

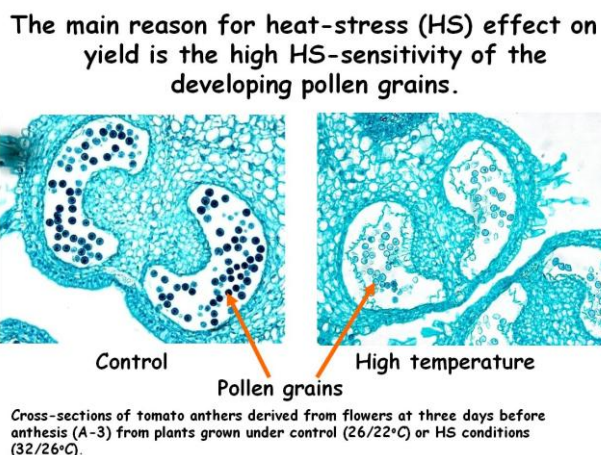
EDUCATION

- 1972 - 1975 B.Sc. in Biology at the Department of Biology, Faculty of Life Sciences, Tel-Aviv University, Tel-Aviv, Israel.
- 1975 - 1977 M.Sc. in Biochemistry at the Department of Biochemistry, Faculty of Life Sciences, Tel-Aviv University, Tel-Aviv, Israel.
- 1980 - 1985 Ph.D. at the Department of Biophysics, The Weizmann Institute of Science, Rehovot, Israel.

ACADEMIC AND RESEARCH INTEREST

The Firon lab is interested in:

- A.** Pollen biology of *Solanaceae* family members, with focus on pollen response to non-favorable environmental conditions and on mechanisms that aid the developing and mature pollen grains to maintain their functioning under stressful conditions.



A primary focus is microspore and pollen heat-stress-response and thermotolerance mechanisms.

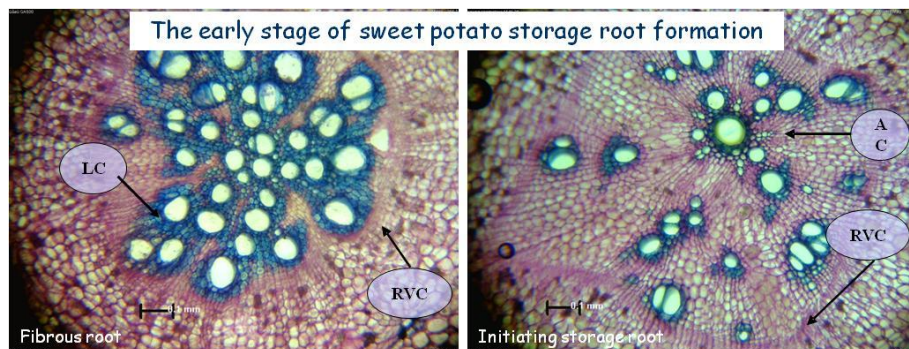
The main goals are:

- Elucidating the involvement of the HSF-regulatory pathway in tomato pollen thermotolerance and potential cross-talk with other pathways, including hormones.
- The function of specific carbohydrates and osmoprotectants in pollen thermotolerance.
- Looking into microspore/pollen acquired thermotolerance mechanisms.

- B.** Sweetpotato storage root initiation and development.

The main goals are:

- Characterization of mechanisms responsible for the induction of storage root formation.
- Study the effect of root system architecture on storage root formation (yield).
- Study the effect of environmental conditions on quality & yield.



REPRESENTATIVE PUBLICATIONS

Pressman, E., Shaked, R. and **Firon, N.** (2006).

Exposing pepper plants to high day temperatures prevents the adverse low night temperature symptoms.

Physiologia Plantarum 126: 618-626.

Firon, N., Peet, M. M., Pharr, D. M., Zamski, E., Rosenfeld, K., Althan, L. and Pressman, E. (2006).

Pollen grains of heat tolerant tomato cultivars retain higher carbohydrate concentration under heat stress conditions.

Scientia Horticulturae 109: 212-217.

Pressman, E., Harel, D., Zamski, E., Shaked, R., Althan, L., Rosenfeld, K. and **Firon, N.** (2006).

The effect of high temperatures on the expression and activity of sucrose cleaving enzymes during tomato (*Lycopersicon esculentum*) anther development.

J. Hort. Sci. Biotechnol. 81: 341-348.

Villordon, A.Q., La Bonte, D.R., **Firon, N.**, Kfir, Y., Schwartz, A. and Pressman, E. (2009).

Characterization of adventitious root development in sweetpotato.

Hortscience 44: 651-655.

Villordon, A.Q., La Bonte, D.R. and **Firon, N.** (2009).

Development of a simple thermal time method for describing the onset of morpho-anatomical features related to sweetpotato storage root formation.

Scientia Horticulturae 121: 374-377.

Frank, G., Pressman, E., Ophir, R., Althan, L., Shaked, R., Freedman, M., Shen, S. and **Firon, N.** (2009) Transcription profiling of maturing tomato (*Solanum lycopersicum* L.) microspores reveals the involvement of heat shock proteins, ROS scavengers, hormones and sugars in the heat-stress response. *J. Exp. Bot.* 60: 3891-3908.

Pressman, E., Shaked, R., Shen, S., Althan, L. and **Firon, N.** (2012) Variations in carbohydrate content and sucrose-metabolizing enzymes in tomato (*Solanum Lycopersicum* L.) stamen parts during pollen maturation. *Amer. J. Pl. Sci.* 3: 252-260.

Firon, N., Nepi, M. and Pacini, E. (2012).

Water status and associated processes mark critical stages in pollen development and functioning. *Annal. Bot.* **109**: 1201-1214.

Villordon, A., Labonte, D., Solis, J. and **Firon, N.** (2012) Characterization of lateral root

development at the onset of storage root initiation in 'Beauregards' sweetpotato adventitious roots. *HortScience* **47**: 961-968.

Firon, N., Pressman, E., Meir, S., Khoury, R. and Althan, L. (2012) Ethylene is involved in maintaining tomato (*Solanum lycopersicum*) pollen quality under optimal and heat-stress conditions. *AoB Plants* **2012**: pls024 (doi: 10.1093/aobpla/pls024).

Villordon, A., Clark, C., Labonte, D. and **Firon, N.** (2012) 1-Methylcyclopropene has a variable effect on adventitious root emergence from cuttings of two sweetpotato varieties. *HortScience* **47**: 1764-1767.

Villordon, A., Labonte, D., **Firon, N.** and Carey, E. (2013) Variation in nitrogen rate and local availability alter root architecture attributes at the onset of storage root initiation in 'Beauregard' sweetpotato. *HortScience* **48**: 808-815.

Firon, N., LaBonte, D., Villordon, A., Kfir, Y., Solis, J., Lapis, E., Schnitzer Perlman, T., Doron-Faigenboim, A., Hetzroni, A., Althan, L. and Adani L. (2013) Transcriptional profiling of sweet potato (*Ipomoea batatas*) roots indicates down-regulation of lignin biosynthesis and up-regulation of starch biosynthesis at an early stage of storage root formation. *BMC Genomics* **14**: 460.