



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



CARIBBEAN FOOD CROPS SOCIETY

49

**Forty-ninth
Annual Meeting 2013**

**Port of Spain, Trinidad and Tobago
Vol. XLIX**

PROCEEDINGS
OF THE
49TH ANNUAL MEETING

Caribbean Food Crops Society
49TH Annual Meeting
June 30 – July 6, 2013

Hyatt Regency Hotel
Port of Spain, Trinidad and Tobago

“Agribusiness Essential for Food Security: Empowering Youth and
Enhancing Quality Products”

Edited
by
Wanda I. Lugo, Héctor L. Santiago, Rohanie Maharaj, and Wilfredo Colón

Published by the Caribbean Food Crops Society

ISSN 95-07-0410

Copies of this publication may be obtained from:

Secretariat CFCS
P.O. Box 40108
San Juan, Puerto Rico, 00940

or from:

CFCS Treasurer
Agricultural Experiment Station
Jardín Botánico Sur
1193 Calle Guayacán
San Juan, Puerto Rico 00936-1118

Mention of company and trade names does not imply endorsement by the Caribbean Food Crops Society

The Caribbean Food Crops Society is not responsible for statements and opinions advanced in its meeting or printed in its proceedings; they represent the views of the individuals to whom they are credited and are not binding on the Society as a whole.

THE VIRGIN ISLANDS BEGINNING FARMER TRAINING PROGRAM – ENHANCING OF THE COMPETIVENESS AND SUSTAINABILITY OF BEGINNING VIRGIN ISLANDS FARMERS

S. Crossman¹, T.W. Zimmerman², E. Chichester³, C. Robles¹, K. Boateng¹, and M. Wilson¹. ¹UVI Cooperative Extension Service, USVI; ²UVI Agricultural Experiment Station, USVI; ³VI Dept. of Agriculture, USVI

ABSTRACT: The Virgin Islands Beginning Farmer Training Program aims to ensure that there will be a sustainable new generation of farmers in the Virgin Islands. The project seeks to improve beginning farmer's income and enhance their potential for success. The target audience is beginning crop and small livestock farmers. These farmers are provided with information, skills, and techniques needed to make informed decisions to enhance the success of their farming enterprise. This is achieved through education and training in production and farm financial management to assist them in acquiring and successfully operating their farming agribusiness. It is expected that, as a result of the project, the target audience will successfully operate their farms while attracting other beginning farmers to operate sustainable agribusiness enterprises. The program provided training to 127 beginning farmers in the Virgin Islands. Special emphasis was placed on demonstrations and hands-on activities which enabled participants to successfully perform necessary farm-related tasks. Of those involved in the training program 60% are currently farming and plan to continue farming and increase the size and efficiency of their farming enterprise. The program has attracted the attention of other persons who are interested in participating in the program and getting involved in farming. The feedback from the persons involved has been very positive.

Keywords: Beginning farmers, limited resource farmers, farming enterprises, farmer training, vegetables, tropical fruits, small livestock, socially disadvantaged farmers, farm management.

Introduction

Farming in the Virgin Islands is characterized by its small scale but vibrant nature (D'Souza, 2002a). These farms generally produce a mix of crops and livestock. After years of a declining trend in agricultural production in the Virgin Islands, the most recent Census of Agriculture (USDA NASS, 2009) indicated an increase in the number of farms from 191 (in 2002) to 219 (in 2007). During this period of time, the total acreage of land devoted to agricultural production declined (mainly due to the closure of the dairy farms) but the number of small farms increased, both in number (23%) and acreage occupied (15%).

The increased number of farms indicates that more persons are getting involved in the business of agriculture. It is therefore, very important that these new farmers are successful since their success will serve to encourage others to become farmers.

Growth in the agricultural industry is vital for economic development and sustainability in the Virgin Islands.

Based upon the United States Department of Agriculture (USDA) definitions, an overwhelming majority of the farmers in the Virgin Islands are limited resource farmers and also socially disadvantaged farmers (African-American and Hispanic). Many of them are also beginning farmers, farming for less than ten years. In addition to the difficulties faced by being limited resource, socially disadvantaged, beginning farmers, they face many constraints that are peculiar to tropical agriculture in semi-arid, insular areas where land, water and other resources are limited and expensive. Some of the major constraints are:

- limited availability of land and water for agriculture
- high incidence of pests
- limited knowledge about marketing
- high cost of imported agricultural inputs
- frequent natural disasters
- limited access to financing for farm ownership and operation
- competition from lower-priced imported produce

Vegetable production in the Virgin Islands falls extremely short of meeting market demands (Dominique, 1990), and most of the agricultural commodities consumed are imported. It is estimated that local production constitutes only 5 to 10 percent of the total expenditure on agricultural products but this estimate is mostly thought to be overstated. D'Souza (2002b) reported that for selected fresh agricultural commodities, the aggregate annual expenditure was \$35 million compared to the aggregate value of farm production of \$2.8 million. The value of selected imported items that could be locally produced (vegetables; fruits & nuts; poultry; lamb, sheep, goat; and pork) was in excess of \$31 million (value of imported produce not the retail value) while the value of local production was \$2.1 million.

A large portion of the market for agricultural products is derived from the tourist industry which, attracts two million visitors annually and provides opportunities of a larger, high quality market. Additionally, there are increasing numbers of residents who are interested in eating fresh, locally-grown food. Many residents and organizations have also been voicing their concerns about food security in the Virgin Islands. This information indicates the enormous potential market opportunities for local farmers if the proper infrastructure, resources and training are implemented with the objective of putting more monies into the pockets of the local farmers, thereby benefitting the local economy.

The agricultural industry needs to be stimulated, strengthened and enhanced.

The average age of farmers in the Virgin Islands is currently 57 years (USDA NASS 2009), therefore the Virgin Islands should aggressively seek to attract and empower

beginning farmers and reduce the average age of local farmers. Presently, only 10% of farms in the Virgin Islands are operated by farmers under the age of 35.

There is a definite need to train a new generation of farmers who will energetically broaden the scope of agriculture and take it to the level that is required for the agribusiness industry to develop. This project empowers beginning farmers to become more profitable, and attract others to and come to be involved in farming.

Target Audience

Two groups of Virgin Islands farmers were identified as participants in this project. One group is made up of new and beginning crop farmers, while the other group consists of new and beginning small livestock farmers. The range of their needs includes:

- basic production technologies in crop, small livestock and apiculture enterprise development
- technical assistance, training and decision support strategies that enhance their financial viability
- marketing plan and strategies that enhance their competitiveness and sustainability
- farm management, recordkeeping and financial management
- understanding of and access to USDA and state programs
- integrated pest management and pesticide safety education

Their relative level of underdevelopment is characterized by the following critical barriers:

- lack of technical know-how
- limited or no access to capital, land acquisition and other resources
- lack of understanding on how to access and utilize federal and state assistance programs
- poor farm management and farm recordkeeping practices
- lack of market planning and inability to enter into sustainable market agreements
- age of farmer pool (average age is 57)
- lack of interest in agriculture by youth and young adults
- inconsistent and poor representation and advocacy, including weak farmer organizations
- lack of patience of new farmers/farmer's groups in working through the process for individual profitability and organizational success
- poor linkage in the value chain systems to suppliers of inputs and end-market outlets

They all share similar low levels of: formal education, including literacy and mathematical competence; exposure to technical information and agricultural training; and access/utilization of USDA/state and other farmer loan programs and financing.

Approach

The project was implemented by the University of the Virgin Islands (UVI), the Virgin Islands Department of Agriculture (VIDA) and local Farmer Based Organizations (FBOs) – We Grow Food Inc., Virgin Islands Farmers Cooperative and St. Thomas/St. John Livestock Association. Participants were recruited by UVI, VIDA and the FBOs through the media (radio, TV and print), emails, websites and direct contact. The FBOs actively recruited within and outside of their respective memberships. The outreach, training and technical assistance staff and subject matter specialist of UVI and its collaborating partners conducted training sessions on a wide variety of topics with an emphasis on hands-on activities and demonstrations. All training activities were conducted in the two political districts of the Virgin Islands (St. Croix and St. Thomas/St. John/Water Island). Other strategies allowed the participants to benefit from:

- presentations by local guest speakers and invited presenters from U.S. universities
- participation in workshops and conferences in the U.S.
- attending local training classes conducted by other entities
- opportunities to interact with local experienced farmers

Project Activities

A series of training courses were completed on topics related to:

- **Income Tax Preparation**

How to complete the required forms: 1040 Individual Tax Return; Form 242VI, Form 1040SS; Schedule F (profit or loss from farming); Monthly Income and Expense Work Sheet; Form 720B Gross Receipt Annual Return; how to apply for an Employer Identification Number (EIN); and assets depreciation and amortization.

- **Vegetable Crop Production**

The entire process from sowing seeds to harvesting produce including farm layout; land preparation; greenhouse seedling production; sustainable crop production and management; nutrient management; and drip irrigation. The crops grown were okra, cucumber, cantaloupe, watermelon, squash, tomato, tropical root crops, leaf vegetables, bell pepper, beet, carrot, radish and eggplant (Figure 1).

- **Integrated Pest Management and Pesticide Safety Education**

Pest management evaluations, decisions and controls: setting action thresholds; Monitoring and identifying pests; prevention; and control. How to safely select handle and apply pesticides including the use of appropriate personal protective equipment (Figure 2).



Fig. 1. Vegetable Crop Production.



Fig. 2. Integrated Pest Management.

- **Farm Business Planning**

Business plan outline/business concept, mission statement, goals and objectives, forms of ownership/management, marketing plan/research/strategies, managing your money, projected financial ratios/breakeven analysis and financial statements.

- **Small Livestock Production (poultry, sheep, pigs, goats and rabbits)**

The business of small livestock management, poultry, sheep, goat, rabbit and swine production and management, small animal production, small livestock identification, pasture management, livestock nutrition/health and veterinary services.

- **Tropical Fruits Production**

Orchard site selection, field trip to an established orchard, micro-irrigation, plant propagation (grafting, budding, air-layering, seeds, cuttings) integrated pest management, planting/transplanting and pruning. Production and management of Oxalidaceae, Sapotaceae, artocarpus, musa, annona, avocado, pitaya (dragon fruit), papaya, pineapple, coconut, passion fruit, mango and other minor tropical fruits (Figures 3 and 4).



Fig. 3. Field Tour – Tropical Fruit Production.



Fig. 4. Plant Propagation (grafting).

- **Computer Literacy**

Practical training on: parts of a computer; basic computer maintenance; keyboard symbols and keys; Microsoft Windows and Word basics; printing (direct, network, wireless); software; and using search engines (Figures 5 and 6).



Fig.5. Basic Computer Literacy Training Training Graduation.



Fig. 6. Basic Computer Literacy.

- **Post-Harvest Handling**

Extending the shelf life of farm products: keeping vegetables fresh for longer periods of time; main strategy was postharvest cooling; also included good handling practices.

- **Beekeeping/Honey Production**

Bee equipment, processing/bottling, hive management, safety, hive construction (box), use of smokers, bee biology, bee pests, and wild hive collection (Figure 7).

- **Post-harvest Processing (with importance placed on reducing loss and adding value to products)**

How to preserve and add value to your vegetables, fruits and meats, blanching, canning and freezing (Figure 8).



Fig. 7. Beekeeping.



Fig. 8. Postharvest Processing.

In addition, emphasis was placed on ensuring the sustainability of these farmers by providing training and information related to the requirements of federal and state programs which provide assistance to farmers and how they may organize themselves and take full advantage of these assistance programs. Specifically, participants were made aware of: USDA Farm Service Agency – Farm Loan and Crop Insurance Programs; USDA Natural Resources Conservation Service – Environmental Quality Incentive Program and other conservation programs; Virgin Islands Small Business Development Agency – Farmers and Fishermen Loan Program and Small Business Development Loan Program; along with UVI Small Business Development Center – business counseling. The training program promoted business planning and management, provided educational material and assisted participants in developing business plans. They were also introduced to conservation practices which are important in assisting with the long term viability and profitability of farming operations.

Conclusion

The project provided the targeted beginning farmers with the knowledge, skills and tools needed to make informed decisions for their operations, improve their income and enhance their sustainability. In order to achieve this, the project specifically supported the implementation of educational outreach workshops, training and technical assistance. The expected outcomes of the project include that participants will: start or continue farming; increase their agribusiness knowledge; increase their farm income; feel more optimistic about farming; and improve their management and business skills. The key to success was communicating important technical and procedural information in a way that the farmers can understand and retain, and most importantly utilize and implement for their benefit and development. The long range outcomes of this project integrate three main areas: environmental stewardship; farm profitability; and prosperous farming communities. Participants appreciated the hands-on, practical activities and courses of long duration (8 weeks and longer). Materials and supplies provided by the project significantly contributed to the success. It is easier for participants to implement Best Management Practices when the required resources are made available. Participants expressed that they have benefitted tremendously from the many hands-on opportunities afforded to them in conjunction with the classroom instructions. Their experiential learning has resulted in changes in the adoption and application of their newly acquired knowledge and skills in their decision making. This has resulted in improved farm management and behavioral changes.

Acknowledgements

This project is supported by the Beginning Farmer and Rancher Development Program of the National Institute of Food and Agriculture, USDA, Grant # 2011-49400-30554.

References

- Census of Agriculture, Virgin Islands of the United States. 2007. U.S. Dept. of Agriculture, National Agricultural Statistics Service, 2009
- Dominique, F. 1990. Improving agricultural marketing in the U.S. Virgin Islands. *Island Perspectives* 3:17-19.
- D'Souza, G. 2002a. Characteristics of U.S. Virgin Islands Agriculture in the 1990s. Factsheet. University of the Virgin islands Agricultural Experiment Station. 4pp.
- D'Souza, G. 2002b. Production versus consumption of selected commodities, US Virgin Islands 1997. Factsheet. University of the Virgin islands Agricultural Experiment Station. 2pp.