

## Kent J. Bradford

### Curriculum Vita

Professor and Vice Chair for Teaching and Curriculum Development, Department of Plant Sciences  
Academic Director, Seed Biotechnology Center  
One Shields Avenue  
University of California  
Davis, CA 95616-8780  
+1-530-752-6087 fax: +1-530-754-7222  
email: kjbradford@ucdavis.edu

#### EDUCATION

<u>Degree</u>	<u>Institution</u>	<u>Field</u>	<u>Year</u>
PhD	University of California, Davis	Plant Physiology	1981
MS	Michigan State University, East Lansing	Horticulture	1977
BS	Michigan State University, East Lansing	Biochemistry	1975

#### PROFESSIONAL EXPERIENCE

Vice Chair for Teaching and Curriculum Development - Department of Plant Sciences, University of California, Davis, 2006-  
Professor - Department of Plant Sciences, University of California, Davis, 2005-  
Director, Seed Biotechnology Center, University of California, Davis, 1999-present.  
Chair - Department of Vegetable Crops, University of California, Davis, 1993-1998.  
Professor - Department of Vegetable Crops, University of California, Davis, 1991- 2005.  
Overseas Fellow, Horticulture Research International, Wellesbourne, England, February-March, 1991 (with D. Gray and W. Finch-Savage).  
Visiting scientist, Faculty of Horticulture, University of Western Sydney, Hawkesbury, Richmond, New South Wales, Australia, September 1990-February 1991 (with E.W.R. Barlow and A.M. Haigh).  
Visiting scientist, CSIRO, Division of Plant Industry, Canberra, ACT, Australia, April-August 1990 (with P.M. Chandler).  
Associate Professor - Department of Vegetable Crops, University of California, Davis, 1987-1991.  
Assistant Professor - Department of Vegetable Crops, University of California, Davis, 1982-1987.  
Postdoctoral Fellow - Research School of Biological Sciences, Australian National University, Canberra, 1981-1982 (with G.D. Farquhar and I.R. Cowan).  
Ph.D. advisors, U.C. Davis - T.C. Hsiao and S.F. Yang.  
M.S. advisor, Michigan State University - D.R. Dille.

#### AWARDS AND HONORS

Award of Distinction, College of Agricultural and Environmental Sciences, UC Davis, October 2007  
Invited Visiting Professor, University of Pierre and Marie Curie, Paris, June 2005; June 2007  
Adjunct Professor, Xishuangbanna Tropical Botanical Garden, Yunnan, People's Republic of China, 2004-6  
Fellow, American Association for the Advancement of Science, 2003  
Seed Science Award, Crop Science Society of America, 2002  
Fulbright Scholar, Universidad Nacional de Cuyo, Mendoza, Argentina, March-June, 1999  
Visiting Lectureship, Wageningen Agricultural University, The Netherlands, September 1995  
Overseas Fellowship, Vegetable Research Trust, Horticulture Research International, Wellesbourne, England, 1991.  
Postdoctoral Fellow, Australian National University, Canberra, 1981-82  
Harry A. Jastro Scholarship, University of California, Davis, 1980-81  
Regents Fellowship, University of California, Davis, 1979-80  
Jastro-Shields Graduate Research Scholarship, 1979, 1980  
Graduate Research Fellowship, University of California, Davis, 1978

National Science Foundation Graduate Fellowship, 1976-79  
BS with High Honor, Honors College, Michigan State University, 1975  
National Science Foundation Undergraduate Fellowship, 1973  
National Merit Scholar, 1971  
Valedictorian, Dimmitt High School, Dimmitt, Texas, 1971

### **SOCIETY MEMBERSHIPS**

American Society for Horticultural Science  
American Society of Plant Biologists  
American Association for the Advancement of Science  
International Society for Seed Science (Trustee and Secretary, 1999-2004)

### **EDITORIAL SERVICE**

Editorial Board, *Journal of Plant Research*, 2006-present  
Editorial Board, *Journal of Experimental Botany*, 1994-present  
Editorial Board, *Seed Science Research*, 1994-present  
Associate Editor, *Seed Science Research*, 2003-2007  
Monitoring Editor, *Plant Physiology*, 1995-2000  
Associate Editor, *Crop Science*, 1992-1995  
In addition, ad hoc reviewer for an average of 20+ manuscripts per year from 10 or more journals.

### **RESEARCH INTERESTS**

Seed development, germination, physiology, and molecular biology, agricultural biotechnology; plant water relations; stress physiology; physiological genetics and regulation of plant growth and development.

### **EXTRAMURAL GRANTS AND ACTIVITIES**

Has been Principal Investigator on extramural grants from the NSF, USDA, NATO and industry groups.

Organized the Western Regional Seed Physiology Research Group, a unique voluntary cooperative effort of horticultural seed companies to fund a University-based fundamental research program targeted to the long-term needs of the seed industry.

Founding Director of the UC Davis Seed Biotechnology Center, a research, education and outreach unit of the College of Agricultural and Environmental Sciences dedicated to the development and commercialization of new plant and seed technologies for agricultural and consumer benefit (<http://sbc.ucdavis.edu>).

### **TEACHING EXPERIENCE**

**Undergraduate courses:** *Seed Production and Quality* (all aspects of seed production, seed technology, seed storage, seed enhancement and seed utilization for crop establishment); *Plants and People* (general education course for non-majors and an overview of plant science); *Professionalism and Ethics in Genomics and Biotechnology* (required course for students in Biotechnology major).

**Graduate courses:** *Science: Revelation, Discovery or Invention*, a unique course reviewing and discussing original writings in the history and development of scientific methodology, epistemology, and philosophy from Plato and Aristotle to contemporary philosophers and scientists.

**Extension courses:** *Seed Biology, Production and Quality*, 2-day intensive extension course offered by UC Extension in alternate years and other courses offered through the Seed Biotechnology Center. Co-taught 1-week course on *Advanced Topics in Seed Physiology*, Universidad Nacional de Cuyo, Mendoza, Argentina, April 1999, and Univ. of Lavras, Brazil,

November 1999. Co-developed the Plant Breeding Academy for advanced training of plant breeders in the seed industry, 2006 (<http://pba.ucdavis.edu>).

**Mentoring:** Directed the completion of 12 M.S. and 8 Ph.D. students since 1982. Currently major professor for 2 Ph.D. students. Supervised 13 postdoctoral research associates.

## PUBLICATIONS

### Journal Articles and Refereed Papers (117 total):

- Argyris, J.M., Dahal, P., Hayashi, E., Still, D.W., and Bradford, K.J. (2008) Genetic variation for lettuce seed thermoinhibition is associated with temperature-sensitive expression of abscisic acid, gibberellin and ethylene biosynthesis, metabolism and response genes. *Plant Physiol.* 148: 926-947.
- Bradford, K.J. 2008. Shang Fa Yang: Pioneer in plant ethylene biochemistry. *Plant Science* 175: 2-7.
- Bradford, K.J., Benech-Arnold, R., Côme, D., and Corbineau, F. 2008. Quantifying the sensitivity of barley seed germination to oxygen, abscisic acid and gibberellin using a population-based threshold model. *J. Exp. Bot.* 59: 335-347.
- Moravec, C.M., Bradford, K.J., and Laca, E.A. 2008. Water relations of drumstick tree seed (*Moringa oleifera*): imbibition, desiccation, and sorption isotherms. *Seed Sci. & Technol.* 36: 311-324.
- Argyris, J., Dahal, P., Truco, M.J., Ochoa, O., Still, D.W., Michelmore, R.W., and Bradford, K.J. 2007. Genetic analysis of lettuce seed thermoinhibition. *Acta Hort.* 782: 23-33.
- Gealy, D.R., Bradford, K.J., Hall, L., Hellmich, R., Raybould, A., Wolt, J., and Zilberman, D. 2007. *Implications of Gene Flow in the Scale-up and Commercial Use of Biotechnology-derived Crops: Economic and Policy Considerations*. Council for Agricultural Science and Technology (CAST), Issue Paper 37. CAST, Ames, Iowa. [www.cast-science.org](http://www.cast-science.org).
- Hill, H.J., Cunningham, J.D., Bradford, K.J., and Taylor, A.G. 2007. Primed lettuce seeds exhibit increased sensitivity to moisture content during controlled deterioration. *HortScience* 42: 1436-1439.
- Kalaitzandonakes, N., Alston, J.M., and Bradford, K.J. 2007. Compliance costs for regulatory approval of new biotech crops. *Nature Biotech.* 25: 509-511.
- Bradford, K.J., Côme, D., and Corbineau, F. 2007. Quantifying the oxygen sensitivity of seed germination using a population-based threshold model. *Seed Sci. Res.* 17: 33-43.
- Alston, J.M., Bradford, K.J., and Kalaitzandonakes, N. 2006. The economics of horticultural biotechnology. *J. Crop Improvement* 18: 413-431.
- Argyris, J., Truco, M.J., Ochoa, O., Knapp, S.J., Still, D.W., Lenssen, G.M., Schut, J.W., Michelmore, R.W., and Bradford, K.J. 2005. Quantitative trait loci associated with seed and seedling traits in *Lactuca*. *Theor. Appl. Genet.* 111: 1365-1376.
- Gandhi, S., Heesacker, A., Freeman, C., Argyris, J., Bradford, K.J., Knapp, S.J. 2005. The self-incompatibility locus (S) and quantitative trait loci for self-pollination and seed dormancy in sunflower. *Theor. Appl. Genet.* 111: 619-629.
- Van Deynze, A.E., Sundstrom, F.J., and Bradford, K.J. 2005. Pollen-mediated gene flow in California cotton depends upon pollinator activity. *Crop Sci.* 45:1565–1570.
- Schwember, A.R., and Bradford, K.J. 2005. Drying rates following priming affect temperature sensitivity of germination and longevity of lettuce seeds. *HortScience* 40: 778-781.
- Alvarado, V., and Bradford, K.J. 2005. Hydrothermal time analysis of seed dormancy in true (botanical) potato seeds. *Seed Science Research* 15: 77-88.
- Bradford, K.J., Van Deynze, A., Gutterson, N., Parrott, W., Strauss, S.H. 2005. Regulating transgenic crops sensibly: lessons from plant breeding, biotechnology and genomics. *Nature Biotechnol.* 23: 439-444.
- Sánchez, M.P., Gurusinghe, S.H., Bradford, K.J., and Vázquez-Ramos, J.M. 2005. Differential response of PCNA and CDK-A proteins and associated kinase activities to benzyladenine and abscisic acid during maize seed germination. *J. Exp. Bot.* 56: 515-523.
- Bradford, K.J. 2005. Threshold models applied to seed germination ecology. *New Phytol.* 165: 338-341.
- Bradford, K.J., and Alston, J.M. 2004. Horticultural biotechnology: challenges for commercial development. *Chronica Horticulturae* 44: 4-8.

- Kende, H., Bradford, K.J., Brummell, D.A., Cho, H.T., Cosgrove, D.J., Fleming, A.J., Gehring, C., Lee, Y., McQueen-Mason, S., Rose, J.K.C., Voesenek, L.A.C.J. 2004. Nomenclature for members of the expansin superfamily of genes and proteins. *Plant Mol. Biol.* 55: 311-314.
- Bradford, K.J., Alston, J.M., Lemaux, P.G. and Sumner, D.A. 2004. Challenges and opportunities for horticultural biotechnology. *California Agriculture* 58: 68-71. (Co-editor of entire issue)
- Bradford, K.J., and Still, D.W. 2004. Applications of hydrotime analysis in seed testing. *Seed Technology* 26: 75-85.
- Wu, C.T., and Bradford, K.J. 2003. Class I chitinase and  $\beta$ -1,3-glucanase are differentially regulated by wounding, methyl jasmonate, ethylene and gibberellin in tomato seeds and leaves. *Plant Physiol.* 133: 263-273.
- Graff, G.D., Cullen, S.E., Bradford, K.J., Zilberman, D., Bennett, A.B. 2003. The public-private structure of intellectual property ownership in agricultural biotechnology. *Nature Biotechnology* 21: 989-995.
- Bradford, K.J., Downie, A.B., Gee, O.H., Alvarado, V.Y., Yang, H., Dahal, P. 2003. Abscisic acid and gibberellin differentially regulate expression of genes of the SNF1-related kinase complex in tomato seeds. *Plant Physiol.* 132: 1560-1576.
- Whitmer, X., Nonogaki, H., Beers, E.P., Bradford, K.J., Welbaum, G.E. 2003. Characterization of chitinase activity and gene expression in muskmelon seeds. *Seed Sci. Res.* 13: 167-178.
- Downie, B., Gurusinghe, S., Dahal, P., Thacker, R.R., Snyder, J.C., Nonogaki, H., Yim, K., Fukunaga, K., Alvarado, V., Bradford, K.J. 2003. Expression of a galactinol synthase gene in tomato seeds is up-regulated before maturation desiccation and again after imbibition whenever radicle protrusion is prevented. *Plant Physiol.* 131: 1347-1359.
- Alvarado, V., and Bradford, K.J. 2002. A hydrothermal time model explains the cardinal temperatures for seed germination. *Plant Cell and Environ.* 25: 1061-1069.
- Gurusinghe, S., Powell, A.L.T., and Bradford, K.J. 2002. Enhanced expression of BiP is associated with treatments that extend storage longevity of primed tomato seeds. *J. Amer. Soc. Hortic. Sci.* 127: 528-534.
- Bradford, K.J. 2002. Applications of hydrothermal time to quantifying and modeling seed germination and dormancy. *Weed Science* 50: 248-260.
- Chen, F., Nonogaki, H., and Bradford, K.J. 2002. A gibberellin-regulated xyloglucan endotransglycosylase gene is expressed in the endosperm cap during tomato seed germination. *J. Exp. Bot.* 53: 215-223.
- Kwong, F., Stodolski, L., Mari, J., Gurusinghe, S.H. and Bradford, K.J. 2001. Viability constants for delphinium and salvia seeds. *Seed Technology* 23: 113-125.
- Chen, F., Dahal, P., and Bradford, K.J. 2001. Two tomato expansin genes show divergent expression and localization in embryos during seed development and germination. *Plant Physiol.* 127 : 928-936.
- Edelstein, M., Bradford, K.J. and Burger, D.W. 2001. Metabolic heat and CO<sub>2</sub> production rates during germination of melon (*Cucumis melo* L.) seeds measured by microcalorimetry. *Seed Sci. Res.* 11: 265-272.
- Wu, C.T., Leubner-Metzger, G., Meins, F. Jr. and Bradford K.J. 2001. Class I  $\beta$ -1,3-glucanase and chitinase are expressed specifically in the micropylar endosperm of tomato seeds prior to radicle emergence. *Plant Physiol.* 126: 1299-1313.
- Gurusinghe, S., and Bradford, K.J. 2001. Galactosyl-sucrose oligosaccharides and potential longevity of primed seeds. *Seed Sci. Res.* 11: 121-133.
- Chen, F., and Bradford, K.J. 2000. Expression of an expansin is associated with endosperm weakening during tomato seed germination. *Plant Physiol.* 124: 1265-1274.
- Nonogaki, H., Gee, O.H., and Bradford, K.J. 2000. A germination-specific endo- $\beta$ -mannanase gene is expressed in the micropylar endosperm cap of tomato seeds. *Plant Physiol.* 123: 1235-1245.
- Cooley, M.B., Yang, H., Dahal, P., Mella, R.A., Downie, B., Haigh, A.M., and Bradford, K.J. 1999. Vacuolar H<sup>+</sup>-ATPase is expressed in response to gibberellin during tomato seed germination. *Plant Physiol.* 121: 1339-1347.
- Sitrit, Y., Hadfield, K.A., Bennett, A.B., Bradford, K.J., and Downie, B. 1999. Expression of a polygalacturonase associated with tomato seed germination. *Plant Physiol* 121: 419-428.
- Downie, B., Gurusinghe, S.H., and Bradford, K.J. 1999. Internal anatomy of individual tomato seeds: relationship to abscisic acid and germination physiology. *Seed Sci. Res.* 9: 117-128.
- Cheng, Z., and Bradford, K.J. 1999. Hydrothermal time analysis of tomato seed germination responses to priming treatments. *J. Exp. Bot.* 50: 89-99.
- Gurusinghe, S.H., Cheng, Z., and Bradford, K.J. 1999. Cell cycle activity during seed priming is not essential for germination advancement in tomato. *J. Exp. Bot.* 50: 101-106.

- Downie, B., Dirk, L.M.A., Hadfield, K.A., Wilkins, T.A., Bennett, A.B., and Bradford, K.J. 1998. A gel diffusion assay for quantification of pectin methylesterase activity. *Anal. Biochem.* 264: 149-157.
- Yim, K.-Y., and Bradford, K.J. 1998. Callose deposition is responsible for apoplastic semipermeability of the endosperm envelope of muskmelon seeds. *Plant Physiol.* 118: 83-90.
- Still, D.W., and Bradford, K.J. 1998. Using hydrotime and ABA-time models to quantify seed quality of brassicas during development. *J. Amer. Soc. Hort. Sci.* 123: 692-699.
- Bradford, K.J., and Cohn, M.A. 1998. Seed biology and technology: At the crossroads and beyond. *Seed Sci. Res.* 8: 153-160.
- Taylor, A.G., Allen, P.S., Bennett, M.A., Bradford, K.J., Burriss, J.S., and Misra, M.K. 1998. Seed enhancements. *Seed Sci. Res.* 8: 245-256.
- Welbaum, G.E., Bradford, K.J., Yim, K.-O., Booth, D.T., and Oluoch M.O. 1998. Biophysical, physiological and biochemical processes regulating seed germination. *Seed Sci. Res.* 8: 161-172.
- Downie, B., Gurusinghe, S., Plopper, C., Bradford, K.J., Greenwood, J.S., and Bewley, J.D. 1997. Elongated cells adhering to the megagametophyte and sheathing the radicle of white spruce following completion of germination are derived from the embryo root cap. *Int. J. Plant Sci.* 158: 738-746.
- Dahal, P., Nevins, D.J., and Bradford, K.J. 1997. Relationship of endo- $\beta$ -D-mannanase activity and cell wall hydrolysis in tomato endosperm to germination rates. *Plant Physiol.* 113: 1243-1252.
- Still, D.W., Dahal, P., and Bradford, K.J. (1997) A single-seed assay for endo- $\beta$ -mannanase activity from tomato endosperm and radicle tissues. *Plant Physiol.* 113: 13-20.
- Still, D.W., and Bradford, K.J. (1997) Endo- $\beta$ -mannanase activity from individual tomato endosperm caps and radicle tips in relation to germination rates. *Plant Physiol.* 113: 21-29.
- Dutta, S., Bradford, K.J., and Nevins, D.J. 1997. Endo- $\beta$ -mannanase activity present in cell wall extracts of lettuce (*Lactuca sativa* L.) endosperm prior to radicle emergence. *Plant Physiol.* 113: 155-161.
- Dahal, P., N.-S. Kim, and K.J. Bradford. 1996. Respiration and germination rates of tomato seeds at suboptimal temperatures and reduced water potentials. *J. Exp. Bot.* 47: 941-947.
- Baker, E.H., K.J. Bradford, J.A. Bryant, and T.L. Rost. 1995. A comparison of desiccation-related proteins (dehydrin and QP47) in peas (*Pisum sativum*). *Seed Science Research* 5: 185-193.
- Bradford, K.J., and A.J. Trewavas. 1994. Sensitivity thresholds and variable time scales in plant hormone action. *Plant Physiol.* 105: 1029-1036.
- Baker, E.H., and K.J. Bradford. 1994. The fluorescence assay for Maillard product accumulation does not correlate with seed viability. *Seed Sci. Res.* 4: 103-108.
- Berjak, P., K.J. Bradford, D.A. Kovach, and N.W. Pammenter. 1994. Differential effects of temperature on ultrastructural responses to dehydration in seeds of *Zizania palustris*. *Seed Sci. Res.* 4: 111-122.
- Bradford, K.J., and A.M. Haigh. 1994. Relationship between accumulated hydrothermal time during seed priming and subsequent seed germination rates. *Seed Sci. Res.* 4: 63-70.
- Dahal, P., and K.J. Bradford. 1994. Hydrothermal time analysis of tomato seed germination at suboptimal temperature and reduced water potential. *Seed Sci. Res.* 4: 71-80.
- Bradford, K.J., and O.A. Somasco. 1994. Water relations of lettuce seed thermoinhibition. I. Priming and endosperm effects on base water potential. *Seed Sci. Res.* 4: 1-10.
- Dutta, S., and K.J. Bradford. 1994. Water relations of lettuce seed thermoinhibition. II. Ethylene and endosperm effects on base water potential. *Seed Sci. Res.* 4: 11-18.
- Dutta, S., K.J. Bradford, and D.J. Nevins. 1994. Cell-wall autohydrolysis in isolated endosperms of lettuce (*Lactuca sativa* L.). *Plant Physiol.* 104: 623-628.
- Still, D.W., D.A. Kovach, and K.J. Bradford. 1994. Development of desiccation tolerance during embryogenesis in rice (*Oryza sativa*) and wild rice (*Zizania palustris*): dehydrin expression, abscisic acid content, and sucrose accumulation. *Plant Physiol.* 104: 431-438.
- Bradford, K.J. 1994. Water stress and the water relations of seed development: a critical review. *Crop Sci.* 34: 1-11.
- Bradford, K.J., A.M. Tarquis, and J.M. Durán. 1993. A population-based threshold model describing the relationship between germination rates and seed deterioration. *J. Exp. Bot.* 264: 1225-1234.

- Ni, B.-R., and K.J. Bradford. 1993. Germination and dormancy of abscisic acid- and gibberellin-deficient mutant tomato seeds. Sensitivity of germination to abscisic acid, gibberellin, and water potential. *Plant Physiol.* 101: 607-617.
- Tarquis, A. M., and K. J. Bradford. 1992. Prehydration and priming treatments that advance germination also increase the rate of deterioration of lettuce seeds. *J. Exp. Bot.* 43: 307-317.
- Ni, B.R, and K.J. Bradford. 1992. Quantitative models characterizing seed germination responses to abscisic acid and osmoticum. *Plant Physiol.* 98: 1057-1068.
- Kovach, D.A., and K.J. Bradford 1992. Temperature dependence of viability and dormancy of *Zizania palustris* var. *interior* seeds stored at high moisture contents. *Ann. Bot.* 69: 297-301.
- Kovach, D.A., and K.J. Bradford. 1992. Imbibitional damage and desiccation tolerance of wild rice (*Zizania palustris*) seeds. *J. Exp. Bot.* 43: 747-757.
- Bradford, K.J., and P.M. Chandler. 1992. Expression of 'dehydrin-like' proteins in embryos and seedlings of *Zizania palustris* and *Oryza sativa* during dehydration. *Plant Physiol.* 99: 488-494.
- Welbaum, G.E., and K.J. Bradford. 1991. Water relations of seed development and germination in muskmelon (*Cucumis melo* L.). VII. Influence of afterripening and ageing on germination responses to temperature and water potential. *J. Exp. Bot.* 42: 1137-1145.
- Welbaum, G.E., and K.J. Bradford. 1991. Water relations of seed development and germination in muskmelon (*Cucumis melo* L.). VI. Influence of priming on germination responses to temperature and water potential during seed development. *J. Exp. Bot.* 42: 393-399.
- Mayberry, K.S., K.J. Bradford, and V.E. Rubatzky. 1991. Yellow cotyledon: a seedling disorder of broccoli. *HortScience* 26: 21-23.
- Bradford, K.J. 1990. A water relations analysis of seed germination rates. *Plant Physiol.* 94: 840-849.
- Welbaum, G.E., and K.J. Bradford. 1990. Water relations of seed development and germination in muskmelon (*Cucumis melo* L.). III. Sensitivity of germination to water potential and abscisic acid during development. *Plant Physiol.* 92: 1029-1037.
- Welbaum, G.E., and K.J. Bradford. 1990. Water relations of seed development and germination in muskmelon (*Cucumis melo* L.). IV. Characteristics of the perisperm during seed development. *Plant Physiol.* 92: 1038-1045.
- Welbaum, G.E., and K.J. Bradford. 1990. Water relations of seed development and germination in muskmelon (*Cucumis melo* L.). V. Water relations of imbibition and germination. *Plant Physiol.* 92: 1046-1052.
- Dahal, P., K.J. Bradford, and R.A. Jones. 1990. Effects of priming and endosperm integrity on seed germination rates of tomato genotypes. I. Germination at suboptimal temperature. *J. Exp. Bot.* 41: 1431-1439.
- Dahal, P., and K.J. Bradford. 1990. Effects of priming and endosperm integrity on seed germination rates of tomato genotypes. II. Germination at reduced water potential. *J. Exp. Bot.* 41: 1441-1453.
- Trawatha, S.E., J.J. Steiner, and K.J. Bradford. 1990. Laboratory vigor tests used to predict pepper seedling field emergence performance. *Crop Sci.* 30: 713-717.
- Bradford, K.J., J.J. Steiner, and S.E. Trawatha. 1990. Seed priming influence on germination and emergence of pepper seed lots. *Crop Sci.* 30: 718-721.
- Argerich, C.A., K.J. Bradford, and F.M. Ashton. 1990. Influence of seed vigor and preplant herbicides on the emergence, seedling growth and yield of tomato. *HortScience* 25: 288-291.
- Kelly, M.O., and K.J. Bradford. 1990. Ethylene synthesis and growth of tomato hypocotyls: induction by auxin and fusaric acid and inhibition by vanadate. *J. Plant Growth Regul.* 9: 43-49.
- Welbaum, G.E., and K.J. Bradford. 1989. Water relations of seed development and germination in muskmelon (*Cucumis melo* L.). II. Development of germinability, vigour, and desiccation tolerance. *J. Exp. Bot.* 40: 1355-1362.
- Ursin, V.M., and K.J. Bradford. 1989. Auxin and ethylene regulation of petiole epinasty in two developmental mutants of tomato, *diageotropica* and *Epinastic*. *Plant Physiol.* 90: 1341-1346.
- Ursin, V.M., and K.J. Bradford. 1989. A unique phenotype in heterozygotes of the auxin-insensitive mutant of tomato, *diageotropica*. *Plant Physiol.* 90: 1243-1245.
- Argerich, C.A., K.J. Bradford and A.M. Tarquis. 1989. The effects of priming and ageing on resistance to deterioration of tomato seeds. *J. Exp. Bot.* 40: 593-598.
- Argerich, C.A., and K.J. Bradford. 1989. The effects of priming and ageing on seed vigour in tomato. *J. Exp. Bot.* 40: 599-607.

- Fujino, D.W., D.W. Burger and K.J. Bradford. 1989. Ineffectiveness of ethylene biosynthetic and action inhibitors to phenotypically revert the *Epinastic* mutant of tomato (*Lycopersicon esculentum* Mill.). J. Plant Growth Regul. 8:53-61.
- Fujino, D.W., S.J. Nissen, A.D. Jones, D.W. Burger and K.J. Bradford. 1988. Quantification of indole-3-acetic acid in dark-grown seedlings of the *diageotropica* and *Epinastic* mutants of tomato (*Lycopersicon esculentum* Mill.). Plant Physiol. 88:780-784.
- Fujino, D.W., D.W. Burger, S.F. Yang and K.J. Bradford. 1988. Characterization of an ethylene overproducing mutant of tomato (*Lycopersicon esculentum* Mill. cv. VFN8). Plant Physiol. 88:774-779.
- Alvarado, A.D., and K.J. Bradford. 1988. Priming and storage of tomato (*Lycopersicon lycopersicum*) seeds. II. Influence of a second priming treatment after storage on germination and field emergence. Seed. Sci. & Technol. 16:613-623.
- Alvarado, A.D., and K.J. Bradford. 1988. Priming and storage of tomato (*Lycopersicon lycopersicum*) seeds. I. Effects of storage temperature on germination rate and viability. Seed Sci. & Technol. 16:601-612.
- Bradford, K.J., D.M. May, B.J. Hoyle, Z.S. Skibinski, S.J. Scott and K.B. Tyler. 1988. Seed and soil treatments to improve emergence of muskmelon from cold or crusted soils. Crop Sci. 28:1001-1005.
- Noland, T.L., J.D. Maguire, R.N. Oliva, K.J. Bradford, J.L. Nelson, D. Grabe, and S. Currans. 1988. Effect of plant density on carrot seed yield and quality under seed-to-seed production systems in California, Oregon, and Washington. J. Applied Seed Prod. 6: 36-43.
- Oliva, R.N., T. Tissaoui and K.J. Bradford. 1988. Relationships of plant density and harvest index to seed yield and quality in carrot. J. Amer. Soc. Hort. Sci. 113:532-537.
- Welbaum, G.E., and K.J. Bradford. 1988. Water relations of seed development and germination in muskmelon (*Cucumis melo* L.). I. Water relations of seed and fruit development. Plant Physiol. 86:406-411.
- Kwon, O.-S., and K.J. Bradford. 1987. Tomato seed development and quality as influenced by preharvest treatment with ethephon. HortScience 22:588-591
- Alvarado, A.D., K.J. Bradford and J.D. Hewitt. 1987. Osmotic priming of tomato seeds: Effects on germination, field emergence, seedling growth and fruit yield. J. Amer. Soc. Hort. Sci. 112:427-432.
- Valdes, V.M., and K.J. Bradford. 1987. Effects of seed coating and osmotic priming on the germination of lettuce seeds at high temperatures. J. Amer. Soc. Hort. Sci. 112:153-156.
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