

## **Protected structures for production of high value vegetable crops for Florida**

*Dr. Daniel Cantliffe Distinguished Professor and Chair, Horticultural Sciences Department, IFAS, University of Florida*

Although Florida vegetable culture involves intensive production practices, there are major challenges in front of the vegetable industry. These challenges are 1) increased regulation of water, fertilizer, and pesticide inputs, 2) loss of a major soil fumigant, methyl bromide, 3) increased urbanization and loss of some of the more desirable (warmer) production land in southern Florida, and 4) continued challenges from weather, including cold, winds and rain. Added to these challenges are the increasing problems associated with regional and global market competition. The added protection by plasticulture can lead to production of higher quality crops that will make Florida growers more competitive against imports from other vegetable production areas in the world. Currently, there is a growing greenhouse (hydroponic) vegetable industry in Florida, but these special greenhouses represent a substantial investment if heating and cooling systems are used. An alternative might be the use of greenhouse or tunnel structures with passive venting and heating. Greenhouse vegetable culture can provide protection from the weather, a major production challenge faced by vegetable growers. Greenhouse structures can protect the crop from wind and rain, but also can protect from insects when fitted with insect exclusion screens. Therefore, plasticulture systems could reduce the use of pesticides. Our crops have been ‘pesticide free’ for approximately 10 years, and depend on biological control of insects, mites, and diseases. We use banker plants to sustain our biological insect control. These pesticide free systems fit well with using bumble bees for pollinators. Our plasticulture systems include the use of soilless culture for crop production, as containers filled with pine bark. In our greenhouses at Citra, Florida we recycle all nutrients and water creating a highly sustainable system. We have developed detailed information available on our website at [www.hos.ufl.edu/protectedag](http://www.hos.ufl.edu/protectedag) for production of greenhouse tomatoes, peppers, baby squash, Datil peppers, cucumbers, melons, and strawberries. We have introduced new types of cucumber (Beit Alpha), baby squash, Datil peppers, and melons (‘Galia’ and ‘Charentais’) for growing and marketing from Florida. Already, this protected agriculture technology is in use in several places in the world, including Israel, Spain, Turkey, Morocco, Holland, several Far East countries (China, Korea, Japan), Canada, and Mexico. These countries face some of the same challenges as does the Florida vegetable industry. The Protected Agriculture Project at the University of Florida Horticultural Sciences Department provides much needed information for hands-on training and demonstrations so that Florida producers could examine, work, and train in this exciting new agricultural business endeavor.

**Palabras Claves/Key Words:** Plasticulture, high quality crop.