

Dr. Alon Samach

Associate Professor of Horticulture

Institute of Plant Sciences and Genetics in Agriculture, Robert H. Smith Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem,

Higher Education

- 1984-1987 B.Sc., The Hebrew University of Jerusalem, Faculty of Agriculture, Rehovot, Israel.
1988-1993 Ph.D., Technion-Israel Institute of Technology, Dept. of Biology.
1993-1996 Post-Doctoral Fellow Department of Botany, University of British Columbia, Vancouver BC, Canada.
1996-1997 Research Associate, Department of Botany, University of British Columbia, Vancouver BC, Canada.
1997-2000 Research Scientist, Department of Molecular Genetics, John Innes Centre, Norwich, Norfolk, UK
2000-2006 Lecturer- Institute of Plant Sciences and Genetics in Agriculture, Robert H. Smith Faculty of Agriculture, Food and Environment
2006-2014 Senior Lecturer- Institute of Plant Sciences and Genetics in Agriculture, The Robert H. Smith Faculty of Agriculture, Food and Environment.
2015-Current Associate Professor of Horticulture, Institute of Plant Sciences and Genetics in Agriculture, The Robert H. Smith Faculty of Agriculture, Food and Environment.

Current Research Areas:

- Breeding for New Passionfruit Cultivars
- The Effect of Cold Temperatures on Flower Induction in Olives
- Fruitlet Abscission in Apples and Avocado
- Alternate Bearing in Apples and Olives

Recent and Significant Publications

- Engelen, C.; Wechsler, T.; Bakhshian, O.; Smoly, I.; Flaks, I.; Friedlander, T.; Ben-Ari, G.; Samach, A., Studying parameters affecting accumulation of chilling units required for olive winter flower induction. *Plants (Basel)* **2023**, *12*.
- Wechsler, T.; Bakhshian, O.; Engelen, C.; Dag, A.; Ben-Ari, G.; Samach, A., Determining reproductive parameters, which contribute to variation in yield of olive trees from different cultivars, irrigation regimes, age and location. *Plants* **2022**, *11*, 2414.
- Gafni, I.; Rai, A.C.; Halon, E.; Zviran, T.; Sisai, I.; Samach, A.; Irihimovitch, V., Expression profiling of four mango *ft/tfl1*-encoding genes under different fruit load conditions, and their involvement in flowering regulation. *Plants* **2022**, *11*, 2409.
- Fresnillo, P.; Jover-Gil, S.; Samach, A.; Candela, H., Complete genome sequence of an isolate of passiflora chlorosis virus from passion fruit (*passiflora edulis* sims). *Plants* **2022**, *11*, 1838.
- Tsamir-Rimon, M.; Ben-Dor, S.; Feldmesser, E.; Oppenhimer-Shaanan, Y.; David-Schwartz, R.; Samach, A.; Klein, T., Rapid starch degradation in the wood of olive trees under heat and drought is permitted by three stress-specific beta amylases. *New Phytologist* **2021**, *229*, 1398-1414.
- Ben-Ari, G.; Biton, I.; Many, Y.; Namdar, D.; Samach, A., Elevated temperatures negatively affect olive productive cycle and oil quality. *Agronomy* **2021**, *11*, 1492.
- Haberman A., Bakhshian O., Cerezo-Medina S., Paltiel J., Adler C., Ben Ari G., Mercado J.A., Pliego-Alfaro F., Lavee S. & Samach A. (2017) A possible role for FT-encoding genes in interpreting environmental and internal cues affecting olive (*Olea europaea* L.) flower induction. *Plant Cell and Environment*, **40**, 1263-1280.
- Haberman A., Ackerman M., Crane O., Kelner J.J., Costes E. & Samach A. (2016) Different flowering response to various fruit loads in apple cultivars correlates with degree of transcript reaccumulation of a TFL1-encoding gene *Plant Journal*, **87**, 161-173.

- Tal Y., Anavi S., Reisman M., Samach A., Tirosh O. & Troen A. (2016) The neuroprotective properties of a novel variety of passion fruit. *Journal of Functional Foods*, **23**, 259-369.
- Ackerman M. & Samach A. (2015) Doubts regarding carbohydrate shortage as a trigger toward abscission of specific Apple (*Malus domestica*) fruitlets. *New Negatives in Plant Science*, doi:10.1016/j.neps.2015.1006.1003.
- Chayut N., Sobol S. & Samach A. (2014) Shielding flowers developing under stress: translating theory to field application. *Plants*, **3**, 304-323.
- Sobol S., Chayut N., Nave N., Kafle D., Hegele M., Kaminetsky R., Wunsche J.N. & Samach A. (2014) Genetic variation in yield under hot ambient temperatures spotlights a role for cytokinin in protection of developing floral primordia. *Plant Cell and Environment*, **37**, 643-657.
- Ziv D., Zviran T., Zezak O., Samach A. & Irihimovitch V. (2014) Expression Profiling of FLOWERING LOCUS T-Like Gene in Alternate Bearing 'Hass' Avocado Trees Suggests a Role for PaFT in Avocado Flower Induction. *PLoS ONE*, **9**, e110613.
- Samach A. (2013) Congratulations, you have been carefully chosen to represent an important developmental regulator! *Annal.Bot.*, **111**, 329-333.
- Samach A. & Smith H.M. (2013) Constraints to obtaining consistent annual yields in perennials II: environment and fruit load affect flowering induction. *Plant Sci*, **207**, 168-176.
- Smith H.M. & Samach A. (2013) Constraints to obtaining consistent annual yields in perennials tree crops I: heavy fruit load dominates over vegetative growth. *Plant Science*, **207**, 158-167.
- Nave N., Katz E., Chayut N., Gazit S. & Samach A. (2010) Flower development in the passion fruit *Passiflora edulis* requires a photoperiod-induced systemic graft-transmissible signal. *Plant Cell and Environment*, **33**, 2065-2083.
- Wenkel S., Turck F., Singer K., Gissot L., Le Gourrierec J., Samach A. & Coupland G. (2006) CONSTANS and the CCAAT box binding complex share a functionally important domain and interact to regulate flowering of Arabidopsis. *Plant Cell*, **18**, 2971-2984.
- Paltiel J., Amin R., Gover A., Ori N. & Samach A. (2006) Novel roles for GIGANTEA revealed under environmental conditions that modify its expression in Arabidopsis and *Medicago truncatula*. *Planta*, **224**, 1255-1268.
- Ben-Naim O., Eshed R., Parnis A., Teper-Bamnolker P., Shalit A., Coupland G., Samach A. & Lifschitz E. (2006) The CCAAT binding factor can mediate interactions between CONSTANS-like proteins and DNA. *Plant Journal*, **46**, 462-476.
- Yanai O., Shani E., Dolezal K., Tarkowski P., Sablowski R., Sandberg G., Samach A. & Ori N. (2005) Arabidopsis KNOXI Proteins Activate Cytokinin Biosynthesis. *Curr Biol*, **15**, 1566-1571.
- Teper-Bamnolker P. & Samach A. (2005) The flowering integrator FT regulates SEPALLATA3 and FRUITFULL accumulation in Arabidopsis leaves. *Plant Cell*, **17**, 2661-2675
- Valverde F., Mouradov A., Soppe W., Ravenscroft D., Samach A. & Coupland G. (2004) Photoreceptor regulation of CONSTANS protein in photoperiodic flowering. *Science*, **303**, 1003-1006.
- Samach A., Onouchi H., Gold S.E., Ditta G.S., Schwarz-Sommer Z., Yanofsky M.F. & Coupland G. (2000) Distinct roles of CONSTANS target genes in reproductive development of Arabidopsis. *Science*, **288**, 1613-1616.

Patents

- A. Samach, M. Ackerman- Lavert, P. Fresnillo Herrero O. Crane. 2020. Use Of Uniconazole For Potentiating Abscisic Acid Effects In Plants. US Provisional Patent Application No 63/077,626.
- A. Samach^{PI}, O. Tirosh^{PI}, E. Pesis^C, A. Artan^S, L. Goldenberg^S, A. Troen^C 2012 A Neuroprotective natural extract, PCT Patent Application PCT/IL2011/000515, US/ Patent Application No 13/807,024.

Registered Cultivars:

- A. Samach^{PI}, (2018). "YUKIS", a new passion fruit cultivar with large yellow sweet fruit.
- A. Samach^{PI}, (2018). "ORIS", a new passion fruit cultivar with large purple fruit and when ripe fruit remain on the vine.
- A. Samach^{PI}, (2018). "GILIS", a new passion fruit cultivar with large purple fruit.
- A. Samach^{PI}, E. Katz^{PD}, N. Nave^S, G. Frank^S, N. Chayut^S, B. Cohen^T, (2013). "DENA", a new passion fruit cultivar that flowers in summer and ripe fruit remain on the vine.
- A. Samach^{PI}, E. Katz^{PD}, N. Nave^S, G. Frank^S, N. Chayut^S, B. Cohen^T (2013). "ELLA", a new passion fruit cultivar that ripens faster.
- A. Samach^{PI}, E. Katz^{PD}, N. Nave^S, G. Frank^S, N. Chayut^S, B. Cohen^T (2013). "KEDEM", a new passion fruit cultivar that flowers earlier in spring.