BUSINESS IS Blooming

High-technology know-how is fueling Israel's ascendancy in the cut-flower industry, where export accounts for 90 percent of growers' crops of peonies, anemones and other species.

By **Sara K. Eisen**

ONLY 15 MINUTES FROM BEIT SHEMESH, ON A TINY MOshav called Sdot Mikha, thousands of crimson and yellow roses and red anemones grow in neat, muddy rows under the watchful eyes of Beni Sharoni and his employee, a farm worker from Thailand.

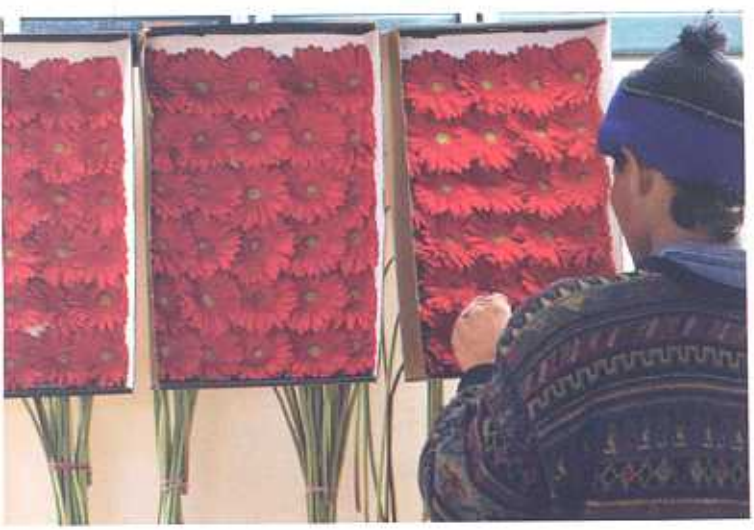
Cardboard-packed bunches of 100 cut flowers are taken to the airport at Lod each morning by truck from Sharoni's freezing-cold packing house, which is a tiny, rundown shack in back of his rose greenhouse and small tarp-covered anemone field. The anemones can grow in winter without temperature control, and from November through March there is a daily crop of these poppy-like buds. The picking, packing and distribution process is so streamlined that German and British direct-order clients receive flowers via temperature-controlled jet within two days of plucking.

Sharoni's export operation is remarkably straightforward and businesslike. It is also incongruously cosmopolitan given its humble size and appearance.

While most of Israel's flower growers operate outfits that are exponentially larger than Sharoni's, many do have similar set-ups, and still, in aggregate, Israel's flower, plant and propagation-material export brings upward of $200 million into the economy annually. The Jewish state is 3rd only to the Netherlands and Kenya in supplying the European Union with its flowers. Each year 1.5 billion stems are exported, double from only 10 years ago—while the number of growers engaging in export has dropped by 75 percent. The system, along with the growers, has simply become more efficient.

"Flower export works nicely with the special characteristics of Israeli export and agriculture," says Zvi Alon, director general of the Ministry of Agriculture's Foreign Trade Center, himself from a farming family. "[Even] the small family farm model, a small area yielding a lot of produce, with superintensive farming and using technology, [about five acres] can be adequate."

Israel's total agricultural yield, including agriculture-related technology and other nonedible products, is about 2 percent of the gross national product—or



Israel Buds *A worker packs red gerberas destined for Europe; (opposite page) a greenhouse of pansies in the Negev.*

THIS PAGE, FROM TOP: DANNY YANAI/LAMY; DAVID SILVERMAN/GETTY IMAGES
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$3.5 billion—of which 30 percent are exports, mostly of fresh produce.

FLOWERS, IN PARTICULAR, are heavily export-centric, with 90 percent of Israeli growers shipping their blooms out of the country. In the late 1970's, Israel was the first foreign country to enter the Netherlands' auctions and trade fairs; until then, only Dutch growers were allowed to participate. The events are "very exciting, and huge," Sharoni says. They take place almost every day in stadium-like settings where an open train bearing thousands of bunches of flowers, grouped by grower, is driven slowly through the crowd of buyers. Once buyers make an offer the bids appear on a huge "scoreboard." Auctions function as the trading floor for cut stems and plants, similar to a precious metal exchange, for instance.

Alon notes that these auctions, which account for approximately 70 percent of Israel's flower-export market, are especially instructive to growers. Ultimately, they are also good for the quality of exports because products are given a relatively objective, numerical value based on excellence.

The buying transaction between the winner of the bid and the grower takes place electronically, and the flowers are shipped almost immediately thereafter. That means that about four days after being rooted in Israeli soil, a sabra bloom could be brightening up a dining room in Amsterdam or Paris.

But Israel's flowers are, as is the nature of the cut-flower business, more or less ethnically anonymous once they hit the auctions and the wholesale markets in Europe. So it is not surprising that outside the agricultural community, the Jewish state's vast horticulture export success is a little known phenomenon abroad.

Locally, as well, the public relations machine has not delivered the message to the average Israeli that their tiny country provides 5 percent of the world's flowers and the greatest variety of species year-round. Or that Israel is considered a world leader in agrotechnology, especially in growing plants and flowers in hot, dry climates, and exports high-tech agricultural fare to the European Union—like genetically cloned, climate-adjusted seeds, fruit-picking robots and drip-irrigation systems. And those bouquet-filling greens that come with your dozen red roses? They are one of Israel's most popular horticulture exports, with 245 million green stems shipped out of the country annually.

During an age when the world has grown smaller, borderless and high-tech, Israel's once central identity as a salt-of-the-earth kibbutz nation has shifted the way of silicon. The two identities now go hand-in-hand, with high technology often employed to improve agricultural techniques. Overseeing the marriage of these two industries are the Ministry of Agriculture's Research Organization (ARO) and its Center for Floriculture in Arid Regions (CeFAR).

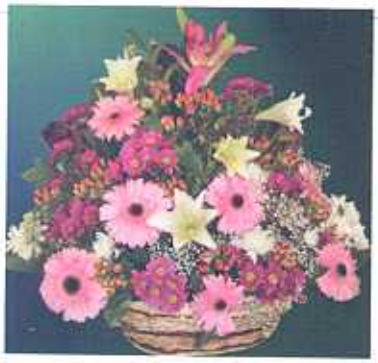
In fact, Haim Hadad, head of Israel's Flower Growers' Association, says that Israel's edge is its ability to innovate technologically and to "create new niche markets," always keeping a few steps ahead of African competitors, who have the advantage of almost endless space and cheap labor.

Whereas Africa now provides the European Union with most of its roses, Israel is focusing on the cultivation of the much harder to grow peony, exported to the United States at very rewarding prices, and the Lisianthus. The latter is a delicate, long-stemmed bloom native to Japan that is also a wildflower in the Western United States. Lisianthus grows in various shades of purple, pink, white and combinations thereof.

On the Block *Flowers for sale at a Dutch auction.*

ISRAEL'S AVERAGE OF 300 sunny days a year and relatively warm winter temperatures, especially in the Negev Desert, are excellent for growing Europe's summer flowers, when that continent is experiencing cold weather; advantageously, off-season flowers bring higher profits. But it's the scorching summer months and scarcity of water that make the Israeli penchant for problem solving via science and technology especially useful—and lucrative.

Yitzhak Esquira, Ph.D., coordinator of the Technological Field Research Activities run by the Ministry



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of Agriculture and Plants Board, points to two Israeli innovations that are facilitating the cultivation of an increasing number of species of flowers. The first is climate control—matching a species to the suitable greenhouse conditions of moisture, temperature, sunlight exposure and so on. The second advance has been the frugal, effective use of water.

Alon says that 30 percent of the water (eventually the plan is for 45 percent) used for crops is cleaned and recycled from sewage. The project is known locally as Shafdan, an acronym that, roughly translated, refers to the "gray water" from the Gush Dan region. As a result, farming uses less than 21,188 cubic feet of freshwater—half of what was allotted to agriculture 10 or so years ago before growing population demands—for the same or greater crop output.

The use of indigenous saltwater from the Dead Sea or the Mediterranean is also common practice; certain plants, such as Israel's peppers and tomatoes, have been cultivated to grow better in saltwater. In addition, overspill is gathered and reused, with fertilizing material still in it, which saves not only water but the environment. "We only open the faucet when we need to," says Esquira.

He adds that growers here often plant in volcanic rock, coconut fibers and clay, making better use of limited water and land resources and avoiding insects and therefore the need for chemical pesticides. These methods have been used in colder climates, but their use in arid conditions is another Israeli innovation.

KNOW-HOW IS THE true heart of Israeli horticulture export. A demonstration and training farm in Beijing, for instance, set up under Prime Minister Yitzhak Rabin in the early 1990's, is one of several Asian venues where Israeli experts share agrotechnology with their Far East counterparts, contributing not only to Chinese and Indian agriculture but to international relations, too. Ironically, a majority of growers in Israel employ Asian laborers, mostly Thai, to pick their flowers, since Palestinian labor became impossible to accommodate after the outbreak of the second *intifada* in 2000.

Benefits from developments in the export field have also trickled down to the consumer level. Israeli grocery shoppers have international agricultural trade to thank for the packages of fresh herbs, prewashed specialty lettuce and exotic engineered veggies such as broccolini, by now staples in United States markets but relatively new in the refrigerated section scene here. Flower selection within Israel has also, of course, expanded in quality in recent years.

And to further prove that Israeli flowers are as sweet as any other, *Globes* business daily reported that $56 million worth of the country's blooms were exported all over the European Union leading up to Valentine's Day 2005. Nothing says "I love you" like a bouquet from Israel. **H**