MAUREEN DALEY

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CAREER SUMMARY

Research associate with extensive experience in the Ag Biotech industry. Specific expertise in molecular biology, plant transformation and tissue culture. Able to work as an individual contributor and as part of a cross-functional team in a matrix environment. Tackled and resolved cloning and protein expression and purification challenges. Assisted with the development of enabling technology.

SKILLS

Molecular Biology: gene cloning and expression.
Western, Southern, Northern, activity assays, PCR, protein purification.
Plant tissue culture and transformation:
Tobacco, *Arabidopsis*, petunia, tomato, potato, *Brassica*, strawberry, *Brachypodium*.
Transformation by *Agrobacterium*, particle bombardment.

PROFESSIONAL EXPERIENCE

UNIVERSITY OF CALIFORNIA, Davis, CA **2012 – present**

Lab Assistant I Plant Sciences Department
Responsible for the production of transgenic *Brachypodium* using *Agrobacterium* to confer stress tolerance.

MONSANTO COMPANY, Calgene Campus, Davis, CA **1997 – 2010**

Research Associate III Corn Drought Tolerance 2008 – 2010
Cloned drought tolerance genes into plant and *E. coli* expression vectors for mode-of-action studies, optimized expression in *E. coli*, purified protein complex components, verified transgene expression by Western analysis of plants and *E. coli*, assisted with fieldwork (hand-planting, pollinations, tissue sampling and harvesting).

RAIII (SRA1) Corn Oil Discovery 2001 - 2008
Cloned oils pathway and related genes to increase corn kernel oil content for expression in plants and *E. coli*. Assisted with efforts to optimize and verify gene expression. Isolated and cultured corn embryos to develop a model system for determining the effects of various treatments on oil % and composition.

SRAI *Brassica* Transformation / Technical Team Services 2000 – 2001
Assisted with transgenic plant production of *Arabidopsis* and *Brassica* for multiple projects, efforts to streamline production, and the development of improved binary vectors and new selection strategies.

SRAI Bioactive Proteins 1999 – 2000
Generated and screened libraries for the production of proteins for human nutrition composed of multiple units of a desired smaller peptide.

SRAI Plastid Transformation 1997 – 1999
Assisted with efforts to develop and optimize a protocol for *Brassica* plastid transformation by particle bombardment. Assisted with tobacco plastid transformation by particle bombardment. Helped make constructs designed to increase expression by enhancing translation. Constructed vectors for *Brassica* plastid transformation. Conducted Western analysis of plants to verify transgene expression.

CALGENE FRESH, Davis, CA **1994 – 1997**

Research Associate II Tomato and Strawberry Transformation
Assisted with the production of transgenic tomatoes and strawberry plants, systems improvements, and tomato embryo rescue. Screened tomato for disease resistance markers. Conducted PG assays. Cloned phytoene synthase gene for expression in plants. Constructed a series of binary vectors designed to increase transformation frequency and cloning flexibility for company-wide use.

EDUCATION

BS, Botany, University of California, Davis, CA

PUBLICATIONS

Posters

- Daley M and Knauf V. 1994. Co-transformation and subsequent segregation frequencies of tobacco utilizing an *Agrobacterium* strain containing two binary plasmids. Congress on Cell and Tissue Culture, Research Triangle Park, NC.
- Fillatti, JJ and Daley, M. 1994. Expression of two bacterial genes in plants results in trehalose synthesis. Plant Molecular Biology Conference, Amsterdam, The Netherlands.

Papers

- Oakes J, Brackenridge D, Colletti R, Daley M, Hawkins D, Xiong H, Mai J, Val D, Screen S, Lardizabal K, Gruys K, Deikman J. 2011. Expression of fungal diacylglycerol acyltransferase 2 genes to increase kernel oil in maize. Plant Physiology 155 (3): 1146-1157.
- Shewmaker CK, Sheehy JA, Daley M, Colburn S, Ke DY. 1999. Seed-specific overexpression of phytoene synthase: increase in carotenoids and other metabolic effects. Plant J. 20 (4): 401-412.
- Daley M, Knauf VC, Summerfelt KR, Turner JC. 1998. Plant Cell Reports. 17: 489-496. Co-transformation with one *Agrobacterium tumefaciens* strain containing two binary plasmids as a method for producing marker-free transgenic plants. Plant Cell Reports 17: 489-496.
- McBride KE, Schaaf DJ, Daley M, and Stalker DM. 1994. Controlled expression of plastid transgenes in plants based on a nuclear DNA-encoded and plastid-targeted T7 RNA polymerase. Proc. Nat. Acad. Sci. 91:7301-7305.