Effects of flooding and soil-applied solid oxygen fertilizers on physiology and growth of papaya plants. *by Stephanie Torres*

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Papaya is grown exclusively in South Florida. Over ninety percent of the papaya production is in Miami-Dade County. The remaining acreage is primarily located in counties adjacent to Miami-Dade County. Average yield can approach 25,000 pounds per acre. With a pack-out of 85 percent and a price of $0.30 per pound, income from an acre of papaya would have been worth approximately $6,375. Papaya thrives under warm conditions with abundant rainfall or irrigation. It cannot tolerate strong winds, flooding, or frosts, and it recuperates very slowly if it has sustained considerable leaf or root injury. Soils should be well drained, as papaya is very sensitive to even short periods of flooding. Most commercially-grown papaya is propagated from seed. Two or three seeds are planted in peat pots, which are directly transferred to the ground when the seedlings maintain a height of 6 to 8 inches. The pain high tide flooding in 2018 may be as much as 60 percent higher across U.S. coastlines as compared to typical flooding about 20 years ago and 100 percent higher than 30 years ago. Application of Magnesium peroxide & Calcium peroxide solid fertilizers treatments proved to be an effective solution to aid increase survival and recovery rates in flood stress condition in young papaya plants. The papaya industry in south Florida is constantly under stress due to the presence of natural disasters and with climate change, those problems are predicted to only increase. A greenhouse study was conducted to address the flooding tolerance for papaya. Based on my observation papaya seems to be flood tolerant with the application of recommended fertilizer treatment.