



Measures Proposed by the Agriculture and Food Agency of Taiwan to Revitalize the Flower Industry during the Pandemic

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Received March 12, 2021; Accepted November 3, 2021

ABSTRACT

Coronavirus disease 2019 (COVID-19) is a severe, highly infectious form of pneumonia that has spread worldwide, changing lifestyles and dietary habits. This, in turn, has affected the agricultural sales and transport, including those involving Taiwanese agricultural products. This study summarized how Taiwan's agricultural and horticultural products have been influenced by the pandemic. It also examined the revitalization policies adopted by Taiwan's Agriculture and Food Agency (AFA) for the flower industry in response to such changes. In addition, this study explored the agricultural arrangements that can be feasibly adopted in the face of the extreme economic distress caused by the pandemic.

Keywords: COVID-19, Flower Industry, Taiwan's Agriculture and Food Agency (AFA)

STATUS OF TAIWAN'S PRODUCTION AND STOCK OF AGRIFOODS

The COVID-19 pandemic's first threat to Taiwan is its nationwide food shortage. The Food Administration Act promulgated by Taiwan's government stipulates that Taiwan must stockpile at least three months' worth of rice for consumption. Taiwan's stockpile accounts for 25% (3 months) of its annual food consumption (12 months), which is much higher than the food stockpile level suggested by the United Nations. In general, Taiwan's food security is assured in the near future according to the following calculations. The AFA notes: 1) 820,000 metric tons of brown rice remaining from the stockpile by the end of April 2020, 2) 100,000 metric tons of rice from the public sector, and 3) 1.4 million metric tons of rice from the first and second crop yields of 2020. As for those agricultural products requiring imports, including soybeans, corn, wheat, fertilizers, and seeds, the AFA has also acquired information, from the Ministry of Foreign Affairs, on the production and stock of various grains in other countries to proceed with subsequent port operations and distribution. Import operations remain functional. Therefore, Taiwan's agrifood production and stockpile are currently sufficient (Agricultural industry rescue and promotion zone for severe special infectious pneumonia, 2020).

THE PANDEMIC'S IMPACT ON TAIWAN'S AGRICULTURAL AND HORTICULTURAL PRODUCTS

The pandemic has reduced global and domestic consumption, greatly affecting domestic and international sales, in particular that of export-oriented fruits and flowers. Atemoya and pineapple are some high-profile examples of such crops. The AFA's efforts in strengthening marketing, especially in expanding online marketing channels, have significantly increased the domestic price of atemoya. As for Taiwan's pineapple exports, expansion into other overseas markets reduces Taiwanese pineapple suppliers' dependence on a single market, which diversifies risk in the face of the pandemic. The percentage of pineapple exports to Japan rose from 2% to 8%, and the AFA has been actively expanding pineapple sales in other countries, such as Hong Kong, Singapore, and Malaysia. By late May 2020, pineapple exports totaled 40,000 metric tons, approximately equal to the total export volume in 2019 (50,000 metric tons). Taiwan's flower industry records an annual revenue of approximately NT\$16.5 (US\$0.57) billion, approximately 40% of which is from exports.

Specifically, Japan accounts for 33% of the total flower exports from Taiwan. However, Japan declared a state of emergency due to the pandemic and encouraged people to stay home. This outdoor restriction has greatly reduced flower consumption, and flower prices have decreased as a result. To exacerbate this situation, freight costs have increased due to the reduction in flights. Accordingly, flower exports have been greatly affected by the pandemic (Agricultural industry rescue and promotion zone for severe special infectious pneumonia, 2020).

In addition, COVID-19 has also severely affected local industries. The international transportation, shipping and economic activities have stagnated, and export orders have also plummeted due to the spread of the international epidemic. The export volume of flowers was 4,644 metric tons from March to May 2020, a serious decrease of 40% (3,382 metric tons) compared to the same period in 2019. Excessive production and indigestible orders were back to the domestic market, also lead to subsequent lower sales price. In addition, related flower-using activities have been postponed or delayed. Unfortunately, the increase in volumes has also further aggravated the problem of flower marketing which often occurred in the main production season (April to June). The average price of flower productions in Taipei Flower Wholesale Market from March to May, 2020 is NT\$54.5 (US\$1.93), a decrease of NT\$17.3 (US\$0.61) compared with the same period last year, seriously impacting flower farmers livelihood (Overview of Taiwan Flower Industry and Counseling Measures, 2020).

MEASURES PROPOSED BY THE AFA TO REVITALIZE THE FLOWER INDUSTRY

To reduce the loss and waste of flowers, the AFA plans to promote domestic sales to increase annual consumption. In addition, policies for stimulating international sales have been adopted to stabilize the flower industry during the pandemic. The AFA has implemented the following relevant policies.

1. Promote flower education: a total of 13 local governments (e.g., Taichung, Changhua, Nantou, Tainan, Kaohsiung, Pingtung) have cooperated to encourage flower use and cultivate a culture of flower appreciation among citizens, thus stimulating the consumption of local flowers.
2. Increase marketing channels: the AFA began partnering with Taiwan Florists' Transworld Delivery Association on March 26 to conduct cooperative marketing by organizing the Deliver Happiness with Flowers campaign. People who preorder online can purchase NT\$300 (US\$10.23) worth or more of combined floral materials for only NT\$150 (US\$5.11) until June. Thus far, 100 flower shops have participated in this campaign, which has been expanded to outer islands of Taiwan. To expand marketing channels, collaboration has been made with supermarkets, hypermarkets, and travel agencies for physical distribution. Subsequently, the AFA plans to develop a mechanism to match flower shops, flower suppliers, and distributors, thus helping the floral industry remain sustainable over the long term.
3. Encourage the religious use of flowers: worshippers are encouraged to purchase bouquets instead of burning incense sticks when offering prayers. This practice helps florists and improves air quality. Thus far, eight temples have agreed to participate, and efforts will be made to promote this initiative among other major temples. The AFA has also cooperated with temples, such as the Dajia Jenn Lann Temple, to launch gift boxes of blessed flowers. People can order flower products blessed by temples online and have them delivered to their house.
4. Promote large-scale landscape flower arrangements: to increase the public's exposure to flower products, large-scale landscape flower arrangements have been displayed during the flower blooming seasons in Taiwan. Examples of these arrangements include the flower carpet installations at the Flower Sea Plaza of Taipei Expo Park in Taipei, Love Pier in Kaohsiung, and Calligraphy Greenway & Citizen Square in Taichung; glass greenhouses to hold flower displays at Chiang Kai-Shek Shilin Residence, Da'an Forest Park, and Taipei Expo Park; and flower landscapes at critical transport hubs, such as railway stations (the Xinwuri, Taichung, Tainan, Xinzuoqing, and Taipei railway stations) and National Freeway service areas (the Dongshan, Xihu, Xiluo, Gukeng, and Xinying service areas). Moreover, the AFA is collaborating with Taipei 101 building for flower display and agricultural product promotion. With the objective of promoting various agricultural commodities and their derived products, the AFA also plans to establish a long-term partnership with Taipei Metro, thereby creating a new distribution channel.
5. Gift flowers to pandemic preparedness agencies and conduct environmental beautification: the AFA aims to create a campaign to gift flowers to 6,622 partnering agencies (340 health centers and 6,282 pharmacies) in charge of distributing masks. Fifteen hospitals (e.g., National Taiwan University Hospital, Taipei Municipal Wan Fang Hospital, St. Joseph's Hospital in Yunlin, and Show Chwan Memorial Hospital in Changhua) and counting have participated in the environmental beautification project.
6. Provide export guidance: offer incentives for exporting the flowers and seedlings of moth orchid (*Phalaenopsis*), boat orchid (*Cymbidium*), dancing doll orchid (*Oncidium*), flamingo flower (tailflower,

Anthurium), and Malabar chestnut. According to the export destination, florists are offered an air-freight rate of NT\$30 - NT\$70 (US\$1.02 - 2.39) per kg and a sea freight rate of NT\$8 - NT\$10 (US\$0.27 - 0.34) per kg, in addition to a 20% rebate on the cost of exporting their products. The AFA has also arranged for charter flights with China Airlines to ensure a sufficient weekly flight capacity of air-freight exports. Continual guidance is provided to domestic floral business owners to encourage participation in overseas trade shows, such as those held in Japan, Moscow, Brazil, and New Southbound countries.

7. Reduce flower production and increase the number of new varieties: the AFA has sought to have the flower industry replace old varieties with new cultivars of plants; reduce the recent supply of the top flowers exported, such as tailflower, Oncidium, Cymbidium, and Phalaenopsis; and introduce new varieties to stay competitive (The revitalization's measures of Taiwan flower business, 2020).

CONCLUSION

The COVID-19 pandemic-induced disruption to global transport and lockdown policies have shifted consumer shopping habits and contributed to rise of e-commerce shopping. Taiwan's domestic expansion of flowers and other agricultural products through e-commerce services has been remarkable. Because pandemic-related restrictions in other countries have yet to be lifted, these other countries have imposed export restrictions on agricultural commodities. This has entailed increased export orders from other countries for Taiwan's excellent and popular agricultural products (e.g., green (vegetable) soybean and ginger). Obstructions in the global supply chain during the pandemic serves as an opportunity for international market reform. Taiwan offers an extensive range of world-class horticultural products of the highest quality and freshness. The AFA has been taking active measures to have more Taiwan's agricultural products certified by international standards, to strengthen relevant technologies (e.g., cold chain technology), and to improve packaging according to research findings on local consumption habits. All efforts are underway to pre-empt opportunities to enter emerging markets overseas and regain lost market share once the pandemic is over.

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