

California pistachio producers receive more than \$550,000 annually. Only a portion of these producers would meet SBA's definition of a small agricultural producer.

The record shows that 12 California pistachio handlers (63 percent of the total) handle less than 1,000,000 pounds per year; 4 handlers (21%) handle between 1,000,000 and 10,000,000 pounds; and 3 handlers (16%) handle more than 10,000,000 pounds annually. The largest handler processes over 50 percent of industry production.

Using an average handler price of \$1.80 per pound, 63 percent of the pistachio handlers would receive annual receipts of less than \$1.8 million, 2 percent would receive between \$1.8 and \$18.0 million, and 16 percent would receive more than \$18.0 million. At least 12 of the pistachio handlers (or 63 percent of the total) could be considered small businesses under SBA's definition.

Record evidence concerning pistachio production and handling costs provide an understanding of the California pistachio industry and potential impacts of implementing the proposed order. Farming pistachios is a costly investment with a significant delay in benefits and an unreliable crop yield.

Although increasing yields have led to an increasing overall value of California pistachio production, producers must maintain a level of return per pound harvested that covers the cost of production in order for their pistachio operations to remain economically viable. Witnesses testified that maintaining a high level of quality product in the market would lead to increasing consumer demand and greater stability in producer returns.

Evidence suggests that poor quality pistachios impact the demand, and the potential growth of demand, for pistachios. Characteristics routinely deemed as "poor quality" by customers of the California pistachio industry include small size, and excessive internal and external blemishes. Market studies and customer comments presented by handler witnesses demonstrate that the presence of poor quality pistachios in the marketplace significantly impacts demand in a negative way.

Minimizing the level of aflatoxin in California pistachios is another significant quality factor, as aflatoxin is a known carcinogen. Consumer concerns over aflatoxin can affect their perception of pistachio quality, and therefore negatively impact demand. Moreover, any market disturbances related to aflatoxin in pistachios, regardless of the geographic origin of

those pistachios, could have a detrimental effect on the California pistachio industry. A regulatory program limiting the amount of aflatoxin in pistachios could be useful in bolstering consumer confidence in the quality of California pistachios.

Pistachio acreage has been consistently increasing in California, from just over 20,000 bearing acres in 1979 to 78,000 bearing acres in 2001. The number of non-bearing acres (*i.e.* acres less than 7 years old, not yet in full production) has also shown consistent growth in recent years, rising from 13,400 acres in 1995 to 23,500 acres in 2001, a 75 percent increase. Yield per acre has also been steadily rising. Over the 1976–1980 period, average yield per bearing acre measured 1,110 pounds; by 1996–2000, this average had increased to 2,512 pounds.

Higher yields and increasing acreage has resulted in increasing production. According to information submitted by the CPC, production in 2000 totaled 242 million pounds, a 64-percent increase over 1995 production, which totaled 148 million pounds. Moreover, witnesses at the hearing indicated that maturing acreage, absent any additional new plantings, will likely result in a 60-percent increase in California pistachio production over the coming years.

Several witnesses at the hearing testified that, in light of increasing production, future stability of market returns is reliant on continually increasing consumer demand for pistachios. These witnesses stated that strong consumer demand, which is ultimately related to consumer perceptions of product quality, is essential to the continued economic well being of the California pistachio industry. Moreover, witnesses discussed the importance of implementing a marketing order program that would provide them with a regulatory structure to monitor and assure that minimum quality standards are not compromised as production of California pistachios increases.

The relationship between product quality, consumer demand and producer returns in the pistachio industry was demonstrated at the hearing. Pistachio production is not only costly in terms of initial investment and cultural costs, but it is highly unpredictable in terms of producer returns. Between the initial processes of cleaning, hulling, sorting and drying, a significant portion of the initial volume harvested is reduced. This volume is further reduced as the handling process reaches its final stages of sorting for quality and final preparation for market. Witnesses

explained that ultimate pistachio sales are based on approximately 30 percent of the volume initially harvested from the field. Because of this, witnesses stated that the process of extracting the highest quality portion of the harvest, and ensuring consumer satisfaction with that product, is crucial to determining the value of the crop.

Pistachio production is similar to other nut crops in that yield and total production vary substantially from year to year because of the alternate bearing nature of pistachio trees resulting in cyclical high and low production years. Total value and value per acre are generally higher in higher yielding years. Conversely, grower return per pound is generally higher in low yielding years.

Producer returns and total crop value are also dependent on the percentage of harvest that is either "open shell" or "closed shell." Each harvest yields a certain percentage of nuts that have not naturally opened prior to cultivation. These nuts are classified as "closed shell," "shelling stock" or "non-splits," and have a lower market value than those nuts that are naturally split, or "open shell." The proportion of open-shells is a key factor in year-to-year changes in the total value of production.

Economic evidence presented at the hearing, based on data from the National Agricultural Statistics Service (NASS) and the CPC, indicates that trends for total crop value and value per bearing acre have been increasing over the past 20 years. In 1980, the pistachio crop in California was valued at \$55.8 million. By 2000, total crop value had increased more than four-fold, reaching \$245 million. These gains are attributed to increases in both total pistachio producing acreage and yield per acre. Average value per bearing acre increased from \$1,642 per acre in 1980–1984 to \$2,665 per acre in 1996–2000.

According to CPC historical price data, price per pound has gradually decreased over the past 20 years, ranging from a high of \$2.05 per pound in 1980 to a low of \$0.99 per pound in 2001. According to the record, the proposed order would assist in improving producer returns for pistachios. The proposed order would not only assist in fortifying consumer demand by ensuring consumer satisfaction with product quality, but mandatory quality and aflatoxin requirements are also likely to boost domestic prices by culling lower quality pistachios, which tend to have price-depressing effects, from the market.

A University of California Cooperative Extension study presented as part of record evidence estimates total cost of