majority of the classified employees to someone else for supervision and distribute responsibility of equipment to the faculty and farm manager.
- o Be open to new ideas and encourage innovation.
- o Promote fairness and equality when allocating resources.
- o Foster open communication.
- o Make sure everyone understands the organization's mission and objectives.

- o Promote a professional atmosphere and strive for high standards.
- o Facilitate cooperative efforts. Encourage team work but allow some healthy competition to develop.
- o Encourage cooperation with other scientists but protect faculty from being used or viewed as technicians for "on-campus" scientists.
- o Be a facilitator and eliminate as many unnecessary details as possible.
- o Provide information and assistance to deal with problems.

For example, a good resource person who can help an employee solve a problem relating to benefits can do more for assuring a good attitude among employees than any other single thing we can do.

- o Look for ways to improve communications. We publish a newspaper that tells what is happening on the Center plus information on things of personal and family interest.
- o Try to find ways to reward employees. We find that allowing technicians to present papers and attend regional meetings is an effective reward.
- o Try to develop a closeness among employees. Some Centers have athletic teams which compete in local or regional leagues. We have meals together on special occasions.

In spite of how hard we try we often encounter problems. Our goal should be to anticipate problems and head them off.

When disciplinary problems arise, be sure to follow progressive disciplinary policies. We should try to be cautious and exercise patience in dealing with a disciplinary problem. We should never be intimidated by fear of a grievance. No matter what the situation, we must be fair to all parties.

In summary, the principles of good personnel management are very similar regardless of unit size, but the complexities and variety of situations encountered are greater on the large centers. No single management style has a monopoly on effectiveness. The golden rule "Do unto others as you would have them do unto you," goes a long way in effective personnel management. There is no substitute for goodwill between people of all levels.

We must respect the opinions of all employees and solicit participation in decision making. On the other hand, we must remember that employees expect us to make the hard decisions. When we do make decisions we need to be able to explain why we made the decision. The best thing we can do to insure effective personnel management is to develop good communications with someone in the Personnel Office and seek their professional advice. By obtaining advice from professional personnel specialists, we can often keep a problem from getting out of control.

# PERSONNEL MANAGEMENT AT RESEARCH CENTERS

Jack Heidler University of Florida Personnel Services Gainesville, FL 32611

Effective personnel management at research centers depends on an established relationship of mutual respect between the research center director and the personnel administrator. This type of relationship begins with establishing, and then nurturing, open and positive dialogue about the unique nature of the research mission and how such a mission can be impacted either positively or negatively by the personnel function. Thus, the "keystone" to effective personnel management in an agricultural research environment premises on candid, sincere communication between the research center director and the personnel administrator.

A dialogue between the center and the personnel office gives the personnel administrator a better understanding of the specific research center's needs. In turn, he or she will have an enhanced ability to fulfill the research center's personnel requirements.

Forming this type of rapport is not easy, especially when one realizes that the philosophies of the research center director and the personnel administrator are very different. Because the research center director operates within an academic environment, there is a "publish or perish" mind set, and expeditious and flexible resolution of personnel requirements is needed. When a research center director needs to fill a position--or create a position--or provide appropriate support for a position--he or she needs to do that today.

In contrast, the personnel administrator works within established parameters of policies and procedures. He or she seeks to provide personnel functions that are, in a sense, generic. You see, a basic premise of personnel classification is that comparable positions across and within an organization are classified in the same way and that individuals performing similar duties are compensated equitably. Perhaps equity is the word that best describes the personnel administrator's philosophy--the personnel administrator seeks to provide equitable and like services to the organization he or she serves. The research center director, on the other hand, seeks to develop his or her own unique agenda--which brings with it unique personnel needs.

While unique and equitable are not mutually exclusive, these two mind sets can allow for misunderstandings--and even animosity--between the research center director and the personnel administrator. That is why a strong communication agenda between these two individuals is necessary.

How may a better understanding be facilitated? At the University of Florida, we have research centers across the state where a variety of research is conducted. As Director of University Personnel Services, I have visited and have had the opportunity to work with these centers, learning about mosquitoes, weather forecasting, swine reproduction, and tomatoes--to name a few topics. My exposure to these elements of agricultural research has helped me in my efforts to provide effective personnel management to this important part of the

University community. Thus, I believe that inviting your personnel administrator to visit your research center is an important start towards achieving effective personnel management at your research center.

This invitation follows the adage "a picture is worth a thousand words." Simply put, by inviting your personnel administrator to your research center, the personnel administrator will have the opportunity to see first hand the scope of the center's activities.

Quite frankly, the personnel administrator should initiate these visits; however, all too often he or she overlooks this aspect of his or her charge. Nonetheless, once this understanding is established, once a rapport between the two of you begins, your personnel needs will be met more readily. And when they cannot be met as quickly as you would like, you will at least be better informed as to the progress of the personnel function: this is an inevitable progression of open channels of communication.

When the personnel administrator understands your research center's goals, your ability to recruit, select, compensate, and retain highly qualified employees for your research center will be enhanced. By communicating your unique needs as well as informing your personnel administrator about market conditions surrounding your locale and the way they affect employment activity, you will help your personnel administrator be better prepared with respect to your personnel needs.

This will result in higher productivity and cost containment for you, because you and your personnel administrator together will be able to maximize your learning curve by minimizing turnover. Your research center's potential, therefore, will be realized. Plus, you'll avoid the high cost of turnover as it stands today. In 1989, for instance, the average hire of an exempt employee cost \$8,049. Costs for non-exempt hires, while not usually as high as exempt-hire costs, are climbing and also can run upwards from \$1,000.<sup>1</sup>

A relationship between the research center and the personnel administrator also can help with communication between the research center director and his or her employees. For example, orientation programs for new employees, coordinated through personnel units or the training and development section, will explain and document responsibilities and expectations of your new employees. By providing a "map," if you will, for your employees to follow, you will be less apt to lose them along the way. And as I just noted, it's too expensive not to provide your expectations up front--therefore, you can cut your losses early should an employee not meet those expectations or not perform satisfactorily.

This leads to another aspect of personnel management that I cannot emphasize enough--that is, the appropriate use of the probationary period. Use your probationary period. Use it to counsel new employees--to express your expectations--and use it to prevent the time and expense of the arbitration/grievance procedure maintained by your college or university should you decide to terminate a permanent employee.

<sup>1</sup>"SHRM/Saratoga Institute Human Resources Effectiveness Report," Fourth Annual, 1989.

Probationary periods provide you with an opportunity to make a "good faith effort" relative to monitoring, counseling, and documenting performance of your new employee. A "good faith effort" need not include myriads of paperwork nor need it take a lot of time. Believe me, the time you put forth in a probationary period is much less than what is required should you need to terminate an employee once he or she is out of the probationary period--not to mention the lower cost associated with terminating a probationary employee. Your personnel administrator can help you maximize the potential of a probationary period and thus ultimately save you time and money.

Effective personnel management at research centers premises on open and candid channels of communication with your personnel administrator. Once you have established this with your administrator--and certainly it works to both entities' benefit--your unique needs will be better understood and, in turn, be met more accurately and with greater flexibility. Your personnel administrator also can help you communicate with your employees through a solid orientation program and during their probationary periods. In short, put your personnel administrators to work, use their expertise, and work together toward a productive middle ground of your philosophic approaches. I firmly believe that if you develop these various lines of communication, effective personnel management will surely result!
#### ISSUES RELATING TO ANIMAL WELFARE: THE ANIMAL RIGHTS MOVEMENT

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Animal rights and animal welfare are concepts associated with an extremely complex set of issues which, while not new, have in recent years received renewed attention and become a major focus of activism and reaction as can be determined by reviewing a sample of the reference materials listed at the end of this paper. Philosophers and others have a long-standing interest in the moral status of animals; however, it is important to clarify differences between the issue of the moral status of animals and the issue of whether animals have moral rights. According to Rowan and Tannenbaum (22), it is consistent for one to maintain that humans have moral obligations regarding animals without believing that animals have moral rights. Annexstad and Oppedal (28) offered the following possible definitions: "Welfare reflects people's concern with the well-being of animals and seems to have growing support. Animal rights argues that animals have basic rights (including the right not to be killed) and is an anti-vivisection, vegetarian, urban-based, philosophical/theological movement."

Animal Rights/Animal Welfare Movement. While the moral status of animals has long been a topic of interest to philosophers and others (22) and the first animal welfare legislation dates back to the Puritans in 1641 (19), the current animal rights movement in the United States began in the mid 1970s (9). Peter Singer, in his book ANIMAL LIBERATION (1) published in 1975, makes the following statements:

"This book is about the tyranny of human over nonhuman animals. This tyranny has caused and today is still causing an amount of pain and suffering that can only be compared with that which resulted from the centuries of tyranny by white humans over black humans. The struggle against this tyranny is a struggle as important as any of the moral and social issues that have been fought over in recent years."

"The basic principle of equality does not require equal or identical treatment; it requires equal consideration."

".... will we rise to the challenge and prove our capacity for genuine altruism by ending our ruthless exploitation of the species in our power, not because we are forced to do so by rebels or terrorists, but because we recognize that our position is morally indefensible?"

The philosophical and moral implications reflected in these definitions and promoted by various entities interacting with the major activities of animalbased research, agricultural production, hunting and other animal-related activities in the United States have led to the development of a very complex set of issues and conflicting points of view, with significant philosophical, political, economic, legal and other ramifications which will not likely be easily resolved. The ethical and moral considerations surrounding this topic must be resolved by each on an individual basis. The characteristics of the animal rights/animal welfare movement and the impacts and implications for animal-based research and agricultural production can be reviewed and addressed using views, reports and opinions published during the past fifteen years. The sections which follow are offered as an approach for agricultural researchers and administrators wishing to become more familiar with these complex issues. It seems imperative that we understand the various aspects in order to act responsibly in our designated roles and positions.

Since 1980, a large number and variety of concerns, considerations and opinions have been presented by individuals who have interest in animal rights/animal welfare issues as they develop and influence our future. As one might expect, personal views range from extreme to moderate in relation to the several sides of these issues. Most articles tend to favor a particular position or point of view; it is difficult to find a published account that can be considered with confidence to be bias-free (including the one you are presently reading). A number of published materials offer a range of views held by animal rights or animal welfare activists or at least the authors' perceptions of those views (1, 2, 3, 4, 10, 12, 15, 22, 25, 43, 53). Upon reading these accounts, one quickly becomes aware that the term "animal rights/animal welfare activist" has been used to refer to individuals who may differ quite a lot with regard to their views, objectives and actions. Therefore, it is imperative that anyone wishing to understand these issues and their proponents consider in detail exactly what is being proposed or promoted in each case or situation.

Several articles have outlined the perceptions by persons in agricultural, medical or other animal-related activities regarding motives and goals of activists, some including recommendations for countering the activists' actions (agriculture: 5, 6, 7, 9, 11, 14, 18, 19, 20, 21, 26, 28, 29, 33, 38, 39, 41, 42, 44, 46, 48; medical and other research: 13, 23, 24, 27, 31, 40, 45, 50, 52, 58, 59, 60, 61). Animal rights/welfare activities have been acknowledged by reports in Newsweek (16, 30), The National Law Journal (51) and The Washington Times (56) as well as other general topic publications (35). Reaction by proponents of medical research (49, 57) and the livestock industry (34, 36, 37) have included public opinion surveys and position papers. Academic interests dealing with agricultural animal welfare have been expressed in studies (8) and seminars (54, 55). Self-examination by agriculturists to identify needs for improving animal well-being (17) and potential benefits of the animal rights movement (32) have been reported, as have incidences of enforcement of animal welfare regulations (47) by USDA. By reading and considering the views from a broad sample of published accounts, one may gain an understanding of the complexities and difficulties associated with this area.

**Organizations.** Over 7,000 organizations are involved in promoting animal rights/animal welfare in the United States and include the following (6, 13, 16, 25, 27, 30, 31, 41, 45, 48):

American Society for the Prevention of Cruelty to Animals (ASPCA) American Humane Association Animal Legal Defense Fund Animal Liberation Front (ALF) Animal Rights Network (ARN) Animal Welfare Institute Association of Veterinarians for Animal Rights Coalition to End Animal Suffering and Exploitation (CEASE) Culture and Animals Foundation Disabled Against Animal Research and Exploitation Earth First Farm Animal Reform Movement (FARM) Farm Sanctuary Food Animal Concerns Trust (FACT) Friends of Animals Fund for Animals Greenpeace Humane Society of the United States (HSUS) Humane Farming Association In Defense of Animals Institute for the Study of Animal Problems International Fund for Animal Welfare International Society for Animal Rights League for Animal and Environmental Protection Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) Medical Research Modernization Committee Mobilization for Animals National Anti-Vivisection Society National Association of Nurses Against Vivisection New England Anti-Vivisection Society People for the Ethical Teatment of Animals (PETA) Physicians Committee for Responsible Medicine Progressive Animal Welfare Society (PAWS) Psychologists for the Ethical Treatment of Animals TransSpecies Unlimited United Animal Nations - USA United Action for Animals

Many of these organizations are very well funded and are increasing in membership and support. Primary agricultural targets of the animal rights/welfare movement to date include veal calf production; poultry operations, particularly caged laying hens; and confinement swine production; as well as specific activities associated with animal production such as castration and dehorning without anesthesia and hot branding. Research targets to date have been primarily in the medical field; hunting activities are also targeted by some groups. The reading materials listed provide specific case examples.

As is the case with individuals involved with these issues, these organizations express diverse goals and objectives. It is important for agriculturists to understand the specific intentions of these groups individually and collectively in order to act in a responsible manner. It is very likely that appropriate interaction with some of these groups can benefit agricultural research and production activities and in the long run help resolve some of the issues.

Agricultural Activism. Many agriculturists might feel that the animal rights/animal welfare movement is a result of the situation reflected in the quote "A society which has plenty of food has many problems; a society with insufficient food has only one problem". This feeling tends to cause frustration and irritation with individuals who are perceived, in many cases correctly, to know nothing about agricultural research or production wishing to tell us how to do our business. The facts notwithstanding, the animal rights/animal welfare movement will continue to impact animal-related activities in the United States. Obviously, those who believe that animals should continue to be components of agricultural research and production activities may not be able to reach agreement with animal rights activists who object to all uses of animals. and/or want everyone to be required to be vegetarians. and/or are willing to use terrorist tactics to achieve their ends. However, those activists concerned about the welfare of animals and wishing to ensure that all animal-related activities are conducted as humanely as possible are not very different in their philosophies from most animal agriculturists. Many will agree that humans have an obligation to provide for adequate well-being of the animals under our There is much disagreement, however, about the judgement of what influence. constitutes "adequate well-being". Communication, information exchange and other appropriate interaction by agriculturists with the more moderate activists can lead to increased understanding and mutual respect and will likely aid resolution of many critical issues.

While no responsible individual will condone the tactics of some of the extreme animal rightists, attention to some situations in which animals are used has revealed some activities which are very difficult, if not impossible, to justify. Each of us can recount situations in which animal treatment in research or production has been less than desired with respect to adequate attention to well-being of the subjects. Agricultural research and production activities which involve animals are much more humane than many activists would have the public believe. Nevertheless, it is likely that improvements in animal well-being could be achieved in a large number of situations; these improvements may or may not enhance accomplishment of research or production objectives.

The animal rights/welfare movement has raised the consciousness of all with respect to animal well-being. Higher levels of attention to animal welfare in research and production activities will be one result of the movement. In order that this attention is focused and changes implemented in an appropriate manner, these activities should involve knowledgeable, well-trained people. This, from an agricultural viewpoint, requires involvement of professional academic and industry personnel which, in turn, requires interaction beyond mere resistance to activists. Involvement by academic and industry agriculturists should reduce the level of misinformation of activists and other citizens regarding agricultural research and production activities, making them less susceptible to propaganda campaigns and other tactics.

**Conclusion.** The animal rights/animal welfare movement in the United States will continue to affect, perhaps with increased impact, the way we do business. Many aspects of animal use will be targeted. From the viewpoint of agricultural

research, education and production, it is imperative that academic and industry personnel be informed on the issues and involved in the development and implementation of any regulations or other changes. This implies, in addition to attention by agricultural industry leadership, effort and interaction on the part of agricultural faculty and administrators of land grant and other agricultural institutions.

Because of activities and impacts during the past few years, it appears that changes are going to be brought about in activities involving animals. As with many things in this country, one can decide one's role in change. Agricultural research and education administrators are encouraged to become informed and involved so as to appropriately fulfill their roles and responsibilities.

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### ISSUES RELATING TO ANIMAL WELFARE: THE UNIVERSITY RESPONSE

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The issues relating to animal rights and animal welfare must be properly addressed by university administrators, teaching and research faculty members and support personnel employed who work with animals. There is no question that public opinion and awareness are greatly increased with complex guestions that must be addressed. While animal use and care are the voiced concerns, all aspects are interrelated with social, moral, ethical and religious concerns combined with animal food production methods, diet and health issues, vivisection, experimentation with animals, environmental and wildlife concerns. Because a university community is clearly the cultural and educational leader in our society and subject to public support and political pressure, our institutions are major targets for addressing the concerns relating to animal care and use. This is particularly true for animal use in research sponsored by public funds. Singer (1975) essentially established and focused attention on the fundamental concepts of animal uses, and Fox (1983) clearly presented the arguments of farm animal welfare and the attendant relationship to the human The Humane Society of the United States sponsored the Fox study that diet. concluded our nation needs to change our diets and use of animals for humane, Recently, the popular press has devoted ecological and economic reasons. considerable attention to the issues of animal use, animal welfare and animal rights without any clear solutions (Annexstad and Oppedal, 1988; Curtis, 1989; Anonymous, 1989; Bocher, 1989; Horton, 1989 and Turner, 1990).

The challenge for our institutions is to be prepared and responsive to public concerns representing completely opposite positions. It is safe to say that faculty and students will also differ in opinions as surely as the public sector. In fact, intellectual leaders in animal rights and animal welfare organizations are the rule. This places the institutional administration in a difficult position but not unlike their regular daily problems. The administration must establish policy and procedures to document attention and concern in animal use and care in all business aspects--teaching, research and extension programs. The Animal Welfare Act of 1966 and its amendments provide the national regulatory guidelines outlining the responsibilities of an institutional animal care and use committee (IACUC). Some institutions have established two committees defined normally as:

1. University Laboratory Animal Care Committee (ULAC), and

2. Institutional Agricultural Animal Care and Use Committee (IAACUC).

The USDA is responsible for administration of the Animal Welfare Act, and USDA veterinarians are the principal monitoring authority. In addition, the NIH Policy defines regulations relating to research involving animals under the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals.

Clearly defined policy, regulations, protocol procedures and specifications are defined for laboratory animals in the Guide for the Care and Use of Laboratory This serves as the policy for the American Association for the Animals. Accreditation of Laboratory Animal Care (AAALAC) to certify institutional Agricultural animal care is addressed under AAALAC policy for compliance. accreditation; however, the primary reference for agricultural animals is the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching developed by a consortium of organizations involved in animal agriculture. Clearly there are documented guidelines and regulations that must be addressed in animal use and care. The unfortunate situation is that a lack of knowledge, awareness and concern is evident in general. Also, the regulations and guidelines are often too vague and/or so detailed that the policies impede animal use or is ignored as unimportant by some teaching and research faculty members or those charged with animal care.

The first responsibility at the university level is to have a welldocumented IACUC or IAACUC function to review and monitor all activities involving animal use. As a peer review committee, the public often objects to self-monitoring, yet an outside member committee could completely negate animal research. A compromise policy must be established and maintained.

Secondly, the review of research and teaching protocols must be adequate and documented for administrative review. This requires faculty awareness of their responsibilities and obligations. Responsibility must be accepted by those directly involved in animal use and care. Animal Use Protocol forms that are required must be properly updated. These documents are the backbone to accountability and objective peer review. It is important that the institutional animal use and care committee be viewed as a service component and not an autocratic, regulatory committee.

A major concern facing many institutions is the facility compliance as projected through AAALAC. There are very limited objective guidelines for agricultural animals and a marked degree of uncertainty in monitoring facility compliance. This will be a major problem to be addressed in the future. To date, many institutions have developed internal committees to review agricultural animal facilities. Facility requirements for agricultural animals in biomedical research are adequately addressed.

As administrators, you will be faced with the responsibility to document and address animal use and care under your administration to the public sector. It will not be easy to cite compliance to an irate animal rights advocate or justify an opinion that an animal was abused. Our society seems to demand that excuses are not valid, and we must regulate and force compliance. I submit that a major educational effort to inform how we use and care for animals is needed. It seems illogical to assume that those in animal agriculture abuse their animals when a healthy, productive animal is required for a profitable production enterprise. The use of companion animals (pets) clearly creates problems in the public sector. It is safe to say that awareness on the part of researchers and caretakers must be improved. We simply cannot afford to ignore the compassion and identity many humans give our animals. Instructional classes and public demonstrations that document proper animal care and use are the most effective approaches to address the problems stated today. Some operating procedures will change due to animal care concerns; however, we have the opportunity to participate and direct such changes so they are helpful and not totally restrictive and prohibitive to animal use.

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# PRODUCER ADVISORY COMMITTEES EFFECTIVENESS IN RESEARCH PLANNING

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The Delta Center is an agricultural experiment station of the University of Missouri-Columbia. It is comprised of 1000+ acres of farmland at four locations. It is unique in that both research and extension personnel are located there, it is 300 miles from the Columbia Campus and is the only portion of the state suitable for extensive row crop farming. The Delta Center does research with soybeans, corn, cotton, rice, grain sorghum, wheat and on a limited scale, some vegetable research.

The Delta Center has had an Advisory Board since its inception in 1959. The Advisory Committee is a mix of 34 persons actively involved in all phases of agriculture, "farming, marketing, teaching, banking". The Advisory Committee meets at the request of the Dean of the College of Agriculture or the Associate Director of the Agricultural Experiment Station. The committee will normally have two meetings annually.

Each committee member represents a specific area of agriculture. His/her input is invaluable to researchers, administrators and extension specialists in determining avenues to pursue, personnel needed and information output. The Delta Center Advisory Committee is an outstanding group, with one goal. That goal is to keep the Delta Center on the cutting edge of research, thereby helping the people of this great country of ours. It is both an honor and a pleasure to serve on this committee. The Advisory committee does not get involved in the day to day operation of the research station, only in priority setting regarding the research and extension programs.

The Advisory Committee works with the political area on behalf of the research station and the University of Missouri. We have been successful in achieving and maintaining federal support for the Soybean Cyst Nematode work at the Delta Center. The Advisory Committee has established the Delta Center Foundation for the prupose of accepting gifts for the Delta Center. The continuation of the cotton program was influenced by the Advisory Committee. We have had one Board of Curators meeting at the Delta Center and are expecting to host another one in 1991.

Dave is a past president, Chairman of the Board and is currently a lifetime member of the American Soybean Association; past president and currently on the Board of Directors of the Misouri Soybean Association; past president of the Missouri Seed Improvement Association and past president of the Pemiscot County Farm Bureau.

He is presently Vice-president of Missouri Ag Alumni Association; a Trustee of University of Missouri College of Agriculture Foundation; a member of the Hawthorn Foundation and on the Coordinating Board for High Education for the State of Missouri. Dave is married, has two children and is an Elder of First Presbyterian Church, Kennett, Missouri.

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# PURPOSE, COMPOSITION AND FUNCTION OF ADVISORY COMMITTEES AT FLORIDA RESEARCH CENTERS

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The value of advisory committees to the overall success and operation of research centers depends to a great extent on their composition and perceived purpose. It is extremely important to maintain, in the minds of committee members, the fact that they act in an "advisory" capacity to advance the mission of the research center. Research center administrators who have experienced problems with advisory committees can almost always trace its development to members who thought they had the ability to tell the administrator how to do his/her job.

Advisory committees have existed at some research centers in Florida for many years, while at others their use has been more recent. Approximately five years ago, the state legislature directed the Vice President for Agricultural Affairs in IFAS (Institute of Food and Agricultural Sciences) to establish advisory committees at each research center. This was accomplished with a set of guidelines issued by the Dean for Research. For purposes of further discussion these guidelines are included in this manuscript:

## IFAS

# RESEARCH AND EDUCATION CENTER INDUSTRY ADVISORY COMMITTEE

# **GUIDELINES**

# I. <u>Purpose</u>

- A. To be aware of the Center's mission, its scientists, programs and capabilities.
- B. To identify major needs related to the agricultural industries in the region and state.
- C. To provide input on policies and procedures and make recommendations for improvement.
- D. To advise Center personnel on programs and future policies, including setting research priorities.
- E. To advise the Center Director on budget preparation and be aware of allocation procedures.
- F. To support the objectives and activities of the Center.

# II. <u>Membership</u>

- A. The committee will consist of 5-18 members representing the various program thrusts of the Center. Committee members will be appointed by the Center Director.
- B. Membership is for a 3-year term with option for reappointment.
- C. The Chairman of the Steering Committee will serve as Chairman of the Advisory Committee.
- III. <u>Steering Committee</u> (optional for smaller centers)
  - A. A 3-5 member Steering Committee will be established to make recommendations on program agenda and other administrative issues.

## IV. <u>Meetings</u>

- A. One or more meetings will be held each year, convened by the Chairman with the assistance of the Center Director.
- B. A proposed agenda should be sent to members one week in advance including a listing of committee membership.

# V. <u>Suggested Agenda</u>

- A. Date and time of Advisory meeting at Center.
- B. Introduction of members and guests.
- C. Presentation by Center Director including a report on implementation of previous Advisory Committee recommendations.
- D. Selected faculty presentations.
- E. Comments by committee on program thrusts.
- F. Budget presentation by Center Director including previous year's allocations and proposed changes.
- G. Discussion and approval of budget by committee.
- H. Committee advice on Center activities and future thrusts.

The guidelines are not designed to provide a rigid framework for advisory committees in Florida. Their purpose is to serve as a starting point in the design of an advisory committee to serve the needs of a research center.

As Director of the Central Florida Research and Education Center, I have utilized advisory committees for over twenty years. Originally, we established one committee, but over time, increased the number to cover the major commodity areas we serve.

Our justification for establishing many advisory committees relates to the benefit we see from their existence. One major factor is the information obtained from growers in these meetings which aids us in directing limited funds toward highest priority research. These meetings are also beneficial in reducing travel and in obtaining funding from committee members and other sources. Our committees are organized with the following goals, purposes and benefits in mind.

#### Purpose

Advisory committees serve to bring producers and others to the research center where they can be better educated about operations, objectives and activities of the unit. Often we have found that those we serve do not understand the limitations placed on research by personnel, equipment and space. There have been numerous instances where industry has aided the unit in developing new programs through direct funding or by contact through the office of the Dean for Research after they have become more involved with the research center. Advisory committees can also be beneficial in defusing allegations about a research center's unwillingness to conduct certain research, since such meetings provide a forum for discussion. We have always briefed our advisory committees on research underway or recently completed, but we try to spend most of our time listening to their needs. In some instances, we have to inform them that the research requested cannot be conducted at our center, but then we work closely with them to solve their needs somewhere else.

#### Membership

Our experience has shown that a committee of 10-12 members works well. To obtain this level of participation we appoint 20-25 people to the advisory committee. We do not discuss a term of appointment since we keep some on the committee for years and others only one or two years. Generally, we drop anyone who has missed two meetings unless they have called with a justification for their absence and shown interest in serving. Committee members are selected to provide a cross section of those we serve in a specific commodity area. We select large, medium and small producers and try to choose some of each at varying levels of technology. In addition to producers, we include some members from allied industries and a few county agents. We select the Chairman based on acceptance in the industry commodity area, interest in supporting research and a demonstrated desire to work. In general, we develop the agenda and notify the committee on the Chairman's letterhead under his/her signature (all with the Chairman's prior approval).

#### Meetings

Generally, we hold one meeting a year and develop an agenda based on faculty and committee inputs. At the time of the meeting, items are added to the agenda if time permits. The meeting is conducted by the Chairman according to the agenda, with items for discussion directed to the research Center Director as appropriate. At each meeting, we try to provide some new or interesting information to committee members as well as a short tour to look at some interesting research either in a laboratory, greenhouse or the field. During the tour, we also have an opportunity to show advisory committee members our needs (building repairs and farm or laboratory equipment). After the meeting, a report is developed on research successes and unit needs and forwarded to the Office of the Dean for Research by the Chairman.

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## PROCEDURES AND TECHNIQUES FOR CONDUCTING MAJOR FIELD DAYS

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#### INTRODUCTION

The Rice Research Station, Louisiana Agricultural Experiment Station, is located near Crowley, Louisiana in Acadia Parish. The station was established in 1906 to serve the rice-growing area of southwest Louisiana. Rice production began in northeast Louisiana in the late 1950's and early 1960's in response to research studies conducted by the Rice Research Station in that area. Consequently, the Rice Station has a long history of conducting research onstation at Crowley and off-station in both southwest and northeast Louisiana.

The Rice Research Station also has the responsibility to conduct research to address problems of producers of other agricultural commodities in the ricegrowing parishes of southwest Louisiana. Research is conducted relative to problems associated with the production of soybeans, grain sorghum, wheat, forage crops, and crawfish.

To meet these responsibilities and serve the diverse rice production areas, scientists conduct research at a number of off-station locations. Off-station research involves sites in Vermilion, Rapides, Morehouse, and East Carroll parishes. To convey research results and transfer the latest technology to producers, the Rice Research Station cooperates with the Louisiana Cooperative Extension Service in conducting a number of field days. Field days are conducted at each of the off-station sites, as well as on-station. Attendance averages 225 in Vermilion Parish, 60 in Rapides Parish, 50 in Morehouse Parish, 125 in East

Carroll Parish, and about 800 at the Rice Research Station.

In addition to these activities, the station also conducts field days for soybean and crawfish producers. Attendance for these activities ranges from 50 to 75 for soybean field days up to 250 for the aquaculture or crawfish field day. As you can see, personnel from the Rice Research Station are involved in a number of field days during the year. These are both minor and major activities for the station. Let me hasten to add that when I use the terms major and minor, I am referring only to size. All our field day activities are major in terms of their importance. Since my topic is to address "Procedures and techniques for conducting major field days," the remainder of my remarks will be confined to discussing the annual field day or research report to producers held on the Rice Research Station at Crowley.

#### <u>Rice Research Station Field Day</u>

In recent years, the major field day has been held during the first two weeks of July. However, in earlier years it was held as late as September. Successful rice breeding programs have shortened the rice growing season to the point where it is necessary to conduct field days in early July. We are even looking at the possibility of having to change to a late June date due to even shorter season varieties and the fact that many of our producers are now harvesting rice in late June and early July.

The overall philosophy of the station is to involve as many people and groups of people in field day activities as possible. This is not only desirable but also necessary in order to conduct a successful field day at minimum cost.

Field day planning begins in early January with the selection of alternative dates. These dates are coordinated with other activities of the Louisiana Agricultural Experiment Station and the annual convention of the Louisiana Farm Bureau Federation. In addition, these dates are subject to revision depending upon our ability to establish field experiments and the progression of the growing season. Scientists and other personnel are informed of these dates in order to coordinate field experiments and other activities around these dates without any impact upon the research.

The overall plan details responsibilities for the various activities necessary to conduct our field day, which culminates with lunch at noon. Responsibility is designated for parking, acquisition and control of trucks and transportation, installation of audio services, food preparation and food service, poster displays, tour guides, field presentations, preparation of grounds and facilities, as well as a number of other minor details. The overall plan includes the delegation of the performance of functions or tasks for each employee. In addition to the above responsibilities, the plan designates the person or persons assigned to answer the telephone and convey messages. Considerable effort is spent to assure that no detail is omitted.

Donations are necessary to financially support the field day. Consequently, donor letters are revised in late March and mailed in early April. A reminder letter is mailed to donors who have not responded by mid-May. This practice has enabled us to provide an excellent lunch and field day program at minimum expense. Donors are largely agribusiness firms serving the rice area, and they have been very supportive of our program.

In early May, field day supplies are inventoried and stocks are compared with needs. Needed supplies are then detailed including all ingredients required to prepare lunch, serve coffee, and other services. Tentative orders for supplies are prepared and issued the later part of May. During this time, the farm manager is coordinating activities to put the station in top condition by field day, which includes mowing of several acres and grading and maintenance of roads.

Student workers begin employment around the first of June. At this time, the overall plan is revised in order to detail a job to each student on field day. In this case, we are not only assured that all responsibilities are assigned but also that everyone has a job to perform. This enables us to control our own personnel and keep them from interfering with other activities.

The first of June signals persons responsible for transportation to begin contacting farmers and agribusiness firms for trucks to transport field day guests on the tour of field research. At the same time, county agents in the rice-growing parishes are contacted to serve as tour guides. We station a county agent or other extension agent on each truck to serve as a tour guide. These guides point out field research as trucks pass and introduce speakers prior to each stop on the tour.

The revised overall field day plan is distributed to all project leaders and supervisors two weeks prior to field day. A meeting of all station personnel is held one week prior to field day to discuss responsibilities and duties. Each person is told his or her duties and to whom to report on field day. Any questions and/or problems are addressed at this time, including alternate plans in case of rain.

County agents and other extension service agents meet at the station the day before field day. At this meeting, scientists and extension agents discuss current problems facing producers, and a field tour is conducted for these agents as a rehearsal for field day. Points of interest are indicated to the agents and discussed along the tour route. Notes are prepared and distributed to the agents who serve as tour guides.

On the morning of field day, supervisors and project leaders report no later than 6:00 a.m. to discuss any problems and begin final preparations. All other personnel report at 7:00 a.m. Field day activities begin by loading trucks with bales of rice straw for seating, placing water on the trucks and lining up for boarding. The first field tour begins at 8:30 a.m. with a group of three trucks. Groups of three trucks are dispatched every 10 minutes until 10:30 a.m.

Trucks returning from the field tour are directed to unload near a tent under which we have poster displays depicting research activities not featured on the field tour. Scientists and/or research associates are stationed by the displays to explain the research and address any questions that visitors may have.

A program begins at 11:00 a.m. that includes a report by the Chairman of the Rice Research Board, a featured speaker, and comments by the Director of the Louisiana Agricultural Experiment Station. Following the program, lunch is served. We can generally serve 800 to 900 people in 30 to 40 minutes. Field day attendance has ranged from 600 to 1100 people. Each year we prepare for 1000 visitors.

The Louisiana Rice Research Board meets during the afternoon of field day and critiques field day activities and other items as the board may see fit. A critique by project leaders and supervisors is held shortly after field day to identify any problems in order to adjust future plans to prevent reoccurrence.

About one week after field day a field tour is conducted for all personnel of the Rice Research Station. This is a relatively new aspect of our field day; however, it is very beneficial in conveying the importance of the role of each individual employee to field day activities and our overall research program.

In conclusion, the most important aspects of a successful field day are continuous planning, organization, communication, and coordination. I am including delegation under planning and organization. Obviously, a successful field day depends upon the proper performance of duties delegated to each individual. Fortunately, the Rice Research Station has excellent employees, which requires that once the plan is put into action, I stay out of their way.

## MINI-FIELD DAYS AND GROWER DEMONSTRATIONS: OPPORTUNITIES FOR EDUCATION

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Educational opportunities provided by mini-field days and grower demonstrations with particular reference to vegetable crops are discussed in this paper. The concepts discussed may be applied to other crops and to animal agriculture. These events generally focus on a single or a few related topics whereas a general field day usually covers all of the current research and extension activities at an experiment station. Mini-field days occur at the experiment station and may be organized by either research or extension faculty. On the other hand, grower demonstrations occur on the farm and are usually developed and coordinated by extension faculty. Both types of events have been successfully staged by extension and research faculty at the Gulf Coast Research & Education Center (GCREC).

# Mini-Field Days

Mini-field days may be held at any time during the year when field-plot results are clearly visible to those attending and when there is an educational need to advance new or improved technology, production methods, or varieties. Several outstanding vegetable variety and microirrigation mini-field days have been held at GCREC.

The microirrigation events have focused on equipment, methods of water application, management and maintenance, cultural methods, and crop response to these variables. They were held late in the afternoon, and were sometimes accompanied by a sponsored evening meal or small tradeshow that allowed vendors to explain the merits of their products to those attending. The program, observation, and question time usually did not exceed two hours.

Likewise, several mini-field days that focused on new vegetable varieties have been held at GCREC. Tomato, pepper, muskmelon, watermelon and specialty vegetable varieties have been featured. Those attending had an opportunity to compare new introductions to standard varieties. Taste comparisons of muskmelon and watermelons were always a highlight for many participants.

Announcements of forthcoming field days are made by direct mail, through media in the area, and, most importantly, by county extension newsletters. In our experience, early involvement of county extension faculty in the planning process has always been crucial to the success of the mini-field day. Attendance at our mini-field days has varied between 30 and 125; with the larger attendance at the microirrigation events with a sponsored meal. For us, however, the actual number of people attending a mini-field day is not as important as reaching those specific clientele who can best utilize the information being presented, that is the leaders and innovators in the area being served by the experiment station.

## Grower Demonstrations

A demonstration is one form of education that visibly shows the value of new information or how to use it. One concept or a number of related concepts usually are illustrated in comparison to the standard practice or system. As previously indicated, grower demonstrations are usually conducted by extension personnel, most commonly by a state specialist and a county agent together with a grower cooperator.

The cooperator selected for demonstrations should be experienced with the crop and/or practice being tested, one of the better managers in the county, be interested in the project, and be willing to contribute to the success of the project, and to allow the project to follow through to completion.

At the outset, it is important to carefully delineate the responsibilities and contributions to be made by all involved with the demonstration. A clear understanding, perhaps in written form, of what is expected of the state specialist, county agent, and grower cooperator will forestall many problems during the course of the demonstration.

Generally, the extension team is responsible for obtaining plant material, designing and establishing the plots, keeping observational and data records, arranging for the field day, summarizing the data, and preparing the report. The grower cooperator provides the physical site and crop inputs and maintenance. Selection of variables to be included in the demonstration and harvesting of the plots is shared by all participants.

Some additional guidelines for a successful grower demonstration include restricting the scope of the demonstration to the available resources, developing a plot design for statistical analysis, including grower practice and extension recommendations as variables, and frequently monitoring the plot areas to anticipate and prevent unforeseen happenings.

As with mini-field days, direct mail notification, local media, and county extension newsletters are effective means of notifying clientele of an approaching grower demonstration. We have found that demonstrations are best scheduled in the late afternoon or early evening on a Tuesday, Wednesday, or Thursday (Mondays and Fridays are particularly busy for growers) at or just before the first crop harvest.

As the date of the demonstration approaches, it is necessary to plan for adequate publicity; make personal reminders; and prepare directional signs, plot signs, and plot maps. Refreshments are not required, but a cold drink is appreciated on a hot afternoon.

The information provided to growers in mini-field days and grower demonstrations can reach many more than those in attendance. If local media recognize these events as being important to the community, they will provide news and possibly picture coverage of the activities and important points discussed. Even without this coverage, a summary article in the next county extension newsletter will enhance the educational value of the event. In summary, mini-field days and grower demonstrations are an excellent means of communicating information on new crops, practices, or concepts. To be successful, however, they require careful planning and regular attention. News coverage and follow-up stories maximize the value of these events.

### INTEGRATING BIOTECHNOLOGY INTO TRADITIONAL AGRICULTURAL PROGRAMS

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**Biotechnology**, in the broad definition of the term, is the application of modern, biological solutions to real world problems including such applications as tissue culture for plant propagation and genetic improvement, embryo multiplication and transplantation, the use of monoclonal antibodies in identification and quantification of organic compounds and viruses, and directed genetic engineering of plants, animals or microbes through recombinant DNA technology. Depending on one's perspective and purposes, the narrow sense definition related to use of molecular techniques in basic research and plant, animal, and microbe genetic engineering usually is applied.

Integration of biotechnology, in the broadest sense, absolutely is required to have modern agricultural programs proceed at an optimal pace toward the solution of real world production problems. A significant barrier to this integration rests in the interpretation by some (agricultural producers, faculty members, research scientists, and land grant administrators alike) that only the fundamental, narrow sense, truly molecular programs are biotechnology. Research in biotechnology is expensive, and has received enhanced funding compared to traditional approaches in most organizations, prompting concerns from commodity-oriented scientists. The shift toward more competitive, peer reviewed, nationally-based funding mechanisms for agricultural research has exacerbated this problem.

Education of those unfamiliar with the technology concerning the <u>real</u> benefits of the advanced techniques, and a realistic assessment of the <u>rate</u> at which problems will be solved using them is required to broaden the support base for integration of biotechnology into traditional programs.

## The Foundation for this Essay

The observations that I will express in this essay are founded in my experiences as a faculty member and administrator at three different land grant institutions. I served as a representative of the College of Agriculture on a special ad hoc committee appointed by the Provost of Ohio State University in October, 1984 to examine emerging opportunities This committee was composed of scientists from the in biotechnology. biological sciences university-wide, including members of the chemistry, chemical engineering, biochemistry, botany, genetics, and plant and animal sciences departments in the College of Agriculture and the Ohio Agricultural Research and Development Center. Additionally, I chaired the Plant Biotechnology Planning Committee that was charged with making recommendations for the College of Agriculture's strategy for investing in biotechnology in the plant sciences. I assumed the Head's position at Clemson University in April, 1987, and the College and Experiment Station were just getting about the business of "integrating"

In fact, this integration biotechnology into traditional programs. already had proceeded fairly quickly through the efforts of several teams of faculty who had formed collaborations in the absence of any existing structure for doing so. Department heads in affected departments were appointed as an advisory committee to oversee the Experiment Station's faculty in facilities investment in biotechnology, and to assist development and equipment acquisition. The Department Head's group evolved into two principal focus areas. one directed toward immunoenhancement of animals and birds, and the other directed toward plant germplasm improvement. After serving at Clemson for three and one half years, I assumed the position of Head of Horticultural Sciences at Texas A&M University in September, 1990. Again, biotechnology had been integrated into many programs previously, and some of these programs had evolved to world-class status. Several major programs had not proceeded very rapidly with redirection and integration, and these programs were selected for special attention.

# New Research Directions Involve Resource Redirection

At the core of every successful effort to integrate biotechnology into traditional programs is a leader who has the vision and conviction that modern agriculture will require the research advances that will be facilitated by these powerful techniques for future competitiveness. This leader must also have the ability to convince others of the need to reinvest some existing resources toward this goal, and must be able to bring new resources to the table as well.

The issue of redirection of resources is probably the most troublesome aspect of integration. Many of the techniques associated with biotechnology require expensive equipment and facilities that did not previously exist in most departments and research centers. Controlled atmosphere labs for cell culture, ultracentrifuges, autoradiography and electrophoresis equipment, biohazard containment facilities, DNA sequencers, oligonucleotide synthesizers, and the like were capabilities most frequently associated with the biological sciences. Start-up funds for a junior faculty member can exceed \$100,000 quickly, and if some access to shared equipment is not possible (as may be the case at an off campus research center), that figure could climb to \$250,000. Again this is very different than the expectations for commodity-oriented faculty.

Another problem is posed by the fact that many of the scientists doing research typically identified as biotechnology are <u>discipline-oriented scientists</u>, and may not be interested in nor trained for filling a niche vacated by a <u>commodity-oriented</u> scientist. If the commodity program is to be continued then the discipline-oriented scientist must quickly integrate the applied aspect into his or her basic research efforts, the commodity program must be assigned to another individual as an overload, or the program must be dropped. All options have serious repercussions if not handled properly.

#### Models of Program Integration

Three methods of integrating biotechnology into traditional programs have been encountered. I must say at the outset that each has its limitations, and as of this date no one model has been adopted as the future standard. In fact the time is rapidly approaching when most land grant institutions will have made such significant investments into the basic sciences, that future investments will likely be made directly into departments and centers to support those basic scientists already on board rather than into complex administrative structures outside of departments or centers.

### The Ohio State Model

The stated conclusion of the Provost's Ad Hoc Committee on Biotechnology was that the university proceed immediately with the hiring of a world-class scientist to organize and lead a Biotechnology Center so that a positive statement would be made to the scientific community by this action. The Center was viewed both as a physical facility and as a collection of faculty members. The Center would be equipped with state of the art equipment, and would house very expensive pieces of equipment that could be made available on a shared use basis. The scientists who would be hired in the Center were to be established scholars with outstanding credentials, or young investigators with very high potential. The Center would serve as the nucleus for the biotechnology effort campus wide (Figure 1). The Center was viewed as critical to the recruiting effort throughout the university, since outstanding graduate students, post docs, and junior faculty would be attracted by the opportunity for collaboration with individuals in the The facilities and equipment available for shared use, and the Center. repository of outstanding scientists housed in the Center would enhance grant applications to federal agencies (indeed the Center received a \$500,000 NSF equipment grant within a year of the hiring of the Director).

The Biotechnology Center at Ohio State has fulfilled many of expectations initially ascribed to it by the faculty on the Provost's Ad Hoc Committee.

#### The Clemson Model

Research scientists in the Colleges of Sciences and Agricultural Sciences had formed working groups to address research with a molecular bent long before the issue of a coordinated approach was proposed. However, so few new dollars were made available to enhance the biotechnology effort, and so much was required that the establishment of a major center was not possible. The Clemson model evolved from the need to share rather than replicate the very expensive large equipment items, and the concept of a multi-user facility fit the need. The integration plan then had four major focal points. Faculty in departments who were conducting molecular research also had access to the multi-user equipment, even if their research fell outside one of the major thrusts. As of this writing, the Clemson model has not been fully implemented. The lack of a central focal point for biotechnology, the lack of an administrative advocate (such as a director of a biotechnology program or facility), and severe budget restrictions portend an uphill battle for the Clemson program.

#### The Texas A&M Situation

Biotechnology research at Texas A&M University has been underway for 8 or 10 years. Unlike the models evident at Ohio State and Clemson, the Texas case is referred to as a "situation" because some of the aspects of the plan are still evolving, and my knowledge of the intricacies of the system is limited.

One major investment is the Institute of Biosciences and Technology (IBT) that has been built in Houston to facilitate collaboration with the Texas Medical Center in Houston. A second major focal point will be the Molecular Crop Improvement Center that is now in architectural planning. Both of these centers will be both physical facilities to house shared equipment and administrative units to which faculty are assigned. While the Molecular Crop Improvement Center and the Institute of Biosciences and Technology are expected to be major investments, they are not viewed to have the coordinating and leadership role that is the case for the Ohio State Biotechnology Center. Major investments are being made in molecular programs in most departments and some research and extension centers. These programs may be too distant from the Center or Institute, in mission or location, to have strong collaboration with the scientists located there.

#### Summary

The different models for integrating biotechnology into traditional agricultural programs arose in different systems with different organizational structures and at different times. The motivating influences were likely similar; to organize teams of faculty into productive research units; to foster interdisciplinary collaboration; to apply the power of molecular technology to agricultural problems; to strengthen the basic research element in commodity-oriented units; and, to help scientists to be more competitive for extramural funds.

The transition will continue to pose some management problems for years to come. Commodity-oriented programs in traditional departments will be challenged to integrate new technology while continuing to maintain a relationship with clientele. The need to educate clientele concerning the urgency for redirecting some existing resources into more basic research is enormous. The pressures being directed toward commodity-oriented departments and off campus research centers will continue to increase until such education is effective. Extension specialists can assist greatly in this effort.

The funding dilemma is an onerous problem. Biotechnology in the broad sense is expensive research, and many of the solutions will not be

immediate. Our mission is viewed by many to be relegated to the solution of problems associated with the agriculture in our respective states. Is the National Research Initiative the panacea? Will commodity groups fund the more expensive fundamental research? Can state legislatures be convinced to come forth with more money?

Priority setting may be the path to a solution of the funding dilemma. All research opportunities are not tractable at the molecular level, and we need to identify carefully those that are. An increase in regional and industry collaboration to address the large, complex issues requiring high investments of human capital might also be along the path.

Whatever paths are chosen, the outcome seems clear. Biotechnology in all its dimensions, especially the molecular dimension, is in the future of agricultural research. Research in biotechnology is not the end in itself, but it will be involved in the solutions of many of the problems facing agriculture in the future.

### DESIGN CONSIDERATIONS FOR A PESTICIDE RINSE WATER DISPOSAL SYSTEM

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### INTRODUCTION

Significant quantities of pesticide contaminated rinsate and wash water are generated at Agricultural Experiment Stations throughout the growing season. Past activities generally involved dumping them onto the soil, from where they ran overland until they infiltrated or entered a water body. In some cases, earth or synthetic lined pits have been used to evaporate the water. Recent federal regulations on hazardous waste disposal require that generators, who produce over 200 lbs (28 gallons) of waste per month, come under compliance and must provide proper disposal.

Several options which are available for the disposal of pesticide rinse water include: reuse as formulation water, filtering the water through charcoal filters, and off-site disposal. The collection of rinsate and wash water and its subsequent reuse in formulation is fraught with problems associated with cross contamination of the stored liquid and the build up of microbial growth between collection and use. The use of charcoal filters has been suggested as one possible solution, but these are expensive, require constant expensive monitoring to determine that they are not saturated, and their ultimate disposal is expensive.

### **DEGRADATION OF PESTICIDES**

There are limited data available on the persistence of pesticides in soils when mixtures are applied to the same soil. Some data has been reported by Junk <u>et al</u>. (1984), but their system was a continuously flooded soil. For aerated soil beds at Ames, Iowa, Junk and Richard (1984) reported that the pesticides did not build up over the 13 years of use. Winterlin <u>et al</u>. (1984) also reported that pesticides did not build up in the soil in disposal beds during six to ten years of use in California. Table 1 indicates the half-life and persistence of some of the pesticides now in use. The compounds which are now in common use typically degrade in the soil in a matter of weeks or months, and only a few would pose the risk of build up. Even if they do build up over long periods of use, the contaminated soil would be far less than that of off-site disposal of the waste liquids.

## VOLATILIZATION

The question has been raised as to the possibility that significant quantities of pesticides may vaporize from soil disposal units, thereby causing air pollution concerns. While undoubtedly some fractions of the pesticides applied to soil vaporize, data collected in the air above disposal units that have been in use for up to ten years suggest that only trace amounts were detected (Junk and Richard, 1984). In one case, they reported that similar

	Half-Life Days <sup>*</sup>	Persistence <sup>**</sup>
Insecticides:	· · · ·	
Organophosphates Diazinon Disulfoton Phorate Malathion Parathion	30 14 1 15	1 to 12 wk 12 wk 4 wk 2 wk 1 wk 1 wk
Carbamates Carbofuran	80	0.5 to 3 mo
Growth Regulators Maleic Hydrazide		12 to 80 days
Herbicides:		
Triazines Propazine Simazine Atrazine	130	3 mo to >18 mo 18 mo 12 mo 10 mo
Dinitroanalines Trifluralin	70	6 mo
Others:		
2,4-D 2,4,5-T Picaloram Diruon	4 180 200	1 mo 5 mo 18 mo 8 mo

able 1. Half-Life and Persistence of Common Pesticides.

Laskowski, D. A., C. A. I. Goring, P. J. McCall, and R. L. Swann. 1982. Terrestrial environment. pp. 198-249. <u>In</u> R. A. Conway (ed.). Environmental Risk Analysis. Van Nostrand-Reinhold Co.

\*\*Edwards, C. A. 1975. Factors that affect the persistence of pesticides in plants and soils. Pure Appl. Chem. 42:39-56.

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concentrations were detected both upwind and downwind of the disposal beds. Data collected by Winterlin  $\underline{et}$   $\underline{al}$ . (1984) indicated very low levels of pesticides in the air adjacent to the degradation beds.

## DESIGN CONSIDERATIONS

It is suggested that the water balance be based on a fraction of the pan evaporation for the area in which the facility is to be built. Studies done in our laboratory by Vanderglas (1988) indicate that the pesticides are quickly sorbed into the soil, and degrade within a season.

The sump should be housed in a lined pit. The pit should contain a settling chamber that is set up like a grease trap to exclude floating and settling materials and a second chamber that is equipped with a sump pump to transfer the liquid to the disposal bed. The sump pump and plumbing must be sized to handle the flow generated by the hose used to wash down the equipment and the discharge rate from draining or rinsing tanks. The sump area should be covered with a small removable roof that could be placed directly on top of it. It is estimated that both chambers need to have a volume of about 50 gallons and be installed on blocks to allow inspection for leaks.

The disposal unit consists of a lower chamber for liquid storage below a suspended 12 inch layer of a sandy loam soil. Liquid from the sump pump at the wash area should be applied through a PVC distribution system lying beneath the soil surface. The excess liquid will drain through holes into the metal floor below the soil. A time clock should be used to activate a second pump to dose the soil layer daily with the stored liquid. A level switch should be used to override the time clock when the storage is dry. The disposal unit should be built on skids for easy transport and to allow inspection for leaks. A typical unit would be 8 ft wide by 40 ft long and 4.5 or 5 ft deep. This size unit would be capable of disposing of 8,000 to 10,000 gallons per year under average Texas conditions and has the added advantage of more easily being transported over the road.

It is suggested that the unit be surrounded with an earthen berm capable of containing the entire volume of the unit in case of a leak. It must also be covered with a fiberglass roof that allows light to reach the soil but does not restrict air flow.

The soil in units should be sampled once a year and analyzed for the predominant pesticides being used to assure that they are not building up. Sampling should be done at the beginning of the application season.

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Figure 2. Schematic diagram of sedimentation chamber area.

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Figure 3. Cross section through disposal bed.



Figure 4. End view of disposal bed.


Figure 5. Top view of disposal bed showing proposed liquid distribution system.

#### CRISIS MANAGEMENT: TURNING NEGATIVES INTO POSITIVES

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## Crisis Defined

A crisis is defined as anything that threatens the stability of an organization, a plan or a program. Crises can occur because of negative perceptions about an event or statement, an exaggerated claim by a disgruntled individual, or a valid claim by a so called whistle blower. Although there are several types of crises, all of them share some common characteristics.

Crises are almost always negative. The negative nature of a crisis tends to promote adverse situations that result in winners and losers.

Crises are always distracting from daily tasks, missions, and goals. The primary objective of an organization and programs almost always suffer during crisis periods, because the crisis occupies a major portion of the attention of employees and managers.

A crisis can also create an improper or distorted perception. It may involve allegations that tell only part of the story and stimulate negative impressions by the public about your organization. Unfortunately, in age of snap judgements, perception is reality. We must therefore, be prepared to deal decisively with erroneous or improper statements.

A crisis also tends to polarize and divide an organization. More often than not it causes management and staff to choose sides not necessarily based on fact or the best interest of the organization. Again, management should recognize early signs of polarization and take steps to maintain organizational integrity and unity.

Except in situations where risks are calculated, crises are surprise events. In most crises, there is little or no early warning. Only by being adequately prepared in advance to deal with crisis situations can a crisis be survived and negatives turned into positives.

Finally, crises almost always create a reactionary posture. A crisis will therefore, promote position justification and result in reactive rather than proactive programs to resolve the crisis in a timely manner.

#### Types of Crisis

Crises exist in four basic forms. Knowing with which type you are dealing is imperative for effective crisis management. However, a crisis can be a combination of types, each of which must be addressed. <u>Disgruntled Joes</u>. Every organization has its share of Disgruntled Joes. They like to create a lot of smoke, occasionally they can set off a five-alarm fire. The key to handling a Disgruntled Joe is to uncover the truth and use it to rectify the misdeed or put a rumor to rest.

<u>Foot-in-mouth</u>. Statements taken out of content or made in haste trigger a foot-in-mouth crisis. People guilty of foot-in-mouth fail to properly evaluate the consequences of their comments. They may speak to a reporter without realizing that their comments are always "on the record." They may say more than they can comfortably support with facts or research, then be placed in a position where words become the rope that hangs them. Foot-in-mouth must either be disclaimed, explained, or qualified.

<u>Charted mine fields</u>. Organizations run the risk of crisis by engaging in controversial practices or by espousing controversial viewpoints, activities, or policies. The very nature of their work exposes them to potential crises. Research projects using animals, radioactive materials, or chemicals are examples that illustrate the charted mine fields principle.

In all such instances, potential land mines are out there waiting to be exploded by a misstatement, a careless act, or a misdeed. Knowledge about these land mines enables the organization to chart its path through the mine field and avert the crisis. At the very worse, knowledge will allow a proactive posture as opposed to reactive. Charted mine fields provide opportunity to positively frame policies, attitudes, and practices to avoid incorrect perceptions and damaging public opinion.

<u>Uncharted mine fields</u>. The most dangerous and potentially damaging crisis of all is the uncharted mine field. This crisis occurs completely by surprise. Disclosure of problems triggers explosion after explosion with each new fact that surfaces. The explosions are likely to occur in all directions. We have no clues about what mines are likely to explode, much less where they are buried.

The key to managing the uncharted mine field crisis successfully is to gain control through systematic but rapid fact-finding. The organization should have in place a means to separate truth from fiction. Factual information, may quickly convert the uncharted mine field into a predictable situation and thereby control the intensity, frequency, and direction of explosions.

#### Managing Crises: Negatives to Positives

As we indicated earlier, many of the problems that are related to a crisis situation can be avoided or at least minimized if proper planning occurs and the organization is prepared for a crisis situation. Identifying crisis points, fact-finding during non-crisis periods, developing and maintaining a highly trained crisis team, and fine tuning communications networks in advance are all methods to be included in the planning process which will help avert or minimize crisis situations.

Crisis point identification involves developing "what if" scenarios and constructing strategies for dealing with each of those scenarios. Crisis scenarios can revolve around controversial people, products, and services;

internal philosophical conflicts; communications failure; or changing public attitude toward a given product, service, philosophy or deed.

It is important that we conduct fact-finding activities during non-crisis periods to be able to sort and classify information relative to our organization. Factual information and understanding the difference between truth and myth are primary tools for dealing with crisis situations. Fact-finding is a constant process of self-study where information about an organization and its personnel is classified into truth and myth. The truths are routinely updated and rumors either verified as truth and dealt with or exposed as false information.

Every organization should have a crisis team, a key group of individuals that perform key functions during a crisis. These individuals may also be labeled as pivotal players and they must be prepared to work around the clock if necessary for successful crisis management. The identity of these pivotal players should not receive a high profile within the organization less they become compromised before, during, or even after a crisis. Each member of the crisis team should receive routine crisis management training and should be updated regularly on potential crisis points, facts, and myths.

Part of the key function of the pivotal player group is to develop public responses and perhaps select spokespersons during a crisis period. Sometime the organizations chief executive officer may serve as chief spokesperson during However, the CEO may be absent or may need some behind-the-scenes a crisis. maneuvering room to end the crisis. Thus, several spokespersons may be needed in a given situation. By developing a list of qualified personnel in different areas of the organization to serve as spokesperson, crisis response flexibility has been improved. A list of personnel who can be called on to respond a wide variety of issues as a means of crisis prevention is also a part of crisis planning. Individuals selected to speak publicly for the organization must be able to effectively communicate facts in a credible manner. The ability of the spokesperson to remain calm is also critical. When selecting a spokesperson, try to avoid four types of personalities. The following labels are generalization and do not diminish the overall value of these types of people to an organization in other capacities.

<u>Shrinking Violets</u>. Some personalities aren't meant for the spotlight, even though they are nice folks. Shrinking Violets feel intimidated by close questioning or confrontations. They act nervous and upset. They may even feel guilty. They do not make an effective or credible spokesperson.

<u>Egotrippers</u>. Egotrippers thrive on the spotlight, but not for what can be done for the organization. Instead, they use the forum for their own agenda. An Egotripper displays the "Big-I-Little-You" attitude in dealing with the public and with the media, injecting value judgements and resorting to emotional provocation during crisis.

Loose Cannons. The general sense of disorganization typical in a Loose Cannon tends to heighten in crisis situations. A Loose Cannon exhibits no sense of direction and can project an insensitivity to the real crisis issues. They are unpredictable, regardless of the amount of preparation invested to help them

respond to the crisis. In a crisis, Loose Cannons are best kept out of the spotlight.

<u>Honest Abes</u>. Honesty is the cornerstone of effective crisis management, and these people have their heart in the right place. An Honest Abe feels compelled to tell the truth, the whole truth, and nothing but the truth in the most sincere possible way. However, an Honest Abe may fail to understand the importance of the proper response at the proper time, expressed in the proper manner. Therefore, they may resemble the Loose Cannon. An Honest Abe will unlock to the world the most confidential of organizational files and may miscommunicate ideas and concepts through revelations taken out of context. An Honest Abe will almost always try to answer the expected final question of a reporter: "Is there anything else you would like to add?

Good crisis planning also includes fine tuning communications networks. Keeping internal and external lines of communications open in the organization and maintaining their integrity especially in times of non-crisis is probably one of the best ways to prepare for and prevent crisis.

Externally, continue to stroke cooperative reporters and work to establish a rapport with difficult or skeptical ones. The organization must strive to enhance the reputation as a straight-shooter, one on whom a reporter can depend as an accurate source of facts or tips. External communication networks - how dialogues are maintained with publics and/or clientele - should also be tested routinely to be sure that all the lines are functioning properly. It is also important to know that information to be passed gets passed without distortion of facts and manipulations of meaning. In addition, the network must permit accurate feedback into the organization from audiences and/or clientele.

Internal tools and networks must also periodically be fine tuned for effective communication. Will today's tools and methods for disseminating information be effective in the future? Can the organization depend on its internal links to reflect accurately the true attitudes and opinions of employees? Are the personnel rosters up to date? Are internal newsletters reaching their audience?

Prudent crisis management teams will routinely test all networks, evaluate tools, and fine-tune relationships to ensure that in periods of crisis they can guarantee an effective dialogue with the people the organization serves.

## Surviving a Crisis

However unpleasant a crisis may be, it will eventually end. The hope, of course is that will end quickly with a minimum of damage to the organization. In fact, a crisis can actually have a positive outcome for the organization. Effective crisis management can legitimize the mission of an organization or clarify its role. It can provide a fresh start or a new opportunity for the organization's management team. And, because top management is willing to deal with it openly, how the crisis is managed can often promote positive opinion about the organization in the mind of the public and among the organization's employees. How to survive a crisis and profit from the experience? How to control the crisis and take a proactive role in managing events to foster positive public opinion?

First, realize that the immediate goal of any crisis management plan should encompass rapid resolution. In ending a crisis as quickly as possible, an organization must seek to diffuse it and maintain integrity and credibility. If possible, the crisis should be turned from a negative into a positive experience for your organization.

In dealing with a crisis, an organization will typically engage in various combinations of four basic strategies as follows: do nothing; stonewall; respond and defend; take the offensive.

<u>Do nothing</u>. Some organizations refuse to admit that a crisis exists. By their non-action, they let the crisis take its toll and run its course. Such organizations are generally well insulated from public opinion; public and employee sentiments do not concern management. A do-nothing approach is the least desirable of any alternative, since repeated crises will ultimately divide an organization, disrupt its integrity and cause it to erode from within.

<u>Stonewall</u>. In a stonewall strategy, management refuses to respond externally to the crisis on the basis of not wanting to dignify what it considers erroneous or improper allegations.

An organization using the stonewall approach runs the risk of negative public attitudes and trial by media. Often, the public interprets silence as an admission of guilt, an act of arrogance, or an unwillingness to compromise on an issue.

However, in a limited number of instances, the stonewall is not only acceptable, it is the only desirable course of action. Such instances include personnel matters involving disciplinary action deemed confidential under state or federal laws, or a situation to be resolved in a court of law.

<u>Respond and defend</u>. Organizations that face a crisis head-on and work positively and aggressively for a rapid resolution enjoy a higher survival rate than those that either do nothing or stonewall. Respond and defend is a successful crisis management technique. Keys to developing a response and preparing a defense include communicating factual information and selecting the proper spokesperson(s) to represent the organization.

<u>Take the offensive</u>. This strategy involves developing an offensive and taking advantage of an opportunity for creating positive public opinion. An effective offensive includes responding to the crisis and projecting an organizational posture or position that demonstrates solutions of benefit to the organization, its employees, and the public at large. In other words, by taking the offensive, a crisis is treated as only a part of a much larger issue, and affords the chance to advance a positive perception of the organization. In taking the offensive, however, a crisis may unwittingly be prolonged and control may be lost when it could have been handled quickly and quietly with a simple response.

#### Developing Facts.

Whether the decision is to respond and defend or take the offensive, the best weapon is accurate information. As responses are developed, rebuttals prepared or offensives planned, remember that reporters are members of an informed public and those who ask questions may well have the answers before they ask them.

The first offense, therefore, are facts and a factual response. An organization that tends to stretch the truth when developing and issuing responses to a crisis will lose creditability and heighten the crisis. Only truthful statements, unclouded by value judgements and emotional provocation, are acceptable.

#### Break points: The Keys to Effective Crisis Management.

In every crisis, there is a point at which the astute manager can turn things around and transform negatives into positives. These points may naturally occur as a part of the course of events surrounding a crisis. In some cases, the point may not naturally occur or the point may take too long to evolve for maximum impact in turning a crisis around. Whether, naturally occurring or artificially induced or accelerated, these are "break" points. By recognizing the break points when they naturally occur or by understanding the developing trends and knowing the proper time to accelerate or induce a break point, the crisis itself can be used to turning negatives into positives.

Laboratory Rats. A researcher proposed to conduct experiments with laboratory rats to document the relationship between antibiotic agents and stress induced malnutrition. The research could have had excellent application in helping humans avoid wasting away after suffering physical trauma, the fourth leading cause of death. He proposed to break both femur and fibula in the legs of rats and study the recovery and healing process.

At the University of Florida, as in other institutions, an animal care and use committee must review and approve all research projects using laboratory animals. The committee's purpose is to insure humane care and use of laboratory animals. It has the authority to stop nonconforming research projects. Upon review of the rat project, the committee withheld approval until the principal investigator agreed to conform to certain practices to reduce or minimize trauma suffered by the rats. After first agreeing to conform to prescribed practices, in reality the faculty member failed to conform to all the procedures. An inspection of his research procedures by the animal care and use committee and a subsequent press leak thrust the University in a potential confrontation with animal rights groups. Even without the press leaks, full public disclosure of the committee's findings of the violation was inevitable since Florida law prescribes "government-in-the-sunshine". The meetings of the animal care and use committee are covered by open meeting rules and are therefore open to the public. The committee's meetings are well attended by press and members of

animal rights groups. The primary task was to preserve the credibility of the University and convert the situation from what would surely be a confrontation to a reaffirmation of our commitment to humane care and treatment of laboratory animals. There was only one course of action, and that course of action also The committee must shut down the research: and the served as a break point. administration must endorse the committee's action with public statements, must reaffirm animal rights protocol to the faculty, and must demonstrate that violations of that protocol will not be tolerated. The story broke on Friday. May 26 and was dead when it broke because the research had already been halted and potential disciplinary action against the researcher was pending. The University received positive press over the handling of the situation all weekend long. The payoff came the following week when the animal rights groups publicly praised the institution for its swift and decisive action. The case in point is that the break point was recognized and utilized to avert a major crisis.

<u>Horse Teaching Unit</u>. The University of Florida had over the years experienced a decline in the enrollment in our resident instruction program in food, agriculture and natural resources. As the situation bottomed out, the legislature mandated that in the 1989-90 fiscal year, the University's Institute of Food and Agricultural Sciences, or IFAS, would lose some \$800,000 in teaching funds. Included in the cut were 12 positions, or full-time equivalents. On the surface, \$800,000 out of a \$100 million statewide budget may not sound like very much. Likewise, the 12 positions out of virtually 2,500 food, agricultural, and natural resources faculty and staff statewide does not appear to cause problems. However, the cuts had to specifically come from the teaching program... nearly 10 percent of the teaching budget and more than 10 percent of the F-T-E's assigned to the teaching units.

So what's the crisis? All one must do is have the number-crunchers get busy and shift some things on paper and quietly comply. By quietly complying however, we put ourselves in a position of having 10 percent fewer dollars and more than 10 percent fewer faculty the following year when enrollments would be on the upswing. In addition, we felt the need to send a strong message to our constituencies that legislative budget cuts result in clientele program reductions. Our hope was to mobilize public sentiment for a restoration of the cuts during the next session of the legislature.

The area selected to be impacted by most of the cuts was a riding horse program that provided recreational riding courses for the University community as a whole but had little or no effect upon either the animal science degree programs or the veterinary medical program. The recreational courses were not required courses for agriculture students and most of the students enrolled were not agriculture majors. Therefore we eliminated the entire program and took steps to sell the horses at public auction. We were counting on creating a crisis and putting it to work for us. No personnel were laid off; position cuts were accommodated by position vacancies.

As you might guess, the cut raised a hue and cry. Several days of critical statements served to direct legislative and Board of Regents attention to the situation. Most of the criticism came from the non-agricultural clientele. Early on, we had communicated to the thoroughbred horse industry that the impact

of the cuts would be minimal on our industry programs. Still, the pleasure horse people were up in arms and generally quite vocal. The more they stirred, the more legislative interest was generated in restoring the cuts in the next budget year. The Board of Regents approved the restoration in our 1990-1991 request. In fact, when the 1990-91 budget was passed by the Legislature, IFAS was about the only state agency to escape relatively deep budget cuts. In a time when eight agencies and other parts of the university system were receiving cuts in the 5 percent range, IFAS was funded the same level as the previous year. The case in point is that a very strategic decision early on to cut a program with little or no industry impact and high visibility among recreational uses, not only created an apparent crisis but in so doing created both a break point and an opportunity for turning a negative into a positive. After informing industry of our strategy, it was a matter of packaging and implementation.

Legislative Studies and Oversight. The following is an example of recognizing a crisis break point in a long term situation that existed in Florida during the decade of the 1980s. During the past 10 years IFAS, the University of Florida's Institute of Food and Agricultural Sciences, was subjected to no less then five statewide reviews or oversight studies by either the legislative or the executive branches of government.

Before the break point came, a siege mentality developed within IFAS. In fact, for nearly nine years, IFAS had been in a respond-and-defend mode under four separate studies. Requests to the Board of Regents for authority to seek a quantum increase in program improvement funds in the legislative budget request went unapproved. Our program improvement fund growth was virtually flat during the entire decade of the 1980s.

In 1988, the legislature mandated, through proviso language in the appropriations bill, that IFAS undergo yet another public study. This time, the State Board of Regents was to include in the study a series of eight public hearings to be held throughout the state. The purpose of the hearings was to seek public testimony on the effectiveness of the IFAS organization in meeting the needs of the farmer/consumer.

The public hearing aspect of the fifth study would provide the needed break.

Written questionnaires, administered to randomly selected farmers and other clientele throughout Florida prior to the public hearings provided data that indicated the hearings would provide a forum for hitting a home run. The final tabulation of the questionnaires reflected a 95 percent satisfaction level with IFAS programs among clientele served.

It was a matter of notifying our clientele of the hearing dates and locations and let them know what was at stake. It was important that the press was well represented at each hearing. A complete video transcript of each meeting was also provided to anyone who requested it.

Clientele told the legislature and the Board of Regents unequivocally that IFAS was doing its job; that "if it ain't broke don't fix it"; it is time to stop studying IFAS and let it get on with its mission of service to Florida. Over the course of the eight public hearings, the positive momentum that the press helped generate by reporting the overwhelmingly positive testimony ultimately resulted in a very positive final report to the legislature.

The Board of Regents finally listened and allowed IFAS to double the legislative request for program improvement funds for the 1990-91 fiscal year over 1989-90.

Had IFAS not taken advantage of the opportunity to go on the offensive, it still might be responding and defending through yet another mandated study. Furthermore, the understanding that the Board of Regents obtained about IFAS at the University of Florida resulted in improved budgetary treatment.

#### Summary

In summary, these are three situation where crisis provided the opportunity to turn negatives into positives. The team involved in all three instances was prepared to manage the crisis rather than let the crisis manage them. The University was prepared to move swiftly, to fact find, dispel myths, respond and defend and even take the initiative to turn potentially negative situations into positive opportunities. The key to turning negative into positives during a crisis is to incorporate crisis planning into the overall strategic planning process and management scheme from the very beginning. Crisis planning helps reach programmatic goals because it helps organizations maintain perspective in a crisis and take advantage of strengths and anticipate developing situations, thereby recognizing crisis break points. Only by managing crises within a larger context of a strategic plan we can consistently turn the negatives into positives while maintaining program integrity.

## POTENTIAL FOR GRANT SUPPORT AT RESEARCH AND EDUCATION CENTERS

#### B. Merle Shepard Coastal Research and Education Center Charleston, SC 29414

It is clear that Federal funds for agricultural research are becoming tighter and more competitive. In addition, funding from states is not adequate to maintain the vigorous agricultural research programs that were enjoyed in the past. Daniel Koshland elaborating on this "funding crisis" in a recent issue of Science, pointed out that any nation that falls behind in research and development will certain fall behind in international competition. This is already happening in many areas of agricultural research in the U.S. Thus, it is imperative that ways be found to obtain outside funding. This paper attempts to point out some factors that may improve the chances for outside grant support for Research and Education Centers (RECs). The Unique Role of the Research and Education Centers:

The RECs occupy a unique position in the university system. Dr. Milton B. Wise, Vice President/Vice Provost for Agricultural and Natural Resources at Clemson University, elaborated on the role of RECs at the 1989 Research Center Administrators Society Meeting in Nashville. RECs are located closer to the clientele groups they serve. Thus scientists at the RECs are closer to the "real world" needs, and the mostly applied research conducted in these centers is more likely to address basic and relevant issues than that conducted on university campuses.

RECs are important politically and state support for certain programs is often directly tied to a research thrust at a REC. Scientists located on university campuses are more likely to be more deeply involved in their own discipline and may become very focused and introspective with respect to how their research fits into the larger picture of agricultural production. University faculty at RECs most often work in interdisciplinary teams. Field research is more easily carried out at RECs due to the availability of land and field equipment.

RECs located near USDA-ARS laboratories offer excellent opportunities for cooperative research and strengthens joint proposals for outside funding. The Coastal Research and Education Center at Charleston, SC, enjoys this association with U.S.D.A. Vegetable Laboratory. Scientists at these two facilities share equipment, land, and scientific expertise and form the scientific "critical mass" that enhances their respective research programs.

Industry and Private Support: A good example of the comparative advantages of RECs was illustrated when Clemson University's Edisto Research and Education Center, in a joint venture with Monsanto, carried out a unique project focusing on movements of a bio-engineered soil microorganism. This was the first study of its kind where scientists at the Edisto REC, along with those from the main campus and from Monsanto, carried out studies involving molecular biologists, agronomists, plant pathologist, and others. The team was coordinated by Dr. James Riley Hill, Edisto REC Resident Director. Available land resources, field isolation, and a multi-disciplinary team provided the ideal situation for conducting this research. The agricultural setting helped bring new biotech closer to the potential user (farmer) and close communication with farmers and the public helped to calm fears associated with field testing a bioengineered organism.

Industry support of research at most RECs traditionally has been strong. Because of the availability of land and field equipment, applied research dealing with testing new varieties, pest control strategies (including bio-engineered organizations), cultural practices, etc., are more appropriately addressed RECs located in environments near where farmers can readily use these results.

Industry is quick to recognize potential markets in areas where its products can be tested and utilized. Support for testing these products, often in the form of small grants, greatly assists the research effort and allows researchers to stay abreast of new innovations and products (such as bio-engineered Bacillus thuringiensis for insect control). Also, these grants help to shore up other long term projects.

Commodity groups and associations such as vegetable growers associations, Cotton Incorporated, the American Soybean Association, and others, frequently provide grants to REC scientists. For example, the Costal Research and Education Center at Charleston, SC, receives an annual Graduate Fellowship sponsored jointly by the Agricultural Society of SC and the U.S. Vegetable Laboratory. This Fellowship is awarded to students that conduct their research at the Coastal REC, and their program is jointly advised by scientists from the U.S. Vegetable Laboratory and the Coastal REC. This arrangement forges stronger bonds between the USDA and the Coastal REC.

Linkages with International Centers and Developing Country Programs: Former University of Illinois Chancellor John Cribbet stated in a major address that "the truly great universities of the twenty-first century will be international". RECs involvement in international agricultural programs should steadily increase with the demand for applied research in food production in developing countries. Developing countries are the fastest growing markets of our agricultural products and as developing countries improve their overall economic situation, they import more U.S. agricultural products. For example, Brazil's agricultural production increased 66% from the period 1970 to 1985. During this same period, Brazilian imports from the U.S. increased from \$77 million to \$465 million. Conversely, during the same period, agricultural production in Sri Lanka declined by 11% accompanied by a sharp decrease in agricultural imports from the U.S. These are not isolated examples; ten other developing countries with fast rates of growth in agricultural production increased their food imports by 68%, whereas ten developing countries with slow agricultural production growth rates increased imports by only 3%.

Improvement of our own crops is increased with access to germplasm near the origin of these crops, often in other countries. Involvement in international agriculture allows access to otherwise inaccessible crop and animal germplasm. There are many examples where this germplasm has played an important role in U.S. agriculture. Clemson University's Edisto Research and Education Center, screened soybean germplasm against disease and insects for two seasons per year by shuttling seeds back and forth between the U.S. and Brazil to take advantage of the opposite seasons. In addition, a model soybean integrated pest management program, developed and tested in Brazil, has been useful for improvement of our own soybean pest management program in South Carolina.

There are those that feel that we must keep agricultural technology at home. However, we cannot expect that we can keep technology from developing countries. They will obtain it - - if not from the U.S., then from other developed countries. Clearly, already we are lagging behind some other countries relative agricultural involvement production. in international to Dr. Duane Acker, of the USDA's Office of International Cooperation and Development (OICD) stated that the world's knowledge of agriculture is no longer concentrated in the U.S. Countries like Japan, Germany, U.K., and others have active international programs, particularly in developing countries. These programs make a good impression on the people and policy-makers in these countries.

Dr. Lawrence Apple, Director of International Programs at North Carolina State University is convinced that U.S. scientists working in international programs would be more aware of "reverse technology transfer". It is becoming disturbingly obvious that we must now acquire some of our technology from other countries...technology useful to our scientists, farmers, and citizens at home. Secretary of Agriculture Yeutter has recently began an initiative to look at how involvement by the USDA in international programs is benefiting the American RECs can play a vital role in this initiative by developing linkages farmer. with international agencies and joint research programs with scientists in REC scientists have much to offer and there are good developing countries. possibilities for joint projects between RECs and international centers, such as the 13 centers in the Consultative Group on International Agricultural Research (GGIAR). Having spent nearly five years at The International Rice Research Institute, I realize the potential for funding from agencies such as the Asian Development Bank, World Bank, Rockefeller Foundation, Interamerican Development Bank, etc. The USDA provides some funding through its OICD to stimulate interaction between scientists in the U.S. and those from developing countries. Competitive Grants:

The U.S. Department of Agriculture spent more than \$1 billion on research in fiscal 1990. But only about 4% (\$40 million) of this was distributed through competitive grants from the Competitive Research Grants Office (CRGO). The new National Research Initiative for 1991 has increased the CRGO's budget to \$73 million in the agriculture appropriations bill recently signed into law by President Bush. The CRGO office funds only about 25% of the proposals it receives. In short, although some additional monies are available through the CRGO, competition for these funds will continue to be keen vis a vis deminishing state appropriations.

Funding decisions for USDA competitive grants is based on peer review in a three step process

1. Ad hoc reviews

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2. Panel review

3. Program OfficerSelection of the ad hoc reviewer is based on their expertise in the proposed study. If the proposal survives the ad hoc reviewers, it is assigned to at least two panel reviewers. Finally, when the program officer feels that the panel has thoroughly reviewed the proposal, the program officer will review it. Usually the program officer follows the recommendations of the review panel.

The National Science Foundation, National Institute of Health, and others also provide funding for certain research. Most of the smaller foundations tie their support to specific research topics.

Irrespective of whether scientists are located at RECs or other locations, they must develop the skills for good grantsmanship. A later paper on the program will address this topic so my comments here will be brief. Here are a few items for consideration relative to proposal preparation:

- 1. Follow proposal guidelines closely
- 2. Present tight, clear, logical arguments use active voice
- 3. Edit carefully eliminate redundant, awkward or ambiguous language
- 4. Adhere to deadline
- 5. Prepare summary or abstract with particular care
- 6. List only your relevant or most recent publications (some NSF procedures ask for only five publications)
- 7. Strong proposals have a central focus with hypotheses that are not diluted will multiple secondary objectives.

In conclusion, there is no reason why scientists at RECs should feel that they are at a disadvantage relative to obtaining funding from outside sources. Contrarily, geographical locations and high caliber researchers at RECs within the respective states provides unique opportunities for obtaining outside funding.

## GRANTSMANSHIP AT RESEARCH CENTERS -- TEXAS

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I suspect that almost all research center administrators in the southern region are frustrated by the difference between what their center's scientists could do with sufficient resources and what they can do with their currently appropriated state and federal funds. We all know that the measured rate of return on investment in agricultural research is more than 30% per year. It seems clear to many of us that, with a little more funding, we could do even more to contribute to the economic development of our states. However, at our meeting last year in Little Rock, Rep. Robert Adley, Chairman of the Louisiana House Appropriations Committee, clearly pointed out the political realities that limit state funding for agricultural research. What, then, can we do to increase the quantity and quality of our research and better serve our constituents? In Texas, the answer has been to redouble our efforts to secure grants and contracts.

From 1988 to 1990, state and federal appropriations to the Texas Agricultural Experiment Station (TAES) increased from \$42.7 million to \$45.9 million. During the same period, TAES increased its grants and contracts from \$21.6 million to \$33.0 million. Thus, over the last three years, the increase in grants and contracts to TAES was over 3.5 times as great as the increase in state and federal appropriations. Taxpayers should be pleased that every dollar of appropriated funds now attracts 72 cents of grants and contracts to support agricultural research.

However, most of the increase in grants and contracts occurred in oncampus units. Grants to TAES off-campus centers were \$4.8 million in 1988, \$5.1 million in 1989, and \$4.9 million in 1990. In 1990, the 130 TAES-supported faculty at regional centers and stations attracted an average of \$37,800 in grants and contracts. In contrast, the 384 on-campus faculty averaged \$65,600 in grants and contracts, excluding those to the central administration.

TAES off-campus centers and stations vary in their grant and contract activities. In 1990 awards ranged from less than \$50,000 to almost \$900,000. As a percentage of other resources (appropriated funds plus sales), awards varied from less than 5% to over 80% of other resources, with six centers having percentages greater than 40%.

Many factors can limit the success of our efforts to increase grant and contract activities at research centers, including our ability to market our research, develop the needed research products, communicate with and serve the grantor, and motivate the scientist or research team. For the remainder of this paper, I will examine some of the ways that we, as research center administrators, can help our scientists succeed.

**Research Marketing.** As Don Poucher has pointed out in his address to this support for research products. Products come in forms such as knowledge, publications, software, and germplasm. Support may be political, financial, or in-kind. Research marketing involves activities that help match support with products. As administrators, we can help our faculty market their products by making them aware of potential supporters and helping them understand their needs. It is often necessary for the administrator to provide the security and encouragement necessary for the scientist to shift his emphasis or change his approach in order to become more competitive. Your most important role may be to assure the scientist that he has your support and confidence.

Administrators can help supporters by making initial contacts, providing information about possible research products, and encouraging communication. If the potential supporter is uneasy about establishing a new or expanded relationship, the center director may need to lend his personal support and prestige to the project.

**Product Development.** Sponsored research is often goal oriented. The supporter is usually interested in delivery of a specific research product. However, development of complex research products rarely proceeds according to plan. Unexpected problems and opportunities can occur, and an individual researcher may lose site of the sponsor's objectives. We can help scientists and research teams achieve their goals while satisfying their supporters. We can help negotiate grants and contracts that maximize progress toward longer term goals. We can link progress toward the sponsor's objectives with access to other resources. We must remember that in the long term our success depends upon delivery of products promised.

**Customer Service.** In a competitive market, the customer must be satisfied. Communication with research supporters is a key to maintaining long-term relationships. As research administrators, we can help maintain communication, participate in discussions and decisions, provide additional resources needed to achieve common objectives, and assure both the supporter and the scientist or team that the success of the project is an important factor in the center's management.

Faculty Support. Scientists, especially those who have had little success in attracting external support, may take the attitude that the center is obligated to provide resources sufficient to support their entire research program. However, as Representative Adley pointed out last year, "There are no free rides in government any more." It is important that we help our scientists accept that their success depends on developing a research clientele willing to help them execute their programs. Though motivational strategies may differ among individuals, many scientists respond well to personal assistance and attention from their immediate supervisor. A little extra time helping with a proposal or praising an effort can significantly increase a scientist's motivation. Teamwork. Development of research products often requires goal-oriented teamwork by a research group. Building and maintaining an effective team is not a trivial task, especially if members have different long-term interests. Research administrators can facilitate the teamwork needed to develop and deliver research products to supporters. We can help define the roles of team members, maintain a cooperative and collegial atmosphere, defuse friction, encourage integration of individual and team goals, and reward successful cooperation.

Finally, it is important to remember that grantsmanship is a highly uncertain way to support a research program. We must help individual scientists and teams maintain programmatic and psychological flexibility. Failure to receive a specific award must not be allowed to demoralize the individual or team, and every success must be rewarded and used to promote future achievement.

#### MARKETING YOUR RESEARCH CENTER\*

Donald W. Poucher Director, IFAS Information University of Florida Gainesville, FL 32611

Today, we shall attempt to define marketing, review different stages in the history of marketing, describe the role of marketing in modern society, and gain some insight into how marketing can assist us in our research organizations.

That marketing is selling and promotion is probably the most commonly held definition. Such is the basis for the view that marketers are no better than glorified salespeople. And to many, the word "salesperson" brings to mind such adjectives as sleazy, fast-talking, slick, perhaps even dishonest. We have all had our moments with salespeople and few of us are as quick-thinking as the young lady who had an encounter with a vacuum cleaner salesman. He knocked on her door and when she opened it, he dumped a bag of dirt on the carpet.

"Let me demonstrate my new Whizzo vacuum cleaner," he said. "If it doesn't clean every particle of the dirt from your carpet, I'll eat the dirt," he exclaimed.

"Will that be with ketchup or mustard," she asked? "The electricity has been off for an hour."

Unfortunately, many people view modern marketing in the same context as the vacuum cleaner salesman. So first, let us explode a myth.

While it may be true that in the late 1800's marketing was viewed as selling, marketing is far more complex today and embodies disciplines such as psychology, sociology, and statistics. Early marketing efforts were probably nothing more than a one column by one inch advertisement, for example, announcing a new shipment of Easter bonnets, of which a given dry goods store wanted to inform its patrons. In 1956, the former president and treasurer of R. H. Macy and Company, Oswald Knauth, defined marketing as "a system devised to ensure a constant flow of distribution equal to the flow of production" (1). By Knauth's definition then marketing's role was one of moving goods from the assembly line to the consumer. The role of the marketer was to sell what was produced.

However, times change. Where marketing was once production driven, it now drives production and manufacturing. By the 1970's, management experts were using such words as market diversification and segmentation, product niche, and market positioning. Peter Drucker wrote in 1973 that "the aim of marketing is to make selling superfluous" (2).

\*Keynote Presentation at Annual Banquet February 4, 1991.

Today, not only has marketing made hard selling unnecessary, it also determines in large part the supply side of the competitive business equation. Marketing helps us understand consumer behavior, translates that behavior through market scenarios into demand models based on price elasticity and company profit goals, projects production schedules, directs product packaging, devises promotion strategies, selects distribution channels to the point of constructing delivery systems if need be, and finally offers the product to the public through point-of-purchase merchandising. Instead of selling what we produce, marketing allows us to produce only what we know we can sell.

Marketing will also largely determine a company's long term debt structure since a marketing plan will outline volume and frequency of capital needs based on costs of production, sales, and distribution. The marketing plan becomes a critical part of a company's business plan because of its role in projecting short-term cash flow needs, long-term capital needs for plant retooling and how the company can best structure its short and long term debt to achieve desired levels of profit. In defining marketing, services as well as products should be included as society becomes as much service oriented as it is product oriented.

Kotler and Fox, in a recent text on institutional marketing define marketing as a concept of exchange (3). Through exchanges, we obtain the products, services, and rewards we demand. Both buyers and sellers agree to the exchanges and both see themselves better off after the exchange.

Understanding, planning, and managing the exchanges becomes the role, then, for the professional marketer. The definition offered by Kotler and Fox is as follows:

Marketing is the analysis, planning, implementation and control of carefully formulated programs designed to bring about voluntary exchanges of values with target markets to achieve objectives...using effective pricing, communication, and distribution to inform, motivate, and service the markets (3).

Included in this definition are seven important points (3).

- 1. A managerial process involving analysis, planning, implementation and control.
- 2. Carefully formulated programs.
- 3. Voluntary exchanges of values.
- 4. Target markets rather than being all things to all people.
- 5. Success depends on how well we serve our market.
- 6. Success depends on how accurately we determine market needs and desires.
- 7. The process utilizes the set of tools called the marketing mix...design, pricing, communication, and distribution...all blended into a marketing plan.

In review then, we have said that marketing is much more than selling and promotion. Marketing also includes needs assessment, market research, product development, pricing, and distribution. Marketing makes selling secondary to tailoring a product or service to the needs and demands of specific segments of consumers and in so doing, provides a means for exchange.

Some of you may now be thinking that all of this is just so much hocus I would answer your skepticism with a few examples of marketing pocus. successes. When you realize how much non-price competition actually exists in today's world, you begin to understand the role of marketing, as it differentiates between products, which in terms of price and quality, are pretty much equal. However, the products' packaging, the sizzle involved in selling them, and the overall perception in the mind of the consumer are used to help that consumer make a choice for product A as opposed to product B. A hamburger is a hamburger is a hamburger. Right? Wrong! Some of us would prefer the best burger we can buy named after some guy's daughter. Others, would let McDonald's do it all for us and enjoy the food, folks, and fun. What a success story. While we believed McDonald's did it all for us, we were choosing our food from a limited menu, busing our own trays, and eating out of paper sacks or cardboard and sitting on hard seats.

When we buy a Pontiac, we do not buy a car, we buy excitement. We do not buy a Pepsi Cola, we buy " the right one baby, uh huh. "Those of you who still smoke were once drawn to Marlboro Country. Ask a dental assistant what he or she thinks of Marlboro Country when they clean a smoker's teeth and they'll probably reply a "dirty mouth". AT & T convinced us that the more we talk the better they sound. And recently, the marketing involved in the Alar scare in apples...the selection of Meryl Streep as the spokesperson, the timing, the message, the play on the "C" word...the elements of a cleverly developed marketing plan were so well orchestrated it makes the Allied assault on Iraq seem like a walk in the park. On the other hand, we can recall some dismal marketing failures. The Edsel...New Coke...examples of marketing plans gone sour. Western Union, twice in its history, had the opportunity to dominate the telecommunications industry. However, its marketing people failed to realize that the telephone would replace the wireless and that the facsimile machine would replace telex. That marketing can fail, however, should not deter us from honing our skills as interpreters of the marketplace to take full advantage of demands and needs. Marketing is assessing, researching, developing, pricing, promoting, and distributing. Marketing makes it all work together, to effect an exchange. In the final analysis, everyone benefits. Turning our attention to our efforts to market our research unit...we are similar to industry in many ways. Industry is market driven...so are we..through our programs designed to serve our various clientele groups. Final products (educational programs) must help people. And the technology on which these programs are based must continue to be updated and improved. Thus, as industry, we have a product research and development component. As industry, we have a delivery system to distribute the product to the consumers. Our delivery system exists in two forms...resident instruction and extension. As industry, we must have resources to conduct programs. No question, to assure success, our products (programs), as industry, must, fulfill needs. But unlike industry, those individuals who make decisions about our resources do not always directly receive benefit of our programs.

First and foremost, we must serve the food and agricultural and natural resources clienteles. In some cases, the people we serve also provide direct resource support in the form of research grants. But most do not. We serve undergraduate and graduate students. We also serve the general public...urban and rural, farm and non-farm, industry and non-industry in areas where our technology base is applicable. We serve regulatory agencies. Here again, in some instances individuals and groups provide direct resource support in the form of research grants. But most do not.

The largest level of our support is provided from other groups---state legislatures, the Congress. Therefore, the relationship between products provided and resources received...our exchange...is not always a direct one. We cannot always expect to be guaranteed a unit of resource for a unit of product. Hence, the need exists for a more complex marketing plan than would normally be the case. The marketing involved in our research and education programs is not a direct exchange. Our clientele...our consumers...do not always directly provide the needed resources which enable us to produce the services they require. Most of resources we require...our half of the exchange...come from elected officials, acting on behalf of our consumers or clientele. If our clientele speak well of our programs, if they demand those programs, and if those elected officials are aware of those programs and the organization providing the programs, the exchange will occur. Clientele satisfaction will trigger an indirect exchange through the system and we will receive the needed resources to continue the programs. So, on one hand, we conduct our programs for our If those programs are properly developed and fulfill needs, the clientele. clientele will demand more programs and will, in turn, indirectly trigger needed resources provided from elected officials. Given the strategy to be employed, we must then think in terms of how we implement that strategy. We must consider market segmentation and positioning, and diversity in communication. Positioning depends on market or audience segmentation. Hence, we must constantly remember the audience for which we've designed the specific product(program). Only then can we position ourselves within a given market segment as a provider of a product. We are talking about appeal and perception. The niche we want a given homogenous group to perceive us to occupy determine show we appeal to that group to "buy" or use our product. We are thus able to position ourselves within a given market.

How do we position ourselves among all our diverse clientele? The problem becomes one of developing a position statement that will "work" with all the clientele. With the help of research we can understand how we are perceived by our different clientele. We can quantify the perception, and ultimately verbalize it. Three years ago, the Florida legislature directed that the food and agricultural structure at the University of Florida...known as IFAS, the Institute of Food and Agricultural Sciences...that the IFAS structure should be studied to determine if we were indeed serving our clientele. Part of that study process involved a series of public meetings throughout the state where clientele presented testimony about IFAS. The testimony was overwhelmingly supportive. In reviewing comments, we kept hearing some key words that describe IFAS from the perspective of those presenting testimony. Our key words included problem solving, serving Florida, finding answers, application of science and developing solutions. In the final analysis, a positioning statement emerged

and is common to the groups from whom we heard, as follows: "UF/IFAS: Science in Service for Florida".

We can have the best programs available, developed through the most sound and sophisticated research and development effort. But, unless we are recognized by the necessary groups we need to influence to attract resources, our programs will not be successful. In informing our clientele, we make communication work for us in several ways. First, we expose clientele to programs designed to satisfy their needs. In addition, communication provides a tool for us to help clientele recognize they have a need for a given program. Therefore, communications is working for us in educational marketing much the same way as advertising and promotion works for industry. In both cases, we are helping clientele understand their needs and further, how to satisfy those needs. However, we must not lose sight of the fact that the form of communication we select must be consistent with the characteristics of the clientele we wish to reach.

Many believe we are now in the eye of the information age with changing new tools of new technologies. The microprocessor, as the agent of change, drives new ways of communicating with our clientele.

We can no longer speak of tools for mass communications. We must employ tools for reaching a mosaic society. As we march towards the end of this century, married couples will lose their position as dominant households. Asians will out number Jews by two to one. Hispanics will lead blacks as the largest U.S. minority. Baby boomers will still control consumer markets for awhile vet but, the diversification creates all sorts of implications for the communications We must be aware that in an information age, clientele are demanding process. precise information at a drop of a hat. Information is substituted for time, labor and energy in the production of goods and services. Microprocessors enable us to customize information and produce specialized information packages for specific segments of society just as easily as the assembly line allowed us to produce identical units of a product or service for the mass audience. How we deliver those information packages, our communications tools, are also proliferating as FAX, E-Mail, CD-ROM, and still video become major avenues of communications. In the future, personal data services will be the rule rather than the exception as consumers learn to effectively control the external media competition for their attention.

An important reality of the information age must be recognized for the implications for research administration. In the information age, the consumer, or client, is king or queen. The product of research is information and technology. To fulfill clientele needs, the information and technology must be timely and accurate, and in a useful form. Since there is little product loyalty in an information age, unless our work is relevant to clientele needs, we can expect to experience clientele defections to other information sources. Therefore, clientele needs fulfillment must play a major role in faculty tenure and promotion considerations if our research center remains a relevant information age unit.

Without the recognition of the need for market segmentation, positioning, and mosaic patterns in communication, we will accomplish little more than to spin our wheels when it comes to attracting resources. We will only by chance utilize the proper message and media. And when we cannot depend on receiving a resource unit for a product unit provided, it is a chance we cannot afford to take.

Another aspect of a marketing plan needs to be addressed...the need for identity with all of our clientele. Identify is more pressing today than ever before...particularly as traditional audiences lose political clout. As non-traditional audiences become politically invested, we are faced with continually educating elected leaders about our programs and activities, and, in the face of increased competition for finite resources, persuading them to continue to provide the level of support necessary to accomplish our program goals.

Marketing enables us to keep in touch with a fluid society. Judith Walter, research editor of American Demographics pointed out in a recent article (4) that in 2010,the generation born after earth day, 1970, will be in control of the country. Nearly all 21st Century Americans will embrace environmentalism due to legislated so called "green products" (4). The future will bring about strict laws governing recycling, packaging standards, and waste disposal.

The changing countryside will be even more apparent as populations and jobs continue to move out of central cities. Traditional populations centers will continue to erode as shifting populations and demographics will generate changing demands. Utilizing marketing principles as part of the planning process can help us understand the change that is taking place and accommodate the needs of our clientele.

In summary, we have defined marketing as an exchange from which both parties benefit. We have discussed marketing strategy in terms of direct and indirect exchanges and how marketing can keep us attuned to the needs of clientele.

Marketing educational programs is as critical to the success of our overall effort as the quality of the programs. Marketing takes the mystery out of the educational plan and enables us to assess needs, develop effective strategy, design and deliver programs, and succeed as viable research units in an information age.

- 1. Knauth, Oswald: Business Practices, Trade Position, and Competition (New York: Columbia University Press, 1956), pp. 127-137.
- 2. Drucker, Peter F.: Management: Tasks, Responsibilities, Practices (New York: Harpers & Row), pp. 64-65.
- 3. Kotler, Philip and Fox, Karen F. A: Strategic Marketing for Educational Institutions (Englewood Cliff, New Jersey: Prentice-Hall, Inc., 1985), pp. 7-8.
- 4. Walter, Judith: "You'll know its the 21st Century when...; American Demographics, December, 1990; pp. 23-27.

## **RCAS Executive Committee Meeting Minutes**

by James Riley Hill, Jr., Secretary Little Rock, AR February 4, 1990

RCAS members attending were:

David V. Calvert	-	Florida	Dennis Onks	-	Tennessee
Will Waters	-	Florida	T. D. Evrard	-	Arkansas
Ben U. Kittrell	-	South Carolina	H. P. "Sonny" Viator		Louisiana
James Riley Hill, Jr.	-	South Carolina	Jere McBride	-	Louisiana
Carl Tart	-	North Carolina	A. M. Schubert		Texas
R. L. (Bob) Horsburg	-	Virginia	Howard Malstrom	-	Texas
J. A. Pitts	-	Alabama	Thomas E. Fisher	-	Missouri
F. T. Withers, Jr.	-	Mississippi	Edward Worley	-	Georgia
Robert D. Freeland	-	Tennessee	William C. Loe		Arkansas
Joe W. High, Jr.	-	Tennessee	Bill Webb	-	0k1ahoma

Meeting was called to order by Howard Malstrom (TX).

Norman Justus (MO) introduced Thomas E. "Jake" Fischer new State Director from Missouri.

Secretary James Riley Hill (SC) passed out copies and read the minutes of the 1989 Executive Committee meeting held at Clemson, SC.

David Calvert (FL) moved that the minutes of the 1989 Executive Committee meeting be approved as read. Motion passed.

Ed Worley (GA) discussed several program changes.

President Bill Loe (AR) reported on plans for the tour. Those desiring to tour the Antique Car Museum will need to pay \$4.00 at the door as this was not included in the registration cost. After discussing the number of persons registered it was decided to request a second bus. (Total of two).

Secretary James Riley Hill (SC) handed out a list of members to each state director and asked that these be corrected and returned to him.

Chairman Howard Malstrom (TX) thanked Drs. Bill Loe (AR) and Tom Evrard (AR) for the excellent local arrangements that had been made for the Annual Meeting.

Chairman Malstrom (TX) discussed the Published Proceedings. The cost of preparing these will be about \$1000.

Secretary James Riley Hill (SC) suggested that the minutes be published in the Proceedings. These should be published annually.

Mike Schubert (TX) suggested that a list of officers and committee members and committee reports also be published in the Proceedings.

David Calvert (FL) stated that he had given copies of the Proceedings to the deans in Florida and that they were well received.

A discussion was held on whether or not to include the financial report in the Proceedings. Subsequently, Joe High (TN) suggested that a committee be appointed to decide on what should go into the Proceedings. Will Waters (FL) discussed plans for the 1990 Executive Committee Meeting scheduled to be held in Florida beginning on Sept. 25, 1990. The date for the meeting was a concern for some representatives. There are problems in getting the program to the SAAS office by the deadline. Some wanted to move the meeting into October but this would further reduce the time available to get the program into SAAS therefore, the meeting in Florida will remain as scheduled.

Will Waters requested that all members bring suggestions for one speaker and one good program topic to the Florida meeting. Some topics should become apparent after evaluation of the questionnaire.

The length of the tour to be held in conjunction with the Executive Committee meeting in Florida was discussed. The consensus that we should have a one day tour but the host should provide information on optional tours that individuals could take on their own.

Will Waters stated that the Bradenton-Sarasota Airport was the best one to use by those planning to fly.

## Committee Reports and Discussions

I. <u>Sustaining membership</u> report was given by Jere McBride (LA). ICI will give the society \$1000 for this meeting.

The committee recommends that the society accept sustaining memberships and that each state try to get \$250 per year. This would allow the society to sponsor some major events.

Will Waters (FL) suggested that the amount be \$500 rather than \$250. Many of those present thought that it would be better to have more companies involved rather than have a high amount and a few companies. Also, it was suggested that company representatives be invited to our meeting. We need to involve industry people.

Jere McBride (LA) stated that we need a list of companies that would be potential sustaining members.

Robert Freeland (TN) pointed out that we should have specific projects for companies to sponsor. It is important that we have a list so we do not go to the same company more than once.

Will Waters asked if the By-Laws would have to be changed to allow for sustaining members.

Jere McBride responded that he thought the By-Laws would need to be changed and that he would look into what would need to be done to change the By-Laws. Other suggestions regarding Sustaining Membership were as follows:

Appoint a committee to work on special events which we want to sponsor. Examples mentioned were special speakers, tours and scholarships. Will Waters pointed out the need for a list of requirements for Sustaining Membership. Joe High stated that we need to pay our own expenses but we could use these for special events. Will Waters suggested looking at procedures used by the other societies who have Sustaining Memberships.

F. T. Withers (MS) proposed that a sustaining member commit support for a specific number of years and assure them of recognition.

Executive Committee Chairman Malstrom appointed the following committee to study the sustaining membership issue. Joe High (TN), Chairman, Jere McBride (LA) and Mike Schubert (TX).

#### II. <u>Committee on Questionnaire</u> sent to membership

Report was given by Jere McBride. Sixty-six responses were received. These indicate lots of interest in the Society. One hundred seventy eight (178) questionnaires were sent out. A detailed report will be given at the regular business meeting. One point of interest was that 50 of the 66 respondents thought that the proceedings should be continued. Only 2 responded that the proceedings should not be published.

## III. Committee on Secretary/Treasurer situation

The committee recommends that the society establish an Executive Secretary/Treasurer position for a person to serve 3 to 5 years. The person in this position should have served as President of the Society. The committee further recommends that a committee be appointed to identify a person for the job and determine what changes are needed in the By-Laws. By-Laws could be changed in the fall of 1990 if a person could be identified to take the job for 3 to 5 years. Five years should be the maximum tenure. Current Committee members are: Will Waters (FL), Jere McBride (LA) and Ed Worley (GA).

New Committee to identify an individual for the job and to draft changes to the By-Laws are: James Riley Hill (SC), Chairman; Ed Worley (GA); and Bill Loe (AR).

#### IV. Nominating Committee

Nominating Committee for 1990-91 consisted of three most recent Past Presidents, Bill Loe, Howard Malstrom and Jere McBride. The committee is responsible for contacting those suggested for an office and ask for a five year commitment from a person who will be willing to be Chairman and Chairman of the Executive Committee.

Joe Musick (LA) was nominated for Secretary/Treasurer. Sonny Viator (LA) moved that the nominations be closed. Joe Musick will be the person nominated for the job of Secretary/Treasurer.

V. Awards Committee

A new awards committee was appointed as follows: Bill Webb (OK) Chairman; Ben Kittrell (SC); Tom Evrard (AR) This committee will report at the September meeting in Florida

Robert Freeland requested that members let Bill Loe know about retiring members in their states.

Robert Horsburgh (VA) reported that a new group was being formed in the Northeast region for administrators of small stations which will focus on how to deal with day to day operations. Will this be in competition with RCAS?

Jere McBride stated that the questionnaire revealed that some members would like for RCAS to meet at a time that will not conflict with SAAS.

#### **Registration with SAAS**

Will Waters urged members to register with SAAS. Our members need to pay \$11 registration to SAAS. James Riley Hill, secretary, stated that we should include the \$11 for SAAS in our pre-registration.

The new secretary should work with SAAS to work this out. A motion was made by Bill Webb (OK) and seconded by Ben Kittrell (SC) to include the SAAS registration fee with RCAS registration. Motion passed unanimously.

Chairman Malstrom announced that job descriptions for the offices should be given to Bill Loe who will try to consolidate them into one document.

An announcement was made that the program should be corrected to show that Bill Loe will preside at the Annual Business Meeting on Tuesday.

The secretary was requested to obtain FAX numbers of the members and add this to the directory information.

List of executive committee members present is attached.

Meeting adjourned.

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James Riley Hill, Jr. Secretary

#### Annual Business Meeting Research Centers Administrators Society Little Rock, AR February 6, 1990

The meeting was called to order by President Bill Loe (AR) at 10:15 a.m. on February 6, 1990.

President Loe thanked all who helped with or participated in the program.

Secretary James Riley Hill, Jr. (SC) read the minutes of the 1989 annual meeting. These were accepted as read. Secretary James Riley Hill (SC) reported that 77 persons registered and 75 banquet tickets were sold.

Howard Malstrom (TX) gave the Nominating Committee Report. The following slate of officers was nominated.

Ed Worley	(GA)	Chairman
Will Waters	(FL)	First Vice President
James Riley Hill	(SC)	Second Vice President
Joe Musick	(LA)	Secretary/Treasurer

Motion to accept the nominations was made by James Dobson (GA). Motion seconded/passed.

President Loe thanked South Carolina for hosting the 1989 Fall Executive Committee meeting and announced that the 1990 Fall Executive Committee meeting will be in Florida on September 25, 1990 in Bradenton, Florida. A tour will be held on the following day.

President Loe announced that the 1991 SAAS meetings and the annual meeting of RCAS will be in Forth Worth, TX.

Jere McBride (LA) reported that the Executive Committee is studying the questions of sustaining memberships and the need for an Executive Secretary.

Bill Webb (OK) recognized retiring member Norman Justus and thanked him for his contribution to the Society.

Will Waters (FL) thanked Ed Worley for the excellent program and Bill Loe and others from Arkansas who arranged for tours and banquet. The local arrangements were excellent.

Secretary Hill requested that a list of new state representatives be provided to the incoming Secretary.

Meeting adjourned. Submitted by James Riley Hill, Jr., Secretary

## Addendum to Minutes of Annual Meeting of Research Centers Administrators Society Little Rock, AR February 6, 1990

The members of RCAS toured The Heifer Project International Learning and Livestock Center, Perryville, Arkansas and Winrock International Institute for Agriculture, Morrilton, AR. At the conclusion of the tour, the Annual Banquet was held at Winrock International.

Following the meal, a short awards ceremony was held. Dr. Bill Webb (OK) and Mr. Wallace A. Griffey were presented plaques recognizing them for Distinguished Service to the Research Centers Administrators Society.

President Bill Loe presided.

## RCAS Executive Committee Meeting Minutes

by Joe Musick, Secretary Bradenton, FL September 25, 1990

The Executive Committee of the Research Center Administrators Society met at the Gulf Coast Research and Extension Center, Bradenton, FL. Station Director, Will Waters was host of the meeting.

Committee Members attending were:

Ed Worley	-	Georgia	Jim Pitts	-	Alabama
Jim Dobson	-	Georgia	Tom Evrard	-	Arkansas
Bill Loe	-	Arkansas	Bill Webb	-	0k1ahoma
Ron Robbins		Louisiana	Carl Tart, Jr.	-	North Carolina
Howard Malstrom	-	Texas	Jere McBride	-	Louisiana
Mike Schubert	-	Texas	David Calvert	-	Florida
Bob Horsburgh	-	Virginia	F. T. Withers, Jr.	-	Mississippi
Ben Kittrell	-	South Carolina	Jake Fisher	-	Missouri
Dennis Onks	-	Tennessee	James Riley Hill, Jr.	-	South Carolina
Joe High, Jr.	-	Tennessee	Will Waters	-	Florida
• •			Joe Musick	-	Louisiana

- 1. Chairman Loe opened the meeting promptly at 8:00 a.m.
- 2. Will Waters welcomed the Group to the Gulf Coast Research and Extension Center and briefed the group on planned activities for the meeting.
- 3. Chairman Loe reviewed the agenda and stated the purpose of the meeting.
- 4. Chairman Loe opened the meeting for discussion of program topics and type of program for the February meeting at Ft. Worth, Texas.
- 5. The Local Arrangements Committee Meeting Report (Ft. Worth), was presented by Mike Schubert. The Group discussed local arrangements and requested a large meeting room.
- 6. Minutes of the previous Executive Committee Meeting were distributed action delayed.
- 7. James Riley Hill presented the Secretary/Treasurer Report (attached). A motion to approve the report was made by Bill Webb and seconded by Joe High. The motion passed unanimously.
- 8. Bill Webb presented a report of the Historical Data Committee. Webb indicated that limited data was available and requested that members provide any historical information to the Committee. No action was taken.
- 9. Howard Malstrom reported on the Proceedings and discussed the distribution of copies. Malstrom also covered the results of the recent survey. No action as taken.

Minutes of the Executive Committee Page 2

- 10. Mike Schubert gave an updated report on local arrangements for the meeting in Ft. Worth, Texas.
  - a. Concern was expressed about the size of the room designated.
  - b. President Ed Worley was asked to contact S.A.A.S. to obtain a larger meeting room.
- 11. Joe High presented the Membership Committee Report<sup>1</sup>. After some discussion a consensus was reached. The Group recommended the following:
  - a. Appoint a committee to determine appropriate use of funds provided by sustainable members.
  - b. Assign a committee to record and recognize sustainable memberships.
  - c. Appoint a committee to establish dues for sustainable memberships.

James Riley Hill moved that the Executive Committee recommend to the membership the adoption of sustainable memberships and the appropriate change in the by-laws to accommodate sustainable memberships at the February meeting. The motion was seconded by Jim Dobson and carried.

Jere McBride agreed to present the proposal at the February business meeting of R.C.A.S.

- 12. David Calvert moved that a membership fee be established and any necessary amendments to the by-laws be proposed to R.C.A.S. James Riley Hill seconded, the motion carried.
- 13. James Riley Hill moved that the initial membership fee be established as \$10.00 (ten dollars) per annum. Dennis Onks seconded, the motion carried.
- 14. W. C. Loe reported that the nomination committee would recommend per the normal progression at the February meeting. No action was taken.
- 15. Joe Musick reported for the Secretary/Treasurers Committee. The Committee recommended that the society adopt a three year term for Secretary/Treasurer to be appointed by the President. The Committee further recommended that Jere McBride be the first appointed Secretary/Treasurer. A motion that the committee report be adopted was made by Joe Musick, seconded by Will Waters. The motion carried.
- 16. Chairman Loe discussed the suggested changes in the name of the organization R.C.A.S. versus substitutes. Tom Evrard moved that the name remain as is. David Calvert seconded, the motion carried.

<sup>1</sup>Report included at end of minutes.

Minutes of the Executive Committee Page 3

- 17. Bill Webb reported for the Recognition Committee<sup>1/</sup>. Nominations for recognition were:
  - 1. Norman Justus
  - 2. Jere McBride
  - 3. Carl Tart

By written ballot Norman Justus was selected for recognition by R.C.A.S.

18. Location for the 1991 meeting of the Executive Committee was discussed. Suggestions were:

North Carolina - 1991 Tennessee - 1992 Richmond, Virginia - 1993

A motion was made by Dennis Onks that the Executive Committee meet at Ashville, NC on September 24 & 25, 1991 and seconded by Carl Tart. The motion carried.

- 19. Chairman Loe appointed a Committee to define the Purposes and Objectives of R.C.A.S. The members appointed were: Mike Schubert, Chairman; Joe Musick and Ed Worley.
- 20. Chairman Loe appointed Dennis Onks, Chairman and Jere McBride members of the Committee on Incorporation of R.C.A.S.
- 21. Will Waters moved that the minutes of the previous Executive Committee Meeting be accepted. Ed Worley seconded, the motion carried.
- 22. Chairman Loe adjourned the meeting.

 $1^{\prime}$ Report included at end of minutes.

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#### MEMORANDUM

TO : Members of RCAS Executive Committee

FROM : Joe High, Chairman

DATE : September 20, 1990

SUBJECT: Report of Sustaining Membership Committee

A memorandum was sent to all state representatives in August asking them to contact their state members with regard to the following questions.

- 1. Should the society have sustaining memberships?
- 2. To be a sustaining member, what is the minimum contribution required of a company? Also, what is the minimum required of society members that might want to be a sustaining member?
- 3. Please suggest activities that would be an enticement to prospective contributors such as special speakers, tours, banquets, etc.
- 4. Give any other suggestions you may have in regard to sustaining membership.

There were responses from six states. About fifty percent (50%) of the members said "Yes" to sustaining membership. About fifty percent (50%) said that they would go along with the wishes of the executive committee, or, had no opinion. One member responded "No" to sustaining membership.

Suggestions regarding minimum contributions by a company range from \$100 to \$1,000 with most in the range of \$300 to \$500. For society members, the minimum suggested was from \$100 to \$300.

Suggestions for activities range from up-to-date mailing lists to special speakers, banquets, tours, etc. No type of special event was mentioned.

As for suggestions concerning sustaining members, there were two. One was that there should be a permanent committee to promote sustaining membership, to give them recognition, and to keep an active file of all members. One member suggested that we have sustaining membership only if it is needed to maintain the quality of our program. This seems to be a consensus of many of the members.

#### **RESEARCH CENTER ADMINISTRATORS SOCIETY**

#### Recognition Committee Report September 25, 1990 Bradenton, Florida

The Recognition Committee invited each RCAS State Representative to enlist their membership to assist in identifying individuals who have made a significant contribution to the Society and who should be appropriately recognized by the Society. The committee received three nominations for individuals who have certainly made very significant contributions to RCAS.

Nominations were received for the following individuals:

Dr. Norman Justus - Missouri
Dr. Jere McBride - Louisiana
Mr. Carl Tart - North Carolina

The nominations and letters of support for each individual are attached.

The Recognition Committee has evaluated each nomination and ranked as listed above. The committee proposes that the RCAS Executive Committee consider recognizing at least two individuals at the 1991 annual meeting.

The Recognition Committee appreciates the opportunity to serve the RCAS in this assignment and congratulates the membership in their efforts to appropriately recognize outstanding leadership. The committee was pleased to have received nominations for these quality individuals and present them to the Executive Committee for further consideration.

Recognition Committee:

Tom Evrard Ben Kittrell Bill Webb, Chairman

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Past Recipients of the SPECIAL APPRECIATION AWARD for service, leadership, and outstanding contributions to RCAS over an extended period of time.

## Year Awarded

## Recipient

1987	•	•	•	•			•	•	•	•	John Ewing
1988	•	•	•	•		•	•	•	•	•	Robert "Bobby" Moss
1989		•	•	•	•	•		•	•	•	Joe High, Jr.
1990	•	•	•	•		•	•		•	•	Wallace Griffey and Bill Webb
1991	•	•	•	•	•	•	•	•	•	•	Norman Justus

# PAST CHAIRMEN, RCAS

# Years

## <u>Chairman</u>

1969	-	1970	•				•					Robert Moss
1970	-	1971										Preston Reed
1971		1972			•							Charles Douglas
1972	_	1973						-				Charles Douglas
1973	-	1974						-			ļ	D. M. Gosset
1974	_	1975	-	-			-	-		-		Henry Marshall
1975	-	1976				Ī	Ī		Ī	Ī		Tom Corley
1976	_	1977	-	•	•		•			•	•	H Rouse Caffey
1977	-	1078	•	•	•	•	•	•	•	•	•	F G Morrison
1078	_	1070	•	•	•	•	•	•	•	•	•	Pohert Moss
1970	_	1980	•	•	•	•	•	•	•	•	•	Joe High Jr
1080	_	1001	•	•	•	•	•	•	•	•	•	Julian Chaigmilos
1001	_	1002	•	•	•	•	•	•	•	•	•	Enoddy Botomoon
1002	-	1902	•	•	•	•	•	•	•	•	•	Vallage Crifford
1902	-	1983	٠	•	•	•	•	•	•	•	•	Wallace Griffey
1983	-	1984	٠	٠	٠	٠	٠	٠	•	٠	٠	B111 Webb
1984	-	1985	•	•	•	•	•	٠	٠	•	•	Gary Elmstrom
1985	-	1986	•	•	٠	•	•	٠	•	•	•	Norman Justus
1986	-	1987	•	•	•	•	•	٠	•	•	•	Robert Freeland
1987	-	1988	•	•	•	•	•	•	•	•		Jere McBride
1988	-	1989	•	•	•	•	•	•	•	•	•	Howard Malstrom
1989		1990	•	•		•	•	•	•	•		Bill Loe
1990	-	1991	•	•	•	•	•	٠	•		•	Edward Worley
1991	-	1992	•	•	•	•	•	•	•	•	•	Will Waters