

Hints for a Successful T-STAR Proposal (FY 2007 Funding Cycle)

***T-STAR program research goal areas for funding:**

- Provide research that maintains and enhances production of established tropical and subtropical agricultural products.
- Develop agricultural practices in the tropics and subtropics that are environmentally acceptable through an agroecosystems approach.
- Enhance the role of value-added agriculture in tropical island ecosystems.
- Expand and diversify presently unexploited food and fiber products that have potential for commercial production in the U.S. tropical and subtropical regions.
- Expand tropical and subtropical agriculture's linkages to related industries and economic sectors.
- Develop and deliver user friendly decision support packages to help client needs
- Develop appropriate strategies and tactics to stem the influx of exotic diseases, insects and weeds and to control and/or eliminate extant non-indigenous species and diseases.
- Enhance the linkages of agricultural and food production and consumption by designing foods and intervention strategies that lead to healthy productive citizens in the tropical and sub-tropical regions.

*Note: *Hints to Successful T-STAR Proposals* are simply reflections by the Program Manager and are not official guidelines of the program, except for the T-STAR Program Goal areas that are officially mandated by this USDA-CSREES, Special Grant. For further information, please contact Doug Vincent at 956-8157 or vincent@hawaii.edu.

Hints for a Successful TSTAR Proposal

1. Develop a research idea that excites you. Researchers write the best proposals when they are truly interested in the questions they seek to answer.
2. Make sure T-STAR is the appropriate grant vehicle. T-STAR proposals require a PD or co-PD from the UH-CTAHR or University of Guam, College of Natural and Applied Sciences (CNAS); however Co-PDs can be from other institutions or UH Departments. Follow all guidelines completely and to the letter.
3. Review the 8 Research Goals. Proposals must address one or more of these goals. Use similar verbiage. Specifically, address which goals will be addressed (and how) in the proposal narrative.
4. Collaborate, if needed! Find Co-PDs or Collaborators with expertise to help with key research (if needed) and to add an outreach component (if your research is *very* basic you should emphasize why it is a necessary step towards a **useful** solution). All USDA funding sources are looking for your research to help the public and have impact. Show the reviewers how your work will ultimately get into the hands of the users. Get commitments in writing or by e-mail – details on what the collaborators will do is required.
Note: we encourage **collaboration with other institutions**, especially with other PBAG and CBAG institutions, i.e. University of Guam, University of Florida, University of Virgin Islands and University of Puerto Rico. But collaborators may come from other institutions, such as UH-Hilo, HARC, PBARC or other Pacific Land-Grants (*American Samoa Community College, College of Micronesia, [FSM, Palau, Marshalls Islands], and Northern Marianas College*).
5. A letter of intent (LOI) briefly and concisely identifying the proposed research is requested in advance of the full proposals. We use the LOI for classification of the proposals only. Consult the RFA for details on the LOI format.
6. All proposals submitted, if they submitted before the deadline, **are complete** and address at least one of the **8 T-STAR research goals**, will be reviewed for scientific merit by disciplinary panels of experts.
7. Proposal submission processes have changes for the FY 2007. New forms are required. **Consult the guidelines for preparation of proposals for more details and follow them to the letter. Consult with the Program Manager if you have questions...**

Key points are:

- Showing that the proposed research meets a T-STAR Goal(s). The reviewers and technical committee must be convinced that the proposed research fits into the Goals of the program.
- Solves a high priority problem for agriculture in the American Pacific *or* outlines an opportunity that should not be missed or provides an opportunity to help mitigate or resolve the impacts of an invasive species. The Rationale and Significance should include accurate background information on the “problem” and make a strong, compelling reason why this research needs to be done. **“Avoid a solution looking for a problem!”**
- Development of the compelling case is critical – include the economic impacts of the problem, if possible and how this research will ultimately translate into direct impacts for the benefit of tropical and sub-tropical agriculture or the Pacific Basin. While support letters from stakeholders aren’t required, evidence of stakeholder input in some cases helps make the compelling case. Find and provide the data that provides strength to the compelling case. If you can reference the supporting data, reference it (e.g. Hawaii Agricultural Statistics Service.) Part of the making the case is the question “What will be the impacts on Hawaii, Guam or the region, if the research isn’t done.”
- Be sure your proposal has “testable hypotheses” and “doable” objectives on strong “researchable problems.” Give an indication how the results might be used. Preliminary data are useful to making your case.
- If you’ve been funded via past T-STAR funding, explain how the new proposal builds from previous TSTAR funding support. This helps establish your credibility as someone who will be a good “steward” of these public funds.
- Provide approaches to objectives that make sense and are feasible. What are the outcomes and/or expected results? How will you know you are successful? How will the project be evaluated? Part of convincing others that the research proposed should be funded, is showing the reviewers that you’ve considered all possibilities and contingencies. What are the possible pitfalls in your approach and how will they be addressed or overcome?

- What about outreach or technology transfer? One of the 5 review criteria evaluates the proposal based upon plans for outreach or technology transfer.
- Follow format guidelines to the letter. Do not exceed the page limitations.
- Review the Evaluation Criteria – make sure your proposal can stand up to these evaluation criteria.
- Is the proposal well-written and does it have a reasonable budget?

Technical Guidelines

- Submit the *cleanest* proposal possible – follow page limits, font size, margins, etc. **Limit font size to 12 pt. Project narrative is limited to 15 pages.** Remember the review panels will be reading and reviewing several proposals – make your proposal “easy” to read by avoiding typos and other common mistakes. Edit the proposals thoroughly.
- Write a succinct title that immediately tells the Reviewer what they will be reading about. Follow character length stipulations (< 140 characters and spaces)
- Ask other scientists, not quite familiar with your research area, to read the proposal for clarity. Aim for a *Rationale and Significance* section that can be understood by a wide variety of disciplines and those not in your particular discipline.
- Spend serious time with the summary or abstract (Use the CSREES form 2003 to provide this information). This is often the very **first** thing a reviewer reads. It may influence how the reviewer continues to view the proposal. If you can't tell your story in that limited space, you may not be successful. Don't wait to the last minute to put together the abstract. Data from other studies show that how well the abstract is written is closely related to the likelihood of being funded.
- A well-stated research problem, with a strong compelling case, followed by clear objectives and a feasible timeline is necessary.
- Propose a budget that meets your needs. A budget that appears inflated may influence the entire review. T-STAR proposals are most often for 3 years. There are NO budgetary limits BUT in a practical sense, we fund projects around \$60-80,000 per year. But regardless of what you ask for it **MUST** be justified. Ask for what you **need** but avoid **padding the budget**. Budget narratives are crucial to helping explain what you need and

why you need it. Itemize as much as possible in the budget narrative. Spend the time to do it right.

- Proposals will be evaluated and scored using the following evaluation criteria and scored on a 100 point basis [Scientific Merit (30), Relevance to TSTAR program/ Importance (30), Feasibility, Likelihood of Success (20), Technology Transfer/Outreach component (10); Qualifications of PD's, Adequacy of Facilities (10).]

Some selected comments, verbatim, from panel reviews from FY 2004 from proposals that were not funded.

- a. This proposal was full of typographical mistakes which was very distracting to the readers. The proposal could be significantly improved by addition of more details and preliminary data to support their stated objectives.
- b. The panel felt this objective was not sufficiently ambitious to serve as the focus of a proposal. Furthermore, the panel was not persuaded that the ultimate objective of eliminating the _____ was likely to be achieved.
- c. TSTAR proposal guidelines were not followed. The problem of _____ does not appear to be fully elucidated in the literature and was not described or summarized well in the proposal. The proposal lacked of details in the Research Procedures section. The proposal failed to identify linkage to TSTAR goal areas and potential outcomes & impacts. Based on the budget, it appears that the project will be conducted by a graduate student (MS or PhD??), but the panel thought this was not a suitable thesis project
- d. In addition the panel would like to point out to the PIs that sloppy proposal submission needlessly detracts from the very good science proposed (e.g. funds requested on cover sheet omitted and comment from co-PI to PI on page 10 not removed prior to submission). Care should be taken on future proposal submissions.
- e. Background information about the proposal is lacking; materials and methods section is very sparse. Experimental design and statistical analyses are not presented in adequate detail. The emphasis of the proposal is only on _____ and should include _____ as well. The proposal needs to be carefully revised and submitted for next year.
- f. Although the proposed research is laudable, there are insufficient details in the experimental design to make a fair assessment of the feasibility of the research. Experimental details are vague and not well presented. The proposal would have benefited from a more focused experimental plan. In addition the panel would like to point out to the PIs that sloppy proposal submission needlessly detracts from the very good science proposed (e.g. title of project and funds requested on cover sheet omitted and no C.V. of PI).
- g. The weakness of the proposal is that all objectives depend on the successful and timely completion of the first objective. The objectives regarding development of management strategies were premature.
- h. The methodology is inadequate. No statistical analyses were presented for the preliminary data, and the proposed sampling methodology is not sufficiently detailed to indicate that the ANOVAs mentioned in the

proposal will be appropriate. Sample sizes do not appear to be adequate, and one year is not sufficiently "long term" for understanding population dynamics.

- i. The preliminary data presented in support of the project were not particularly convincing. Lines were rather similar, and no statistical analyses (even standard errors) were presented that would lend credence to the claims.
- j. The experimental plan is brief and does not provide sufficient detail for the objectives 2-4.
- k. However it appears that the PD should invest more time in developing a much more detailed methodology and more rigorous proposal. The proposal lacks the careful attention that is required for this work to be credible and since public health and large environmental and societal impacts may be expected methodology for assessing impacts and costs should be very rigorous and there will also be a need to validate findings.
- l. As for the scope of work proposed, the panel felt costs were high for conducting this research, and suggest that the proposal as written be considered for funding at reduced rates. The budget could not be justified.
- m. The proposal was so weak in its experimental plan, detail, and thoroughness that we had essentially no basis for our support. There is no prediction about the probability of success and the necessary collaborations with the _____ industry are not addressed at all. The proposal is incomplete in many areas and did not make a compelling argument that this work should be supported.
- n. However, this proposal contains no testable hypotheses or research questions. It is essentially a qualitative, descriptive survey with no attempt to relate cause and effect of these agents. We cannot recommend funding for this proposal in its current form, but recommend that the PIs be encouraged to prepare a research-oriented, quantitative proposal on this topic.

Some selected comments, verbatim, from panel reviews from FY 2005 from proposals that were not funded.

- a. The idea is novel, but the outcome of the research is highly questionable. Some preliminary data are necessary to draw the hypothesis of this research and before taking this approach. It is uncertain to comment of any probability of success of this research proposal. The proposal needs some simple editing for clarity of statements.
- b. A large amount of research has been done on the use of _____ around the world. The positive roles of _____ are well known. Why is more measurement of these parameters important? The preliminary research in Hawaii to support the proposal objectives is extensive, so much so, that one wonders if much of what is proposed has been completed sufficiently already. The panel should not have to wonder. A major weakness is the conceptualization and presentation of the proposal, i.e. strategy. What is needed is a clear summary of what has been accomplished in Hawaii, what the expectations are over the short and long term time frame of the research, followed by a clear presentation of how the current work fits into the overall plan and what progress will be made by the current work to advance the research.
- c. Details for the methodology of Objectives 2 and 3 are not presented sufficiently to judge their merits. Limitations of each objective are not discussed well.
- d. This proposal could be significantly strengthened by providing more specific information about methodology. It would be helpful in assessing the merits of the survey study and the strength of the data

generated if, for example, a description of the survey methodology was presented. It would be valuable to include a detailed experimental design describing the salient parameters that must be considered when experimentally testing _____. A general attention to detail will enhance future applications for funds. For example, the budget justification does not accurately reflect the budget spreadsheet pages.

- e. There is also insufficient description on statistical design of experiments and analysis of results. Although the proposal seems to be multidisciplinary, the roles of the other PDs are not defined.
- f. A major detriment of the proposed project is the apparent lack of expertise to accomplish the research. The second PD apparently has some coursework concerning methods such as PCR, but experience at the level needed to accomplish the project appears to be lacking. The nature of the proposal and work plan, as mentioned above, probably stems from this lack of background in the technology and its realistic applications.
- g. This proposal could be greatly improved if PD had a more focused review of the key problems and addressed the problems in a clear and cohesive way. PD listed almost all problems, including fertilizer rates, nutrient deficiency and toxicity, diseases, cutting and rooting, and shipping, but did not justify why the five objectives are selected for the proposed research.
- h. The panel was initially impressed with the novelty, uniqueness, and originality of work outlined in this proposal. However, major shortcomings detracted from the panel's confidence in the PD's timely completion of the proposed work. The first major problem identified by the panel was the overall lack of conceptual organization. The projects outlined appeared to have little consistency with one another, and the panel felt that goals 1 and 2 were the strongest areas. Objective 5 was considered irrelevant, and its lack of justification raised serious doubts among the panel as to the PD's motivations. The panel felt the project was feasible and did have potential merit; however the justification for using the rather lengthy list of _____ was lacking. Also lacking were experimental details and contemporary preliminary results. The lack of attention to detail in the mechanics of the proposal format (page limits, margins, table format) was an annoyance and a minor issue, however combined with the above concerns, it appears indicative of a sloppy approach to seeking funding through TSTAR, and general grantsmanship.
- i. The relevance to the TSTAR program goals was a point of discussion. However, the lack of a testable hypothesis and demonstrating the technologies feasibility were the main limitations of the proposed activities. Each objective needs more detail regarding the validation of the relevant technology and preferable on diseased and health plant materials.
- j. The panel was unanimous in considering this proposal as significantly and fatally flawed. The strength of the proposal is in the original idea to use _____ to reduce or eliminate _____; however reducing this idea to practice was not well considered, justified, researched, developed, or written. The panel commented that _____ is considered a 'health food product', and the genetically modified product acceptance by these consumers is historically low. In addition, _____ is currently a low value crop, and spending 200K to benefit a crop whose value in 2002 was 69K at the farm gate seems out of proportion. There are no data to support the PD's seemingly continual stream-of-consciousness assertions, and these assertions are not well supported with literature or even appropriate awareness of the problems to be encountered in a project of this scope. It appears reasonable to develop a tissue culture system for _____, but the methods are lacking in detail and conceptual organization, as are milestones for demonstrated accomplishments.
- k. Scientific merit for this proposal is very low—very little info on HOW things will be done. Virtually no details are given. In one case the method to be used is an abstract from a _____ meeting. This made this reviewer believe that the technical qualities of the proposal were of very low quality. More information needs to be provided for a reviewer to fairly grade this proposal. Overall not a well written proposal.

- I. The research is exploratory, rather than being hypothesis-driven. There is no assessment of the damage caused by the _____, because no hard data were given. Surveys were neither "random", not employing statistically-designed sampling nor GPS/GIS to map distributions.

Some selected comments, verbatim, from panel reviews from FY 2006 from proposals that were not funded.

- a. The proposal needs substantial editing for clarity and ease of understanding by the reader. It is unclear as to how important the research is because there is no quantification of how much _____ could be saved with better management. ...The specific stakeholders need to be identified. How many farmers or acreage would be affected by this research? Are the stakeholders asking for this type of work to be done? Some of the experimental methods for objectives 1 and 2 are questionable, particularly transferring information gleaned from _____ experiment to the field. The products and methods of technology transfer that are offered do not take a programmatic approach that involves extension agents, and a description of a user-friendly decision support package is lacking.
- b. This is a resubmitted proposal. The proposal certainly has more detail information on experimental parameters than the last submission. The panel also feels that the overall focus of this research is narrow _____. The practicality of the solution proposed in the proposal is not clear to the reviewers. No communication with farmers has been made. No description is provided on where the _____ sampling and _____ experiments. There is also insufficient description on statistical design of experiments and analysis of results. The investigators may need to make a more convincing case that _____ will _____ the land – a premise on which this proposal is built. TSTAR goal area of this proposal is not clear.
- c. The panel felt some of the data this proposal proposes to collect may already be available on line. Overall, the technical quality of the proposal was poor. While the survey(s) conducted by this study will provide information useful to Hawaii _____ industries, typically, projects of this type are industry led and funded. The PDs offer no indication of industry leadership or explanation of why this study should be federally funded.
- d. This project deals with examining and identifying proteins involved with partial resistance to _____. The panel felt that the topic is relevant to TSTAR but the approach was flawed. That is, the use of proteomics (as defined by identifying proteins that have been separated in two dimensions) is premature given the level of expertise shown by the PDs in these methods. Other gene expression tools may provide equivalent information at lower cost and better sensitivity. The budget is inadequate for this study.
- e. This proposal plans to _____. In theory, the idea is sound. However, there was almost no detail in the project description, thus it was impossible to evaluate effectively as we could not determine specific approaches and outcomes. The proposal seemed very open ended—there were no defined outcomes. Linkage with industry was mentioned, but not documented. Moreover, it would seem that if this were to be done that industry would want to be very closely involved to help choose the appropriate _____.
- f. This proposal seems to be a hodge podge of technical exercises. The investigators should be encouraged to collaborate with researchers where _____ is better developed. A collaborative effort might take care of many of the current shortcomings.
- g. The idea of _____ approaches to create _____ is not novel. The proposed work lacks focused objectives. The panel also concerned that the PDs' are too ambitious

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and underestimated the amount of work for the proposed objectives. The panel recommended not funding this project.

- h. This proposal was ranked in the lower third of all proposals reviewed by this panel. PI appeared to be inexperienced in many of methodologies needed to have a successful project. Project would benefit by adding collaborators in the deficient fields of research. Outreach was not mentioned in the grant.
- i. The proposal is poorly-written, with a surprising number of typographical errors. Compounding this is a confusing explanation of the problem. The proposed _____ objective is not supported by citation of any prior literature for _____. The overall poor quality of this proposal brings into question the adequacy of the researchers involved to reach the stated objectives. Funding is not recommended.
- j. The outlined hypotheses are sufficiently described with supporting justification, but limited preliminary data are provided. The scope of the project seems to be very limited and methods sections could be more detailed. The authors do not discuss how stakeholders would adopt or implement these technologies and/or if any unexpected impediments might be encountered. Further, no information was provided to describe how results obtained during this experimentation would be successfully delivered, implemented.
- k. However the proposed work contained several issues that need to be addressed before it should be considered funding. This proposal was ranked in the lower third of all proposals reviewed by this panel. The objectives presented in this proposal are logical steps but the PI has not sufficiently developed the approach of the project. A lack of clear methodologies indicates the PI is inexperienced and may jeopardize. The methods mentioned to detect _____ are not adequately explained. Outreach goals were not fully developed.