

Marc Alan Cohn  
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### **PROFESSIONAL EXPERIENCE:**

7/90 - to date Professor, Seed Biology/Crop Physiology, Louisiana State University Agricultural Center, Baton Rouge. Responsible for studies of seed dormancy mechanisms using red rice and *Spartina alterniflora* as model systems, and seed technology studies of *S. alterniflora*.

Shown that crosses between red rice and transgenic rice exhibit lower or the same levels of dormancy as red rice itself (first successful risk assessment study of herbicide-resistant, transgenic rice)

Dormancy-breaking chemicals lower tissue pH during their application and prior to visible germination

Dormancy-breaking chemicals may rapidly (within 2 h) elevate fructose 2,6-bisphosphate levels that are correlated to subsequent speed of germination

Kinetics of alcohol metabolism to a carboxylic acid are consistent with tissue acidification kinetics during the dormancy-breaking process

Alcohols must be metabolized by alcohol dehydrogenase before dormancy-breaking occurs: evidence from structure-activity studies, inhibitor studies, and <sup>13</sup>C-NMR studies of metabolism. Results refute the Anesthetic hypothesis proposed by Taylorson.

Successful QSAR modeling of dormancy-breaking chemicals relating activity to steric and electronic parameters in addition to lipophilicity, size or shape

Hypochlorite actually stimulates seedling growth independent of seed surface disinfection. Developed a method for seed disinfection in the absence of liquid solvent.

Dry-afterripening is associated with dramatic decreases in cysteine and cystine in the unimbibed seed. GSH levels increase, while GSSG levels are unchanged.

Liquid smoke preparations break dormancy of intact red rice aged in soil via a pH-dependent but nitrite-independent process.

Slight extent of dry-afterripening sensitizes rice grains to cold stratification (provides the first real controls for the study of stratification)

Devised a comparative physiology system to compare response of *Spartina alterniflora* (recalcitrant) versus *Spartina pectinata* and *S. spartinae* (orthodox) seeds

Devised a viability test for dormant/recalcitrant *Spartina alterniflora* spikelets

Showed that lipid oxidation (TBARS, FOX assay, membrane leakage) and DNA fragmentation are not the causes of recalcitrant *Spartina* seed death

Showed that putative lipid oxidation detected by other workers using TBARS in recalcitrant seeds is caused by a common procedural error

Showed an inverse relationship between antioxidant titer (decreasing) and protein carbonylation during drying of *Spartina* seeds that occurs during desiccation of both recalcitrant and orthodox seeds

7/82 - 6/90

Associate Professor, Crop Physiology, Louisiana State University Agricultural Center, Baton Rouge.

First successful demonstration of application of a dormancy-breaking chemical (nitrogen dioxide) to unimbibed seeds. First demonstration that nitrogen oxide gases break dormancy.

Discovered a new class of dormancy-breaking chemicals: monocarboxylic acids.

Chemical lipophilicity, nature of functional groups and their position, or molecular size control the efficacy of dormancy-breaking chemicals.

6/78 - 6/82

Assistant Professor, Crop Physiology, Louisiana State University Agricultural Center, Baton Rouge.

Demonstrated pH dependence of dormancy-breaking chemicals that are weak acids or bases.

Showed pH dependence of inorganic weak acids diminishes as a function of dry-afterripening.

While unimbibed seeds lose dormancy, hydrated seeds remain dormant and viable at ambient temperatures. Dormancy is a function of seed moisture content.

Cytokinins can act alone as dormancy-breaking agents.

Both glumes and caryopsis contribute to dormancy, which is not due to water uptake restrictions.

Determined seed development parameters in the field: Seeds shattered after physiological maturity and were fully dormant throughout development.

Showed no surface changes in covering structures or pericarp correlated with dormancy loss via dry-afterripening.

- 12/77 - 6/78 Visiting Assistant Professor, Dept of Biology, University of Virginia. Responsible for plant physiology course. In association with Jim Riopel, engaged in studies culminating in the partial purification of a haustorium-inducing chemical in the parasitic plant, Agalinis.
- 7/77 - 11/77 Personal travel leave. The "grand tour" of Europe.
- 1/77 - 6/77 Instructor, Cornell University, Ithaca NY. Lecturer for introductory plant physiology course.
- 7/73 - 12/76 Graduate Research Assistant, Cornell University.  
 9/71 - 8/72 Major Field: Plant Physiology  
 Minor Fields: Biochemistry, Analytical Chemistry  
 M.S., Ph.D. topic: Imbibitional chilling injury during germination of Zea mays L.
- Determined chilling injury to be independent of energy metabolism as measured by kernel respiration, embryo ATP levels, energy charge, and mitochondrial respiration.
- Demonstrated that the root growth reduction observed may be ascribed to the formation of a stelar lesion during imbibition. Observed the lesion to be a heritable, recessive character.
- 9/72 - 6/73 Graduate Teaching Assistant, Cornell University.
- Responsible for lab sections in introductory crop science, Dept. of Agronomy (also organization and maintenance of field and greenhouse plantings, lab manual revisions, preparation of audio-visual materials).
- 6/70 - 5/71 Undergraduate Research and Teaching Assistant, Dept of Biology, Northeastern University, Boston.
- Under an NSF training grant, assisted in work on the effect of red and far-red light upon ripening in tomato fruit.
- Discussion section leader, genetics. Guest lecturer in general biology and plant physiology lab courses.
- 1/68 - 5/70 Project Technician, Dept. Nutr & Food Sci, M.I.T., Cambridge.
- Responsible for maintenance and organization of studies evaluating storage stability of freeze-dried foods for NASA space missions. Responsible for execution of experiments studying lipid oxidation of intermediate moisture food model systems.

**EDUCATION:**

Ph.D., Plant Physiology, Cornell University, 1977  
 M.S., Plant Physiology, Cornell University, 1974  
 B.A., Biology, Northeastern University, Boston, 1971  
 The McBurney School, New York City, 1966

**SOCIETY MEMBERSHIPS AND ACTIVITIES:**

International Seed Science Society, charter member, 2000-  
 Publications Committee, 2000-  
 American Society of Plant Physiologists (life member)  
 Annual Meeting Local Arrangements Committee, 1986  
 Ad-Hoc Reviewer, Plant Physiology, 1988-92, 1995-2001  
 Executive Committee, 1996-99  
 Membership Committee, 1996-1999  
 Southern Society of Plant Physiologists  
 Graduate Student Awards Committee, 1981, 1985, 1987 (chairman)  
 Nominations Committee, 1984, 1992 (chair), 1998  
 Site Selection Committee, 1989 (chairman)  
 Secretary/Treasurer, 1988-89  
 Local Arrangements Committee, 1989 (chair), 1990, 1999 meetings  
 Vice-Chairman/Symposium Organizer, 1989-90  
 Chairman and Symposium Editor, 1990-91  
 Executive Committee, 1992-1994  
 Financial Oversight Committee, 1992-to date  
 Crop Science Society of America  
 Associate Editor, Crop Science, 1990-92  
 Ad-Hoc Reviewer, Crop Science, 1986-89  
 Ad-Hoc Reviewer, Agronomy Journal, 1987  
 Seed Science Awards Committee, 1988, 1989  
 Weed Science Society of America  
 Southern Weed Science Society  
 Graduate Student Awards Committee, 1998  
 Rice Technical Working Group  
 Program Committee, 1984  
 Local Arrangements Committee, 1984  
 Panel Moderator, 1984  
 Scandinavian Society for Plant Physiology  
 Ad-Hoc Reviewer, Physiologia Plantarum, 1989-96  
 Association of Official Seed Analysts (Associate Member)  
 Ad-Hoc Reviewer, J Seed Technology, 1988  
 Western Regional Project W-168, Seed Quality Investigations  
 Secretary, 1991; Vice-Chair, 1992; Symposium Fundraiser, 1997;  
 Local Arrangements (Chair), 1998-99; Project Re-write Committee (1997-98; 2002-03)

**GRANT SUPPORT:** (\$5,200,026 through December 2008)

Louisiana Quality Thrust (8g): 1988-92 (\$157,147)  
 American Seed Research Foundation: 1988-92 (\$15,000)  
 USDA Competitive Grants Program: 1986-88 (\$80,000)  
 USDA Tropical/Subtropical Research: 1980-86 (\$118,000)  
 USDA Western Regional Project, W-168, W-1168, W-2268: 1988-to date (c. \$300,000)  
 LSU College of Agriculture Research Grant: 1984, 1985 (\$10,000)  
 Louisiana Rice Research Board: 1984, 1985 (\$17,600)

Louisiana Soybean Promotion Board: 1979 (\$12,000)  
 CIBA-GEIGY: 1986 (\$1,000)  
 AgrEvo Co: 1996-2000 (\$49,600)  
 Monsanto Co 1998-99 (\$3,500)  
 CABI International/Cambridge University Press: 1997-2008 (\$122,200)  
 USDA-CREES: 1999-2007 (\$3,851,979)(multi-PI collaborative project on *Spartina alterniflora*)  
 Aventis CropScience: 2001 (\$6,000)  
 USDA-NRI: 2006-2010 (\$381,000)  
 La Agric Exp Stn supplemental equipment grant: 2007 (\$75,000)

### **INVITED PRESENTATIONS:**

Seminars: South Dakota State University, Brookings, SD, October 2008  
 University of South Dakota, Vermillion, SD, October 2006  
 USDA Nat Seed Storage Lab, Ft. Collins, CO, June 2000  
 Oregon State University, Corvallis, May 2000  
 Wageningen Agricultural University, Netherlands, October 1999  
 Center for Phytotechnology RUL/TNO, Leiden, Netherlands, October 1999  
 Royal Botanic Gardens, Wakehurst Place, UK, April 1998  
 LSU-Shreveport, October 1996  
 Purdue University, West Lafayette IN, March 1992  
 USDA-ARS, New Orleans LA, June 1991  
 Colorado State University, Ft. Collins CO, April 1991  
 University of Tennessee, Knoxville TN, February 1991  
 American Seed Research Foundation, Orlando FL, June 1990  
 Montana State University, Bozeman MT, December 1989  
 Penn State University, State College PA, November 1989  
 Eli Lilly, Indianapolis IN, July 1989  
 Furman University, Greenville SC, February 1989  
 Mississippi State University, MS, October 1987  
 USDA-ARS, Beckley WV, March 1986  
 Virginia Tech, Blacksburg VA, March 1986  
 Tulane University, New Orleans LA, November 1985  
 Monsanto Company, St Louis MO, September 1985  
 Duke University, Durham NC, March 1984  
 USDA-ARS, New Orleans LA, August 1982  
 Cornell University, Ithaca NY, February 1981  
 NYS Agric. Exp. Stn., Geneva NY, February 1981

Symposia: Sleeping Beauties (Dormancy Across the Kingdoms), Max Planck Institute, Berlin, 2008  
 5<sup>th</sup> International Desiccation Workshop, South Africa, 2007  
 International Weed Science Society, South Africa, 2004  
 3<sup>rd</sup> Intl Plant Dormancy Congress, Wageningen, The Netherlands, 2004  
 Weed Science Society of America, Greensboro, NC, February 2001  
 So. Assoc Agric Sci, Dallas, TX, January 2001  
 2nd Intl Plant Dormancy Congress, Angers, France, July 1999  
 6<sup>th</sup> Intl Seed Biology Workshop, Merida, Mexico, January 1999  
 FESPP, Varna, Bulgaria, Sept 1998 (section keynote speaker)

Seed Biology & Technology: Applications & Advances, Ft. Collins, Aug 1997 (keynote speaker)  
 So Weed Sci Soc Amer, Charlotte, NC, January 1996  
 5th Intl Seed Biology Workshop, Reading England, September 1995  
 1st Intl Plant Dormancy Congress, Corvallis OR, July 1994  
 4th Intl Seed Biology Workshop, Angers France, July 1992  
 3rd Intl Seed Biology Workshop, Williamsburg VA, August 1989  
 Seed & Seedbed Ecology of Rangeland Plants, Tucson AZ, April 1987  
 2nd Intl Seed Biology Workshop, Wageningen, Netherlands, August 1985  
 Weed Science Society of America, Seattle WA, February 1985  
 23rd ASTA Garden Seed Conference, New Orleans LA, January 1984

LSU Seminars: Sigma Xi, March 1985

Dept of Horticulture, April 1982, March 1984, April 1987

Plant Path & Crop Physiol: November 1983, May 1986, Sept 1989, Sept 1995, Sept 1999, May 2003

Animal Science: Oct 1999

### **PERSONAL BACKGROUND:**

29 years volunteer experience in jazz broadcasting: WNEU, WRBB, WVBR, WTJU, WPRG, WRKF, KLSU.

Charter Member and Patron, Baton Rouge Jazz Society

Former Associate Editor, Spectrum, a literary magazine, 1968. Very amateur jazz saxophonist and hockey fan

### **PUBLICATIONS:**

Chappell JH, FD Gatz and MA Cohn. A viability test for *Spartina alterniflora* (in preparation).

Chappell JH, MA Cohn. Seed recalcitrance in *Spartina alterniflora*. I. Re-evaluation of the role of lipid oxidation in death by drying (in preparation)

Chappell JH, MA Cohn. Seed recalcitrance in *Spartina alterniflora*. II. Increases in protein oxidation coincide with decreased total antioxidant capacity during desiccation (in preparation).

Chappell JH, and MA Cohn. Seed recalcitrance in *Spartina alterniflora*. III. DNA fragmentation and nucleic acid oxidation during drying. (in preparation).

Cohn MA. Seed dormancy in red rice. XVII. Development and maintenance of dormancy under ambient conditions (in preparation).

Cohn MA. Seed dormancy in red rice. XV. Role of medium acidification in the dormancy-breaking action of applied compounds (in preparation).

Cohn MA, TY Lin, DF Church, V Sanchez. Seed dormancy in red rice. XVIII. Hydroxyl functional group position alters dormancy-breaking activity of alcohols (in preparation)

Johnson D, DR Gossett, SW Banks and MA Cohn. Seed dormancy in red rice. XVI. Changes in GSH, GSSG, cysteine, and cystine during dry afterripening. Seed Science Research (in preparation)

Lin TY, MA Cohn. Seed dormancy in red rice. XVII. Pyrazole inhibition of the dormancy-breaking action of alcohols (in preparation)

- Cohn, M.A. 2008. Seed development, dormancy and germination. *Annual Plant Reviews* 27. Bradford, K.B. and Nonogaki, H. (Eds). *Ann Bot* 102:877-878 (Book review)
- Gianinetti A, MA Cohn. 2008. Seed dormancy in red rice. XIII. Interaction of dry afterripening and hydration temperature. *Seed Science Research* 18: 151-159.
- Gianinetti A, MA Cohn. 2007. Seed dormancy in red rice. XII. Population-based analysis of afterripening with a hydrotime model. *Seed Science Research* 17: 253-271.
- Cohn MA, JH Chappell. 2007. Recalcitrance and dormancy in smooth cordgrass seeds. *Louisiana Agriculture*, 50 (2), 25.
- Cohn MA. 2006. Dormancy. pp. 177-181 in Black, M.; Bewley, J.D.; Halmer, P. (Eds) *The encyclopedia of seeds. Science, technology and uses*. Wallingford, CABI Publishing.
- Kucera, B, MA Cohn, G Leubner-Metzger. 2005. Plant hormone interactions during seed dormancy release and germination (Invited Review) *Seed Science Research* 15: 281-307.
- Cohn MA. 2002. Seed dormancy in red rice. A balance of logic and luck. *Weed Science* 50:261-266.
- Harrison SA, TP Croughan, MD Materne, BC Venuto, GA Breitenbeck, MA Cohn, XB Fang, A Ryan, RW Schneider, RA Shadow, P Subudhi and H Utomo. 2001. Improving native plants to protect and preserve Louisiana=s coastal marshes. *Louisiana Agriculture* 44:4-5.
- Footitt S and MA Cohn. 2001. Developmental arrest: from sea urchins to seeds. *Seed Science Research* 11: 3-16.
- Cohn MA. 2001. Book review: Andersen=s *Guide to Practical Methods of Propagating Weeds and Other Plants*. *Seed Science Research* 11: 100.
- Cohn MA and HWM Hilhorst. 2000. Alcohols that break seed dormancy: the anesthetic hypothesis, dead or alive? in J.D.Viemont and J.Crabbe (eds) *Dormancy in Plants: From Whole Plant Behaviour to Cellular Control*. CAB Publishing, Wallingford. pp 259-274.
- Hilhorst HWM and MA Cohn. 2000. Are cellular membranes involved in the control of seed dormancy? in J.D.Viemont and J. Crabbe (eds) *Dormancy in Plants: From Whole Plant Behaviour to Cellular Control*. CAB Publishing, Wallingford. pp 275-289.
- Doherty LC and MA Cohn. 2000. Seed dormancy in red rice (*Oryza sativa*). XI. Commercial liquid smoke elicits germination. *Seed Science Research* 10: 415-421.
- Oard J, MA Cohn, S Linscombe, D Gealy, K Gravois. 2000. Field evaluation of seed production, shattering and dormancy in hybrid populations of transgenic rice (*Oryza sativa*) and the weed, red rice (*Oryza sativa*). *Plant Science* 157: 13-22.
- Doherty LC and MA Cohn. 1998. Commercial liquid smoke breaks dormancy of red rice. *Louisiana Rice Research Station, Annual Progress Report* 90:346-347.

- Bradford KJ, MA Cohn. 1998. Seed biology and technology: At the crossroads and beyond. *Seed Sci Res* 8:153-160
- Cohn MA (editor). 1998. Seed biology and technology: Applications and advances. *Seed Sci Res* 8:147-301.
- Chun S-C, RW Schneider, MA Cohn. 1997. Sodium hypochlorite: effect of solution pH on rice seed disinfestation and its direct effect on rice seedling growth. *Plant Disease* 81:821-824
- Cohn MA, F Jodari. 1997. The importance of evaluating seed dormancy in the development of new rice varieties. *La Rice Res Stn Ann Prog Report* 88: 150.
- Cohn MA. 1997. QSAR modeling of dormancy-breaking chemicals. In RH Ellis, M Black, AJ Murdoch, TD Hong (eds). *Basic and Applied Aspects of Seeds*. Kluwer Academic, Dordrecht, pp 289-295.
- Cohn MA. 1996. Chemical mechanisms of breaking seed dormancy. *Seed Science Research* 6:95-99
- Cohn MA. 1996. Operational and philosophical decisions in seed dormancy research. *Seed Science Research* 6: 147-153
- Cohn MA. 1996. Chemical mechanisms of breaking seed dormancy. In G Lang (ed), *Plant Dormancy*, CAB International, pp 257-265.
- Footitt S, MA Cohn. 1995. Seed dormancy in red rice. IX. Levels of fructose 2,6-bisphosphate in red rice embryos during dormancy-breaking and germination. *Plant Physiol* 107:1365-1370
- Footitt S, D Vargas, MA Cohn. 1995. Seed dormancy in red rice. X. A <sup>13</sup>C NMR study of metabolism of dormancy-breaking chemicals. *Physiol Plant* 94:667-671
- Ingham BH, TCY Hsieh, FJ Sundstrom, MA Cohn. 1993. Volatile compounds released during dry afterripening of tabasco pepper seeds. *J Agr Food Chem* 41:951-954.
- Cohn MA, S Footitt. 1993. Initial signal transduction steps during the dormancy-breaking process. IN D Come, F Corbineau, eds, *Proceedings of the Fourth International Workshop on Seeds: Basic and Applied Aspects of Seed Biology, Volume 2*. Association pour la Formation Professionnelle de l'Interprofession Semences (ASFIS), Paris France. pp 599-605. ISBN: 2-9507351-4-2
- Cohn MA. 1993. Chemical structure versus physiological activity: studies of dormancy-breaking chemicals for seeds. *SEARCH* 28:1-6.
- Cohn MA. 1993. Development of chemicals for breaking seed dormancy. *La Rice Res Stn Ann Prog Report* 85:373-377.
- Footitt S, MA Cohn. 1992. Seed dormancy in red rice. VIII. Embryo acidification during dormancy-breaking and subsequent germination. *Plant Physiol* 100:1196-1202.
- Cohn MA, TM Murphy (ed) 1991. Developmental control of embryogenesis and germination. *Physiol Plant* 81:265-288.
- Griffin JL, RT Dunand, JB Baker, RP Regan, MA Cohn. 1991. Integrating red rice control measures in soybean-rice

rotations. Louisiana Agriculture 34(3):6-7.

Cohn MA. 1989. Factors influencing the efficacy of dormancy-breaking chemicals. IN Recent Advances in Development and Germination of Seeds, ed. R.B. Taylorson, Plenum Press, NY, pp 261-267.

Cohn MA, KL Jones, LA Chiles, DF Church. 1989. Seed dormancy in red rice. VII. Structure-activity studies of germination stimulants. Plant Physiol 89:879-882.

Cohn MA, LA Chiles. 1989. Dormancy. IN McGraw-Hill Yearbook of Science and Technology. McGraw-Hill, NY, pp 103-105.

Leopold AC, R Glenister, MA Cohn. 1988. Relationship between water content and afterripening in red rice. Physiol Plant 74:659-662.

Cohn MA. 1987. Mechanisms of physiological seed dormancy. IN Seed and Seedbed Ecology of Rangeland Plants, GW Frazier, RA Evans eds., USDA-ARS, Washington DC, pp 14-20.

Cohn MA, LA Chiles, JA Hughes, KJ Boullion. 1987. Seed dormancy in red rice. VI. Monocarboxylic acids: a new class of pH-dependent germination stimulants. Plant Physiol 84:716-719.

Cohn MA, JA Hughes. 1986. Seed dormancy in red rice. V. Response to azide, cyanide, and hydroxylamine. Plant Physiol 80:531-533.

Griffin JL, RP Regan, RT Dunand, JB Baker, MA Cohn. 1986. An integrated approach to red rice control. La Rice Res Stn Ann Prog Report 77:309-313.

Griffin JL, RP Regan, RT Dunand, JB Baker, MA Cohn. 1985. An integrated approach to red rice control. La Rice Res Stn Ann Prog Report 76:312-316.

Cohn MA, L Castle. 1984. Dormancy in red rice. IV. Response of unimbibed and imbibing seeds to nitrogen dioxide. Physiol Plant 60:552-556.

Cohn MA. 1984. Factors associated with seed dormancy. Assoc Off Seed Analysts Newsletter 58(3):111-113.

Cohn MA, DL Butera, JA Hughes. 1983. Seed dormancy in red rice. III. Response to nitrite, nitrate, and ammonium ions. Plant Physiol 73:381-384.

Cohn MA, DL Butera. 1982. Seed dormancy in red rice. II. Response to cytokinins. Weed Sci 30:200-205.

Cohn MA, JA Hughes. 1981. Seed dormancy in red rice. I. Effect of temperature on dry-afterripening. Weed Sci 29:402-404.

Cohn MA, RL Obendorf, GT Rytko. 1979. Relationship of stelar lesions to radicle growth in corn seedlings. Agron J 71:954-958.

Cohn MA, RL Obendorf. 1978. Occurrence of a stelar lesion during imbibitional chilling of *Zea mays* L. Amer J Bot 65:50-56.

Cohn MA. 1977. Studies on the cause of imbibitional chilling injury in *Zea mays* L.: the stellar lesion. Ph.D. Thesis. Cornell University, Ithaca NY.

Cohn MA, RL Obendorf. 1976. Independence of imbibitional chilling injury and energy metabolism in corn. *Crop Sci* 16:449-452.

Cohn MA. 1974. Studies on the mechanism of imbibitional chilling injury during the germination of *Zea mays* L. - Growth experiments and investigation of the mitochondrial hypothesis. M.S. Thesis. Cornell University, Ithaca NY.

Labuza TP, M Silver, M Cohn, ND Heidelbaugh, M Karel. 1971. Metal-catalyzed oxidation in the presence of water in foods. *J Amer Oil Chem Soc* 48:527-531.

### **ABSTRACTS:**

Chappell, J.H. and Cohn, M.A. (2008) Exploring recalcitrant seed death with the *Spartina* model system. *Polish Journal of Natural Sciences, Supplement 5*, p. 75.

Chappell, J.H. and Cohn, M.A. (2007) Is oxidative stress the cause of recalcitrant seed death in *Spartina alterniflora*? *South African Journal of Botany* 73, 482-483.

Chappell, J.H. and Cohn, M.A. (2007) Is oxidative stress the cause of recalcitrant seed death? *Agronomy Abstracts*.

Cohn, M.A. (2004) Physiology of dormancy-breaking mechanisms in red rice. Abstract S22MT20BP01. 4<sup>th</sup> International Weed Science Congress (invited symposium speaker, June 2004, Durban, South Africa). p. 75.

Gianinetti, A. and Cohn, M.A. (2002) A new control treatment for exploring the mechanism of cold stratification. *Abstracts 7th International Seed Biology Workshop*. Salamanca, Spain. p. 123

Cohn, M.A., Gatz, F.D. and Eckhardt, C. (2002) Germination and viability of *Spartina alterniflora*. *Abstracts 7th International Seed Biology Workshop*. Salamanca, Spain. p. 153

Cohn, M.A. and Gatz, F.D. (2002) A viability test for *Spartina alterniflora*. *Abstracts 7th International Seed Biology Workshop*. Salamanca, Spain. p. 152

Gianinetti A and MA Cohn. 2001. Interaction of dry-afterripening and incubation temperature in red rice. *Proceedings of the XLV Italian Society of Agricultural Genetics - SIGA Annual congress, Salsomaggiore Terme, Italy - 26/29 September 2001*. also presented in *Abstr Stress in Seed Biology Symposium, Wageningen, The Netherlands (April 2001)*

Cohn MA. 2001. Dormancy-breaking chemicals for seeds: What they are, how they work. *WSSA Abstracts* 41: 103.

Doherty LC and MA Cohn. 1999. Commercial liquid smoke breaks dormancy of red rice. *Abstr 6th Intl Seed Biology Workshop*, p. 83.

Hilhorst, HWM, MA Cohn. 1999. Is there life after the anesthetic hypothesis? Can membranes still be involved in controlling seed dormancy? *Abstracts, 2<sup>nd</sup> International Plant Dormancy Congress, Angers, FRANCE*.

Johnson D, DR Gossett, SW Banks and MACohn. 1999. Changes in GSH, GSSG, cysteine, and cystine during dry

afterripening in red rice. Abstr 6th Intl Seed Biology Workshop, p. 43.

Sanders, DE, SD Linscombe, MA Cohn, RE Strahan. 1999. Outcrossing potential of Liberty Link rice to red rice. Proc Rice Tech Working Group 27: 214-215.

Oard JH, MA Cohn, TS Papenberg, SD Linscombe, DE Sanders, J Griffin, D Jones, L Doherty. 1999. Louisiana field evaluation of fitness traits in crosses between red rice and transgenic glufosinate-resistant rice varieties. Proc Rice Tech Working Group 27: 217.

Cohn MA. 1998. Dormancy-breaking chemicals for seeds: What they are, how they work. Bulgarian J Plant Physiol, Special Issue, p 21 (Proc 11th FESPP Congress, keynote address in seed biology section).

Chun SC, RW Schneider, MA Cohn. 1997. Seed disinfestation with gaseous hypochlorous acid. Phytopathology 87:S19.

Lin TY, MA Cohn. 1997. The metabolism of dormancy-breaking chemicals: a potential strategy for solving the seed dormancy problem in weed management of red rice (*Oryza sativa*). Proc La Plant Protection Assoc 1997: 77.

Lin TY, MA Cohn. 1997. Metabolism of dormancy-breaking compounds and its role in the dormancy-breaking process. Proc So Weed Sci Soc Amer 50:196

Lin TY, MA Cohn. 1997. The involvement of alcohol oxidation via ADH in the seed dormancy-breaking process. Plant Physiol S-114:294.

Thomas DA, JT Barber, HE Ensley, MA Cohn. 1997. Polyol-induced changes in *Lemna gibba*. Proc Soc Environ Toxicol & Chem 18:142 (abstr # PMP111).

Cohn MA. 1996. Factors influencing the efficacy of dormancy-breaking chemicals and their impact on the anesthetic hypothesis. Proc So Weed Sci Soc Amer 49:139-140.

Cohn MA 1996. Quantitative structure-activity relationships of seed dormancy-breaking chemicals. Plant Physiol S-111: 111.

Cohn MA. 1995. QSAR modeling of dormancy-breaking chemicals. Proc 5th Intl Workshop Seeds. Reading, England.

Cohn MA. 1994. Chemical mechanisms of breaking seed dormancy. In G Lang (ed), Proc 1st Intl Plant Dormancy Congress, p 56.

Footitt S, D Vargas, MA Cohn. 1994. Metabolism of dormancy-breaking chemicals: A <sup>13</sup>C NMR study. Plant Physiol S-105:167 (abstr # 930).

Footitt S, MA Cohn. 1993. Tissue activation during the dormancy-breaking process of seeds: changes in embryo fructose 2,6-bisphosphate levels. Seed Ecology and Biology 1993, Aberdeen SCOTLAND.

Footitt S, MA Cohn. 1992. Levels of fructose 2,6-bisphosphate in red rice embryos during dormancy-breaking and germination. Sixth Intl Sym Pre-Harvest Sprouting in Cereals (Abstract No. 64). Coeur d'Alene, ID.

Cohn MA, S Footitt. 1992. Initial signal transduction steps during the dormancy-breaking process. 4th Intl Seed

Biology Workshop, Angers, France.

Cohn MA, DF Church, J Ranken, V Sanchez. 1991. Hydroxyl group position governs activity of dormancy-breaking chemicals. *Plant Physiol S*-96:63.

Footitt S, MA Cohn. 1991. Embryo acidification during dormancy-breaking and subsequent germination in red rice (*Oryza sativa*). *Assoc Off Seed Anal News* 65 (2):25.

Footitt S, MA Cohn. 1990. pH transients in the dormancy-breaking process of seeds. *Plant Physiol S*-93:134.

Cohn MA, KL Jones. 1989. The role of medium acidification in the dormancy-breaking action of applied compounds in seeds. *Plant Physiol S*-89:171.

Cohn MA, KL Jones, LA Chiles, DF Church. 1988. Activity of dormancy-breaking chemicals is related to lipid solubility or molecular size. *Plant Physiol S*-86:24.

Cohn MA, KJ Boullion, LA Chiles. 1987. Structure-activity studies of dormancy-breaking chemicals. *Plant Physiol S*-83:39.

Cohn MA, LA Chiles, JA Hughes. 1986. New class of dormancy-breaking chemicals. *Plant Physiol S*-80:21.

Cohn MA, LA Chiles, JA Hughes. 1986. Structure-activity relationships for dormancy-breaking chemicals of weed seeds. *Proc Rice Tech Working Group* 21:58.

Cohn MA. 1986. Relative efficacy of pH-dependent and independent dormancy-breaking chemicals. *Agron Abstracts*, p 126.

Cohn MA, JA Hughes. 1985. Seed dormancy in red rice: Effects of azide, cyanide, and hydroxylamine. *Plant Physiol S*-77:75.

Cohn MA. 1985. Action of dormancy-breaking chemicals upon the intermediary metabolism of seeds. *Proc Weed Sci Soc Amer* 25:88-89.

Cohn MA, J Hughes, D Butera. 1984. Dormancy and viability of red rice during maturation and storage. *Plant Physiol S*-75:68.

Cohn MA. 1983. pH-dependent activity of dormancy-breaking chemicals. *Agron Abstracts*, p 118.

Cohn MA, L Castle. 1983. Nitrogen dioxide as a dormancy-breaking agent. *Plant Physiol S*-72:55.

Cohn MA, DL Butera. 1982. Effect of nitrite on seed dormancy in red rice. *Proc Weed Sci Soc Amer* 22:119

Cohn MA, DL Butera. 1981. Effect of cytokinins on seed dormancy in red rice. *Plant Physiol S*-67:39.

Cohn MA. 1980. Seed dormancy in red rice. *Proc Rice Tech Working Group* 18:90.

Obendorf RL, GT Rytko, MA Cohn, EN Ashworth. 1979. Relationship of stelar lesions to seedling vigor. *Northeast Seed Analysts Abstr*, Amherst MA.

Cohn MA, RL Obendorf. 1976. Imbibitional chilling of *Zea mays* L.: Inheritance studies and further examination of the stelar lesion. Agron Abstracts, p 94.

Cohn MA, EN Ashworth, RL Obendorf. 1976. Stelar lesion formation during the hydration of low moisture seeds. Northeast Regional Abstr, Amer Soc Plant Physiol, p 11.

Cohn MA, RL Obendorf. 1975. Anatomical studies on the mechanism of imbibitional chilling injury during germination of *Zea mays* L. Agron Abstracts, p 69-70.

Cohn MA, RL Obendorf. 1974. Imbibitional chilling injury during the germination of *Zea mays* L. - Growth studies and effects upon energy metabolism. Agron Abstracts, p 70.

Labuza TP, M Karel, M Silver, M Cohn. 1970. Catalysis of oxidation as affected by moisture content. World Congress and 2nd Symposium on Metal-Catalyzed Lipid Oxidation, Chicago IL.

### **TEACHING:**

Seed Biology (PLHL/BIOS 4444). 1999, 2000, 2003-to date (Cohn initiated)

Current Literature in Plant Physiology (PLHL 7068)(Cohn initiated)

Professional Development for Plant Scientists (PLHL/BIOS 7067) 2001, 2003, 2004, 2007-09 (Cohn initiated)

Instructor, Introduction to Plant Physiology (PLHL 3060): 1990.

Co-Supervisor, Departmental Seminar, 1994-95; 2000-2001, 2005-06

Instructor, Seed Physiology (special topics), 1995

Guest Lecturer: Plant Growth & Development (PLHL 7061): 1978, 80, 82-84, 87, 94, 96, 98, 2000, 2002, 2004, 2006.

Mineral Nutrition of Plants (PLHL 7065): 1979, 81. Plant Physiology (PLHL 3060): 1981, 84.

Volunteer Teaching Assistant, History of Jazz (Music 2000), 1990-1996

Graduate Advisory Committee member for seven M.S. and eight Ph.D. recipients.

Major professor for two M.S. and four Ph.D. candidates.

### **ADMINISTRATIVE ACTIVITIES:**

LSU College of Agriculture Courses and Curriculum Committee: 2005-2007

LSU College of Agriculture Faculty Council: 2006-

Dept Graduate Student Recruiting Coordinator: 2006-

LSU Faculty Senate: College of Agriculture representative, 1993-1996

Faculty Search Committees: Flores, Jordan, Kitchen, MacKenzie, Murai, Terry,

Tully, Musgrave, Buehl, Berggren

LSU Distinguished Dissertation Committee: 1985, 1986.

Dept Promotion and Tenure Committee: 1984, 1985, 1989, 1990, 1991 (chair), 1994-96.

LSU Plant Physiology Graduate Program Steering Committee: 1984-to date.

Dept Graduate Student Awards Committee (chair): 1989-1998.

Dept Student Standards Committee: 1990.

Dept Facilities and Planning Committee: 1984, 1985.

Dept Faculty Research Seminar Co-chairman: 1983-84, 1994-95.

Dept. CSRS Review Document Co-editor: 1984-85.

Dept. CSRS Review Steering Committee, Chair, 1991.

Amer Soc Hort Sci, Dormancy Terminology Committee: 1987, 1988.

Ad-Hoc Reviewer: NSF; USDA Competitive Grants Program, La Agr Exp Stn; USDA-ARS manuscript peer review system; *Proceedings of the National Academy of Sciences (USA)*, *Plant Journal*; *Plant Molecular Biology*; *Canadian Journal of Botany*; *Seed Science and Technology*; *Canadian Journal of Plant Science*; *J Amer Soc Hort Sci*; *HortScience*; *Seed Science Research*; *Plant Growth Regulation*, *J Exp Botany*, *Annals of Botany*, *Journal of Plant Growth Regulation*, *Journal of Sciences*, *Physiologia Plantarum*. Dept of Wetlands Resources (LSU); Dept of Horticulture (LSU); Dept of Plant Pathology & Crop Physiology (LSU); Dept of Botany (LSU); Dept of Agronomy (LSU); Research Corporation, Tucson AZ; Foundation for Research Development, Pretoria.

### **HONORS AND HONORARY SOCIETIES:**

Tipton Team Research Award, 2007 (co-recipient)

Seed Science Award, Crop Science Society of America, 2006

Editor-in-Chief, *Seed Science Research*, 1999-2008

American Society of Plant Biologists (Southern Division), Distinguished Service Award, 2001

Associate Editor, *Seed Science Research*, 1997-1998

Executive Committee, American Society of Plant Physiologists, 1996-1999

LSU College of Agriculture Distinguished Dissertation Award (with S Footitt), 1993

Associate Editor, *Crop Science*, 1990-1992

Association of Official Seed Analysts; Phi Sigma; Sigma Xi; Gamma Sigma Delta;

Outstanding Young Men of America, 1979; LSU Science Club; Who's Who in Science & Engineering

Related student awards:

JH Chappell. 2007 Best Student Presentation Award, SS-ASPB, Mobile, AL

JH Chappell. 2007. Best Graduate Student Paper Award (Seed Sci & Technol), Crop Sci Soc Amer, New Orleans, LA

JH Chappell. 2007. Edgerton Outstanding Graduate Student Award, LSU Plant Pathol & Crop Physiol

TY Lin. 1997 Best Student Presentation Award. SS-ASPP. Tuskegee, AL

TY Lin. 1997 Best Student Presentation Award (2nd place). La. Plant Protection Assoc. Baton Rouge, LA.

LC Doherty, Goldwater Scholar (1997-1999)

S. Footitt. LSU College of Agriculture Distinguished Dissertation Award, 1993

S. Footitt. Edgerton Award, LSU, 1993

### **RECENT SOCIETY MEETING ATTENDANCE:**

Crop Science Society of America: New Orleans (2007), Indianapolis (2006)

South Soc Plant Physiol: Shreveport (2008), Mobile (2007), Daytona Beach (2005), Lafayette (LA)(2004)

Int Seed Sci Soc: Poland (2008), Wageningen (2004), Salamanca (2002)

2/2009