



Economic Impacts of Losing the Fruit Fly Trapping Program

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Introduction

Mexican fruit fly infests parts of Mexico and Central America. Oranges and grapefruit are susceptible to infestation and economic losses result from direct damage caused by the larvae feeding on the fruit pulp (USDA). Since 1986, Texas has participated in the Fruit Fly Trapping and Control Program. The program has been jointly funded by the Animal and Plant Health Inspection Service, USDA, the Texas Department of Agriculture and the Texas Valley Citrus Committee.

A multi-phased program was initiated in 2007 to eradicate the fruit fly from Texas and the Mexican state of Tamaulipas. While the Mexican fruit fly was proclaimed to be eradicated in January 2012 in Cameron County, there continues to be detection of Mexican fruit flies as well as other exotic fruit flies. In fact, since January 2014, there have been fruit fly quarantine areas in Hidalgo, Cameron, and Willacy counties, and currently there are active quarantine areas in Brownsville, McAllen/Mission, and Rangerville. As a result, an early detection and surveillance program is essential to ensuring the continuation of interstate and international commerce of Texas citrus.

Industry experts estimate that the loss of the fruit fly trapping program would result in major crop losses and price reductions for Texas fresh citrus. Fumigation of fruit would increase the cost of production, result in price discounts due to chemically burned and pitted fruit, and also result in the loss of both domestic and export markets. Citrus shipments would also be reduced due to lack of fumigation capacity, which is limited by the number of chambers presently available, the cost of constructing new ones and a lengthy approval process due to environmental considerations. It was estimated in 2011 that six new fumigation chambers would be required to fumigate the entire crop, with total construction costs reaching \$750,000. When considering inflation of the past four years, today that number is likely closer to \$800,000. Another option is to construct a facility for rearing sterile fruit flies in an effort to diminish their population. However, the type of facility actually needed by the industry is estimated to cost around \$30 million.

The economic impacts of the loss of the fruit fly trapping program on the Texas commercial fresh citrus industry were estimated using IMPLAN, an economic input/output model. Economic multipliers for each sector of the economy were used to estimate how a reduction in citrus sales affects business activity, income and employment in other sectors of the economy that supply inputs and services to the citrus industry.

Current Situation and Economic Baseline

Texas commercial fresh market citrus production was valued at \$96.6 million in 2014. The fresh market grapefruit crop was valued at \$58.8 million, while the orange crop was \$37.8 million. Texas citrus production is located in the Lower Rio Grande Valley, with Hidalgo county accounting for about 85 percent of Texas bearing acres in 2014. Texas is the third largest citrus producing state behind Florida and California.

IMPLAN estimates indicate that the total business activity supporting Texas citrus production is \$148.4 million annually. This includes farm level business activity of \$96.6 million and off-farm business activity of \$51.8 million. Farm and related sector value added, or income, generated by citrus production is \$83.4 million, while another \$23.3 million is generated off-farm in input supply, transportation, finance, real estate, health care, wholesale/retail trade and the food/beverage industry. The Texas fresh citrus industry employs directly or indirectly 3,064 people. Employment used to produce and market the Texas fresh citrus crop is estimated to be 2,674 jobs. Of those, 2,446 are farm jobs, while off-farm citrus related jobs are 228, including sorting, grading and packing, and input supply. The balance of employment, or 390 jobs, is located in other sectors including health care, 66 jobs; food, beverages and retail, 55 jobs; wholesale, transport and warehousing, 29 jobs; business services, 39 jobs; and finance, 30 jobs. The remaining jobs are spread among numerous sectors.

Significant purchases of goods and services associated with the Texas citrus industry are dispersed over many sectors of the economy. Business activity associated with the most important supporting sectors includes: agriculture support activities, \$8.4 million; wholesale trade and warehousing, \$3.8 million; real estate, \$7.0 million; and transportation, \$1.3 million. Health care services at \$6.2 million, food and beverage sales at \$3.1 million, and insurance and banking services at \$41.1 million are supported by household purchases attributed to economic activity associated with Texas citrus production.

Potential Economic Impacts of Eliminating the Fruit Fly Trapping Program

Termination of the fruit fly trapping program is estimated to result in a \$51.9 million annual loss to the Texas fresh citrus industry if fruit flies were to infest all Texas citrus orchards. Losses in fresh citrus sales are estimated to reach \$33.8 million. These sales losses would be accompanied by an additional loss of \$18.1 million in associated economic activity required to produce and market the crop. A total of 1,030 jobs would no longer be required to support the Texas fresh citrus industry. Of these, 823 would be in citrus production and 207 in agriculture services, finance, business, health care, transportation, wholesale/retail trade and food/beverages. As the percent of infested orchards decline due to the effective of current bait spray practices, the loss to the industry would decline.

If orchards are infested and fumigation is the only alternative, there would be a \$38.5 million loss due to average price discounts up to \$6.00 per forty-pound box of fancy grapefruit as a result of chemical burns and pitted fruit. This includes losses resulting from lost sales of fancy grapefruit that would have been shipped to Arizona, California, Europe, and Japan as they would no longer be appealing to the consumers in those markets. About \$25 million of that is lost sales, while \$13.5 million represents reduced purchases of production inputs such as fertilizer and chemicals, other agriculture services such as harvesting, sorting, grading and packing, financial services, real estate, health care, transportation and wholesale/retail trade. Please note that some in the industry believe that fumigation would result in greater losses as the fruit not only suffers scarring, but also leads to reduced shelf-life and bad tasting fruit.

Additional losses of \$6.8 million occur due to lost markets for oranges and other grapefruit varieties in California and Arizona. Buyers are reluctant to purchase fruit if it has been fumigated with methyl bromide as the fruit would be scarred and aesthetically unappealing. Direct sales losses would be \$4.4 million, while associated losses in other economic activity would be \$2.2 million. A loss of 141 jobs is attributed to lost sales in the California and Arizona markets.

Organic citrus production would experience a \$4.6 million loss if fumigation were required as the treatment would prevent the fruit from being organic. In fact, organic citrus producers have indicated that they may abandon their production if fruit fly infestation were to occur. These losses include \$3.0 million in sales and an additional loss of \$1.6 million in business activity that would result from lower purchases of agricultural and financial services, health care, real estate, transportation, wholesale/retail trade and food processing. Losses in employment are estimated to be 95 jobs.

Summary

The Texas fresh citrus industry could experience economic losses of up to \$51.9 million annually if the fruit fly trapping program is eliminated. In addition, 1,030 jobs would no longer be needed to produce and market the crop. About one-half of these economic and job losses would be off-farm in agricultural services, finance, real estate, health care, wholesale/retail trade, transportation and food/beverages.

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