



Motivational Strategies for Recruiting Talented Students in Agricultural Sciences at the University of Arkansas at Pine Bluff



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Abstract

The University of Arkansas at Pine Bluff (UAPB) has a remarkable history of producing minority graduates in agricultural sciences; especially in the Agronomy (plant and soil sciences) area. However, in the past few decades enrollment in Agronomy has dwindled. In the past three years, only about 6% of the enrollees signed up for Agronomy as against 65% for Agricultural Business option. The fear of science and negative image of agriculture seemed to be a part of the problems. To offset this situation, we planned strategies to motivate high school students to explore careers in modern agricultural sciences. Beginning 2007, we conducted four summer internship programs in plant, soil, environmental, and biotechnological sciences (SIPSEBS). About 40 high school juniors or seniors from Arkansas and neighboring states have participated in SIPSEBS. Through structured mentor-protégé arrangements, research projects, study tours, and scholarly seminars, we exposed high school students to the agricultural sciences and its promises to prestigious career opportunities. Faculty, parents, and community leaders were engaged in discussion, teachers' workshops, and mass-media outlets to facilitate effective exposures of the college-bound students to career opportunities in agriculture. As a result, a modest increase in enrollment is evident. About 50% of the interns have enrolled at UAPB; half of them in agricultural sciences. The enrollment in Agronomy has increased from 2 in 2007 to 7 in 2009. Although increased interests in agricultural, environmental, and biotechnological sciences have been noticeable, more efforts are to be made to alleviate the fear of science and negative image of agriculture among minorities.

Introduction

Enrollment in agriculture, especially in agronomical areas, was dwindling and called for recruitment strategies. Our motivation for a recruitment strategy was generated by an outreach grant for Southern Agricultural Biotechnology Consortium for Underserved Communities (SACUC) received in 2002 from USDA/CSREES/Program 401. UAPB Department of Agriculture was one of the consortium partners. Academic and agricultural communities were brought together for an exhaustive exposure to the discussion on the pros and cons of Agricultural Biotechnology. Involvements of UAPB in the consortium provided an impetus for us to explore opportunities to entice talented students enrolling in agricultural sciences.

Strategies

- Following completion of the SACUC project, we implemented two teaching projects supported by the USDA/CSREES 1890 Capacity Building Grants program. A modern biotech laboratory was established. Workshops were conducted with high school teachers from Arkansas and neighboring states.
- Mass media and community meetings were used in building awareness of the general public in the modern technological advancements in agricultural education and research. Organizational strategies were applied to motivate high school teachers, community leaders, and parents to help students making appropriate academic choices.
- Grant funds were used in enhancing teaching aids, laboratory instruments, greenhouses, and library facilities.
- Well structured summer internships in plants, soils, environmental, and biotechnological sciences (SIPSEBS) for talented high school students were conducted for 4 to 6 weeks in each summer from 2007 through 2010. Interns were selected based on their academic merit and strengths in basic science areas involved in agricultural sciences.
- High school students were rewarded with stipends, certificates, plaques.
- Parents, community leaders, and role-models & pioneers in the agricultural fields were invited to the award banquets.
- Eventual enrollments, especially for the student interns, in the agricultural degree programs at UAPB were monitored.

Results

Improvement in the public awareness of the state of modern agriculture has been visible through individual contacts, group meetings, and attendances in the workshops and field days conducted on and off campus. Visits of parents/guardians with faculty members have been more frequent than before. Demands for scholarships and on-campus jobs for students seem to be increased. The grant-aided recruitment activities such as summer internships for high school juniors/seniors have had a positive impact on enrollment. About 50% of the interns have enrolled at UAPB; half of them have entered into agricultural sciences. The enrollment in agronomy has increased from 2 in 2007 to a strong 7 in 2009.

Conclusions

Although increased interests in agricultural, environmental, and biotechnological sciences have been remarkable, increase in enrollment in the agricultural sciences degree programs demands further improvement. From our experience during the past four years of recruitment efforts, on campus jobs and summer research internships/employments for the students will alleviate the fear-of-science, especially for the minority students. Actual involvements in hands-on research activities through employments for the incoming students appear to be the key to enrollment in agricultural programs. Scholarships and financial benefits from on-campus student employments may eventually minimize the negative image of agriculture.

Type of Event/Effort	Medium of Dissemination	Date of Event	Audience reached
Group meetings and GMO Crops Demonstration	Field visit and discussion forum	July 3, August 14 and September 19-25, 2003	Community leaders, farmers, extension agents, school teachers
Seminars/Workshops/ Training	Lecture, poster viewing, video show and lab. exercises	July 2 and October 28, 2003 July 19-24, 2004 at UC-Davis	Community leaders, students, farmers, teachers, extension agents and consumers
Rural Life Conference	Poster presentation; personal and group contact	February 14	General public, especially growers and consumers
Publications: A featured article and an abstract published	Article published in Pine Bluff Commercial plus other local media and abstracts in Rural Life Conference proceedings.	February 14 and August 9, 2003	General public, especially growers and consumers
Mass Communication	KUAP radio interview and broadcasting, UAPB-TV interview and broadcasting	Twenty broadcasts since July 2003 and continuing	General public. About 1/2 million people were reached by radio and television

Mass communication ways and means used in public awareness building



Radio (KUAP) interviewing approach used in public motivation



Workshops for high school teachers and community leaders at UAPB



High school interns engaged in biotech lab exercises



UAPB Interns visiting Alabama A&M University



High school teachers examine insect resistant Bt sweet corn



Teachers visiting insect resistant cotton field planted with Bt cotton



Monsanto scientist Dr. GOLDMON with the interns watching roundup ready soybeans



Interns and mentor examine borer damage in field corn



A close up view of corn borer damage in corn field



DB NRRC scientists and SIPSEBS Interns in group in front of the Center



Interns are watching spider mites control systems used in the DB NRRC greenhouse



Intern extracting DNA in biotech lab at DB NRRC



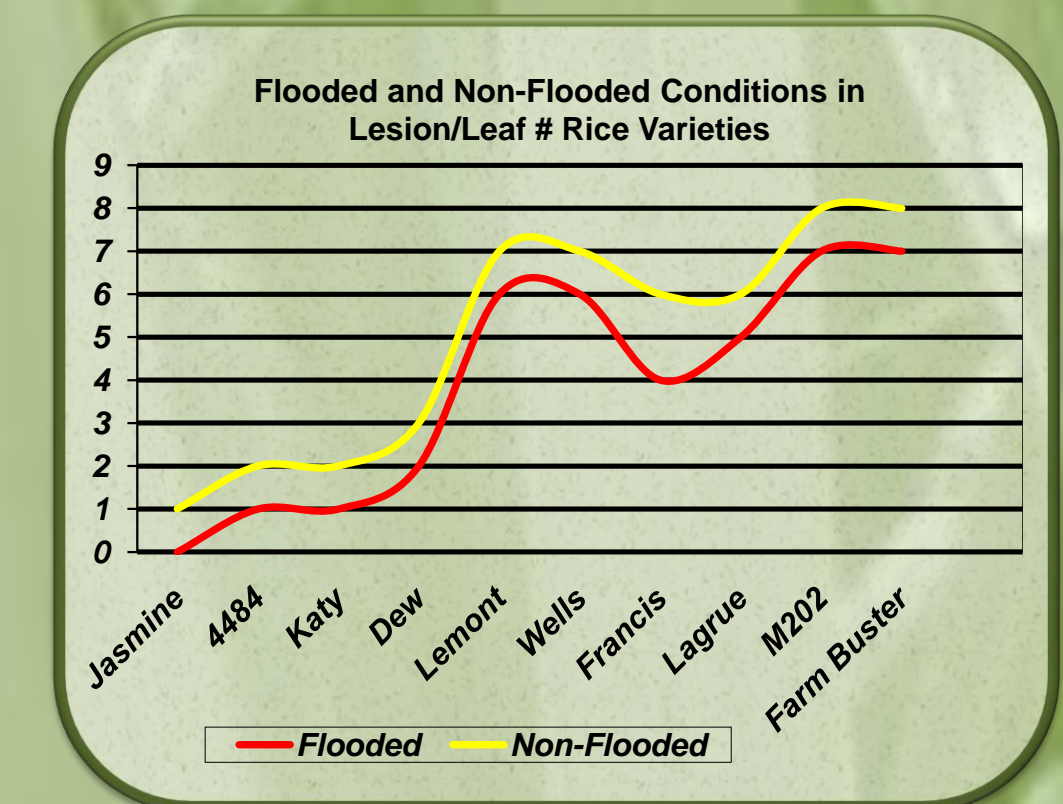
Intern practicing emasculating procedures in rice breeding at DB NRRC



Intern involved in screening rice varieties against blast disease at UAPB



Intern working in the blast screening field at UAPB



Graphs showing environmental effects on genetic resistance of rice varieties against blast disease