



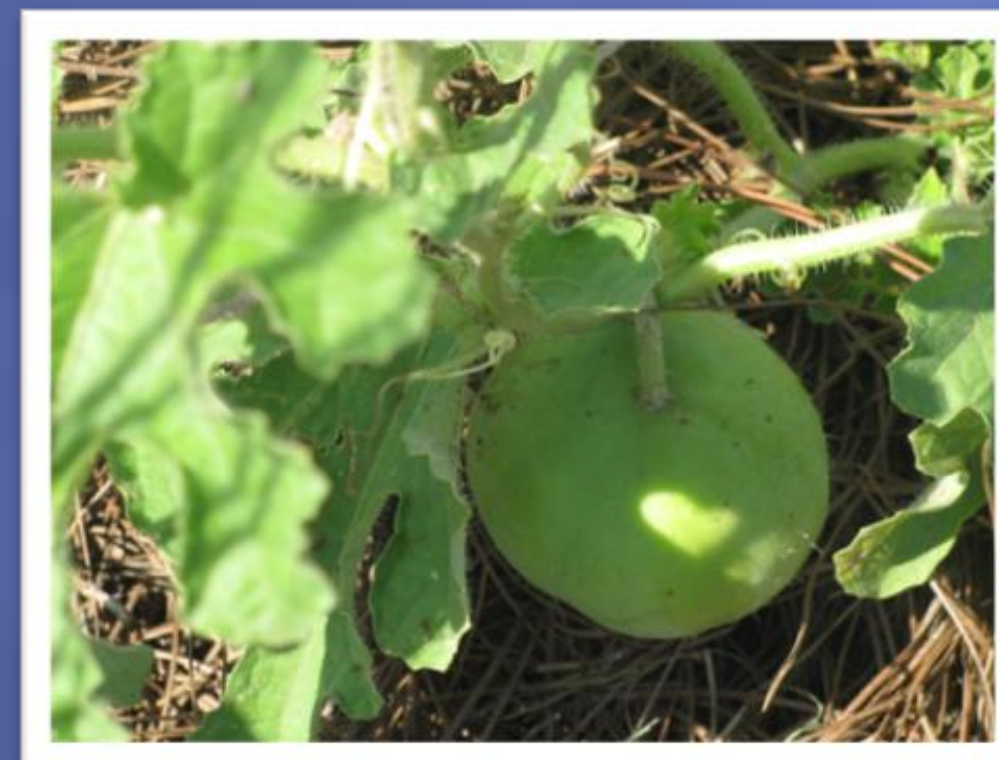
GROWING AND ANALYZING INTERNATIONAL AND ALTERNATIVE VEGETABLES FOR PRODUCTION, MARKETING AND MEDICINAL PROPERTIES IN TENNESSEE

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Tennessee has a growing number of International citizens from various countries from around the world, now residing in the Nashville and surrounding counties. They desire their traditional vegetables which are not grown in Tennessee. Nashville has several International grocery stores, these stores ship in produce from out of the county, therefore many of these vegetables are past their recommended shelf life. The local groceries and farmers markets do not carry these desired fruits and vegetables, therefore creating a market for these vegetables.

In the Tennessee region, there are many small and limited resource producers who are struggling to remain viable these producers need to create and identify new markets to increasing their incomes. At Tennessee State University, we have been working with small and limited producers statewide and are researching growing and marketing International and Alternative vegetables. We are presently are producing twelve (12) different varieties of peppers, Bottle Gourd, Bitter Melon, White Eggplant, Tinda, Chinese Okra and Tomatillos as alternative vegetables for the local residents and new International residents now living in Tennessee. For the past four years we have grown twelve varieties of peppers, herbs and tomatillos for the Italian and Hispanic markets and the past three years Bottle Gourd, Bitter Melon, Chinese Okra, White Eggplant and two years for Tinda. We evaluated the feasibility of growing these vegetables in the Tennessee region and marketing strategies. Bitter Melon and Bottle Gourd have been identified to contain medicinal properties for assisting with reducing inflammation, reduction of blood pressure, provide anti-anxiety effects and diabetes prevention in some individuals who consumer these vegetables.



These vegetables are also highly nutritional, tasty and low in calories, which could assist in fighting obesity in Tennessee which ranks number 45 on overall rank on health (which includes obesity). We have assisted with production training and educating small producers with alternative marketing strategies (direct sales with hotels, restaurants, individuals and farmers markets).

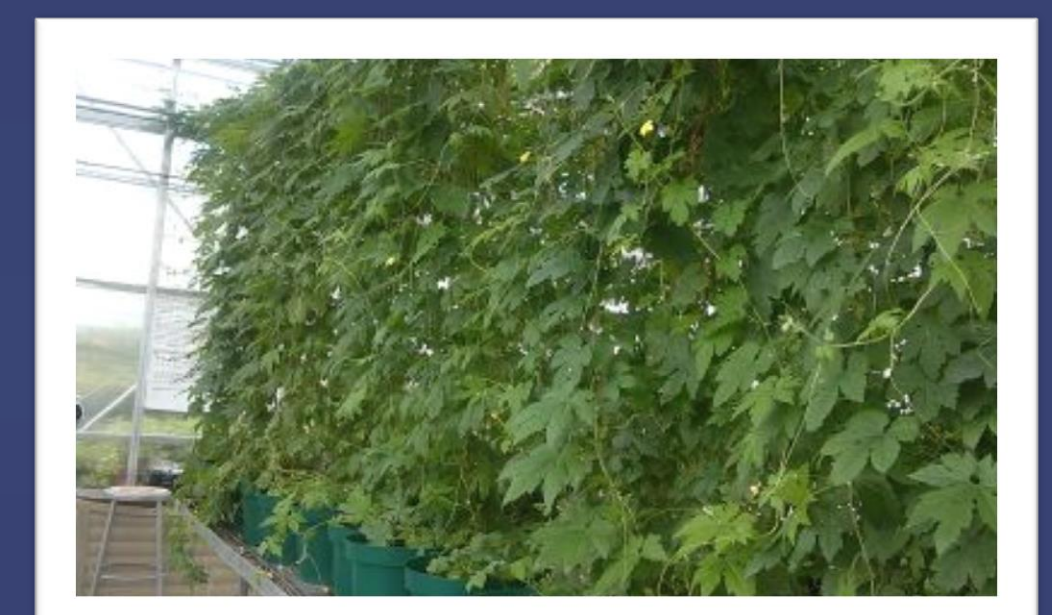
Goals and objectives of the research: (1) Evaluating International Vegetables for successful growth and production in Tennessee; (2) Developing and Exploring Alternative Crops for Small Producers in Tennessee; and (3) Evaluation of Bottle Gourd, Bitter Melon and Tinda for medicinal and for obesity prevention.

Objective 2-Production

Field trials started in the spring of 2013 on Bottle Gourd, Chinese Okra and Bitter Melon-India varieties were planted the last week of May. Rows were approximately 300' long and we applied drip irrigation to each row to be used during the hot/dry season in Tennessee. The first season was to evaluate growth and production of these International and Exotics, using standard growing practices for temperate zone production and to become familiar on days and when to harvest. All varieties performed well in the Tennessee region and we utilized faculty expertise on cooking and preparation of these vegetables, which were native to their countries. We have expanded our Bitter Melon research to include three varieties of Bitter Melons: India, Chinese and Mara; Bottle Gourd varieties Round, Long Opo, and Calabash; Tinda variety; Hakucho and Ichiba Kouji Melons. In 2015, we started growing Bitter Melon in the greenhouse to evaluate year round production. This research continues with both field and greenhouse trials.



Field Research of Bitter Melon
and Bottle Gourd



Greenhouse Bitter Melon

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