INTRODUCTION

Mechanical harvesting must be developed for successful table olive production in California. Most table olives are hand-picked—a labor intensive and expensive practice which could render table olive production unprofitable. For commercial usage of the technique, the efficiency of harvest removal and collection should be ensured. However and more importantly, the final processed fruit quality needs to be guaranteed first. The objective of this research was to evaluate the sensory quality and acceptability of California black ripe olives harvested with a canopy contact harvester (Fig.1) and to re-confirm the findings of Ferguson et al. (2010) from harvest year 2008-09.

METHODS

Experiment 1. Generic Descriptive Analysis
- Panel: 8 trained panelists
  - Training sessions: Developed 34 terms (Table 2) to describe the table olives (Fig. 1, Table 1).
  - Actual Evaluation: in triplicate
  - Serving: 2 whole olives + 1 olive sliced in half, @ room temp (20 °C); with proper cleaners
  - Samples were presented in randomized complete block design (RCBD)
  - Scale: A line scale w/ proper labels at either end of the scale

Experiment 2. Consumer Acceptance test
- Subjects: 109 American black olives likers & users aged 18+
  - Sample presentation: 11 olives (primer + 10 treatments) in RCBD
  - Serving: 2 whole olives; @ room temp (20 °C)
  - Examined: Overall degree of liking, appearance liking, flavor liking and texture liking + Exit survey (Usage and demographic SAG)
  - Scale: 9-point hedonic scale

RESULTS

Sensory characteristics of black table olives

- The main difference: Processing method (fresh processed vs. non-fresh (i.e. stored and commercial), along by PC1 (54.3%).
- Harvesting methods (Hand vs. Machine): Little difference in sensory characteristics

CONCLUSION

- Canopy-contact head mechanical harvesting can produce table olives of similar sensory quality to traditional hand harvesting.
- Our research re-confirmed the strong potential for fresh-processed olives in the Californian-olive market.
- The findings re-confirmed that canopy contact mechanical harvesting may provide a cheaper alternative to hand harvesting of black table olives.