

with success. One look in his wife's freezer, and the only word that comes to mind is "unbelievable!"

Literature Cited

- Crawford, R., R. L. Frie, and H. V. Young, Jr. 1993. Florida agricultural statistics vegetable summary. Fla. Agr. Statistics Ser. (Report) p. 40.
- Daigle, L. J. 1980. Master gardener program in Dade County. Proc. Fla. State Hort. Soc. 93: 104-105.
- Dilbeck, J. D. 1994. St. Johns agriculture. St. Johns Co. Coop. Ext. Ser. (Leaflet).
- Gallup Organization. 1986. National gardening survey. 1985-1986. Nat. Gard. Assn., Burlington, Vt.
- Gray, S. D. 1980. Florida's master gardener program. Proc. Fla. State Hort. Soc. 93: 103-104.
- Heymen, A. C. 1987. Evans Daigle's acre and half year - around project. The St. Augustine Record. Sec. C.
- Stephens, J. M., L. Carter, and C. Van Gundy. 1980. Economic value of vegetables grown in North Florida gardens. Proc. Fla. State Hort. Soc. 93:70-72.
- Stephens, J. M. and K. M. Delate. 1984. Florida master gardener program: first five years. Proc. Fla. State Hort. Soc. 97:253-256.

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GARDENING/FARMING PROGRAM: FLORIDA DEPARTMENT OF CORRECTIONS

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Additional index word. vegetable

Abstract. The gardening/farming program, as a work program, was created by Deputy Secretary of Corrections Bill Thurber in June of 1993. The Farm Program Coordinator oversees the program, reporting to the Food Service Coordinator of the Department of Corrections. There are now more than 60 facilities participating in this program involving more than 500 inmates. Individual sites are varied as to size, soil type, and climatological patterns. Gardening/farming is done on a year round basis. Guidelines for the program include annual soil testing, use of all facility organic waste, except sewage, for compost or mulch, and the use of biological controls for pests. The program has diversified into avenues of organic farming, viticulture establishments, "luffa" production, and foliage production. A number of facilities are using polymulch working their program with reduced water consumption.

Program participants include all female as well as youthful offender facilities. Vegetable specialists from the University of Florida through their departments and Research and Education Centers along with Extension Agents have given this program technical help and support.

Throughout Florida, inmates at state correctional institutions are learning to grow vegetables while helping to provide food for not only themselves but also various community "soup kitchens" that feed the needy.

Under a program initiated last year by Bill Thurber, Deputy Secretary of the Florida Department of Corrections, approximately 1,000 prisoners work in farming/gardening operations at more than 60 facilities. Included are female as well as youthful offenders. The program is coordinated through the system's food service department, by the Farm Program Coordinator Walter Burrichter.

Supervisors at the various institutions report morale has improved among most of the inmates involved. Instead of constantly eating canned vegetables, they now have fresh produce on their tables and the satisfaction of having grown their own food. Production goals provide them with additional work incentives.

Dr. Daniel J. Cantliffe, Chairman of the Horticultural Sciences Department at the University of Florida, and some of his faculty have cooperated with this project, as has Dr. John T. Woeste, Dean for Extension at the university, through his network of county Extension Service workers.

Security Foremost

Since security is the first consideration, the extent of the program throughout the correctional system is limited by such factors as facility size and the type of prisoners. To be involved, a correctional institution must have adequate ground, whether inside or outside the fence. Among all the participating facilities, over 32 acres of vegetables are grown inside the compounds—usually no more than two or three acres at each site—and more than 182 acres lie outside the compounds. About 425 prisoners work on inside plots, and over 550 others are guarded as they work on land outside of, but contiguous to the fenced facilities.

The program is appropriate for most maximum-security prisoners. Many of the participants are minimum to light security, but the institutions are also beginning to develop programs where they are using shotgun squads to work on programs outside the fence.

Crops Grown

Among other enterprises such as viticulture, luffa, and foliage production, the inmates grow beans, carrots, sweet corn, cucumbers, eggplant, peppers, potatoes, radishes, tomatoes, strawberries, okra, squash, lettuce, cabbage, greens, onions, cantaloupes, sweet potatoes, peas, and watermelons.

Crop yield is not the most important measure of success. The aim is to get as many inmates involved as possible. They work on most phases of production, including preparation of the ground, laying plastic mulch, installing irrigation, irrigating, planting, weeding and harvesting. However, they do not apply pesticides, a task which is restricted to correctional officers (COs) who have pesticide applicator's licenses. About 80 percent of the COs have agriculture backgrounds, so most of them have experience with use of crop protection materials.

Switching to Biologicals

Chemical pesticides will soon become a thing of the past, though, because the program is phasing them out and replacing

ing them this year with biological and cultural approaches to pest control. All the farms will be using resistant varieties and such products as pyrethrins, *Bacillus thuringiensis* (BT), neem-based insecticides, insecticidal soaps, natural predators and repellent garlic oils. Only one of the facilities—Columbia Correctional Institution—is involved in organic farming, however.

Because vegetables grown under these circumstances do not have to meet commercial fresh-market appearance standards, it may be possible to grow adequate produce without pest-control chemicals. Since the main purpose of the program is to provide work for inmates, they control weeds manually, leaving little need for herbicides.

Using Produce

State correctional institutions utilize most of what is produced, but donate excess produce to nearby city and county jails. They make sure that nothing is thrown away, and also donate food to charitable kitchens which provide hot food for the indigent.

Various facilities have had gardens and/or farms in the past, with some of these operations being fairly large. Over the years, a lot of these farms were phased out, but some survived. Now the program is growing again.

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ORGANIC VEGETABLE PRODUCTION IN FLORIDA

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Abstract. Interviews were conducted with 21 commercial vegetable producers whose farms have been certified as organic under state regulations. These organic producers grow tomatoes, squash, watermelon and dozens of other highly valuable vegetable crops that are sold in health food stores and restaurants around the country. Many of Florida's organic producers have become commercial only in the past five years and they are experimenting with different crop and production mixes. This paper details the variety of nutrient supplements and pest control practices used by these successful small farmers.

Much of the research done on ecologically sustainable agriculture has focused on relatively low input systems, often based on livestock or agronomic crop production. Examples include the large body of research on reduced tillage methods (Hefferman and Green, 1986; Hendrix, 1987; House and Brust, 1989) and integrated pest management (Altieri et al., 1983; Clancy, 1986; Edwards et al., 1988; Lockeretz, 1991; Pimentel et al., 1989). A considerable portion of the research about organic agricultural production has focused on agro-

nomic crops as well and on similar production systems to the conventional systems that have been studied. In particular, much of the research has focused on mixed livestock and crop systems (Berardi, 1978; Dabbert and Madden, 1986; Klepper et al., 1977; Lockeretz et al., 1984; Pimentel et al., 1983). This research is of limited value to Florida, where citrus and vegetable sales are a \$2.6 billion industry. Both vegetable crop and citrus production depend on high inputs of labor, fossil fuel energy, and agrichemicals to compensate for poor soil fertility on Florida's sands and the pest problems associated with the humid subtropics.

A 1993 survey of Florida's organic vegetable growers provided a profile of their various production practices and some problems they identified. One goal of the survey was to document production alternatives that could be used by conventional growers to help reduce energy use and dependency on agrichemicals. Another goal was to identify the problems faced by organic growers, particularly those problems that may be addressed by research findings published by faculty of the University of Florida Institute of Food and Agricultural Science (IFAS).

This paper will focus on the organic production techniques utilized for controlling pests and supplying nutrients under Florida conditions. An important finding of our study was that most organic farmers do not consider pests to be a significant problem. We will attempt to analyze this commonly shared viewpoint. We will consider levels of damage, yield characteristics, and the cost of intensive management techniques on organic farms. Nutrient sources are also analyzed for their suitability for different organic crops and their potential use on conventional farms.

Materials and Methods

A total of 21 commercial vegetable producers were interviewed during the period May through August, 1993. These growers represented virtually all of the certified growers in the state with more than an acre under commercial production. There are many more organic producers in Florida, however, if we include farms such as the small herb and sprout growers, greenhouse producers and part-time farms

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