



**SEED DISSEMINATION AND PROMOTION IN THE UNITED STATES TO
INCREASE BEAN ADOPTION**

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ABSTRACT

Washington State University (WSU) will be initiating a new bean dissemination and promotion program in 2001. The program will include screening bean breeding lines and varieties at the WSU Vancouver Research and Extension Unit over a three-year period. Station trials will include breeding lines from national and university breeders in the USA, as well as commercial varieties from seed companies. Based on results of the station trials, we will initiate on-farm variety trials in 2003. Farmers will participate in on-farm research plot maintenance and variety evaluations, and marketing. We will develop extension and promotional materials to enhance bean production, sales and consumption. Program objectives will be met through a multi-disciplinary team that includes university as well as community experts and specialists.

INTRODUCTION

The Bean/Cowpea Collaborative Research Support Project (B/C CRSP) supports widespread economically and environmentally sustainable development from beans for limited-resource farmers in the USA and abroad. This work should impact small-scale farmers, especially women (Barnes-McConnell, 2000). There is, therefore, the expectation that the B/C CRSP be as active in the USA as it is in East Africa. In my paper I will discuss the activities that I am proposing to initiate in Washington to contribute to B/C CRSP outcomes and impacts in the USA.

Consumption of dry beans in the USA has increased 28% over the last decade to 7.7 pounds per person (Lucier et al, 2000). This increase is due primarily to an increase in consumption of ethnic cuisine, especially pinto beans. In a preliminary survey conducted by my program in 1998, we found that very few smallholder farmers in western Washington produce and market dry beans, but those who do are producing a diversity of bean varieties, including many unusual "heirloom" types (Miles and Blethen, 2000). Additionally, some small-holder farmers and home gardeners produced dry beans for home consumption. However, most of these farmers and home gardeners who were interviewed felt that dry beans were not suitable for production in western Washington because a lack of heat during the growing season delays maturity. With delayed maturity, beans may not dry down before frost or before the winter rains begin. My program will focus on screening varieties and breeding lines for adaptability in western Washington and Oregon. Adaptation is defined as having cold tolerance, early maturity and resistance to the disease and insect pests prevalent in the region. We will screen the National Cooperative Dry Bean Nursery and we will conduct a variety trial that includes many commercially available dry bean varieties.

We will develop marketing information to help smallholder farmers sell their beans. In western Washington, many of these farmers direct-market their crops through farmers' markets,

community-supported agriculture (CSA), and restaurants. Direct marketing has several advantages including higher profit margins for farmers and greater visibility of farmers within their communities. Successful direct marketing requires communication skills on the part of the farmer and a general interest to interact with the public, and results in the establishment of trust between the producer and the customer (Jussaume, 2000). To facilitate and streamline communication, and in order to increase sales, farmers are encouraged to distribute recipes for the crops they are selling (Miles and Alleman, 2001). We will develop crop brochures as well as recipe cards to enhance sales and consumption of beans.

NEW WSU BEAN DISSEMINATION AND PROMOTION PROGRAM

We will conduct replicated field trials of bean breeding lines and varieties over the next three years. We will collaborate with national, university, and seed company breeders to test bean breeding lines and varieties. Our research trials will initially be on-station at Washington State University Vancouver Research and Extension Unit (WSU VREU):

On-station trials in 2001 - 2003 at WSU VREU will include:

- National Cooperative Dry Bean Nursery – Shree Singh, University of Idaho
- Complimentary materials from Phillip Miklas, USDA, Washington state
- Commercially available dry bean varieties – collaboration with seed companies
- Randomized complete block design (RCBD) with 3-4 replications
- Screen for adaptation in western Washington and Oregon

Station trials will enable us to quickly screen a large amount of germplasm in order to select breeding lines that have promise for our region. Evaluation information will be provided to the breeders, thereby influencing the opportunity for releasing new bean varieties with particular suitability to our region. We will encourage seed companies to market bean varieties that emerge from our testing program.

Through our station variety trials, we will determine varieties that are best suited for on-farm trials in the region. Replicated on-farm trials will be established after two seasons of station trials:

On-farm trials 2003-2005, western Washington and Oregon

- Plant 10-12 entries of different market classes (screen diverse germplasm)
- RCBD with 4 replications
- Screen for adaptation and marketability

To increase farmer involvement in our on-farm trials, farmers will be responsible for maintaining research plots, including pest management and irrigation. Our research team will collect data from half the trial area, and the farmer will harvest the other half of the trial area for marketing or for home consumption. On-farm trials have the potential to increase farmer awareness of bean varieties that are suitable for production in the region. On-farm trials also have the added benefit that they will allow us to evaluate bean variety performance under farmer management, as well as marketing potential for beans through existing direct marketing systems. Through active grower participation in our on-farm trials, we have a greater potential to:

- Better target grower's needs
- Obtain real-life production results
- Increase growers' acceptance of results
- Increase early recognition of varieties
- Increase rate of adoption
- Increase rate of sales

Growers will have the opportunity to sell the beans in the market, and consumers can provide feedback regarding the food aspects of the crop. Growers who market directly to consumers often use questionnaires at the market to assess consumer preferences and experiences. Questionnaires are an especially easy tool to use in CSA boxes, where the farmer delivers a fresh box of produce each week to the consumer. Most CSA farmers also include a newsletter, and often ask for feedback regarding a new crop or recipe idea. Growers are also able to evaluate repeat purchasing, which can be used to assess consumer acceptance and preferences. Farmers will be asked to provide feedback regarding the bean varieties, and our research team can adjust entries based on farmer input. Seed purchases by farmers in following years will be considered a mark of success for the project.

PRESENTING RESEARCH RESULTS

We will present results of our station and on-farm trials at local and national meetings. Presentations at farmers' meetings will help us to increase adoption of varieties that performed well in our regional trials. Presentations at professional meetings will enable us to increase awareness among our colleagues of our research. Through these meetings we hope to stimulate further multi-disciplinary research, in particular health, nutrition and marketing research. Examples of meetings where we will make presentations include:

Farmers' meetings

- Farmers' market annual conference
- Organic farmers' annual conference
- Chefs' meetings
- Regional growers' meetings

Professional meetings

- Health and nutrition conferences
- ASHS conference
- Bean meetings

To further promote bean production and consumption, we will submit our results for publication to grower publications (e.g., The Vegetable Grower), university newsletters (e.g., CA Small Farm News, PNW Sustainable Ag News), consumer publications including gardening, food, health, and restaurant magazines, and seed company magazines.

EXTENSION AND OUTREACH ACTIVITIES

Extension and outreach activities will include the formation of a team of university and community experts and specialists to develop promotional brochures, recipe cards, production guidelines, and general food and nutritional information. Brochures and recipe cards will be designed to increase consumer awareness of the nutritional and health qualities of beans. Brochures and recipe cards must have easy-to-follow instructions, as the average American reads at the 8th grade level (Kirsch et al., 1993). The publications will also contain simple information about beans, where they are grown, and why consumers should buy them. In this way, we hope to promote sales of locally produced food and to enhance the income potential of our regional smallholder farmers. We will develop printed publications for distribution, and we will post all of our materials on the East Africa B/C CRSP web site, <http://EastAfricaCRSP.wsu.edu>.

INCREASING COMMERCIAL AND HOME CONSUMPTION OF BEANS

To help increase the sales of locally produced beans, we will work with chefs, restaurants, and farmers' markets to develop and promote recipes for consumers, host food workshops and cooking demonstrations, and feature a crop or a local farmer. Chefs will be encouraged to plan menus with farmers so that farmers can plan crop planting and harvesting schedules. We will work with special-needs groups such as the American Diabetes Association, low-income families, children at risk, Hispanics, and Native Americans. Special-needs groups receive

federal funding for food and nutrition education, and some of these groups have indicated an interest in including bean information and cooking demonstrations as part of their activities.

MULTI-DISCIPLINARY COLLABORATIVE TEAMS

To implement the research and extension activities that have been outlined above, we will form collaborative teams with university colleagues and community members. Team members from within the university include plant breeders, entomologists, pathologists, agronomists, physiologists, food and nutrition specialists, and extension agents. Team members from within the community include food writers from magazines and newspapers, farmers' market directors, and smallholder farmers themselves. Collaborative teams should share individuals' strengths, knowledge, and information to increase the project as a whole as well as each individual's program. Requirements for a successful team include:

- A vision for a common end goal
- Individual program gain as well as team project gain
- Trust
- Commitment
- Communication and discussion

SUMMARY

A new bean dissemination and promotion program will be initiated in Western Washington in 2001. The program will begin with screening bean breeding lines and commercial varieties at the WSU Vancouver Research and Extension Unit. Based on performance in the station trials, varieties and breeding lines that are most suitable will be planted in on-farm trials in the region. Farmers will maintain on-farm research plots and will participate in evaluating variety and breeding line performance and marketing potential. We will work with university and community experts to develop extension and promotional materials to enhance bean production, sales and consumption. Extension and promotional materials will be made available to partners, growers, and consumers at workshops and meetings and through our web site.

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Bean/Cowpea CRSP Website <http://eastafriacrsp.wsu.edu/>

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