

Proposal Writing Instructions for Hatch Projects

Title: A succinct characterization of the focus and subject of study being performed. Do not include phrases such as "research on," "investigation of," etc. Do not use quotation marks or underscoring. The title will be used for information retrieval searches, so including specific keywords that are as descriptive of the project as possible is important.

Justification: This section should describe how the research being performed relates to the mission of the NJAES which is "To enhance the vitality, health, sustainability and overall quality of life in New Jersey by developing and delivering practical, effective solutions to current and future challenges to agriculture; fisheries; food; natural resources; environments; public health; and economic, community, and youth development." As well, it should relate to one of the NIFA national priority areas which are currently:

1. **Climate Change: Water Quality and Quantity**– New Jersey is the nation’s most urbanized state, with tremendous demands on water supply and challenges for water quality due to industrial and wastewater impacts, and new municipal stormwater regulations. If New Jersey plans to successfully meet its goals, nutrient trading, wastewater treatment, and watershed restoration will have significant roles in preserving the water quality and quantity for the state. Research in determining the proper methods to create scientifically sound total maximum daily loads for nutrients in water is essential, as well as determining the sources and transport of those nutrients in watersheds and their effects on NJ waterways.
2. **Childhood/Youth/Adult Obesity Global Food Security and Hunger** - NIFA supports research to ensure that nutritious foods are affordable and available, and provide guidance so that individuals and families are able to make informed, science-based decisions about their health and well-being. Obesity is widely prevalent in the US and dietary fat is the major calorie generating nutrient in our diets. However, little is known about the genetic and physiological processes of how obesity occurs or how it contributes to other diseases. By understanding how the intestines and body uptake and process dietary fat, how external and dietary factors contribute to childhood and consequently adult obesity/diabetes, how weight loss affects bone mass and how certain hormones and genes affect fat absorption and breakdown, this program of research will contribute to a greater understanding of mechanisms that contribute to obesity.
3. **4-H** - (Extension projects, not Research)
4. **Global Food Security and Hunger: Agricultural Viability** - NIFA supports new science to boost U.S. agricultural production, improve global capacity to meet the growing food demand, and foster innovation in fighting hunger by addressing food security for vulnerable populations.
5. **Climate Change: Home Garden and Environment**- NIFA supports research projects that generate knowledge to develop an agriculture system that maintains high productivity in the face of climate changes. This will help producers to plan for and make decisions to adapt to changing environments and sustain economic vitality, and can take advantage of emerging economic opportunities offered by climate change mitigation technologies.
6. **Integrated Pest Management-IPM** employs a variety of management techniques into comprehensive strategies to manage pest populations below economically and aesthetically damaging levels. IPM includes many general aspects of crop management such as environmental control and cultural practices (e.g. irrigation, fertilization, growth regulation) and may also be called integrated crop

management or ICM. The program is designed to help commercial growers to produce top quality plants in the most economical means possible.

7. **Aquaculture** - New Jersey's aquaculture resources are finite and can sustain only fixed harvests while the demand for quality fish and seafood continues to climb. Also, threats from disease and environmental contaminants and conditions provide additional challenges to producers to meet the demand for quality aquaculture products. In particular, shellfish resources along much of the Atlantic coast have been devastated by diseases. To meet this increased demand, commercial fishermen and others in the seafood industry must develop new sources of seafood products that are high quality and disease resistant.
8. **Food Safety** – NIFA-supported food safety research programs work to reduce the incidence of food-borne illness and provide a safer food supply by addressing and eliminating causes of microbial resistance of contaminants, educating consumer and food safety professionals, and developing food processing technologies to improve safety.
9. **Sustainable Energy** -NIFA contributes to the President's goal of energy independence by supporting research to develop biomass use for bio-fuels, to design optimum forestry and crops for bio-energy production, and to produce value-added bio-based industrial products.

Finally, it should the specific problem(s) that will be addressed by this project. A description of how the project will deliver high quality, problem-solving research and/or outreach should be included. Also, this section should describe the expected outcomes that will promote research and/or provide valuable information and service to relevant stakeholders in NJ and abroad (if applicable). We expect that USDA reviewers will be looking specifically for a connection between your proposed research and a USDA-NIFA priority area, so please be sure to make this connection in your statement of justification.

Expected Impact: The expected impact section should consist of a few paragraphs in non-technical language, which clearly states how the outcomes and results of the proposed project will affect and/or benefit the identified stakeholders. It should be written for a lay audience.

Previous work and present outlook: This section should be written as a brief literature review or introduction of the issues/problem addressed by this project. It should summarize previous research (citing important publications), status of current research, and the additional knowledge needed which the proposed project is expected to provide.

Objectives: The objectives should be concise, clear, and described in a logical arrangement.

Procedure: This section should consist of a detailed statement of the working plan and methods to be used in addressing each of the previously stated objectives. Procedures should correspond to the objectives and follow the same order. Phases of work to be undertaken currently should be designated. Location of the work and the facilities and equipment needed and available should be indicated. The procedures should reflect careful planning and should provide flexibility for changes if changes become necessary.

Duration: Please indicate the estimated time for the completion of the project. The time for completion of projects will not exceed 5 years. If the need for a material change arises in the course of an approved project, a new or revised project outline should be prepared and submitted. A major change in procedure might also necessitate a revision of the project outline.

Resource Commitment: Resource commitment is best expressed in Scientist Years (SY). One SY is the total effort of an assistant professor (or equivalent) or higher on the project for one calendar year. Indicate the total

SY anticipated for each year of the project. Also, the leader(s) and other technical workers involved in the project should be clearly identified.

(Insert this table in outline under Resource Commitment)

Staff Support	1st year	2nd year	3rd year	4th year	5th year
*SY Scientists (Asst. Prof & Above)					
*TY Technical Support					
*PY Grad. Asst, Post Docs					

***SY - Scientific Year** - This is the portion of time for scientists (Assistant Professor and above) who are responsible for creative scientific study, thought, originality, judgments, and accomplishments directly assignable to the activity report.

***PY - Professional Year** - This is the portion of time for persons who hold positions in professional categories and who are assigned to research activities of the project. Such professionals usually hold a bachelors and/or masters degree(s). Graduate students, by virtue of their degree and acceptance into graduate school may be categorized as professionals. This also applies to post-doctoral professionals.

***TY - Technical Year** - This is the portion of time for technicians, aids, and laboratory assistants assigned in support of a project or an activity.

Internal and External Cooperation: Each subject matter unit in NJAES and any other units of the institution contributing essential services or facilities need to be indicated, as well as the responsibilities of each unit (internal cooperation). In addition, please describe any cooperation with the US Department of Agriculture or any other experiment stations, institutions, or other agencies cooperating formally or informally on the project (external cooperation).

Work Plan: Please provide a chart that consists of the major Tasks and Subactivities of each task. Also, describe the anticipated accomplishments of each subactivity in terms of months from initiation. An example of a work plan is given below.

Example: Work Plan

	Year 1	Year 2	Year 3	Year 4	Year 5
Design and implement cultural, mechanical, chemical and biological (if available) weed control experiments.	X	X	X	X	
Combine successful weed control techniques into an integrated program suitable for commercial implementation.			X	X	X
Demonstrate the integrated weed control program at Rutgers research farms and grower sites.				X	X
Report results at regional, national, and international scientific meetings, and in scientific journals.			X	X	X