DAVID R. MEARS

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Ph.D., 1968 Engineering Mechanics, Rutgers University, Effects of High Hydrostatic Pressure on the Mechanical Behavior and properties of Polymers
M.S., 1961 Agricultural Engineering, Rutgers University, Recirculation in Wagon Drying of Baled Hay
B.S., 1958 Agricultural Engineering, Rutgers University

Experience

2008 - Professor Emeritus, Rutgers University
1984 - 2008 Professor II, Rutgers University
1988 - 1990 Director, Center of Excellence for Controlled Environment Agriculture
1986 - 1988 Agricultural Research Advisor to USAID Mission, India
1981 - 1985 Associate Director of the New Jersey Agricultural Experiment Station and Dean of Research
1965 - 1984 Research Associate, Assistant-Associate-Full Professor of Biological and Agricultural Engineering, Cook College, Rutgers University. Undergraduate Advisor for Agricultural Engineering Majors, Undergraduate Advisor for Environmental Technology Majors, Teaching Undergraduate and Graduate Courses, Graduate Director, Research in Mechanization, Structures and Environment, Processing, and Greenhouse Systems
1964 - 1965 Graduate work in Applied Science and Teaching Assistant, University of California, Davis
1960 - 1964 Lay Missionary, Cuttington College, Suacoco, Liberia. Teaching college courses (undergraduate), Dean of Men, Director of Admissions and Registrar. Head, Agriculture Program and College Farm
1958 - 1960 Assistant Instructor in Agricultural Engineering, Rutgers University. Teaching undergraduate Engineering courses, Research on Hay Drying, Forage Self-feeding, and Mechanization

Publications and Papers on:

Applied Mechanics, Solar Heating Systems, Livestock Housing, Mechanization of Horticultural Crops, Agricultural Systems Analysis, Greenhouse Systems, Processing, Waste Heat Utilization, Cogeneration, and Research Management and Planning

Recent publications and presentations:

Mears, D.R. and R.P. Kahn. 1999. Concepts and New Designs for Quarantine Greenhouses. Published in Kahn, R.P., S.B. Mathur et al. Exotic Pest and Pathogen Exclusion: Containment Facilities and Safeguards for Imported Seeds, Plants and Biological Control Organisms. APS Press, St. Paul, MN, Chapter 11, p74-92.

Mears, D.R., 1999. Plastic Glazing for Quarantine Facilities. Proceedings of American Society for Plasticulture 28th National Agricultural Plastics Congress. Tallahassee, FL, May 19-22.

Mears, D.R. 1999. Epilogue. Proceedings of ACESYS III Forum – From Protected Cultivation to Phytomation. CCEA; Bioresource Engineering Dept., Cook College - Rutgers University; Phytomation, Inc., July 23.

Giacomelli, G.A., S.A. Garrison, M. Jensen, D.R. Mears, J.W. Patterson, W.J Roberts and O.S. Wells. 2000. Advances in Plasticulture Technologies 1977 – 2000. Proceedings of the 15th International Congress for Plastics in Agriculture, Hershey, PA Sept. 23-27, 2000. NJAES Paper No. P-03130-20-00.

Mears, D.R. and A.J. Both. 2000. Insect Exclusion from Greenhouses. Proceedings of the 15th Workshop on Agricultural Structures and ACESYS (Automation, Culture, Environment, and Systems) IV Conference. December 4-5, Tsukuba, Japan. pp. 18-26. NJAES Paper No. P-03130-23-00.

Mears, D.R. and A.J. Both. 2001. A Positive Pressure Ventilation System with Insect Screening for Tropical and Subtropical Greenhouse Facilities. Keynote talk and Proceedings of The International Symposium on Design and Environmental Control of Tropical and Subtropical Greenhouses. ISHS, Taichung, Taiwan. Acta Horticulturae 578:125-132. April 15-18 2001. NJAES Paper No. P-03130-06-01.

Both, A.J., E. Reiss, D.R. Mears and W.J. Roberts. 2001. Open-Roof Greenhouse Design with Heated Ebb and Flood Floor. ASAE Paper No. 01-4058 Presented at ASAE Annual International Meeting, Sacramento, California. July 30-August 1, 2001.

Both, A.J., D.R. Mears, E. Reiss, W.J. Roberts. 2002. Greenhouse floor heating. Greenhouse Management and Production (GMPRO). August issue. pp. 60-63.

Moriyama, H., D.R. Mears, S. Sase, H. Kowata and M. Ishii. 2003. Design Considerations for Small-Scale Pipe Greenhouses to Prevent Arch Buckling Under Snow Load. ASAE Paper No. 03-4047, ASAE 2950 Niles Road, St. Joseph, MI 49085-9659, USA. 8 pp.

Reiss, E., D.R. Mears and A.J. Both. 2003. Greenhouse floor heating. ASAE paper No. 03-4039. ASAE, 2950 Niles Road, St. Joseph, MI 49085-9659, USA. 14 pp.

Both, A.J., E. Reiss, D.R. Mears, and W. Fang. 2004. Environmental control – System and strategy design tool. Presented at Greensys 2004, Leuven Belgium, September 12-16 2004.

Mears, D.R. and W. Fang. 2004. Environmental control in protected structure, Chapter 5 in Protected Horticulture Science. C.C. Tsai (ed.). Published In Chinese by: Taipei Seven Star farmland irrigation research foundation, Taiwan.

Reiss, E., A.J. Both, and D.R. Mears. 2004. Greenhouse floor heating. ASAE paper No. 04-4040. ASAE, 2950 Niles Road, St. Joseph, MI 49085-9659, USA. 13 pp.

Reiss, E., A.J. Both, and D.R. Mears. 2005. Comparing greenhouse floor heating designs using CFD. ASAE paper No. 05-4136. ASAE, 2950 Niles Road, St. Joseph, MI 49085-9659, USA. 19pp.

Both, A.J., E. Reiss, D.R. Mears, and W. Fang. 2005. Designing environmental control for greenhouses: Orchid production as example. Acta Horticulturae 691(2):807-813.

Mears, D.R. 2005. Rutgers Research on Energy for Greenhouses. Ohio Florists Association Short Course. Columbus, Ohio. July 2005. 8 pp.

Mears, D.R. 2005. Get Over the Difficulty of Climate, Disaster and Crisis. 100th Anniversary Seminar, Laboratory of Controlled Environment Agriculture, National Institute for Rural Engineering, Tsukuba, Japan, Dec. 2005. 4 pp.

Mears, D.R. 2005. Rutgers Research on Energy for Greenhouses. 100th Anniversary Seminar, Laboratory of Controlled Environment Agriculture, National Institute for Rural Engineering, Tsukuba, Japan, Dec. 2005. 8 pp.

Mears, D.R. 2006. Greenhouse energy conservation and possible alternatives to fossil fuels. Greenhouse crop production and engineering design short course. University of Arizona, Tucson, AZ. January 2006.

Mears, D.R. 2006. Alternative energy for greenhouse heating. Greenhouse energy workshop. The Ohio State University, Wooster, Ohio. February 2006.

Mears, D.R. 2006. Greenhouse energy conservation and alternatives to fossil fuel. The Cincinnati Growers. Cincinnati, Ohio. February 2006.

Both, A.J. and D.R. Mears. 2006. Build and maintain greenhouses with energy conservation in mind. Greenhouse Management and Production (GMPRO). May 2006. pp. 54-56.

Reiss, E.E., D.R. Mears and A.J. Both, 2006. Using CFD to model greenhouse floor heating systems. ASAE paper No. 06-4094. ASAE, 2950 Niles Road, St. Joseph, MI 49085-9659, USA. July 2006.

Mears, D.R. 2006. Energy use in production of food, feed and fiber. Encyclopedia of Life Support Systems (EOLSS). UNESCO web publication: http://www.eolss.net

Mears, D.R. 2006. Challenges to opportunities to action. The National Greenhouse Manufacturer's Association, Phoenix, AZ. October 19 2006.

Mears, D.R. 2006. Proposals for action to solve some key industry problems. NGMA Newsletter. Fall 2006.

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Reiss, E., D. R. Mears, T. O. Manning, G. J. Wulster, A. J. Both. 2007. Numerical modeling of greenhouse floor heating. Transactions of ASABE Vol. 50, No. 1, Pp. 275-284.

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Both, A.J., D.R. Mears, T.O. Manning, E. Reiss and P.P. Ling. 2007. Evaluating energy savings strategies using heat pumps and energy storage for greenhouses. ASABE Paper No. 074011. ASAE, 2950 Niles Road, St. Joseph, MI 49085-9659, USA. June 2007.

Giacomelli, G., N. Castilla, E. van Henten, D. Mears, S. Sase. 2007. Innovation in greenhouse engineering. Keynote for Greensys 2007. Naples, Italy. October 2007.

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