

INTERNAL ISSUES: RESEARCH ISSUES

*“You cannot step twice in the same river,
for other waters are continually flowing in.” Heraclites*

To understand today’s research issues in the Southeast Research and Extension Center (SREC); it is helpful to understand how research appointments have changed. SREC’s current structure for research has evolved and continues to evolve through a series of dialogues and experimentations with various models. While some forms of research no longer exist, others have become stronger and new opportunities have opened doors to new partnerships. Building on these changes we can create a very flexible and invigorating approach to research serving southeast Nebraska. Throughout, the goal has been, and continues to be, to develop and support research that will best benefit SREC clientele. The focus is to foster interaction among clientele, SREC educators, researchers and specialists at all stages of the process from the needs identification, through the research project and finally the delivery of the educational program.

Research related to SREC was a topic of discussion in the 1987, 1994 and 2000 Reviews. The 2006 District review provides an exciting opportunity to formally evaluate the current situation and plan for the future. This section provides a historical overview about the philosophy that created the R & E center concept which is unique in Extension nationwide. It also outlines issues from past reviews. Following the overview is a discussion of the current SREC research situation, emerging trends and a discussion of implications for Extension.

Historical Overview

The University of Nebraska–Lincoln is the land-grant institution in Nebraska and the Institute of Agriculture and Natural Resources is that portion of the institution with the mission of teaching, research and extension. One way the University differs from some other land-grant universities is in our system of research and extension centers which are an integral part of the University and IANR (Shelton, D., 1990).

Each research and extension center was established in a slightly different manner. In 1904, a University substation was established in North Platte in response to a legislative resolution for a facility west of the 100th meridian. In 1909, a forerunner of the Panhandle Center was established in response to another legislative resolution for a facility west of the 102nd meridian. The Northeast facility was established next in 1956 as a response to local clientele, and with their support through a fund drive and a donated farm. The last two centers (South Central and Southeast) resulted from Cooperative Extension’s reorganization plan in 1967 which divided the state into five cooperative extension districts (Shelton, D., 1990).

In 1967 the District supervisors were moved from the central office on the Lincoln campus to offices in the Districts. Their titles were changed from District supervisors to District Directors. In 1970 the District director for southeast Nebraska moved to a designated District office located in Miller Hall. The reason for the District director of southeast Nebraska remaining on campus was that Lincoln is the geographic center of the District (Shelton, D., 1990).

In 1984, all the names were changed to Research and Extension Center to better describe the function and activities (1987 SREC Review).

The overall role and mission of the research and extension centers is to enhance the profitability and quality of life for Nebraska's citizens by conducting research relevant to the geographic area of the center and disseminating the results of research and other appropriate information through an effective extension delivery system. Since 1990 a common appointment for center-based faculty is a joint 50 percent research and 50 percent extension appointment. Most faculty feel the joint appointment is an excellent arrangement because research results can be immediately incorporated into extension programs and extension programs help to identify potential areas of research (Shelton, D., 1990).

The day to day activities, budgeting, and facilities for the programs at the Centers are managed by the District directors, at times in consultation with the department heads. Faculty evaluation, salary determination, and professional development matters are all conducted jointly by the center director and the department head. One reason this concept works quite effectively is that the center directors are considered to be administratively equivalent to department heads, with both being referred to as unit administrators. However, it does mean center faculty have two immediate supervisors (Shelton, D., 1990).

In Nebraska, distinct lines do not separate extension and research activities as is often the case in other institutions. This system offers a number of advantages such as:

- Research results are immediately incorporated into extension programs, and extension questions or problems often provide the basis for new research projects.
- Specialists provide leadership for research and monitor research at all levels.
- Educators communicate research needs to specialists and partner with them on projects.
- Interdisciplinary programs and research occur when faculty from different disciplines are located together or work together regularly.
- Faculty located in a certain geographical area can target local issues and concerns, both in research and extension programs and the two complement each other.

In 1970 the first two specialists were added to the SREC District. By the end of 1972, five District specialist faculty included the disciplines of farm management, soils, urban youth, horticulture and animal science. All specialist positions were 100% extension appointments. Later the horticulture position became a 75% extension and 25% research split appointment. Because of budget cuts in 1983, the 25% research component became part of the Horticulture Department. In 1985, Mussehl Hall was designated as the permanent site of the Southeast Research and Extension Center. All faculty with 100% FTE in SREC were to be housed in Mussehl Hall. Extension specialists with partial appointments were housed in their subject matter departments on campus (1987 Review Document).

1987 SREC Review Team Report For the 1987 Review SREC had 10.75 FTE center faculty positions.

- 100% FTE positions included: farm management, soils, 4-H and youth, forestry (3 people), community resource development and farm business (2 people). All positions were housed in Mussehl Hall.
- Partial appointments represented horticulture (75%), animal science (2 positions 35% and 25%), entomology (50%), weed science (25%), irrigation (40%) and crops (25%).

The 1987 Review document suggested that future appointments of SREC specialists should have at least a 25% research appointment. The research appointment may be based in the subject matter departments for more efficient use of equipment, technicians and other resources but the research work will target the needs of southeast Nebraska, while not being limited to the geographic area. The research should be applied research. Four issues were identified:

- All future specialist appointments will have their total extension appointment in SREC.

- SREC needs to be strengthened with more extension specialist in order to have a strong interdisciplinary approach to extension programs/problems.
- The team approach is best for a strong interdisciplinary approach. Thus the specialist should be housed in the Southeast Research and Extension Center with the support dollars.
- In the future joint, Agricultural Research Division and Cooperative Extension Service appointments are most desirable for Southeast Research and Extension Center specialists (SREC Self Study Recommendations, 1987).

In the 1987 review, an extensive survey was conducted of faculty and administration. Results of that survey showed educators and department heads had two opposite views of the research/specialist issue. Educators felt the District specialists should be closer to clientele needs. They felt specialists should monitor research at all levels to avoid duplication between Districts and departments. Department heads felt research needs could be met through the departments, with the exception of urban research. They also felt Southeast Nebraska did not have unique research needs. They noted the need for urban research is primarily in entomology, plant pathology and horticulture. It is advantageous for the research components to remain in departments because of facilities, equipment, supplies and the opportunity to consult with colleagues. Extension educators are able to contact specialists in departments just as easily as they do specialists in SREC.

1994 SREC Review Team Report The 1994 SREC Review Team document stated that research needs for the SREC District are met very well through the existing arrangements between specialists and departments. SREC had 12.2 center faculty including: horticulture, entomology, 4-H youth, water resources, weeds, community development, forester (2 people), farm business (3 people), farm economist, soils, cropping systems, beef, horticulture assistant and computer liaison. The extension appointments were in the SREC budget and the position descriptions listed both the department head and the District director as supervisors. The present system of assigning specialist to the District, with some housed in the center office, is apparently working well. The research component, assigned to departments, is apparently working well also. Department heads and faculty seem satisfied with the present arrangement (SREC Self Study Document, 1994).

The faculty suggested the following research needs: 1) Family/Youth issues, 2) Housing, 3) Animal waste and odor control and 4) Municipal sludge disposal on farm ground (SREC Self Study Document, 1994).

On-farm research and demonstrations have provided active, important and effective educational opportunities for specialists and extension educators in SREC. To continue this educational effort, a need was expressed for an extension/research technologist to lead this effort and to “free-up” the specialists. The on-farm research is beneficial because it fits the goal of extension to strive toward “train the trainer” programs that have a multiplier effect on our audience.

The review visitation team reported an understanding of the importance of on-farm research and extension programs coordinated by extension and research technologists. However, the team did not receive sufficient information to comment extensively on the request for an extension technologist for on-farm research. The review team encouraged the faculty to expand on the need for this position and to indicate what interactions this position would have with the extension assistant requested in the water quality section of the document.

Changes in Specialist Appointments The Southeast Research and Extension Center is an anomaly among the research and extension centers in Nebraska (2000 Review). In 1998, SREC began the process of transferring specialists to their department homes. In 1998, the cropping systems specialist was assigned to the Agronomy Department. The logic behind this organizational variation in the

Southeast District is based on the District headquarters location on the East Campus and the theory that full departmental appointments encourage intellectual discourse and collaborative programming that should strengthen both the research and extension agendas of these faculty members (2000 Review).

During 1999, the horticulture appointment was transferred to the Horticulture Department with priority given to SREC programs in the job description. The agricultural economist took a job at another university. The soils specialist and the entomologists retired. The water specialist changed positions at the University. The beef specialist position was transferred to the department. Providing an emphasis on SREC was mentioned in the job descriptions of the beef specialists and the cropping systems specialists. In the 1999 budget reallocation the foresters went to the Forestry Department and the support staff person resigned. Remaining at the District center was the director, the 4-H youth specialist and one office service staff member.

When extension appointments were transferred into academic units, a number of concerns were expressed, especially by extension educators in the District. If specialists were not held accountable to the District's administration, it was argued, they would be less motivated to conduct research related to issues identified in the District (2000 Review). In addition they could become a less visible and less available resource for extension programs in the region. Job descriptions for these specialists were rewritten to specify they would give "high priority" to SREC research and extension programs (2000 Review).

2000 SREC Review Team Report This self-study process engaged the efforts of a specialist from another university to hold six focus group sessions (educators, specialists, administrators) related to research. The findings include:

- The Southeast District has talented and capable educators who are respected by clientele and campus staff. SREC faculty are very supportive of an integrated research and extension program in SE Nebraska.
- Relevant research based programming efforts are underway in SE Nebraska.
- The location of SREC/District provides opportunities for collaborative relationships with many University research specialists.
- Campus faculty are highly regarded for their subject matter expertise.
- SREC lacks distinctive visibility – other districts are recognized as a hub of extension and research activity.
- Although one of the intentions of the staffing and administrative changes in Southeast District was to have many more campus experts and specialists available for extension programming, there is little evidence to suggest that this has worked. There is the perception that fewer campus staff resources are available to extension educators in southeast Nebraska.
- Priorities of campus staff seem to have changed. In general, helping extension educators carry out extension programs or applied research in southeast Nebraska seems to have declined as a priority. These issues may not be unique to SREC but rather a trend in higher education and university research.
- Working relationships between campus and field staff are limited and there is no coordinated plan for outreach in the District.
- Department heads felt that staff were available in even greater numbers and even more specialized to give answers.
- Specialists were concerned that they were not familiar with the agricultural priorities in the Southeast District.

Suggested responses included:

- Providing professional development opportunities for educators interested in enhancing their research methodology skills.
- Sponsor issue-based meeting opportunities for specialists, educators and other faculty members during which research needs and projects can be identified.
- Continue the work of the District issue teams beyond this immediate review process and clarify with specialists and department heads the expectation that faculty members will participate in these teams.
- Aggressively seek participation by campus faculty in District planning activities through personal invitation, regardless of their formal relationship with SREC.
- The Review Team urges the director of SREC/District and IANR department heads/chairs to work together to provide opportunities for the clientele/faculty of SREC/District to give input to the identification of research issues impacting SE Nebraska. Involvement of SREC/District is essential in providing adequate access by the SREC/District educators and clientele to crucial research based information.
- It was suggested by several individuals that the development of a team to address urban issues in a multi-disciplinary, multi campus, research/extension format would be beneficial.
- It is recommended that the agricultural issues team engage its members and its stakeholders in reviewing the District's needs for programming in relation to the extension resources available. Through this process, priorities should be set regarding subject areas both to be addressed and to be eliminated.

Academic Issues

Current academic trends and changing situations impact the difference between SREC and the other Research and Extension Centers.

- Three specialists have Southeast District responsibilities in their job descriptions including the beef specialist, agronomy specialist and the weed specialist (shared with the Northeast District). Department Heads are the immediate supervisors for the specialists. The District Director has input into the evaluation.
- Because the SREC Headquarters is located on the University's East Campus, SREC will not have distinct visibility or be viewed by stakeholders as a hub of research activity, however, it does put us in close proximity to a variety of research faculty.
- The population base and geographic area of SREC is so large and so diverse that assigning a few specialists to SREC would lock us into narrow research areas and make it more difficult for the District to address emerging needs.
- Promotion and tenure resides in the academic departments and it is advantageous for the specialists to develop close working relationships with other professors.
- Scientists need to publish in "high powered" peer reviewed journals for promotion and tenure. Committees give more credit to peer reviewed journal publications compared to other types of publications.
- Because SREC does not manage a research facility, if an Extension Specialist uses departmental equipment, resources and facilities, the department will want the credit for the work.
- Even with the development of a research advisory committee (District director, department heads, specialists, educators, and clientele) the academic department who conducts research and controls the resources and personnel will be credited for the work.
- Work loads are increasingly heavy and academic expectations growing. Planning and communication suffers as a result of busy schedules. Few individuals want to meet as an advisory committee and would prefer meetings targeted to specific research issues. Academic obligations for specialists make staying connected to local producers difficult.

- SREC does not have the “academic clout” of departments which stems from national recognition of research and publications.
- Experienced extension educators have strong relationships with specialists. As a large number of experienced educators retire it will take time for new educators to build the same relationships. The personal invitations to participate in program efforts, District meetings and planning sessions may not occur.
- SREC is near the University of Nebraska–Omaha and University of Nebraska–Medical Center and the main campus of University of Nebraska–Lincoln. Faculty with a research project may choose to work with masters and doctoral students on projects instead of educators. This may also mean that SREC faculty need to cultivate relationships with graduate students looking for research projects.

Emerging Trends

Roles and responsibilities of Educators and Specialists have changed a great deal in the past 15 years. When you consider the evolution of Extension and how we will do business in the future SREC is taking the leadership to implement these changes as evidenced in the following examples:

- Several individual educators have worked diligently to develop special relationships with the individual specialists. For Example, when the new irrigation specialist was hired in Biological Systems Engineering, two SREC educators organized an agricultural tour that visited several producers to discuss emerging issues. This effort has resulted in a strong partnership which now includes on farm research trials and a joint grant project.
- One educator coordinates crop management and diagnostic clinics by working with researchers on appropriate demonstrations and programs for professionals attending the clinic. Each year several hundred ag professionals are trained in the latest research. This educator also coordinates a winter agronomy research symposium for educators and producers.
- SREC has made great progress relative to applied or on-farm research. We now have three organized groups and an excellent website where on-farm research results are available 24/7 (<http://farmresearch.unl.edu>). The participants in these on-farm groups serve as advisory groups for agricultural efforts.
- On-farm research demonstrations are located at the South Central Agriculture Laboratory and Crop Management and Diagnostic Plots are located at the ARDC.
- The Ten Ways to Improve Profits by \$20/Acre program is an example of a curriculum that was developed as result of applied on-farm research conducted in SREC.
- One specialist helped us evaluate two of the SREC On Farm Research programs. The evaluation resulted in journal articles and a NebGuide. The on-farm research project was featured at national meetings.
- Several program advisory groups assist educators with planning. The Diverse Agriculture work group also has an advisory group of producers and agency representatives. The Farmer and Rancher College program has an advisory group of agricultural business professionals. Commodity groups such as the corn and soybean growers boards advise educators and help to fund programs.
- Several educators work with specialists from the Department of Agricultural Economics to annually develop and deliver the Winning the Game and Marketing Stored Grain workshops throughout the state. They are working to develop a comprehensive marketing and risk management educational program.
- Several educators work with the beef specialists on the 4-State Beef workshop and the Eastern Nebraska Cattleman’s Expo.
- An educator and specialist are working to develop and deliver a watershed management workshop for NRCS, NRD and extension faculty for eastern Nebraska.

- Educators routinely work with specialists on locating on-farm research cooperators and monitoring of research plots. Soybean rust Sentinel plots are one example of this partnership, but many others exist.
- Two educators serve on the advisory committee for the agronomy department.
- One educator serves on the Executive Committee for the Nebraska Pork Producers Association and provides input on funding of research projects.
- The educators affiliated with the Department of Animal Sciences attend a research update each spring.
- Focused family educators have participated in a child care providers research project with another land grant university.
- The Building Nebraska Families program is currently participating in a research impact study with Mathematica and will begin a study with a graduate student in the College of Education and Human Sciences.
- Through the urban community neighborhood program strong linkages have been established with University of Nebraska–Omaha Center for Urban Affairs and an extension educator has been located at their center in Omaha.
- Campus based faculty have been invited to spring and fall District meetings. Educators extend personal invitations to individuals based on educational programs being discussed and work group projects. Frequently we hold District meetings on campus so specialists may easily attend sessions without travel time. Several have attended for parts of our meetings. A great deal of success in this arrangement depends on the educator-specialist relationship.
- Several on-farm research projects are created each year between private industry and Extension via SREC’s on-farm research programs. Our on-farm research programs are well known and respected among private industry and Extension Specialists. Extension Specialists often see SREC’s on-farm research program as a tool to conduct solid on-farm research and have the results disseminated in a timely fashion. Tom Hoegemeyer recently said, “The NSFSGPP was one of the most exciting Extension programs that he has seen.” Earle Raun stated, “I honestly think the NSFSGPP is the best all-around program Extension sponsors, and you two make it work! You operate it, get the participants to talk and provide information and everyone attending the annual meeting learns from the discussions.”
- 10 % of SREC educators hold Ph.D’s in their focused assignments. Several are currently enrolled in Ph.D programs. Because of our location and the value we place on research and education this trend is likely to continue.
- SREC educators are becoming very active in grants and have increased their grant activity during the past 5 years from almost nothing to over \$600,000 annually. This trend is likely to continue and will assist us in hiring support for programs.

Implications and Recommendations

SREC will become a center of excellence for the development and delivery of scientifically based educational programs. SREC will be a national leader in innovative teaching, experiential learning and on-farm research. We will engage faculty on all campuses in issues related to our clientele. We will develop a very flexible, relevant and invigorating approach to research by working with advisory groups to identify and prioritize research needs.

- Strong communication among educators, specialists, department heads and commodity boards, private industry and growers regarding agricultural research efforts is a top priority.
- Our on-farm research programs are second to non nationwide and we will continue to build on that strength.

- SREC will move forward to engage our clientele in a variety of grass-roots producer initiated, private industry and Extension Specialists generated on-farm research projects.
- On-farm research projects will establish relationships with industry partners which may lead to more in-depth long-term research efforts by departments.
- We will continue to look for opportunities to partner in family, community development, community/residential environment and nutrition research projects with the University, other land grant institutions and industry.
- We will market our involvement in research as part of our educational programs and stakeholder communications.
- We will provide professional development opportunities for educators interested in enhancing their research methodology skill and their teaching skills.
- We will continue to secure grants and funding for innovative educational programming.
- We will continue to grow our partnerships on grant and research projects with extension specialists.
- We will continue to develop the urban initiative to include multi-disciplinary research and extension efforts and look for unique opportunities for urban research projects.

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