EXTERNAL REVIEWS

Reviewer A

Review of S-103 Regional Research Project "Technical and Economical Efficiences of Producing, Marketing, and Managing Landscape Plants**"**

1. *Is the problem area within the scope of priorities set by the SAAESD or ESCOP in their planning documents?*

   To the best of my knowledge, the problem area is within the scope of these priorities.

2. *Does the Project Outline provide sufficient justification for pursuing research in the problem area based on a description of the problem(s) to be addressed and a review of previous work?*

   The Project Outline provides ample justification for pursuing the problem area and does an excellent job of reviewing the previous research. Although it is not mentioned until later in the Outline, I believe that an important justification for this regional project is that the industry is stratified by latitudinal plant hardiness zones, rather than by state, so a regional project eliminates the duplication of efforts that would arise from a state-by-state approach.

   Is the review of literature contemporary and in sufficient detail to indicate that the investigators are familiar with previous work in the area?

   The review of literature is more than adequate.

3. *Will the planned project make a significant contribution to new knowledge or provide a better understanding of existing knowledge?*

   The project promises to contribute significantly to new knowledge.

4. *For each objective, does the Project Outline describe examples of hypotheses that would be tested? Are these hypotheses clearly stated and testable?*

   With 23 cooperating agencies and 33 principal leaders from 21 states, the scope of this Project Outline does not lend itself to testing specific hypotheses. However, from statements in the objectives, it is often possible to infer many of the hypotheses that could be tested.

   Are Methods described for collection and analysis of data, and are these methods appropriate for proposed experiments?

   The methods described appear to be appropriate.

   Can each objective be accomplished within the stated time period?

   Some of the objectives are on-going evaluations that have already spanned several project lifetimes, but all appear to be capable of completion or continued contribution within the stated time period.

How could experimental design or data analysis be changed to improve each objective?

Again, the scope of this Project Outline is understandably too broad to include much detail on individual designs or analyses, but from what I know of the principal leaders and the past achievements of this regional project I feel confident that the investigators will use the best methods available.

5. *Do the methods proposed for each objective reflect contemporary technology?*

The methods proposed are, for the most part, standard and well-accepted.

Are new, state-of-the art methods being used or attempted in the research?

Some of the methods represent innovative research approaches to the objectives, such as the application of the Internet for information transfer and marketing, computer-generated landscape designs for conjoint analysis, and Almost Ideal Demand Systems models.

In what ways could the proposed technical committee incorporate new methods into the project?

The innovative research approaches described above indicate that the committee is already actively considering such new methods.

6. *Is there bona-fide collaboration described for the project?*

This project is remarkable for the high level of collaboration proposed, and is to be commended for the refreshing degree of collegiality and cooperation demonstrated among its members.

Are samples and specimens shared among scientists?

It is not apparent that samples and specimens *per se* need to be shared among the collaborators, but the sharing of data is clearly an important overall objective of this committee.

Are replicated experiments designed so they are clearly replicates?

This does not appear to be an important consideration in this proposal, but it seems likely that in such cases where replication is necessary the investigators can be trusted to conduct the experiments competently.

Are scientists assuming roles or tasks for an entire objective, such as conducting sample analyses for all sites?

This appears to be true for some objectives such as data management for the nation-wide survey in Objective 2, and conjoint analysis of landscape designs in Objective 3, where such consolidation is more efficient. However, in general the scientist in each state appear to have responsibility for generating the data for their state.

Is there evidence of cooperation in the way that the data will be collected, analyzed, shared and

disseminated?

There is ample evidence of such cooperation over the last four projects and 24 years, and also in this proposal.

7. *Does the team of scientists include experts in complementary areas that will lead to true interdisciplinary efforts? For example, does the team include an appropriate complement of individuals with expertise in statistics and economics.*

This team has an outstanding group of agricultural economists to complement the plant scientists. This is one of the few regional projects where there has been such a productive and synergistic collaboration between the natural and social sciences.

Are there other disciplines that should be added?

It is possible that experts in the disciplines of statistics and sociology might contribute to experiment and survey design, but since I am not familiar with the backgrounds of all the collaborators, it may well be that these disciplines are represented already.

What is the probability of success in light of past accomplishments and performance of the investigators?

The probability of success is high.

EXTERNAL REVIEWS

Reviewer B

Review of S-103 Regional Research Project "Technical and Economical Efficiences of Producing, Marketing, and Managing Landscape Plants**"**

Problem and Justification

- Are limiting USDA resources allocated to the study of markets in this area sufficient to suggest it is "*crucial that research mechanisms be developed*"?

- The evaluation of the economics of environmental issues facing the industry is a compelling raison d'etre for the project. It will play into production location decisions, trade patterns, and even regional or international competitiveness.

- The gathering of cost-of-production data seems less interesting. Developing industry standards for cost accounting may be helpful, but what end is in mind when this team seeks to evaluate interregional competitive positions?

- There needs to be a stronger argument for broad regional (national/international) assimilation and evaluation of cost-of-production data. Is the idea something like... there are too many products and production systems for any one person to maintain budgets, therefore we need to spread the tasks? Can budgets be meaningfully shared across production zones?

- Are industry marketing inefficiencies prevalent? There is a vague allusion to the potential for the potential "misallocation of resources" in the face of rapid expansion. Will this be explicitly explored by the new group?

- Technology transfer and its impact on production systems, regional trade, costs of production, and market structure should be an important issue for this group. Technology has changed fast and will play into the discussion of sustaining long-run competitiveness. This would perhaps be the better context around which to coordinate cost analysis for different products within an array of production systems.

- Job creation for displaced agriculturalists (p.5) seems to be a rather secondary issue.

Objectives and Procedures

- **Objective 1**- Can Behe & McNiel even scratch the surface of evaluating new horticultural practices? How did they settle on the ones mentioned in the proposal? Is there some way of having the project be more of a conduit of research coordination and extension spanning the South?

- Baled budgets have been downloadable for many other enterprises and should be developed here on a central accessible site. Why not even have occasional surveys at the same site collecting individual costs and BMPs- at least starting with some of the more major enterprises. Set up a benchmarking system.

- The economics of sustainable systems is a great idea and much needed (why not list it first under 1.D.?).

- **Objective 2**- language here referring to the S-103 members is awkward. Is the committee continuing? The IMPLAN stuff is OK but can become rather academic if simply descriptive. Perhaps using these impact-type analyses as input for economic development decision makers or for state-level strategic planning would be a more useful application. *"It is important that the green industry's contribution to ag and the economy be empirically documented..."* Why?

- I like the data gathering links formed with state nursery associations. Is there a feedback intent following the data assimilation and analysis? Can a link to the AAN be forged here? I realize this is principally a research orientation , but an outreach component would be most relevant here.

- **Objective 3**- I like the consumer attribute preference vs plant professional attribute preference comparisons here. The use of conjoint analysis makes sense and I would expect some interesting results. Any way to go to the next level and propose the development of regular tools commercial horticulturalists can employ to monitor and adapt to changing consumer preferences on an on-going basis?

- The demand studies can be useful. I've often wondered, though, how much our economic demand studies have been employed by the business community to *"help them segment markets and more effectively target products and services."* Much of what is really meaningful to these folks is highly dependent on their specific market situation. The AIDS models are very general. Perhaps an outreach component could be proposed with this effort, as well.

- Advertising effectiveness should be of compelling interest to the garden centers. The methods and evaluation services are provided by private companies like IRI and Nielson. Is there a strong justification for why public funds should go to help garden centers better advertise? There may be, but it needs to be argued for here. Wouldn't this fit sub-objective better with objective 4?

- Objective 4- See my comments on the last point above regarding justification. Using the economic jargon, what is the public good here that is failing absent the effort of these capable scientists?

Final points on overall proposal content:

I like the objectives, generally. This group has a long history of very productive support for the nursery and greenhouse industry. New markets, new technologies, changing production and distribution structures, and the ever-increasing array of products makes this a challenging but exciting field. The regional effort is well justified.

On point A-G per the Guidelines for External Review

1. Yes.

2. There is sufficient justification for pursuing research in the problem area. The literature review reflects the most current work in the area. Much of the most important literature has been contributed by the scientist who will be continuing work in this area.

3. The planned project will make significant contribution to new knowledge. The scientists should be encouraged to expedite the delivery of their findings to extension and industry sources in this rapidly changing industry.

4. Each objective has clear and testable hypotheses. The methods are clearly identified and appropriate. Each objective should be able to be accomplished within the stated time. There are no specific modifications or improvements to experimental design that appear necessary.

5. Research methods are contemporary.

6. A bona-fide collaboration is evident. The scientists should be encouraged to continue to be more innovative in sharing their results and working closely with industry sources.

7. There is strong complementarity between these scientists. They have established a history of productive collaboration across states.

EXTERNAL REVIEWS

Reviewer C

Review of S-103 Regional Research Project "Technical and Economical Efficiences of Producing, Marketing, and Managing Landscape Plants**"**

- Scope of priorities

  The project proposal, as written, falls within the board CSREES guidelines presented in the middle of page 5. Such a large contributor to the income and employment in the agricultural sector couldn't help but address this mission. One challenge to the group is to incorporate more environmental policy and management issues in their research. Currently, the environmental component of the project is more assumed than explicitly discussed.

- Sufficient justification; knowledge of the literature

  I struggle with the uniqueness of the problems facing the green industry and whether this effort warrants a regional project. I say this as a strong supporter of the group's previous work and a supporter of this new proposal. I find this effort broad, diffuse and difficult to characterize scientifically. Research output is indeed impressive but has the group grapped with the issues that are critical to the industry. It is not clear what value has been added to the industry.

- Significant contribution

  This research group is to be congratulated for establishing themselves as green industry experts within a professional culture oriented towards traditional agriculture. They all took professional risks and now have the reputation as being the leading source of analytical information on the green industry for other academics. The review of their productivity found in the proposal is indeed impressive. I would like to know which conferences and symposia the group sponsored over the years. I also would encourage the researchers to publish in more mainstream journals while continuing their fine publication record in trade publications.

  I believe the proposed project has the potential to make significant contributions in the demand side of the green industry. As an economist I'm particularly excited about the proposed work on consumer preferences, demand, and advertising. The marketing/merchandising objective (#4) will produce valuable information for the industry, assuming active industry involvement. It is difficult for me to judge the integration of the horticultural and economic activities; the integration across objectives could be more clearly described. Green industry managers operate in an interrelated business system so our work should recognize the fact and our recommendations should contribute to the efficiency of that system.

- Hypotheses

  No clear hypotheses are stated in the objectives. Data will be gathered, evaluated, and reported. I question whether cost of production (COP) studies represent research (p. 16). COP is important but only as a tool or input for policy analysis and testing industrial organization hypotheses.

- Contemporary technology- state of the art methods

  I'm not a horticulturists but I found the entire proposal lacking in scientific horticulture content, particularly in the new proposal. Will this project produce significant contributions in the horticulture field? The econometric methods proposed for the consumer preferences and demand studies appear to be appropriate and have the potential to make a professional contribution. I would encourage the group to continue working in the industrial organization area and focus more on environmental management. Regional competitiveness should continue as an area of emphasis in the new project.

- Collaboration/cooperation

  First, it is notable that other than Oregon, no western states are included in this project. The omission of California is unfortunate because of the size of the green industry in the state. I encourage the group to find a California collaborator or two.

  Secondly, it is not clear what the past, present, and future role of industry is in this research project. How do industry representatives work with the researchers to identify important problems? How do industry representatives use the results of this research? What is the extension component of this project?

  Thirdly, like most regional projects it is difficult to coordinate a single research effort by 20 states. S-103 has had some success in this area (e.g. competitiveness/trade model) but the group should be encouraged to do more collaborative work. Currently, most of the research review reads as a disjoint collection of research that may have been completed without S-103.

- Team

  As mentioned before, I'm not sure how this project is "balanced" between horticulturists and economists. These individuals are the leading experts on the green industry in the U.S. but I couldn't claim that they represent a team of experts. They come together as a team for a select number of coordinated research efforts but operate as state-based researchers for most of the year. However, I don't see this as a problem given their fine research record and the logistical challenges of coordinating regional/national research. These researchers have made a valid attempt to carry out a truly regional project.