Photo by Theerasak Saksritawee

TAIWAN info
June 18, 2016

Taiwan partners with Hungary on agricultural sales

Taiwan and Hungary will work together to boost exports of their agricultural products in two categories, the Agriculture and Food Agency (AFA) said June 11.

Under an agreement that was reached at a recent meeting, Hungary will serve as a transit point for Taiwan's orchid exports to the European market, said AFA Director General Chen Chien-pin.

In return, Taiwan will buy goose products from Hungary to supplement its domestic supply, which has been affected by an outbreak of avian flu on goose farms this year, Chen said.

Since the start of the year, Taiwan has culled thousands of geese in an effort of curb the spread of avian flu, which in turn has resulted in a shortage of goose on the domestic market and pushed up prices.

Last year, Taiwan imported 205 metric tons of goose from Hungary, according to statistics from the Council of Agriculture (COA), which supervises AFA operations.

Hungary, meanwhile, imported more than US$120 million worth of Phalaenopsis orchid buds and related products from Taiwan, the COA data shows.

Under the new cooperation agreement, Hungary will become a stepping stone for Taiwan's agricultural products to enter the European market, while Taiwan will serve as a gateway for Hungary's agricultural products to the Asian market, Chen said.

He said the two sides are hoping to expand their cooperation to agricultural investments, agricultural raw materials, and fresh food trade.

Source: Focus Taiwan

Taiwan's Moth Orchids – Their Past and Future

by Chang Chiung-fang
Taiwan Panorama

As in years past, this year's Taiwan International Orchid Show, the 12th, was held in Tainan's Houbi. In its run of 10 days in mid-March, the show garnered 220,000 visits from orchid enthusiasts of more than 26 nations and generated NT$9.72 billion (US$303.8 million) in sales that should pan out over the next three to five years.

Chang Chiung-fang

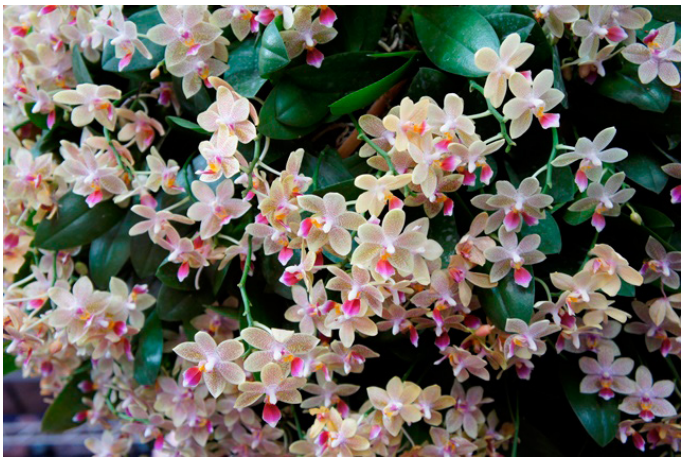
R&D support makes for a happy industry

The show revolved around the theme of "happiness." Apart from featuring Taiwan's 250 best-selling moth orchid (phalaenopsis) varieties and the 952 orchid plants entered into the show's competitions, the "monkey face orchid" (Dracula simia) from Ecuador attracted a lot of attention and curiosity in the Year of the Monkey. National Cheng Kung University's (NCKU) "Clever Schemer" orchids, which debuted here, and National Taiwan University's transgenic "Honey Snow," the first successfully bred white oncidium, were big hits as well.

Taiwan is one of the world's major moth orchid exporters, with export sales exceeding US$130 million per year. That represents more than 70 percent of all Taiwan's flower exports.

And Taiwan has invested more in researching moth orchids than in any other

flowers. "Academic support is essential for the industry," says Chen Hong-hwa, head of the Orchid R&D Center at NCKU. "As with the Netherlands' tulips and Israel's roses, whose commercial successes have been supported by research, Taiwan's orchid industry is bolstered by a national-level research program.



Chang Chiung-fang

There have been several recent research successes. Yeh Kai-wun, a professor at NTU's Institute of Plant Biology, has actively developed an oncidium with a new color. Through genetic engineering, he successfully created the white oncidium "Honey Snow." Meanwhile Yang Chang-hsien, chair of National Chung Hsing University's Graduate Institute of Biotechnology and vice president of the university, discovered a technique to alter the shape of orchid lips. Finally, Chan Ming-tsair, a research fellow at the Academia Sinica's Agricultural Biotechnology Research Center, discovered genes related to the timing of flowering. Manipulating these genes can cause orchids to bloom earlier.

Sequencing the horse phalaenopsis

NCKU's Orchid R&D Center, which has been established for 20 years, participated in an international project from 2009 to 2014 that successfully sequenced the genes of the horse phalaenopsis (Phalaenopsis equestris), a moth orchid species native to Taiwan. "Phalaenopsis equestris is the first orchid anywhere in the world to have its entire genome sequenced." Chen Hong-hwa explains that over the course of five years the center worked with 13 different research teams in Belgium, France, mainland China and elsewhere to transcribe the plant's genome, which was found to contain 29,431 genes.

Why was the horse phalaenopsis chosen?

"Since it's a pretty small orchid that grows quickly, it's an advantageous choice for use in plant research." Chen points out that the Royal Horticultural Society has listed 31,031 varieties of orchids, 19,445 of which are related to Phalaenopsis equestris. The sequencing of its genome is having major spillover effects for research into other moth orchids.

Clever Schemers, new orchids

On that basis, Hsu Chia-chi, a doctoral student in the Department of Life Sciences at NCKU and one of Chen's students, published some of this groundbreaking research in the American journal Plant Physiology. His paper, "Three R2R3-MYB Transcription Factors Regulate Distinct Floral Pigmentation Patterning in Phalaenopsis Orchids," immediately attracted a lot of international attention. In a nutshell, the research identified the regulator genes for red pigmen-

Chang Chiung-fang

tation in moth orchids. With gene regulation, one can get red streaks to appear or disappear at any place on the flower. The discovery has ushered in a whole new class of orchids: "Clever Schemers."

Hsu says because he spends most of his time in the laboratory that his family rarely gets to see him. On his graduation day, he presented his mother with an orchid whose pigmentation he had successfully changed, and she blurted out: "I didn't realize what a clever schemer my son was!" Hsu thus came to name these fruits of his many years of hard work as "Clever Schemers."

The perfect flower

Fragrance is another important focus of moth orchid research.

The elegantly beautiful moth orchid typically has no fragrance at all. "Rare is the flower that has the best of both worlds: numerous large blooms and a sweet fragrance," says Chen.

Taiwan's orchid breeders have assiduously engaged in hybridization in the hope of attaining a moth orchid that has both numerous beautiful blooms and a sweet scent, but their efforts were long for naught. Even when they happened on something that looked promising with hybridization, it would last only one generation, and the grandchildren would once again be scentless.

Chin Hung-hao

"The problem with hybrids," says Chen, "is that some species' chromosomes are large and some are small, and they don't match up." After much basic research, Chen came to the conclusion that to produce a beautiful and fragrant orchid by conventional breeding was a tall order. "For the best of both worlds, you've got to go to the genetic level and find the key genes to introduce."

Stuff of daily life

The NCKU Orchid R&D Center has used biotech to add value to the orchid industry by pushing orchids beyond their purely decorative uses.

"We've already found a few key genes, and we've applied for Taiwan and US patents so as to protect our intellectual property rights," explains Chen. To date, they've obtained eight orchid gene patents and transferred two scent-related genetic techniques to biotech companies with the aim of creating commercially viable products, such as essential oils, perfumes, soaps, and facial masks. From a global perspective, Taiwan's orchids are indeed quite distinctive. "Different flowers have different associations, and in Taiwan moth orchids are associated with the word 'happiness.'" Chen explains that Taiwan's moth orchids' strong suits are their long lives and lengthy flowering, as well as their hardiness in transport and the full round shapes of their blooms.

The monkey face orchids (Dracula simia), bee orchids (Ophrys apifera), and vanda orchids grown abroad all lack round blooms, leaving Taiwan's moth orchids with the singular distinction of being both large and round.

Taiwan willing to help with global refugee crisis: President Tsai

Office of the President

Source: Focus Taiwan

President Tsai Ing-wen said June 7 that Taiwan is just as willing as the United Nations member countries to help deal with the global refugee crisis, although it is not a U.N. member.

"We have not forgotten that while we are enjoying peace, people of other countries have been forced to leave their homes and embark on risky journeys to seek safety amid wars and political instability," Tsai said at ceremony held by several civic groups to establish a refugee shelter in Italy. The Rising People Foundation and a nonprofit organization established by furniture maker Lifestyle Global Enterprise Inc. founder William Hsieh have launched a project called "Casa di Love" to build a refugee facility on the southern Italian island of Lampedusa. The 20.2-square kilometer island, with a population of 6,304, has taken in nearly 100,000 refugees, Hsieh noted. The two Taiwanese organizations plan to spend NT$12 million (US$0.37 million) over the next three years to build the facility on the Italian island, with the first housing unit to be completed in autumn. Tsai said Taiwan has participated in international humanitarian aid projects through its Ministry of Foreign Affairs, International Cooperation and Development Fund, and nongovernmental organizations.

The donation of the refugee facility by the two nonprofit organizations symbolizes Taiwan's concern for the international community and its willingness to help deal with the growing refugee crisis in the world, she said. The Taiwanese people want to contribute more to the world, and the government will not ignore that, Tsai said.

Taiwan lauded for low casualties in explosion treatment

Taiwan's successful medical achievement in treating burn victims following the flash-fire at Formosa Fun Coast Park last June in New Taipei City won praise at a symposium on treating massive burn casualties held by the Humanitarian Aid and Civil Protection under the European Commission in Brussels in late May.

Source: Taiwan Today, Focus Taiwan

The Taiwan delegation, led by Wang Tsung-hsi, director of Medical Affairs at the Ministry of Health and Welfare, shared the island's experience after the incident, which left 499 injured, including more than 200 with burn areas of over 40 percent, and more than 20 with burn areas over 80 percent. With dedicated efforts by hospitals around Taiwan to treat the patients, only 15 of them died, which translates into a death rate of just 3 percent. There have been several terrorist attacks in France and Belgium in recent years, leaving hundreds dead and injured. With so many incidents at the same time, the local hospitals could not accommodate the vic-

tims and had to send them to other countries. Delays in the immediate treatment of the patients, together with incomplete medical resources, pushed the mortality rate up to 20 percent to 50 percent. "That is why Taiwan was invited to the conference because they want to know how we did it," Wang said.

The conference was attended by over 20 European countries, including Belgium, France, Germany, Romania and the U.K. Taiwan was the only non-European country invited. Tai Hao-chih, chief of the plastic surgery division at National Taiwan University Hospital and a member of the delegation, said the government adopted several emergency measures in the wake of the Formosa Fun Coast Water Park accident, including easing the requirements of National Health Insurance coverage for burn injuries and importing large amounts of cadaveric and artificial skin to allow hospitals to make best use of their resources to treat the patients, he said.

Also, immediately after the accident, hospitals around Taiwan provided as many intensive care beds as possible to admit patients and charged certain healthcare workers with the special responsibility of taking care of them, Tai said.

Taiwanese artist Eugene Zhou at Tatabanya Art Museum

Taiwanese printmaking artist Eugene Zhou will hold her first solo exhibition at Tatabanya Art Museum from June 17 to July 2, 2016. Using plaster as her media, Zhou creates large canvases of artwork with intricate details.

Photo: Courtesy of Eugene Zhou

Hungarian artist Viktor Lois, who is also the artist director of Contemporary Arts International (CAI) in Boston, United States, says, "at a young age, Eugene has mastered a unique technique in which she creates large-scale, highly detailed, modern interpretation of Chinese landscape art. Since many Taiwanese artists now follow a strictly Western style. It's refreshing to see Eugene use modern techniques to capture the traditional soul of Chinese art." Zhou graduated from the Department of Fine Arts at Taiwan's National Kaohsiung Normal University in 2015, and has been a resident artist at CAI and Tatabanya. After the exhibition at Tatabanya, Zhou will take her art works to Ateliers Pro Arts in Budapest. The exhibition in Budapest will be held from July 14 to August 3.

Tatabanya Art Museum
Szent Borbála tér 1
June 17 to July 2, 2016

Ateliers Pro Arts
Horánszky u. 5, Budapest
July 14 to August 3, 2016

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