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Taiwan

Market Development Reports

Market Update on Taiwan Orchid Exports to U.S.

2006

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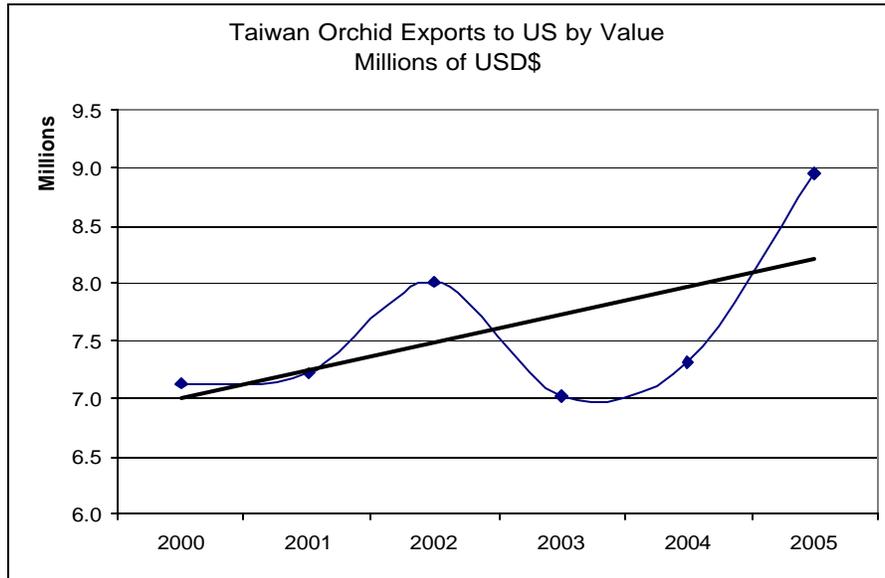
Report Highlights:

Orchid production has recently become a strategic focal point in Taiwan's agricultural economy, partly in an effort to diversify Taiwan exports. About 30% of total orchid exports from Taiwan are shipped for U.S. markets. Trade opportunities with the U.S. were enhanced in 2004 when APHIS approved entry of orchids in potted media shipments. While the export market potential for Taiwan orchids is strong, it remains vulnerable to a number of challenges, including trademark and property rights protection, streamlining the supply-chain, and increasing competition from China. In spite of these challenges, Taiwan is the leader in the orchid industry.

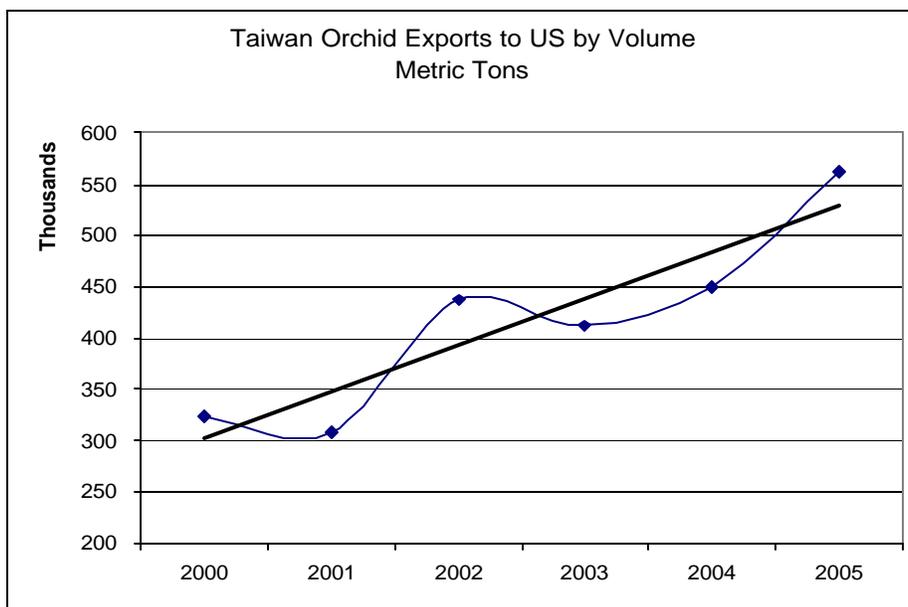
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Unscheduled Report
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Current Taiwan Orchid Exports to U.S.

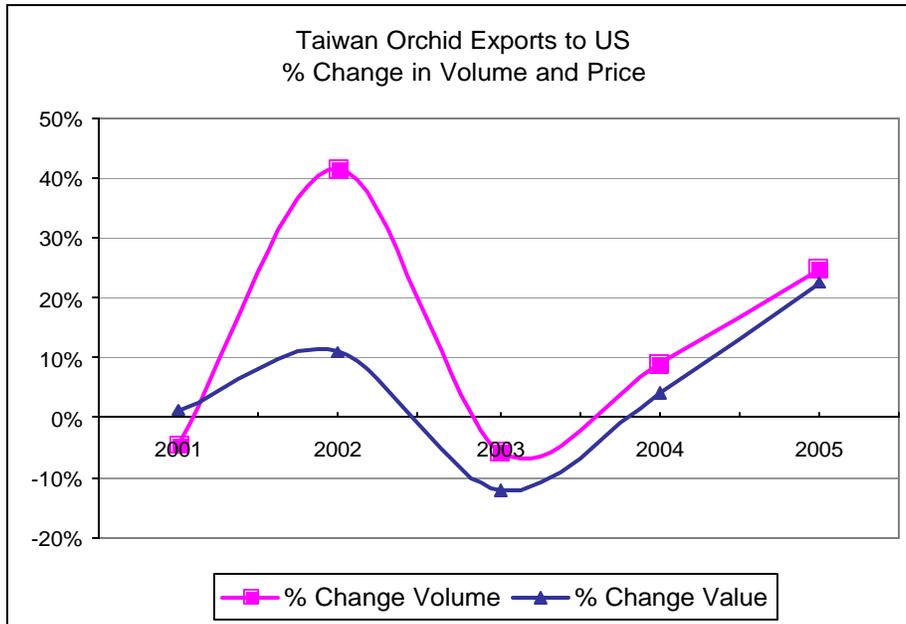
The value of Taiwan orchid exports to the US has surged since its accession to the WTO in 2001. Exports of orchids to the U.S. increased 11% from 2001 to 2002, peaking to a high of over \$8 million in 2002. Since this initial rise, the Taiwan orchid market has not seen nor sustained this dynamic growth. Export revenue to the U.S. actually fell 12% the following year in 2003. Orchid revenues increased 22% in 2005, reaching a record high of over \$9 million.



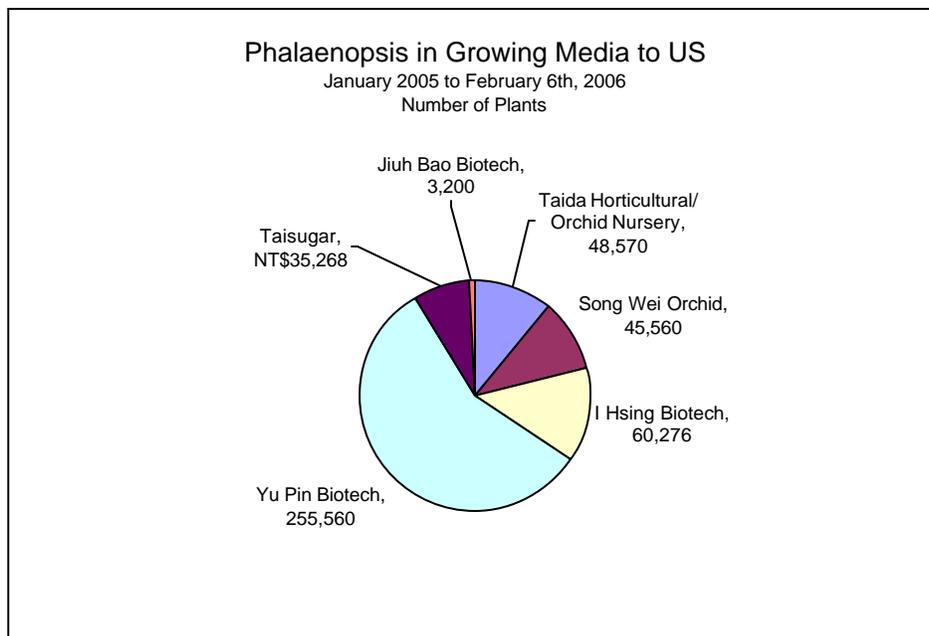
Orchid export volumes have seen similar fluctuations. The Taiwan orchid market saw a 41.6% surge in exports to the U.S. in 2002, from 308 thousand metric tons to over 437 thousand metric tons. The following year in 2003 this figure dipped 5.7%. Exports did not recover until 2005, when they reached a record high of over half a million metric tons, surpassing 2002 levels by over 100 thousand metric tons.



With the exception of 2002, changes in price and volume have been relatively consistent. In 2002, high export growth rates paired with lower revenue indicate that a high volume of orchids were sold in the U.S. markets at relatively lower prices. Unit prices fell in 2002 to 2003, stabilizing at a new lower level.



USDA approval of orchids in growing media contributed to increased volumes in 2005. Currently 29 greenhouses have been APHIS approved to ship Phalaenopsis, or moth orchids with growing media to the U.S. From the first shipments in early 2005 to February 2006, the top 6, out of a total of 12, growers have generated more than \$1.5 million USD in revenue. More than 400 thousand plants in potted media were shipped to the U.S. A source from the Taiwan Orchid Growers' Association indicated that since the USDA approval, business to the U.S. began with a lag in waiting for greenhouse approval, but is forecast to increase.



Export Outlook for Taiwan Orchids to U.S.

It is estimated that orchid exports to the U.S., which currently account for 30% of orchid export production in Taiwan, will continue to grow in the short term, and may increase dramatically if distribution channels improve and logistics cost fall. The measured growth is affected by supply-chain distribution challenges, the natural lag in response to new USDA regulations (greenhouse certification export requirements), or competition from Chinese and local U.S. growers.

Improvement to orchid distribution channels can affect export volume to the U.S. Most orchids exported from Taiwan to the U.S. are first shipped wholesale to a partner nursery located in the U.S., grown to maturity, and then distributed to the retailer. Taiwan growers are trying to establish a more economically efficient supply chain where the grower has more control. Plans are underway for growers to be their own wholesalers and distributors in the U.S. With approval for U.S. business license and land use, growers will begin building their own nurseries. This year, Taiwan orchid producers are applying for permission to purchase land in New Jersey to build a network of nurseries for east coast distribution.

Changes in export regulations can further affect export volume to the U.S. USDA approval in 2004 of potted orchids in growing media contributed to the surge in volume and revenue witnessed in 2005. However, it is still difficult to forecast Taiwan orchid exports to the U.S. In addition to changes in export regulations, growth in orchid exports depend on many factors including supply chain development, direct-marketing expansion, and increased competition from China. However, if all other things are equal, orchid exports from Taiwan to the U.S. are expected to increase.

The Taiwan Orchid Industry

As a leader in the USD \$2 billion orchid industry, Taiwan produces one quarter of the world's orchids. In order to diversify exports, Taiwan authorities have devoted money, land, and other government resources to fuel development of its orchid industry. By combining sales and tourism, orchid production has become one of Taiwan's cash crop industries. Moreover, Taiwan aspires to make itself synonymous with orchid production as the Dutch have with tulip production.

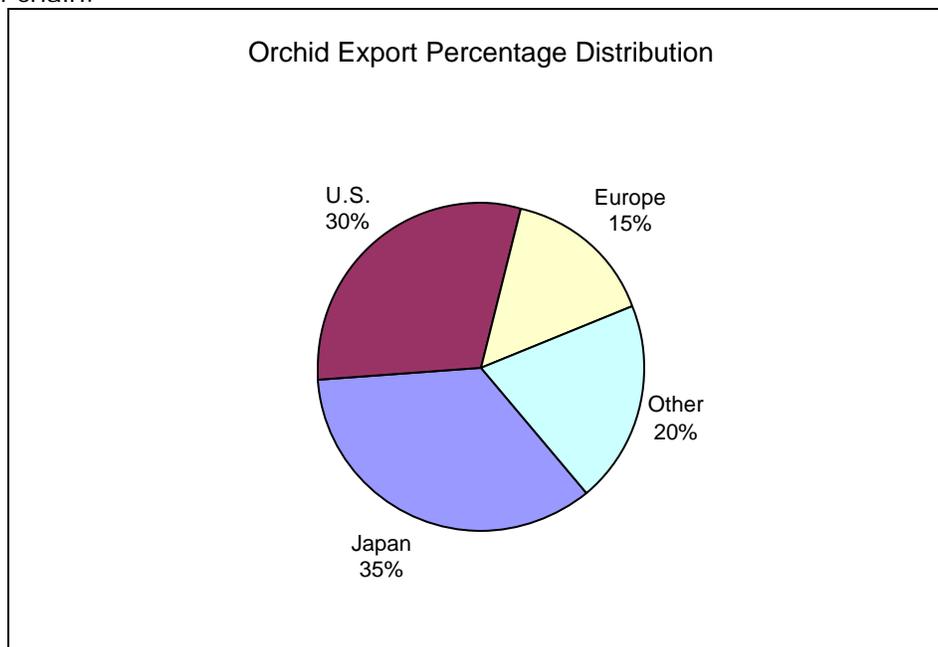
Since the late 1980s, the Taiwan orchid market has been mainly led by Taisugar, a state-owned-enterprise that owns a majority of Taiwan sugarcane plantations. As a way to diversify its revenue away from sugar, Taisugar used its massive land holdings to plant orchids that could feed domestic, Japanese, and international demand. Committing its resources to research and development, Taisugar has been instrumental in initiating exports of Taiwan orchids around the world, producing varieties of sturdy and attractive orchids for export. Currently, as the largest exporter of orchids in Taiwan, Taisugar is responsible for over 6% of orchid exports to the U.S. in an industry where there are 10 large producers and more than 300 Taiwan horticulture companies specializing in orchids.

Total land area devoted to orchid production in Taiwan is about 460 hectares with an annual export value estimated at \$61.9 million. The main crop for production is the Phalaenopsis, representing 90% of both the volume and the revenue of orchid exports to the U.S.

Shipment of orchids for export can come in three forms: seedlings, live plants, or fresh cut. Even with the development of orchid technology, shipping mature orchids is problematic and can cause stress on the plant. With recent approval for shipment of potted orchids in mixed media, orchids can be shipped directly for distribution with less damage and attrition. As Taiwan is waiting for more countries to approve the shipment of potted orchids, most export

of orchids is in the form of seedlings stored in flasks. These flasks are shipped to wholesale nurseries abroad for nurturing until maturity for retail sale. There is a growing trend for major orchid producers to ship the seedlings to their own wholesale nurseries for distribution.

Orchids for Japanese consumers represent 35% of production; while the EU represents 15% of the overall export market. Taiwan orchids have long had access to the Japanese market. The orchid exports destined for Europe are first sent in seedling form to the Netherlands' wholesale market and are then distributed across Europe. Taiwan is researching import compliance procedures that would allow direct access to the EU countries instead of going through the Dutch flower auctions, capitalizing on a more cost-advantageous supply distribution chain.



Why Taiwan

Many measures factor into why Taiwan has a comparative advantage in orchid production. Production costs, especially labor, are low compared to other orchid producers in the world. Estimated monthly salary for greenhouse workers is \$600 a month, about 1/3 of the cost of similar labor in the U.S. Taiwan authorities are supporting research through funding in grants, production infrastructure, and research labs. As a result, orchid researchers in Taiwan have been at the forefront of orchid technology. Considering that orchids are difficult flowers to grow and, in other places, can take up to 30 months to bloom, Taiwan's climate and expertise in producing orchids have resulted in a low seedling to bloom production time of 4 to 18 months, depending on the variety. Taiwan has access to modern gene transplantation technology that accelerates the process of nurturing new varieties, and could allow for mass production of once rare and expensive orchids that consumers rarely had access to.

With government assistance, like grants from the National Science Foundation and low-interest loans, the private sector is replacing Taisugar to become the main researcher and developer of new orchid technology. A representative from Council of Agriculture (COA) claimed that the COA will fully assist orchid farmers to overcome any financial difficulties in their funding needs for greenhouse infrastructure and research. Orchid farmers have access

to government-backed 10-year loans at 2% interest to build greenhouses. While at the same time, an estimated total of \$150 million will be spent on an orchid biotechnology zone.

In 2005 after 6 years of construction from 1991 to 1997, followed by 8 years of coordination between local farmers, Taisugar (the land-owners), county authorities (organizers), and the COA, Taiwan completed initial development of its first orchid biotechnology zone called the Taiwan Orchid Plantation (TOP) in southern Taiwan's Tainan County. Planned in 5 phases, the zone will ultimately cover 200 hectares of land devoted to creating a seamless supply chain for orchid export that includes land for farming, research facilities, exhibition hall composed of an export, marketing, and distribution center. This project's main goal is to provide access to orchid production for local farmers, breeders, and research institutions, thereby building a step ladder for local production to supply the world market. Interested production parties can inexpensively lease a plot of land, rent a ready-built greenhouse or take out a government loan to build their own greenhouses while international buyers can easily access the Taiwan orchid market using TOP's "one-stop shopping" facilities.

This year during TOP's second stage of development, about 35 hectares have been leased and developed for orchid production that includes participation from 25 private sector farms. The exhibition hall of TOP holds an annual orchid show featuring orchid varieties produced in Taiwan every spring. According to exhibition organizers, there was moderate participation from international buyers in the annual orchid show this year, but local turnout for the first few days was more than four thousand people, making the exhibition a promising tourism destination.

Challenges Ahead

Although statistics show Taiwan is a key global producer of orchids, the Taiwan orchid industry is under-patronized by world-wide professional and hobby growers' societies, revealing the challenges in positioning the product globally. Some may believe that because Taiwan has been able to produce orchids for the masses, Taiwan is causing the flower to lose its cache. With easy access to the export market through TOP, established growers in Taiwan are concerned about the flood of new farmers entering the market, further compromising the quality and reputation for Taiwan orchid production.

Further complicating the future direction of the Taiwan orchid market are patent issues and increased competition from China. Farmers have not been quick to patent their technology and may lose their comparative advantage in orchid production. New species piracy is rampant due to the lag between floral species development and legal protection in Taiwan. The amended Plant Variety and Plant Seed Act, implemented in 2005, has reinforced control over the development, ushering in, use and specification of species. This act connects Taiwan growers with international specifications and helps local flower growers apply for intellectual property (IP) rights for new plant species. More troubling for Taiwan is competition from China. Despite the mentioned constraints, the biggest threat most Taiwan orchid farmers see is cheaper production and massive orchid output potential from China. According to the COA, China is currently offering perks such as rent discounts and an electricity allowance to attract local Taiwan flower growers to move orchid production and technology to the mainland.

The Taiwan orchid industry still has room for expansion in the EU and U.S. Due to its comparative advantage in cost, research, and government support, Taiwan has all the desirable tools to remain the largest producer of orchids in the world.