

## BIOGRAPHICAL SKETCH

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### Summary

Louzada's current research is focus on expression analysis of genes up-regulated by cold acclimation in citrus and on the development of a molecular approach for a broad spectrum disease resistance in citrus. A subtracted cDNA library was constructed to allow for the expression study of genes expressed during cold acclimation in citrus. Several genes were isolated and are currently being analyzed. To develop a broad spectrum disease resistance we isolated DND1-like (Defense, no Death) genes with high similarity to the DND1 gene family from *Arabidopsis thaliana*. In *A. thaliana* it was observed that by silencing some genes from this family would induce broad spectrum disease resistance without the cell death observed during the hypersensitive response. We are going to over-express the genes and also silence it to determine which strategy will be better to induce disease resistance. Projects in other areas of molecular biology and breeding are also being carried out at the lab.

### Education:

B.S. Agronomy, Federal Rural University of Rio de Janeiro, Brazil; 1975  
M.S. Soil Science, Federal Rural University of Rio de Janeiro, Brazil; 1978  
Ph.D. Genetics, Federal University of Rio de Janeiro and University of Florida, CREC, Lake Alfred; 1993

### Professional Experience (Current appointment is 75% research and 25% teaching)

2002- Present	Associate Professor (Tenured), Texas A&M University-Kingsville Citrus Center
Sept. 1997- 2002	Assistant Professor, Texas A&M University- Kingsville Citrus Center
Sept.1995- Aug. 1997	Postdoctoral Associate, University of Florida,
June 1994- July 1997	Senior Scientist, Ceres 2000 Inc.,
April 1993- May 1994	Postdoctoral Associate, University of Florida, CREC Lake Alfred
July 1990- March 1993	Visiting Scientist, University of Florida, CREC Lake Alfred

### Current Responsibilities

#### Teaching

Courses taught in the last three years- All 6000 level courses:

Title: Advances in Scientific Writing  
Title: Advances in Plant Cell and Tissue Culture  
Title: Advances in Plant Biotechnology.

### Graduate Education (as major professor)

- Students graduated in the last 6 years: 10 graduate students
- Current graduate student's advisement: 7 graduate students

### Undergraduate Education

In the year 2000 I started a hands-on undergraduate research internship program, in cooperation of two universities, with the objective of channel local undergraduate students to graduate studies. So far more than 45 students went through the program and more than 20 students were channeled to graduate studies, including four at Ph.D. level.

### Research Activities

#### Research Funding (last 6 years)

- From the Texas Citrus Producers Board (TCPB): \$ 182,861
- From federal sources: \$ 1,318,023

#### Ongoing Research Projects

- Expression analysis of genes triggered by cold acclimation in citrus.
- Development of a systemic disease resistance in citrus by over expressing or silence ion channel genes.
- Identification of citrus spider mite species using molecular markers
- Molecular identification and population dynamic of two species of root-feeding aphids in Cruciferous.

### Publications

#### Book Chapter

**Louzada ES** (2006) Single Chromosome Transfer. In: IH Khan (ed) Citrus Genetics, Breeding and Biotechnology. CABI International.

**Louzada ES.** (2006) Alternative Processing as a mechanism for regulating gene expression. In: Basset CL (ed) Regulation of Plant Gene Expression. Springer-Verlag, Berlin Heidelberg.

Louzada ES, and JW Grosser (1994) Somatic hybridization of Citrus with sexually incompatible wild relatives. In: Bajaj YPS (ed) Biotechnology in Agriculture and Forestry 27(29) 427-438. Springer-Verlag, Berlin Heidelberg.

Refereed Journal

Palle SR, H Miao, M Seyran, **ES Louzada**, JV da Graca, and M Skaria. (2006) Evidence for association of Citrus psorosis virus with symptomatic trees and an *Olpidium*-like fungus in Texas. XVI Int. Organ. of Citrus Virol Conference.

Kunta M, HS de Rio, and **ES Louzada** (2006) Isolation and molecular characterization of an ascorbate peroxidase from citrus. Submitted to HortScience.

Bona CM, JH Gould, JC Miller Jr, GR McEachern and **ES Louzada** (2006) *In Vitro* Manipulation of Nine Grape Cultivars. Submitted to HortScience.

Robbins A and **ES Louzada** (2005) Expression analysis of a cold responsive transcript from trifoliolate orange by RT-PCR and real-time PCR. Plant Cell Rep.24:612-618.

Jia Y, D Xia, and **ES Louzada** (2005) Molecular cloning and expression analysis of a putative terpene synthase from Citrus. J. Amer. Soc. Hort. Sci. 130: 454-458.

Jia Y, HS del Rio, A Robbins, and **ES Louzada** (2004) Cloning and sequence analysis of a low temperature induced gene from trifoliolate orange with unusual pre-mRNA processing. Plant Cell Rep. 23: 159-166.

Hernandez- Jasso Julio C, J V da Graca, and **ES Louzada** (2004) Identification of Differentially Expressed Genes from *Poncirus trifoliata* Triggered by *Citrus tristeza virus* Inoculation.. Subtrop. Plant Sci.56: 26-32.

**Louzada ES**, H.S. del Rio, D. Xia and J.M.Moran-Mirabal (2002) Preparation and fusion of microprotoplasts from *Citrus* spp. J. Amer. Soc. Hort. Sci. 127: 484-488.

Rojas MM, KJ Crosby and **ES Louzada** (2002) Differential gene expression analysis in melon roots under drought stress conditions. Subtropical Plant Sci.54:6-10.

**Louzada ES** , H.S. Del Rio, I.L. Ingelbrecht, and D. Xia (2001) Production of transgenic Valencia orange suspension cells to be used as donors for chromosome transfer. Subtropical Plant Sci. 53: 9-13.

ZY Yang, IL Ingelbrecht, **ES Louzada**, M Skaria, and TE Mirkov (2000) Agrobacterium-mediated transformation of the commercially important grapefruit cultivar Rio Red. Plant Cell Rep. 19: 1203-1211.

**Louzada ES** (2000) Register of new fruit and nut varieties HortScience 35(5) pp 815.

Grosser JW, J. Jiang, FAA Mourao-Fo, **ES Louzada**, K. Baergen, JL Chandler, and FG Gmitter Jr (1998) Somatic hybridization, an integral component of citrus cultivar improvement: I. Scion Improvement. HortScience 33(6) 1057-1059.

- Grosser JW, J. Jiang, **ES Louzada**, JL Chandler, and FG Gmitter Jr (1998) Somatic hybridization, an integral component of citrus cultivar improvement: I. Rootstock Improvement. HortScience 33(6) 1060-1061.
- Gmitter Jr FG, **ES Louzada**, Z Deng, and S Huang (1998) A bacterial artificial chromosome (BAC) library for cloning a citrus tristeza virus resistance gene. Acta Hort. 461: 355-359.
- Grosser JW, FAA Mourao FO, FG Gmitter Jr, **ES Louzada**, J Jiang, K Baergen, A Quiroz, C Cabasson, JL Shell, and JL Chandler (1996) Allotetraploid hybrids between Citrus and seven related genera produced by somatic hybridization. Theo. Appl. Genetics 92: 577-582.
- Grosser JW, **ES Louzada**, and FG Gmitter Jr (1994) Somatic hybridization of complementary Citrus rootstock: five new hybrids. HortScience 29(7) 812-813.
- Louzada ES**, JW Grosser, and FG Gmitter Jr (1993) Somatic hybrid plants from sexually incompatible parents: Citrus sinensis cv Hamlin and Atalantia ceylanica. Plant Cell Rep. 12:687-690.
- Lummerzheim M, de Oliveira D, Castresana C, Miguens FC, **Louzada ES**, Roby D, Montagu MV, and Timmerman B (1993) Identification of compatible and incompatible interactions between Arabidopsis thaliana and Xanthomonas campestris and characterization of the hypersensitive response. Mol. Plant Microb. Interact. St. Paul, MN: APS Press, 6 (5) 532-544.
- Grosser JW, FG Gmitter Jr, **ES Louzada**, and JL Chandler (1992) Production of somatic hybrid and autotetraploid breeding parents for seedless Citrus development. HortScience 27(10) 1125-1127.
- Louzada ES**, JW Grosser, FG Gmitter Jr, N Tusa, XX Deng, B Nielsen, and JL Chandler (1992) Eight new somatic hybrid Citrus rootstocks with potential for improved disease resistance. HortScience 27: 1033-1036.
- Tusa N, JW Grosser, FG Gmitter Jr, and **ES Louzada** (1992) Production of tetraploid somatic hybrid breeding parents for use in lemon cultivar improvement. HortScience 27(5): 445-447.