

CURRICULUM VITAE

Name: Desen Zheng

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Professional Activities:

Research Associate II

Cornell University

1999-

Research Project: Increased Aroma Production in Raspberries

Duties/Responsibilities:

- Clone and sequence aromatic polyketide synthases (PKS) and identify benzalacetone synthase (BAS) gene (a member of PKS genes) which encodes the first enzyme of the raspberry ketone pathway; express the BAS gene in *E. coli* to check the BAS activity; transform the BAS gene into raspberry plants for over expression.

Accomplishments/Results:

- Cloned and sequenced five PKS genes, expressed four of them in *E. coli*, Western analysis of the gene products, enzyme activity assay and structural determination of the reaction products.
- Cloned a pectinesterase gene.
- Identified two point mutations in PKS gene which seriously impact enzyme activity.

Postdoctoral Associate

Cornell University

1995-1998

Research Project:

- Molecular basis of fungicide resistance of *V. inaequalis*.
- Cloning and characterization of cutinase gene from *V. inaequalis*.

Duties/Responsibilities:

- Clone and characterization of cytochrome *b* gene, target of strobilurin fungicides, from *Venturia inaequalis*; create and determine fungicide resistant mutants.
- Clone and sequence a disease related cutinase gene from *V. inaequalis*; express the isolated cutinase gene in prokaryotic and eukaryotic system; create disrupted mutants to determine the gene function.
- Train students in molecular biology techniques and maintain an experiment laboratory.

Accomplishments/Results:

- Cloned and completely sequenced the cytochrome *b* gene with 10.7 kb in size.
- Generated several strobilurin fungicide resistant mutants.
- Cloned and sequenced partial cutinase gene.

Postdoctoral Fellow

Auburn University

1993-1995

Research Project: Isolation, mapping and characterization of DNA replication origin in the maize cmsT mitochondrial genome

Duties/Responsibilities:

- Identify and clone DNA replication origin from maize cmsT mitochondrial genome, map and characterize the putative DNA replication origin.
- Train students in molecular biology techniques.
- Manage the isotopes used in the laboratory.

Accomplishments/Results:

- Cloned and sequenced a 7.5 kb DNA fragment from maize cmsT mitochondrial genome and identified a putative DNA replication origin and a chloroplast-like trnI pseudo gene .

Visiting Scientist	University of Leicester , Leicester, UK	1991-1992
	Research Project: Arabidopsis gene tagging with T-DNA insertional mutagenesis	
	Duties/Responsibilities: Trained in molecular biology techniques	
Assistant Professor	Fujian Agricultural University, Fujian, China	1990-1991

Education:

Fujian Agricultural University, Fuzhou, Fujian, China

- 1990. Doctoral Degree of Agronomy in Plant Genetics and Breeding
Thesis Title: Isozymes study in sugarcane breeding and genetics
- 1984. M. S. in Crop Science
- 1982. B. S. Agronomy
- 1985. Certificate of Completion in Training Course : United Nations Environment Program
7th Training Course on Photosynthesis and Productivity in Shanghai Institute of Plant Physiology, Academic Sinica

Area of specialization:

Gene cloning, construction of DNA library, functional analysis of gene and protein, gene expression analysis and secondary metabolism, plant-microbe interactions , plant genetics and breeding.

Publications since 1995

- Desen Zheng, Gudrun Schröder, Joachim Schröder and Geza Hrazdina (2001). Molecular and biochemical characterization of three polyketide synthase genes from raspberry cell suspension cultures. *Plant Molecular Biology*. 46: 1-15.
- Wolfram Köller, Gilberto Olaya, C. Avila-Adame and Desen Zheng (2001). Resistance to strobilurine fungicides. In: *Pesticide Science: Pesticide resistance*. J. M. Clark and I. Yamaguchi, eds. American Chemical Society, Washington, DC. (in press).
- Desen Zheng, Gilberto Olaya and Wolfram Köller (2000). Characterization of *V. inaequalis* mutants resisting the strobilurin-related fungicide kresoxim-methyl. *Current Genetics* 38: 148-155.
- Gilberto Olaya, Desen Zheng and Wolfram Köller (1998). Differential responses of germinating *Venturia inaequalis* conidia to kresoxim-methyl. *Pestic Sci.* 54:230-236
- Desen Zheng and Wolfram Koeller. (1997). Characterization of the mitochondrial cytochrome b gene from *Venturia inaequalis*. *Current Genetics* (32(5): 361-366.
- Desen Zheng and Henry Daniell (1997). A 7.5 kbp fragment of the maize cmsT mt genome contains a ct-like trnI (CAT) pseudo-gene and many short segments homologous to the portions of chloroplast and other known genes. *Current Genetics* 32(2):125-131.
- H. Daniell, D. Zheng and B.L. Nielsen (1995). Isolation and characterization of an *in vitro* DNA replication system from maize mitochondria. *Biochem. Biophys. Res. Commun.* Vol.208 No1: 287-294.

