# Can Florida Compete with the Spanish and Dutch Greenhouse Industries?

by Daniel J. Cantliffe and John J. Vansickle

*Editor's Note:* The following is Part 1 of a two-part series. Part 2 will appear in the August issue of The Tomato Magazine.

Greenhouse production of vegetable crops has increased throughout the world resulting in increased imports of greenhouse-produced vegetables from Canada, Mexico and Europe into the United States. These vegetables compete with field-grown crops in U.S. supermarkets and institutional outlets. Higher productivity and competitive cost structures allow greenhouse vegetables to enter the U.S. and compete with field-grown tomatoes.

It is critical that Florida growers develop new technologies to compete with the quality and cost of greenhouse-grown tomatoes. Increased imports from European sources are likely to continue and will force the U.S. industry to adapt to changes in consumer tastes that are being developed by these greenhouse-grown tomatoes.

In the past, fresh-market vegetables were supplied to U.S. consumers predominantly from Florida and Mexico. Both areas have, for many years, been in direct competition because of the overlap in production and marketing seasons.

Table 1. Imports (metric tons) of fresh tomatoes from Mexico, Spain, The Netherlands, Canada, and the World. 1990 to 1999.

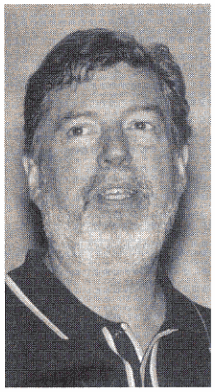
| Country | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|
| Mexico | 352312 | 353576 | 183115 | 400494 | 376032 | 593064 | 685681 | 660609 | 734053 | 615069 |
| Spain | 15 | 1 | 2 | 0 | 21 | 0 | 0 | 4440 | 6498 | 5715 |
| Netherlands | 1194 | 2410 | 2532 | 7044 | 7547 | 12401 | 23473 | 33718 | 36804 | 34202 |
| Canada | 3075 | 2671 | 5214 | 4733 | 7673 | 11658 | 21774 | 37504 | 61729 | 79554 |
| World | 360995 | 360829 | 196028 | 418394 | 395974 | 620933 | 737157 | 743205 | 856852 | 740656 |

Source: Costa and Heuvelink, 2000.

## Tomatoes

Imports of fresh tomatoes have increased significantly over the last decade as imports from Mexico increased from 352,312 metric tons in 1990 to 615,069 metric tons in 1999 (Table 1). Imports from Mexico increased the most after 1994, when the North American Free Trade Agreement (NAFTA) was implemented giving Mexican producers easier access to U.S. markets and a flow of investment capital into the Mexican vegetable production sector.

Increases in imports from Mexico resulted in the filing of an antidumping case with the U.S. International Trade Commission and the U.S. Department of Commerce that was suspended when producers of more than 85 percent of Mexican production agreed in December, 1996, not to sell fresh tomatoes for less than a reference price of $5.17 per 25-pound carton equivalent. That agreement slowed the increase in imports from Mexico, but there has been a significant increase in imports from other countries.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In recent years, a greater percentage of retail sales of tomatoes showing up in retail markets and supermarkets throughout the U.S. has been produced from greenhouses. Initially, some of this production was from local market areas in proximity to the retail outlet. More recently, and especially in the last two to three years, a

greater percentage of tomato sales have come from greenhouse tomatoes, especially cluster-type tomatoes produced in Holland, Israel, Canada, and Spain. Of these four countries, Israel was the first to begin shipment of red-ripe tomatoes into U.S. markets during the 1990s. There has been a tremendous conversion of much of the Dutch industry to higher-value crops such as cluster tomatoes during that same period. The Dutch are not so limited by season, and can, in fact, deliver tomatoes to the U.S. market essentially 12 months of the year.

More recently, greenhouse acreage has increased dramatically in Canada, especially southwest Ontario; much of that area has been devoted to tomato production. Canada increased as a source of imports from 21,774 metric tons in 1996 to 79,554 metric tons in 1999. Spain increased as a source from no imports in 1996 to 5,715 metric tons in 1999. The Netherlands also increased as a source of imports from 23,473 metric tons in 1996 to 34,202 metric tons in 1999. Most of the tomatoes imported from Canada and Europe are greenhouse-grown tomatoes competing against field grown tomatoes produced in the U.S. and Mexico. Increases in imports of tomatoes, especially greenhouse tomatoes, have had significant impacts on Florida growers of field-grown tomatoes. There is growing concern about the impacts of greenhouse-grown tomatoes on U.S. growers.

The Israeli production area is limited by both seasonality and cost of transportation, thus reducing its impact on competition with the Florida tomato industry. Canada, on the other hand, has proximity to market, especially the midwest and northeastern markets. Distance seemingly would impinge upon profitability from Dutch-produced tomatoes, especially if they are air-freighted; however, the price and demand at the retail level, especially by the consumer and the grocery store, has retained high returns for Dutch producers.

Table 2. Area and production for the main vegetable crops in Almeria, Spain (1998).

| Crop | Acreage | Production (tons) |
|---|---|---|
| Tomato | 20,250 | 769,500 |
| Pepper | 19,250 | 465,850 |
| Watermelon | 16,000 | 339,200 |
| Melon | 14,500 | 261,000 |
| Snap beans | 12,750 | 64,000 |
| Lettuce | 10,610 | 100,795 |
| Cucumbers | 7,750 | 294,000 |

Source: Costa and Heuvelink, 2000.

Table 3. Acres of glasshouse vegetables in the Netherlands.

| Crop | 1994 | 1996 | 1998 |
|---|---|---|---|
| Tomato | 3103 | 2645 | 3268 |
| Cucumber | 2185 | 1960 | 1775 |
| Strawberry | 298 | 313 | 343 |
| Pepper | 2450 | 2530 | 2525 |
| TOTAL | 8036 | 7448 | 7911 |

Source: Costa and Heuvelink, 2000.

Table 4. Values of Dutch horticulture (millions of dollars).

| Commodity | 1980 | 1990 | 1998 |
|---|---|---|---|
| Vegetables | 992 | 1723 | 2000 |
| Fruits | 169 | 279 | 270 |
| Cut flowers | 996 | 2163 | 2888 |
| Bulbs | 226 | 344 | 474 |
| Nursery stock | 134 | 312 | 488 |
| Seeds | --- | --- | 270 |
| TOTAL | 2518 | 4821 | 6128 |

Source: Costa and Heuvelink, 2000.

## Other Vegetables

The Mediterranean region of Europe has one of the largest concentrations of protected crop production in the world with around 247,000 acres (2.471 acres/hectare) of vegetable production grown in greenhouses and 741,000 acres grown with low tunnels and mulching. This 968,000 acres compares with 1.9 billion acres of total fresh vegetable production in the U.S. in 1999 and 193,000 acres of winter fresh vegetable production.

**(see greenhouse page 17)**

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Houweling Nurseries of Oxnard, Calif., and Sunco Ltd. of Las Vegas, Nev., to provide Oppenheimer with sales and marketing rights to over 115 total acres of hot house tomatoes. Between these facilities and the strategic alliance Oppenheimer enjoys with BC Hot House Foods of Surrey, B.C., the marketer has emerged as a leading supplier of a comprehensive line of hot house products. Now, BC Hot House and Oppenheimer are entering into the twelfth year of their marketing relationship, selling hot house cucumbers, bell peppers and tomatoes into key markets.

Wheatfield Gardens, on the other hand, exclusively produces beefsteak tomatoes. Oppenheimer began shipping 15-pound boxes of tomatoes bearing the Wheatfield Gardens brand in April. The peak season begins in June.

"Our relationship with Wheatfield Gardens, a producer of excellent quality tomatoes, enables us to enhance service to our North Eastern customers," said Smith. "Because the other growers we work with are located in the west, the relationship with Wheatfield Gardens complements our current efforts. We view the U.S. East Coast as an area with potential. The region has been challenging at times due to freight and seasonal supply issues, which we believe we can overcome with the availability of Wheatfield Gardens tomatoes."

Oppenheimer's hot house category has doubled in volume since 1999. "The category continues to evolve, as we endeavor to provide our growers with efficient and reliable distribution to our valued customer base," said John Anderson, The Oppenheimer Group's chairman, president and CEO. "Hot house produce is in high demand among our retail partners. We are implementing a strategy which we believe will fuel this demand by making good quality supplies of a full range of hot house products consistently available."

Wheatfield Gardens tomatoes are grown under 12.5 acres of glass. Over 400,000 boxes will be shipped this year. The operation's parent company, Oxbow Power of North Tonawanda, N.Y., Inc., operates a power facility located about two miles from the greenhouse. Oxbow utilizes an underground pipeline to supply heat to the growing operation.

Brad Robinson, president of Wheatfield Gardens, said he believes the synergies between Oppenheimer's western supply and the tomatoes his facility produces will be beneficial.

"We became acquainted with Oppenheimer through our relationship with Casey Houweling, president of Houweling Nurseries," Robinson said. "Houweling Nurseries entered an agreement with Oppenheimer late last year, and Casey reported satisfaction with the results. Knowing that Oppenheimer had a significant western-produced volume, it seemed like a good fit to us."

## Tomato Fax Report

Those interested in an up-to-date Tomato Fax Report can access it at: www.ams.usda.gov/fv/mncs/tomf.pdf. The report is published daily, Monday through Friday, with the exception of holidays. ■

**greenhouse, from page 12**

The largest greenhouse producing areas in Europe are Spain (113,667 acres), Italy (61,775 acres), France (23,475 acres) and Greece (9,390 acres). Around 10,000 acres of the greenhouse production in Europe is soil-less, mainly using inert substances such as sand, perlite, rockwool, puzolanes and volcanic gravels. The soil-less crop area is increasing with Spain and France the largest Mediterranean countries with 3,950 acres and 2,500 acres each in soil-less culture in 1996. Production of these crops has increased because of several factors. Changes in diet have contributed to an increase in vegetable consumption in Europe, opening windows of opportunities for vegetable growers. Improvements in transportation also have increased production by improving quality and lowering costs in shipping vegetables. The European Union is considered self-sufficient in vegetable production for most fresh vegetable crops.

*Typical Spanish soil mix used as a base in 90 percent of the vegetable greenhouses in the Almeria region. Approximately 12 inches of new soil, partially clay, is placed on top of the original soil in the region, followed by an inch of manure, and 4 inches of sandy gravel.*

Among these four European vegetable producing countries is what some regard as the sleeping giant — Spain. Much of the Spanish greenhouse industry centers around Almeria, along the coast of the Mediterranean, as well as Murcia to the east. In the Almeria area, there are some 90,000-100,000 acres of greenhouse crops grown predominantly in Spanish-style flat-roof greenhouses (Table 2). In comparison, in 1998 there were approximately 8,000 acres of vegetables grown in greenhouses (mostly glass structures) in the Netherlands (Table 3). Production of vegetables in greenhouses in Holland has not increased much in the past seven years. However, the value of Dutch vegetables and other high-value horticultural crops has increased significantly over the past two decades (Table 4). The commodities that dominate in Almeria are tomatoes, peppers, eggplants, cucumbers, muskmelons, and to some degree, watermelons. The area is known for its extremely arid climate, its available sunshine, and a large influx of new growers to the area. Almeria is potentially the next and possibly the greatest threat to Florida tomato producers for mid-winter competition. ■

*Internal view of a modern plastic-style greenhouse in the Murcia area of Spain (Duran Brothers). Tomatoes are grown using hydroponic culture, bumblebees are used for pollination, and additional heat is provided in winter months.*