Exhibit 4

NITRATE INFORMATION

- Groundwater contour map (Santa Cruz County Planning Department)
- Pajaro Valley Nutrient Management Education Project Grant Proposal
- Draft Project Questionnaire

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Pajaro Valley Nutrient Management Education Project

To: Casey Walsh Cady, Associate Review Scientist, Fertilizer Research and Education Program, CDFA
Ref: 1999 Request for Project Suggestions
From: Dr. U Win, The Winners' Circle Consulting
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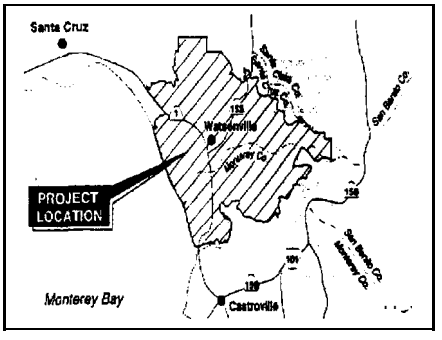
FREP Project Suggestions

Project Title: Pajaro Valley Nutrient Management Education Project

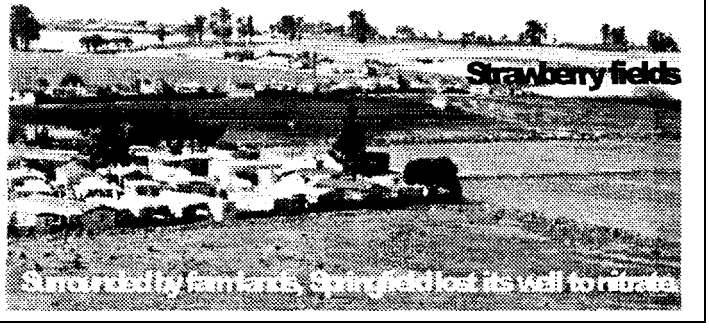
Project Location:



The Pajaro Valley is adjacent to Monterey Bay in the Central Coast of California. The project area covers the same area and boundary of the Pajaro Valley Water Management Agency (PVWMA). To the south, the project area is bounded by Elkhorn Slough, Moss Landing and Prundale-Aromas area of Monterey County. The San Andreas Fault in the east, the Soquel drainage in the north, and the Monterey Bay Marine Sanctuary in the west, border the project area. The Valley underlies the western drainage area of the Pajaro River Watershed. The Pajaro River flows through the Valley in the mid-section from east to west, flanked by productive agricultural lands. Watsonville (population 45,000) is the major city, located in the center of the Valley.

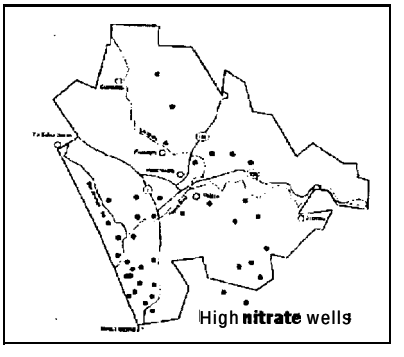
Project Duration: Two years

Summary Problem Statement: Agriculture is the most significant land use within the Valley where the irrigated farmlands have occupied 31,000 acres. The Federal Government has designated the Elkhorn Slough, one of the ecologically important estuarine systems in California, as an Estuarine Sanctuary, and the Monterey Bay as a part of the National Marine Sanctuary.



In 1998, the County of Santa Cruz reported that 25% of the wells monitored in this project area were found with nitrate levels exceeding drinking water standard of 45mg/l. Nitrate in some wells in Springfield and the coastal area in Monterey North County reached neatly 400 mg/l. In 1995, Monterey County Water Resources Agency (MCWRA) reported that nitrate levels in wells are generally related to hydrology and land use in the North Monterey County area. It found the excessive application of agricultural nutrients and septic systems as sources of nitrate contamination.

Although most of the nitrate-affected area lies within the jurisdiction of both the MCWRA and PVWMA, nitrate management in this project area apparently is not yet a priority for both agencies. A PVWMA report in 1998, indicated that most growers do not test their well water quality on a yearly basis. Some local citizens who lost their potable water supplies to nitrate are furious by the lack of local governments' action. Meanwhile, the sensitive ecosystems of the Elkhorn Slough and the Marine Sanctuary are most vulnerable to have been affected by nitrate pollutants.



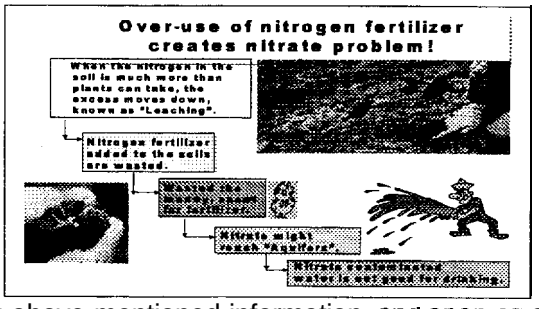
The Target Audience: Nitrogen fertilizer applicators

Introduction

Excessive on-farm use of nitrogen-fertilizer is considered to be a major source of nitrate causing contamination to the area groundwater. Among growers, some are not aware of other nutrient management approach. Most of the growers have concerns about environmental impacts, but some of them are not very well convinced that the recommended approach will work, and most of them can't afford time or taking a chance. Therefore, dissemination of nutrient management alternatives, field demonstrations and workshop/seminars are essential means to reach out to the growers and make information available to them.

Suggestion 1: Dissemination of Information on Alternatives in Nutrient Management

Objective: To introduce to growers about more efficient and cost saving alternatives in nutrient management other than their traditional approach



Information to be disseminated:

- Approaches in on-farm nitrate/nutrient management (including Best Management Practices)
- Benefits of on-farm nutrient management and monitoring
- Fertilizers industry's efforts in nitrate/nutrient management
- Relationships between fertilizers, food, public health and the environment
- Local growers efforts in reducing nitrate leaching

Suggested Approach

(A) Developing an Internet Web Site with Web Pages providing above-mentioned information, and opening a positive dialog among growers, communities and the government agencies
(B) Producing quarterly bi-lingual newsletter and laminated brochures on Soil Nitrate Quick Test, and distributing them directly to growers and farm-operators
(C) Opening a booth in local community activities, and distributing handouts
(D) Providing information on nitrate and nitrogen fertilizer use awareness through students and teachers

Suggestion 2: Conducting Field-Demonstrations

Objective: To organize, and invite growers; and demonstrate on-farm water and nutrient management at host growers' farms. It will allow growers to be more curious to try out scientific, cost saving and environmentally friendly methods.

Approach:

Field demonstrations to be led by growers who successfully used nutrient management practices, Cooperative Extension Service Advisors, scientist and researchers, and fertilizer industry field-agents

- Field demonstrations to be performed at farms hosted by local growers throughout the project area
- Preparation and distribution of related information in print (bi-lingual) to the participants, and publication in the Web Pages

Suaaested Field Demonstrations

- On-farm Soil Nitrate Tests
- Nitrate in Water Tests

Suggestion 3: Conducting a Nutrient Management Workshop/Seminar

Objective: To create an opportunity for local growers to meet with farm advisors, university scientists, industry representatives, the FREP scientists; and to share their field experience, practical knowledge and new technologies for nutrient management at the end of growing season, or as the opening of this project.

Suaaested **Approach:**

To conduct a day-long workshop/seminar coordinated with universities, farm advisors, scientists and local growers for participation. Invitation to be made to all interested parties for a poster session on the theme of "Let's Reduce Nitrate in Our Soils".

BRUCE: Please review. I've talked with John and Donna. They liked it. Requested for a letter of support to be included in the proposal. Win

EXHIBIT 4

PROJECT QUESTIONNAIRE (FIRST DRAFT)

1. Project Name: Education, Training and Outreach for Agricultural Operators in the Lower Pajaro River Watershed Addressing NPS Management Alternatives

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2. Lead Agency: Bay Area Shared Information Consortium, Inc. (BASIC) (Monterey Bay Region]

Address: 317 w. Curtis
Salinas, CA 93906
Project Director: Dr. U Win
Phone: (831)449-1182 **E-mail:** monmonwin@aol.com Fax **Number: (831) 444-8681**

3. Watershed in which the project will be undertaken:
As a pilot project, the primary focus area is located on the western drainage area of the Pajaro River Watershed which lies within the jurisdictional boundary the Pajaro Valley Water Management Agency (PVWMA). The project area is bounded by the Elkhom Slough and North County Hills of Monterey County in the south, San Benito and Santa Clara Counties in the east, Aptos-Soquel Watersheds in the north, and the Monterey Bay National Marine Sanctuary in the west.

4. Project Description:
With the collaboration Of agricultural communities, and support by local agencies, the BASIC team has developed a project to implement an educational and outreach programs in addressing nonpoint source (NPS) management alternatives including agricultural best management practices (BMPs). Teemed up by a water resources specialist, an irrigation specialist, an agronomist, and soil scientists, BASIC will disseminate information on the NPS management alternatives using various media, conduct a series of workshops and an annual conference, and field demonstrations, and provide on-site technical assistance to the local growers and field operators/managers. The team will also utilize assistance and cooperation of UC agricultural institutions, local fan advisors, and specialists in the agricultural industry.

Among Seven agricultural NPS management measures (MMs) adopted by the State, this project will focus on implementing 'nutrient management' alternatives that will reduce excessive application of nitrogen fertilizers by the growers. Since surface water bodies have been contaminated by nitrate contaminants transported through the soil erosion process most Of the time, this project will promote Natural Resources Conservation Service (NRCS) 'erosion and sediment control' programs. As efficient and effective irrigation water management will, reduce delivery Of nutrient residues to surface and ground waters, this project also includes 'irrigation water management' educational and outreach assistance programs.

The BASIC team will seek the local Farm Bureau and the agricultural community's leadership in the formation of a community oversight committee (COC), and the implementation of the educational and outreach programs. Utilizing the assistance from the [redacted], growers will be recruited to become the hosts for on-farm demonstrations on nutrient and irrigation water management, and soil testing. Technical assistance for soil nitrate quick testing and water testing will be provided to the growers free of charge. The participating growers will be assured that any test results will be kept confidential. The cooperating growers will be encouraged for their participation in the workshops sharing their experience with the outreach programs.

Problem Statement:
The project area includes environmentally sensitive water bodies such as the Pajaro River Estuary, Watsonville Slough System, the Pajaro River and its tributary stream system which flow into the Monterey Bay Marine Sanctuary. The river and stream systems within the lower Pajaro River watershed provides beneficial uses for municipal, industrial and agricultural supplies, support for fare, threatened and endangered species, aquatic organisms, wildlife and biological habitats. The State Water Resources Control Board (SWRCB) has identified the Pajaro River and several tributary streams in the 303(d) list for their significant water quality impairments. The impairments are attributed to nonpoint sources of pollution.

Agriculture is the most significant land use, Occupying 31,000 acres 'Of irrigated farmlands this project area. Lettuce, strawberries, broccoli, cauliflower, celery and cut flowers dominate the croplands. Water monitoring programs in this area detected the excessive fertilization and irrigation water management practices as major contributing factors to the elevated levels Of nitrates.

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In 1998, Monterey County Water Resources Agency's Interim Management Plan for North Monterey County which study area includes southern plains of the Pajaro Valley, recommended the establishment of an on-farm nutrient management program integrated with efficient imgation practices. It called for education, on-site consultation for soil, water and plant tissue testing. In 1998, the County of Santa Cruz reported that 25% of the wells monitored in this project area were found with nitrate levels exceeding the drinking water standard of 45mg/l. In 1999, the Pajaro River Watershed Management Plan (PRWMP) indicated the most likely sources of nitrates as fertilizer and irrigation management generating runoff during the growing season, from in-season leaching of nitrate and flows running through subsurface drain tiles. Recommendations in the draft PRWMP include: greater integration of technical expertise in the private and public sector to develop and implement region and crop specific research and demonstration projects: to increase in the awareness and utilization of incentive programs, field trials, technical training and education for land mangers: to develop concept and secure funding for an annual water and nutrient management workshop; to sponsor farm field days; to develop short articles for regular publications; and, to assess the applicability of and feasibility of implementing BMPs for areas contributing runoff directly into the lagoons and tributary waterways.

For many years, the existence of water quality problem in this project area has been documented, and recommendations for water quality management measures have been made by various agencies, but no action is found on the ground yet. Currently, there are no farm advisors within the watershed area whose responsibilities are specific to nutrient and soil management. Among many pressing issues, 'nutrient management' programs with local water agencies do not get a high priority. Meanwhile, growers and property owners have been reluctant to participate in farm-assistance federal and state programs as well as governmental agency led programs due to distrust with the government.

Specific Water Quality Goals involved:

Surface and groundwater quality will be improved when agricultural operators practii effective irrigation water management through irrigation water conservation while practicing reduced application of nutrients through the use of best (nutrient) management practices. Among the growers, there are some who already have exercised nutrient and water management in their farm operations. They should be recognized, and urged to impart their experience to other growers. Majority of the growers is aware of BMPs, but not well convinced that these alternatives will work, and/or cannot afford the time, or take a chance. Interviews with growers confirmed BASIC team that they will be more committed to adopt attemative practices if they are assured that their crop production will remain higher, they will save money by cutting down expenses, and data regarding their farm operations under the collaborative programs will be kept confidential.

The objective of outreach assistance programs is to help growers save money otherwise be spent for (unnecessary) excessive fertilizer applications by monitoring level of nitrogen-nitrate in the soils and water while maintaining their high-level crop productivity.

For the growers who are not quite aware of nutrient and water management alternatives other than their cultural practices, will be reached out through various media, and informed them about efficient and cost-saving water and nutrient management alternatives. Field demonstrations will be held at host-growers' sites, and scientists as well as growers with experience in particular BMP practices will be used to lead the demonstrations. Growers' interest will be more stimulated by creating opportunities for them to meet with farm advisors, university scientists, and industry representatives, and to exchange experience, practical knowledge, and new technologies for nutrient and water management. For this, BASIC team will hold workshops/seminars. BASIC will organize to hold a special water quality awareness day' displaying poster and educational information on NPS management measures by the public and private organizations. Once the growers become enthused to try out alternative management practices, BASIC team will provide on-site technical assistance. Growers who participated in the outreach programs will be encouraged to impart their experience in the future field demonstrations and workshops. The grower participation is voluntary, and technical assistance under this project is free of charge.

work to be Performed

1. FORM THE COMMUNITY OVERSIGHT COMMITTEE

Obiectiies: To empower local farming communities to be the leaders in the effort to improve local water quality management.

Membership: Representative& from local Fan Bureau, Grower-Shipper Association, and major crop growrs or farming communities (Not necessarily limited to this list.)
Functions: (a) to oversee the overall project activities and their progress; (b) to advise the BASIC team in the identification of focus areas and stream segments, contacts to landowners/growers, and assisting individual landowners/growers, (c) to provide leadership in these educational outreach programs through agricultural organizations, and (d) to hold at least bi-monthly public meetings.
Action Schedule: As soon as the project is funded.
End Result: Committee meeting minutes

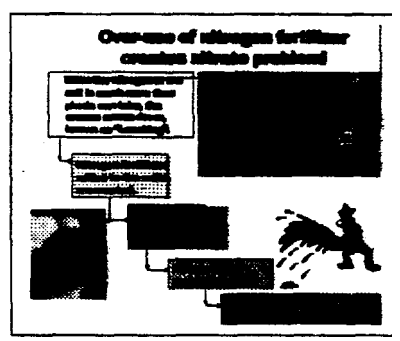
2. FORM THE TECHNICAL ASSISTANCE/SUPPORT GROUP

Obietiies: To organize available resources that will be used in the implementation of the project.
Membership: (A) On-Farm Technical Assistance Subgroup – UC- Cooperative Extension, NRCS, Cal F&G, Ag. Commissioner's Offices, Fertilizer Companies, Cal Strawberry Commission, etc.; (B) Advisory/Funding Assistance Subgroup – US-EPA, Cal-EPA, SWRCB/CCRWQCB, DWR, Coastal Commission, Santa Cruz County, Monterey County, County Farm Bureaus, PVWMA, MCWRA, etc.; and (C) Information Assistance Subgroup – PVWMA, MCWRA, Santa Cruz County – EHD, MC-EHD, San Benito County Water District, City of Watsonville, AMBAG, etc.
Functions: ing project activities and their progress will be informed by the Project Director; (b) To provide advise and assistance to the BMP team, as needed: and (c) to hold quarterly joint-meetings with the Community Oversight Committee.
Action Schedule: As soon as the project is funded.
End Result: Group meeting minutes

3. DISSEMINATE INFORMATION ON ALTERNATIVES IN NUTRIENT AND IRRIGATION WATER MANAGEMENT

Objectives
Information to be disseminated: : It is to introduce to growers about more efficient and cost-saving alternatives in nutrient and irrigation water management.

- Approaches in on-fan nitrate/nutrient and water management (including Best Management Practices as prescribed in UCCE's Growers' Guide)
- Benefits of on-farm nutrient and water management
- Fertilizer industry's efforts in nitrate/nutrient management
- Relationships between fertilizers, food, public health, and the environment
- Local growers' efforts in reducing nitrate leaching and improving water management
- Upcoming Nutrient Management seminars/workshops
- About the nitrate condition of the Study Area for the public's awareness
- About Soil erosion control measures and available NRCS programs



Methods
(A) Developing an Internet Web Site: It will showcase alternative nutrient and water management practices, local growers' efforts, benefits of on-farm nutrient and water management, and other related information. The web site will include linkages to other nitrate and water-related sites on the world wide web. In addition, a bulletin board will be created to allow dialog between interested parties.
(B) Publications: Bilingual/bi-annual newsletter, laminated brochures on Soil Nitrate Quick Test, and brochures with illustrated information on nutrient and water management alternatives will be produced and distributed to the growers and farm operators
(C) Posters: Nitrate awareness and water management related posters would be produced.
(D) Participating in Local Activities: A booth will be opened at local community activities/festivities, water nitrate tests will be performed, and handouts will be distributed.
(E) Teacher-Student-Parent Education: Nitrate awareness and water management information will be provided to parents through students and tea&en.


Dr. Wu with students at Salinas Farm Day

Action Schedule: As soon as the project is approved for funding.

End Results: Establishment of a Web Siie, publication of bi-annual newsletter, production of brochures and posters, opening of public info booth at local festivals, and participation in local school activiies.

4. CONDUCT WORKSHOP SERIES, AND AN ANNUAL SEMINAR ON NUTRIENT AND IRRIGATION WATER MANAGEMENT

Methods:

- To conduct two half-day workshops, one on nutrient management, and the other on irrigation water management coordinated with universities (Cooperative Extensions/Cal Poly), farm advisors, scientists, and local growers for participation. (Scheduled for October and April)
- To conduct an annual seminar on 'Nutrient and Imgation Water Management Alternatives" that are efficient, cost saving, and environmentally friendly, and that also maintain high yield in late January.

Subjects to be covered:

- Improving Irrigation System Performance (Scientist/Private Sector Specialist)
- Testing Nitrate in Water, Soils, and Plant Tissue Testing (Scientist/Private Sector Specialist)
- Panel on latest R&D on nutrient management (by major crops) (Farm Advisors, UC-Davis, Cal Poly, etc.)
- Panel Discussion on Effectiveness in Water and Nutrient Management (by Local Growers)
- One topic on Organic Fanning (Compost Use) and Fertilizer Need
- One topic on Pesticide Application and Personal Protection
- Presentation on Drip Irrigation, Soil Improvement, Crop Cover and Tillage, Fertigatlon, Equipment
- Demonstrations on irrigation System Evaluation, Soil and Water Nitrate Quick Test, Sap Test, etc. (in the Afternoon Session)
- Soil Erosion Control Techniques and availabie NRCS programs
- Etc.

Potential speakers:
Scientists and professionals from private consulting firms fertilizer industry, universities and the public institutions, as well as local growers who have used BMPs, felt rewarded, saved money, and effectively reduced water and nitrogen fertilizer use, will be invited. Local grower presenters will be assisted in making slides and handouts for their presentations.
Special arrangements: Simultaneous Spanish translation will be provided to the Spanish-speaking audience One-hour credit will be provided for Pesticide Applicators Continuing Education credit. Other educational credit will be provided as appropriate.
Publicity: Announcement of the seminar schedule will be made on the www.BASIC.org and Winners' Circle web sites as soon as funding for this project is. Email/Web sites will also include solicitation of sponsorship, speakers, seminar and poster session information. A brochure on the seminar and workshop series will be released. The lists of pesticide applicators filed with County Ag. Commissioner's Office will be used for mailing. The seminar announcement will be distributed through the County Farm Bureaus, NRCS, and local Chamber of Commerce offices in the Monterey Bay Region. Students at UC, CSU, Cal Poly and local community colleges will be notified through their agricultural departments.
Potential swnsors and cooperators: UC-Davis, Coop Extension, Ag Commissioner Office, CSC, County Farm Bureaus, Local Water Agencies, ARS, CCOF, the fertilizer industry, Cat Poly, CSA, and local communities, etc.
End Results: Two workshops, and one annual seminar

5. ORGANIZE AND CONDUCT THE WATER QUALITY AWARENESS DAY ACTIVITIES

Methods: To recognize agricultural and non-agricultural communities' efforts in project area water quality protection, prevention and improvement, the BASIC team will organize a special water quality awareness day' (or a farm day). Invitation to the universities, private and public sectors, and non-profit organizations will be made to open booths with posters and educational information on NPS management measures, ongoing NPS projects and programs and other related activities.
Sponsorship: Requests will be made to the UC-Davis, CSU-MB, UC-Santa Cruz, Ag. Cooperative Extension, Ag Commissioner Office, NRCS, CSC, County Farm Bureaus, local water agencies, ARS, CCOF, the fertilizer industry, CDFA-FREP, Cal Poly, CSA, and local communities, etc.
Action Schedule: The COC will select a Saturday in early fail.
End Results: Water Quality Awareness Day celebration

6. CONDUCTING FIELD DEMONSTRATIONS

Methods: To allow the growers to see scientific, cost-saving, and environmentally friendly methods of on-farm nutrient and water management, the UCCE farm advisors, scientists and researchers, fertilizer industry field

agents, and growers who have used nutrient and water management practices successfully will be utilized to perform field demonstrations. Field demonstrations will be performed at farms hosted by local growers throughout the project area. Related information will be produced in English/Spanish language brochures, and distributed to the participants. Specifically, neighbor-growers around the host-grower's property will be invited for observation of the field demonstrations while all interested growers in the project area will be notified and invited.

Types of field demonstration:

- On-farm Irrigation Performance Evaluation
- Nitrate in Water Tests (Both irrigation and domestic water users will benefit from this assistance.)
- On-farm Nutrient Tests (Soil Nitrate Quick Test, Sap testing, Comprehensive Soil Testing, and other appropriate methods of nutrient tests will be demonstrated.)

Sites for field-demonstration; The BASIC team will follow the Community Oversight Committee's leadership in identification of participants.

Action Schedule: Eight to ten field demonstrations will be conducted throughout the year.

End Results: field demonstrations

7. PROMOTE SOIL EROSION CONTROL MEASURES

Methods: To prevent from on-farm excess nutrients together with soils transported to the water bodies by the surface runoff, information on available NRCS technical and cost-sharing programs such as the Environmental Quality Incentive Program {EQUIP), the Wildlife Habitat Incentives Program (WHIP), and the Farmland Protection Program (FPP) will be disseminated through various media under this project. Presentations on soil erosion control measures and avialable NRCS programs will be included in the field demonstrations, workshops and seminars.

Action Schedule: Same as for field demonstrations, workshops and seminar

End Results: Presentations

8. PROVIDE ON-FARM TECHNICAL ASSIATANCE ON NUTRIENT MANAGEMENT

(A) Comprehensive Soil Testing for Strawberry Farms

Objectives: California's highest concentration of strawbeny farms can be found in this study area, mostly located on the sandy, sloping terrain, from the hill tops to the banks of water bodies. This program is to set up experiment fields in cooperating growers' strawberry farms and demonstrate to the strawberry growers as a whole, a soil testing technique that monitors nitrate distribution in the plant beds establishing an irrigation and nutrient program that optimizes nitrogen fertilizer use.

Methods: The soil testing program involves a trained personnel sampling of soil from a cross section of half the bed, splitting the bed into ten to 13 zones and running a battery of tests on each zone to determine the pattern of nitrates and salts movement. Soil scientists will discuss with the grower to note fertility practices and water quality conditions in the past. Water from the sampled soils will be analyzed using the latest equipment like ICAP, AAS, AAE, IC, etc. Results with the interpretations will be reported to the growers. It is anticipated that five sampling and testing from four (farm) sites of five strawbeny growers will be made.

Action Schedule: Monthly soil sampling and testing will be made through out the year.

End Results: Five reports on soil test results suggesting growers how to optimize the fertilizer and water applications to maintain higher productions.

(B) Soil Nitrate Quick Test Program for Other Vegetable Growers

Obiedives: To teach farm operators how to take soil nitrate quick tests in their farms, free of charge.

Methods: The project team will accept participant's request for assistance. Assiied by the farm operator filed plot(s) will be selected. The project team will teach the operator how to take soil samples and nitrate testing. The farm operator(s) will be provided with bilingual laminated soil-nitrate-quick-test guideline sheets.

Action Schedule: Throughout the year

End Results: Soil nitrate test results

(C) Water Testing Program

Obiedives: To help determine the level of nitrate in the irrigation water.

Methods: Free of charge assistance will be given to agricultural well owners in testing nitrate level in well water.

Action Schedule: Throughout the year

End Results: Nitrate level test results