

The FARMS Leadership Program: A Preliminary Evaluation of an Experiential Educational Program for High School Youth

INTRODUCTION

The FARMS (Farming, Agriculture, and Resource Management for Sustainability) Leadership Program began in 1993 as a partnership between Sierra Orchards, the University of California, Davis, the Yolo County Resource Conservation District and the California Foundation for Agriculture in the Classroom. The purpose of FARMS has been to increase high school students' knowledge of sustainable agriculture and farming, and those factors which affect the work of farmers and ranchers seeking to participate in practices that are environmentally sensitive, conserve natural resources, and increase wildlife habitat. The program seeks to accomplish its goal in several ways:

- ❖ Arrange for high school students to participate in on-site workshops
- ❖ Conduct workshops in a University of California-operated sustainable agricultural program
- ❖ Introduce students to University of California faculty and Cooperative Extension Specialists and Advisors
- ❖ Give students the opportunity to work in teams and develop leadership skills in a cooperative setting
- ❖ Arrange an overnight stay on a farm
- ❖ Introduce students to careers in the areas of agricultural and environmental sciences.

The director of the program visits schools from a three-county area in the greater Sacramento vicinity to describe the program and its requirements. The schools are selected for their location, with both rural and suburban schools included. At the time

of this evaluation there were 30 students (six from each school) selected to participate in the program.

Purpose. In 1999, the program was beginning its sixth year of operation with plans to expand the program to two other locations in California. This preliminary evaluation was devised with the following questions in mind:

- ❖ How well is the program working (i.e., how can it be determined that the program is successful)?
- ❖ Are the goals of the program being met?
- ❖ Are the goals of the stakeholders being met? (To be considered from the perspective of students, teachers, mentors, FARMS staff, and partners)
- ❖ What is the experience being created?
- ❖ What can be better?

METHODS

The FARMS program is complex and provides a unique experiential educational opportunity for students. Each month students meet at a predetermined location, listen to presentations about particular aspects of sustainable agriculture and participate in hands-on activities or workshops. It was determined that using several methods to gather information would provide an overall view of how the program was meeting its objectives. These methods included:

- ❖ **Observation notes** were taken at each field day.¹
- ❖ **Surveys** were developed for current students, current teachers and former FARMS students and were distributed in the spring of 2000. Twenty students and ten teachers returned completed surveys.

Author:
Ramona Carlos, M.S.

Survey questions were developed around the following issues:

- ◆ Support and preparation, including barriers to student participation in and meeting the requirements for involvement in FARMS; comparing the demands of the program with those of other classes; benefits and barriers to teachers' participation; impact of FARMS' participation on other teaching responsibilities; hindrances to teacher continuity and motivation; training for teachers
 - ◆ Research project; preparation and support for completion of the project
 - ◆ Mentors; establishing relationships with mentors. For this report, results from those surveys completed by teachers and current students will be discussed.²
- ❖ **Interviews** were conducted with FARMS staff, UC and other professionals participating as mentors in the program, and a former FARMS student. The interviews with the FARMS staff were to establish procedures of the program. The interview with the former student was to determine the relevancy of the questions for both mentors and students. For the purpose of this report, the interviews with the mentors (two UC specialists and one independent consultant) were taped and transcribed.³ The questions for these interviews centered around the following subjects:
- ◆ Interactions between mentors and students and mentors and teachers, including how often mentors and students meet; how much guidance does a mentor give students; mentors meeting with other mentors; working with teachers
 - ◆ Support and preparation; whether mentors could be better used in the program; how mentor continuity is maintained in the program
 - ◆ Using former FARMS students in the program; how FARMS meets its program goals: increasing knowledge about sustainable agriculture; promoting the development of leadership
 - ◆ Overall impressions; benefits of the FARMS program; suggestions for improvement.

RESULTS

Field day observations. The following was observed to occur during field days:

- ❖ Most of the information is given verbally. The discussions and presentations are generally lecture with few handouts.
- ❖ Students do a lot of hands-on work. There are numerous opportunities to actually try and do experiments and other tasks.
- ❖ The mentors and other presenters take a genuine interest in their involvement with the FARMS students. Presenters encourage active involvement from the students and appear eager to teach and share their information.
- ❖ There is a variety to the workshops and topics. Students are given the opportunity to learn about a wide range of factors that influence farming and the environment.
- ❖ The staff works hard to address student needs and responds quickly to student requests.

Survey and interview data by topic.

Support and preparation. Almost half of the students (9/20) and most of the teachers (7/10) said they met a few times a month to discuss the FARMS program. However, 17/20 students said they would have liked to meet more often with their teacher and the other FARMS students to discuss either the program or project. Student comments about meeting centered around the project: *So we could understand what needs to be done on the project; to talk about things, like if we don't understand something or just to know more about what we do on the field days; ensure success of the project.* Eleven of 20 students indicated that they were not encouraged and supported by their teacher to meet regularly to discuss the program.

When asked if it would be helpful if their teacher discussed field day topics more often, students were split in their results. Those students who would have liked more discussion about field days said: *We would like to know what's going on and what we would be doing; I would feel more involved in the FARMS program. I also would be more prepared for the day . . . what we would be doing, what information we would be covering.*

Teachers are an integral part of the program. They are asked to give up a part of their schedules to the program and are expected to drive their students to the field day locations. At the time this preliminary evaluation took place, there were several teachers who had been through the program more than once. When asked how FARMS staff can assist or support teachers, teacher

responses included: *Invite administrator(s) so school also understands what we do; maybe a couple of meetings for just teachers to strategize about problems; keep the funding coming as when that stops the admin (sic) will end the availability of getting subs as this district will not pay for it.*

Teacher training. Just over half of the teachers (6/10) think teachers should be trained to participate in FARMS: *A day or half day to meet other teachers and have our role explained, especially for the first year; how to set up research project; time management; what kinds of kids to choose; to understand that this is an educational opportunity to learn about agriculture and not about physically doing the educating. Guidance is more important than teacher hands-on.*

Hindrances to maintaining teacher participation in FARMS. The overwhelming hindrance mentioned was “time.” There are time constraints and demands on teachers from their school responsibilities and from FARMS responsibilities: *It’s hard if you are the only teacher at a school site in the program. I think it helps to be able to alternate missing school to come to field trips and to share the time commitment with the research project with other teachers; time away from class; I want to stay involved but I just don’t know if it’s fair to kids and to the program if I don’t have the time.*

All ten teachers indicated that the greatest barrier to their participation is scheduling FARMS with their other class work. Although FARMS provides the funding for a substitute teacher on field days, the teachers still need to prepare for a substitute and miss their classes on those days. Other issues raised that affected staying motivated to be involved in FARMS included: *Working with unmotivated students; burnout; the research project—I really think it needs to be modified.*

When asked what FARMS staff could do to help teachers, they had a variety of suggestions: *good mentors; target science teachers that have less duties after school or try to get more parents actively involved; summer extern/internships; perhaps some form of teacher recognition on the last day that includes the students.*

Teachers’ views regarding keeping students motivated during the program. *We need to make expectations/attendance more clear; get a contract with grades A-F requirements specified; receiving credit for a 5 unit class; make college*

*credits available; more responsibilities throughout the year, i.e., presentations; earlier starting of research projects; list of possible projects; choose the students carefully—we interview each student as to why they are applying; commitments they have to other extracurricular activities. . . when 3 can come, 3 can’t! they could get more student involvement if the students were required to discuss the project on e-mail bulletin board with others at UC Davis. One respondent suggested that having students intentionally separated from their schoolmates to make up research project teams may not work to the advantage of the program: *Maybe we need more emphasis on students from each school being a team so they learn to work together instead of mixing the students up.**

Mentor views on support and continuity.

Each of the mentors who were interviewed had been with the program at least four years. When asked what they see being in place to maintain mentor continuity, i.e., their returning to participate in the program, the mentors referred to administrative decisions by staff: *As far as I can tell, maintain a personal contact with mentors by FARMS staff; I think they’ve tried to continually make progress to define what a mentor does; I think that helps.*

The mentors provided two suggestions for keeping them involved in the program: *Substantive involvement at field days would keep me on the stick . . . and even if not the main focus if they have some ancillary function at the field days; I know FARMS staff want mentors at field days; provide clear expectations about what mentor responsibilities are.*

Some comments reflected dissatisfaction with their involvement in the program: *A lack of professional growth in own field is limiting my use/interest to the program; feeling underutilized; I think it’s good to be involved in other ways besides through the research project, e.g., workshops; it’s a lot of work and mentors don’t get paid.*

I don’t know how much of a need there is (for mentors). A question needs to be put to teachers: do they feel a need for a mentor for every project? One mentor has gone beyond what FARMS has told us we need to do; need a change in attitude by teachers or mentors if it’s really going to work. If there isn’t a big need, think of a different way. It’s better to do something well than poorly. I think it hasn’t worked out as well as it could have.

When asked how they could be better used in the program, comments included: *It*

would help me to be prompted about what the thrust of the field day is, even if there could be an ancillary function for me, that would get me there Working on related projects, coordinated, that compliment one another would be cool. Students involved in related projects could communicate by e-mail, have reciprocal site visits, that would result in a richer experience with individual involvement . . . Multi-person project plus uninvolved students equals a negative impact project.

Give mentors really clear expectations, e.g., how many times they will be meeting; Discussion on technical information, scientific facts, and also guidelines for mentors about how important those are—what's the real educational level goals for these kids? . . We should have guidelines about how far the students should be coming. It's tricky because of the different student populations . . . It would be helpful for the coordinator to be more in touch with mentors; give a calendar, to prompt them along.

Research project. Students were asked to rate the level of guidance they received on their research project from teachers and mentors and other students. Eleven of 20 students indicated more teacher discussion would have helped them better prepare. Twelve of 20 students said more mentor discussion would have helped them. Fourteen of 20 students said they received a lot or as much as needed from teachers on the project. Eleven students indicated the same from mentors. Three students said they received no guidance from mentors. Eight teachers indicated that they helped students select their research projects. Teachers were almost unanimous in stating that the biggest barrier to the project is finding time for meeting, collecting data and working on the project.

Interactions between mentors, students and teachers. STUDENT PERSPECTIVE. Mentors were considered helpful for providing ideas, and as a resource for additional information on the research project. Mentors were seen as having a lot to offer the students: *It was fun learning about all the info he and she had to offer; they are a wealth of knowledge.* However, 15/20 students said they would have liked to meet with a mentor more often than they did. *More guidance would have helped us significantly; because he knows a lot more and he could help us in finishing the project.*

Although the majority of the students indicated they were encouraged by teachers

and FARMS staff to contact mentors, Fourteen said they spoke with mentors not at all or once or twice. Six students said they spoke with mentors more than twice. When asked why they didn't contact the mentor, responses varied: *Too busy, forgot address; school schedule and too many other activities. . . time, driving distance, and not being able to meet with all the group at one time; not being able to reach him.*

Students were asked what could help improve contact with the mentors. The comments ranged from suggesting mentors take on more of the responsibility to suggestions for methods which would make contact easier for both groups: *People should use e-mail more frequently to contact one another; weekly or monthly updates between mentors and students; more preparation, a schedule of what time and where we would meet so that we could see it written down and expect to be there and plan everything else around it; more regular meetings with them on FARMS days.*

TEACHER PERSPECTIVE. When asked to rate the level of contact they had with mentors, teachers generally indicated that they let the students' desires lead the way. Three teachers said they worked with mentors and students on the research projects. Two teachers said they contacted mentors if the students ask for a meeting to be arranged.

Eight teachers indicated they see a need to work more closely with mentors for the following reasons: *It helps make things more cohesive and run smoothly; students lack experience with research projects; it helps to have some guidance but having students take the lead as much as possible; to make sure it is relevant and supplemental to curriculum; to get the kids to feel more responsible; and so that I know what options there are when things don't work.*

Teachers did not see their work as sufficiently different from mentors' work to preclude them from collaborating with mentors. When asked to list hindrances to collaborating with mentors, eight of the ten teachers indicated "time" as the principal hindrance. Four teachers also listed *Not many opportunities to communicate.*

MENTOR PERSPECTIVE. When mentors were asked how much interaction there typically was between themselves and students, the answers indicated that interaction can be varied and dependent on several things: time, availability and communication: *In the past, phone calls from students, a couple of times—*

trips to schools. Typically I give a presentation of an overview of a research project and other project possibilities; FARMS program have said it's the students' responsibility to contact and I've followed this. Possible factors: students are intimidated; high school teachers busy; I'm off somewhere else. It's not easy. Teachers and students see each other frequently at school, can deal with issues; It depends a lot on the student group. I've had several different experiences. On field days I would try to hang out with those I'm mentoring. The years the mentoring has gone the best, I've seen them a minimum of four times. Going to their school, have a meeting after school was the best.

When asked if they are used to their best capacity to benefit the students, all three mentors said "no." No, but I think it has to do with temporal continuity. It's not for lack of effort. There are limitations in format—the format's stayed the same since its inception; I feel underutilized. Mentors should plan on meeting at least four times. Go to their environment at least a couple of times.

With regard to working with teachers, mentors were asked how much contact they had with teachers and if they saw a need to work closer with teachers. Although the amount of contact has varied for each mentor, all three see a value in establishing more contact with teachers: *We could supply teachers with literature they might not have access to. Teachers likely have more knowledge about practical set-ups for experiments. We could get an idea of what questions could be asked, what types of projects are physically doable; Teachers could benefit from the expertise of the mentor. Could be scientific or experience in something to help avoid pitfalls. Even if it's primarily an interaction between teacher and students, it would be good for the teacher to contact the mentor for a critique or advice. Some teachers may want more interactive input and some wouldn't, but it might be good to have research proposal reviewed; if you enroll the teachers, it's a lot more likely to happen.* When asked specifically if meeting before the start of the school year would be helpful, mentors replied: *Sure, it's a good idea. Teachers could make an offer of what kinds of ideas could be supported at the school; it could be helpful.*

Program goals. Teachers and students were asked to consider how well FARMS meets two specific program goals:

- ❖ being informed about what it means to be an agriculturalist, and

- ❖ providing leadership opportunities to students.

Mentors were also asked if the program promotes the development of leadership.

Informing about agriculture. With regard to being informed about being an agriculturalist, all ten teachers indicated the program was either "Very Successful" or "Somewhat Successful." Comments included: *They are given hands-on activities, talk to and ask questions of, people in many related and support fields as well as farmers themselves; they show them a wide range of topics from harvesting, growing, techniques to life of farm workers; academic and work-related experiences are involved; we touch so many areas, I'm not sure students connect that this is what it is like to be a modern agriculturalist; students learn about the land, crops, and skills needed. What most of them do not see is that they are part of the picture. Most do not own land, have an idea that this is work and a lot of them do not want to get dirty—it's not cool.*

Teachers made several suggestions about how FARMS could better meet this goal: *Visit more industries related to agriculture, i.e., fertilizer and equipment; focus on current problems in agriculture; it is hard when you meet as we do, not because of where or how, it is because they have little understanding of why this is important.*

Students were asked to rate whether their knowledge increased in the following categories:

- ❖ Methods of farming
- ❖ Assistance available to farmers
- ❖ Sustainable agriculture
- ❖ Wildlife habitat, and
- ❖ Natural resource conservation.

Students indicated that their knowledge had indeed increased, most indicating "very much." There were five students who indicated "neutral" with regard to increased knowledge about "assistance to farmers," "wildlife habitat" and "resource conservation." These results could indicate that the relation of these areas to agriculture was not as clear as was the relation of agriculture to methods of farming and sustainable agriculture. This finding supports comments by teachers who think FARMS is somewhat successful in meeting its goal of informing students about what it means to be an agriculturalist.

Leadership. A second goal of the FARMS program is to provide leadership skillbuilding opportunities to the students. Various

FARMS STUDENTS LEARN LEADERSHIP AND TEAMWORK

activities have been included in the program to give students the opportunity to work together, take the lead in situations, or know when to look to others for direction. Students spend one field day in a ROPES course which requires teens to work together cooperatively in order to complete various obstacle courses. Also, each school group is required to introduce the subject for the day at a field day. All students are also required to develop and complete a research project, either individually or as part of a team, and present the project to the entire group at the end of the school year.

It appears that overall, most teachers and students think FARMS does promote the development of leadership through its planned activities. When asked how they think the FARMS program encourages and supports the development of leadership in students, four of nine teachers indicated “through the research project,” and one-third said “the ROPES course.” In addition to these, students referred to hands-on activities, public speaking, and presentations. *It taught us that everyone has a different way to lead and we all have to adapt to it. Also, leadership is not just one person, it can be a lot of people; working together in small groups like the owl boxes and group projects helped.*

One student did not agree that FARMS encouraged and supported leadership: *The program gave opportunities for leadership but no real training. In the end those who were leaders led and those who weren't walked around . . .*

When asked how FARMS could better promote the development of leadership, five students had the same suggestion: *Do another day devoted to leadership; Have a ROPES day at the end as well as the beginning to see growth in leadership.*

When mentors were asked how the program promotes the development of leadership, various aspects of the program were described as mechanisms for promoting leadership: *It's important for students to have exposure to mentors who care about them—they will value selves more. It's important for students to be around people who believe they can accomplish great things and are willing to work with them. It may be females need more encouragement about stepping out and males more about being team players. Hopefully it builds confidence, self-esteem. It's a different sort of activity than what they do in the classroom. It may be good for students with*

different talents than what's rewarded in school. ROPES, team building may be a longer term thing. They're learning how to work with others, be effective community members. Learning how to speak in front of others. Hearing professionals being modeled for them.

Field Days. While 12/20 students were “Very Satisfied” with the field days, 8/20 rated themselves as “Somewhat Satisfied.” When asked what they liked least about the field days, comments included: *I did not like the long, mundane speeches, the evaluations at the end, and the speakers who just kept talking; could have been more concise; sometimes not everyone had a chance to do something; making up schoolwork; writing.*

Teachers were almost unanimous (9/10) in describing the field days as very successful. The field days were described as being enjoyable and diverse. When asked what barriers they faced to participating in the field days, two comments indicated that transporting students to and from the field days was at times an issue, and that students were sometimes overwhelmed with being out of class and getting behind in their other classes.

Benefits to participating in FARMS.

All three respondent groups were asked to consider their level of satisfaction with the program, as well as the benefits to their participation in FARMS.

STUDENTS' VIEWS. Students were very satisfied with the opportunity for “unique experiences” and “working with a diverse group of students.” They were also very satisfied with their increased knowledge of agriculture and agriculture/environmental science careers. When encouraged to provide comments about their experiences, comments included: *Everything that the FARMS program provided was very helpful and resourceful; being able to help city kids makes me feel good, that I was able to show them something new; working with the pros was like wow! I actually had no idea that there were so many work opportunities; only one prominent workplace with many options; see different ag careers, field trips, meeting new people; more awareness of consumer and voter ag issues; FARMS teaches students many things and the kids actually want to be there so they pay attention and learn.*

Students were slightly less satisfied with the opportunity to work with UC educators, teachers, and other professionals, supporting the comments some students made reflecting

a general dissatisfaction with their experience with mentors. Also, a few students noted a lack of mixing across schools: *There wasn't a lot of interacting between different schools; everybody would always stay with their own school.*

Overall, students considered the FARMS program a wonderful opportunity. They commented on how fun the program is, and that they had the chance to be involved in a unique learning experience. One student was able to summarize in this manner: *In a utopian world all learning would be done in this manner. . . a program like this at least lets some kids get a taste of what useful learning is. Any kid is lucky to have this program.*

TEACHERS' VIEWS. When asked what they consider the greatest benefit from their own participation in FARMS, teachers emphasized learning and opportunities for collaboration for both themselves and students: *learning for us too; interacting with a select group of students; meeting other teachers and outside people from different areas; seeing new research and getting new perspectives and information/material to use in teaching.*

The overall benefits to participation in FARMS reflect two principal components of the program:

- ❖ the learning opportunities the program makes available—exposure to ideas of sustainability and issues related to agriculture; exposure to doing a research project; exposure to new things in a manner that's hands-on and memorable; awareness of agriculture and practices, and
- ❖ the students' opportunity to learn in a different environment—*taking kids out of their comfort zone and introducing them to new ideas and people; wonderful experiences outside classroom; real life and work/research experiences; broadens students' perspective of lives (sic) opportunities and the work needed to be successful.*

When commenting on recommending the program to others, teacher comments included: *So many excellent opportunities for teachers to make real world connections; it gives students a chance to get out and see new things; it was a great experience; great way to connect with students outside of class; how else do the students start seeing how the real world works.*

Mentors' perspective. Mentors' comments were similar to the teachers' when asked to

comment on the overall benefits of the program: *We expose students to ideas of sustainable agriculture, to the idea of doing experiments on issues that really matter to agriculture concerns; connect them to other intelligent students. As mentors we might be exemplars to them. The opposite could happen, too; students could be exemplars to mentors. Hopefully it demystifies ag science for students and shows them ag in a natural environment; it allows students to see the connection between practical and scientific. Stuff you learn in a classroom can be seen in the real world. Helps put science in a real context.*

How can FARMS be improved? Students' recommendations fell into several categories. They noted that the program needs to find ways to encourage students from different schools to mix with each other: *Mixup groups from different high schools to get students to interact more; get them out of their own little circle; get more students from urban areas into the program; maybe you could get everyone involved.*

Two students felt the program could improve how it supports the research project: *more focus on the research project; put pressure earlier during field day to start on projects, instead of later.* Two other students had suggestions about adding to the learning component of the program. One wants more *hands-on activities that relate directly to agriculture.* The other recommended: *The program shied away from making the students think and learn. Do not be afraid to give required readings, let the teachers enforce them. The background information from each school is not enough. The program has the hands-on fun stuff down perfectly. Now the program must develop expectations for a level of knowledge and understanding.*

Teachers were straightforward when asked how they thought FARMS could be improved. Of the six teachers who responded to this question, four referred to the research project: *Modify the research project; make it simple; maybe have students replicate experiments already performed; somehow enable students to spend more time on research project; pre-plan research with teachers and researchers.*

Mentors made several suggestions when asked how FARMS could be improved: *I have this sense I'd like to see the kids more engaged. But I don't know if that's just high school students; 1) need more money, 2) need to get nonprofit, 3) need to pay the director so he can pay attention in a job-like way, 4) need a good*

STUDENTS FIND FARMS A WONDERFUL OPPORTUNITY

board with a really good program committee, 5) focus on having kids take leads on FARMS days—it's collaborative learning, 6) keep assessing what worked and what didn't, keeping it alive, continuing successful FARMS programs.

SUMMARY AND RECOMMENDATIONS

A goal of this preliminary evaluation was to answer some questions identifying methods for making FARMS a more successful program.

1. How well is the program working—how can it be determined that the program is successful?

Based on all of the information, it appears that the program is working very well. All three respondent groups were generally very positive about the value of the program and what it is providing to students' knowledge, as well as how it is providing information to students.

2. Are the goals of the program being met?

Students are given opportunities to learn about sustainable agriculture through the workshops and visits to working farms which use sustainable agriculture practices. As reported in the surveys, students indicated that in most cases their knowledge did increase. Twenty-five percent (5/20) of the students did not feel their knowledge had increased in areas of assistance to farmers, wildlife habitat, and resource conservation. Students are exposed to various careers in the agricultural and environmental sciences through their interactions with UC staff and faculty. Students and teachers appear to be very satisfied with the opportunities for students to develop leadership skills and with the opportunities for involvement in unique educational experiences. The one program area where all respondents indicated some level of dissatisfaction is with the process of working with mentors.

3. Are the goals of the stakeholders being met?

All respondents indicate being more than satisfied with what they learned and experienced through the program. It is unclear what the goals of the teachers are, and teachers expressed some

dissatisfaction with trying to coordinate their other classes with FARMS. Most teachers also expressed concern for their students with regard to the work that is required of them. Mentors appeared eager to help students and welcomed the opportunity to do so when asked.

4. What is the experience being created?

Students are by and large extremely satisfied with their experience in the FARMS program. Their comments indicate that they feel very fortunate to have been a part of the program. They indicate that they come away from the program with an exposure to agriculture that would not have been possible without participating in FARMS. All students and teachers would recommend the program to other students and teachers.

5. What can be better?

With regard to field days, the following recommendations are suggested:

- ❖ *Have a summary period at the end of the day.*

Quite often there were numerous activities during the day, with no time for wrap-up. Students and other participants would benefit from a summary, perhaps given by a different high school group each time. The summary should raise suggestions about potential research projects. Verbalizing what had been experienced would reinforce what was learned in the hands-on tasks and heard in the lectures. Additionally, this would be one way for staff to hear if the students made the connections between the activities with the overall program goals.

- ❖ *If one school group introduces the day's topic, encourage that group to actively involve the other students.*

Students will be more invested in the experience of introducing a topic if they are encouraged to find ways, or tools, to physically share the information with the other students. Encourage students to bring items for others to see or touch as the lecture presentation is taking place as a way to reinforce the hands-on approach of the class. This would also give each member of the lead team an opportunity to be actively involved in the presentation.

- ❖ **Encourage students to take notes when there will be a lot of lecture.**
Students were not encouraged to take notes on the field days, as they were most likely involved in hands-on experiments or tasks. Let students know ahead of time, perhaps through the original field day schedule, when it would be to their benefit to be ready to take notes.

Based on survey and interview data, the following recommendations are suggested:

- ❖ **Clarify the teachers' role.**
Comments made by both mentors and teachers indicate an awareness that teachers bring a valuable body of knowledge to the group. Six of the ten teachers who responded indicated they would welcome trainings and meetings just for teachers. This would provide guidelines for their participation at field days, as well as develop a support system between teachers so they can share questions and concerns. This type of teacher-focused program development would also help to distinguish their role in the program from that of the mentors. Similarly during field days, staff should consider how they want teachers to participate.
- ❖ **Provide mentors with clear expectations about their responsibilities.**
The mentors appreciated being a part of FARMS and are strong supporters of what the program is doing. However, it wasn't clear to them how much they are needed. There seems to be a confusion regarding communication. Students are hesitant to contact mentors on their own, teachers indicate it's up to the students, and mentors are told it's the student's responsibility to make the contact. Although FARMS staff may be hesitant to be more specific with mentors, mentors indicated a willingness to be fully involved if given clear guidelines about their participation.
- ❖ **Provide an opportunity for mentors and teachers to meet separately from students.**
Teachers expressed an appreciation for being exposed to the work mentors are doing. Likewise, mentors expressed an appreciation for the role and knowledge of the teachers. As one mentor stated, it could be in the form of teachers letting mentors know what types of projects could be supported at their school. Mentors could be more detailed about their research interests which would help teachers guide students in their selection of their research projects.
- ❖ **Develop a listserve.**
This would be an excellent way for students and teachers to communicate and discuss issues concerning FARMS. Encourage mentors to be on the listserve and available through e-mail so students can ask questions at any time and mentors can answer when they are available.
- ❖ **Devote more of the field days to the research projects.**
Students wanted to talk about the projects and what was expected of them. Often the only times all students from one school were together was at a field day. The mentors indicated that they would be more involved at the field days if there was some function for them at the field days. Provide more opportunities at field days for mentors to take part in what is going on and being available to work on projects with the students.
- ❖ **De-mystify the research project.**
All respondents expressed some frustration with the process of completing the research project. One teacher suggested that one-page summaries of previous projects could be provided in the students' binders. Another suggested having some projects continue from one year to the next. This would be one way mentors could be more invested in the whole process of getting students to work with them. If they had ongoing projects which could be continued or developed, new students could be readily involved in research that has a history and goals.
- ❖ **Clarify how the field day activities are relevant to the issues surrounding sustainable agriculture and to the students.**
Several teachers commented that so many areas are touched upon in field days that they wondered if students can really make all the connections to sustainable farming. Having a summary period at the end of the field days would be an appropriate time to make the connections.

FINAL THOUGHTS

It is clear that participation in the FARMS program offers rewards to everyone who participates. While there may be a need for streamlining some processes within the program, it appears to be successful in its efforts to inform high school youth, through experiential opportunities, about issues concerning farming in general and farming in a sustainable manner. All those involved with the program voiced a strong appreciation for this type of program as well as a desire for it to be extended and offered to more students. ☞

FOOTNOTES

¹Descriptions of the field day locations are available from the author.

²Copies of the surveys are available from the author.

³Copies of the interview questions are available from the author.

❖ **The FARMS** ❖

Leadership Program Mission:

To empower a diverse group of participants to make informed choices about their futures through experiential learning, exposure to educational and career choices and development of leadership and life skills—all centered on sustainable agriculture and the environment.

❖ **FARMS in 2003** ❖

Since this preliminary evaluation, the FARMS program has expanded to several locations throughout California. Readers interested in the program are referred to: www.farmsleaders.org



THE FARMS PROGRAM IN CALIFORNIA

Farming, Agriculture, and Resource Management for Sustainability



- ❖ North Valley
- ❖ Sonoma
- ❖ Sacramento
- ❖ Bay Area
- ❖ Fresno
- ❖ San Luis Obispo
- ❖ Ventura
- ❖ Orange County
- ❖ Riverside
- ❖ Carlsbad/San Diego

The Author:

RAMONA CARLOS received a Bachelor of Arts degree in philosophy from the University of California, Santa Cruz in 1979. She was awarded a Graduate Opportunity Fellowship in 1983 and her Master of Science degree in Child Development from the University of California, Davis in 1985. Ramona was a postgraduate researcher on the Davis

Longitudinal Study exploring the lives of UC Davis alumni and has coordinated a research laboratory within the UC Davis Department of Psychology studying children's sense of self. Since 1994, Ramona has been a research associate at the 4-H Center for Youth Development where, among other assignments, she has been a past co-chair of the ANR Garden-based Learning Workgroup.



REPORT

- Stephen T. Russell, Ph.D., Director
- Carolyn McCain, Publications Coordinator

4-H Center for Youth Development
Dept. of Human and Community Development
University of California
One Shields Avenue/3325 Hart Hall
Davis, CA 95616-8523

Phone (530) 754-8433
Fax (530) 754-8440
CYDdirector@ucdavis.edu
<http://fourhcyd.ucdavis.edu>