

Michael A. Grusak
Fargo, ND

March 30, 2024

Job posting: CEO – ND Adv. Ag Tech Engine #2951247

Dear Search Committee:

I'm writing to express my interest and excitement for the Chief Executive Officer (CEO) position with the ND Advanced Agriculture Technology Engine at NDSU. I have served in leadership positions for several years with the US Department of Agriculture and with various scientific societies. I also have an extensive background in agricultural research, with an emphasis in plant science, human nutrition, and food systems studies. I can see that the newly funded program will offer an incredible opportunity to advance agricultural solutions amongst growers in ND and across the Northern Great Plains. I believe my background would equip me well to tackle the responsibilities and challenges of the CEO position and I would wholeheartedly welcome the chance to lead this program forward.

You will have my CV available, which lists all of my professional appointments; however, I would like to offer some additional information about my current and recent positions. Following that, I will address how my background meets the minimum and preferred qualifications for this position.

My current permanent position (since 2017) is the Center Director for the USDA-Agricultural Research Service, Edward T. Schafer Agricultural Research Center (ETSARC) in Fargo. I lead a Center of approximately 150 federal and non-federal employees, with an annual appropriated budget of \$40 million. I am responsible for the research programs of five Research Units spanning crop science, entomology, food safety, and food quality – and I am accountable for all personnel, facilities, and budgetary aspects of the Center. However, beginning last October 2023, I was asked to serve on a Detail in the office of the Under Secretary of Agriculture, Research, Education, and Economics (REE) Mission Area as the Senior Advisor for Precision Nutrition and Cancer Moonshot. My primary responsibilities in this role are to elevate the USDA [ASCEND for Better Health](#) Initiative, to stand up the [USDA Nutrition Hub](#) at Southern University in Baton Rouge, LA, and to advance USDA nutrition resources as the Under Secretary's designee on the President's Cancer Cabinet Task Force. The goal of all these efforts and Initiatives are to provide better knowledge (through research and translation of that research) on healthy eating strategies to help prevent diet-related cancers and metabolic diseases, especially amongst underserved populations.

Prior to coming to Fargo, I served as the Acting National Program Leader for Specialty Crops in the USDA-ARS Office of National Programs (ONP) in Beltsville, MD. I was responsible for overseeing about 50 projects across the Agency and contributed to a number of programmatic decisions in the Crop Production and Protection Division at ONP. Before that, I was a research scientist at the Children's Nutrition Research Center in Houston, TX for 26 years, where I developed a research program linking production agriculture, food quality, and human nutrition issues. And during that time, I was asked to serve in a number of leadership roles, including service as the ARS Scientific Quality Review Officer,

Acting Research Leader for the Delta Obesity Prevention Research Unit in Little Rock, AR, and Acting Associate Area Director, to name a few examples. More specifics on these and other roles are listed in my CV.

With respect to the listed qualifications for the CEO position, let me begin by addressing the minimum requirements. My academic credentials are a PhD in Botany from the University of California – Davis. I have served in several executive leadership roles, as noted above, and would stress that my success in these positions has been demonstrated by the continued requests for my expertise by the Agency in various new roles (e.g., the current Senior Advisor Detail). I have strengths in communicating effectively, big-picture strategic planning, and relationship building. These are demonstrated by the progress we've had at the Center in Fargo, in which I've worked strategically with stakeholders to identify problem-solving opportunities and financial needs for our research scientists. These conversations have led to win-win realizations and continued stakeholder support that has enabled our USDA-ARS Center to grow from an annual budget of \$15.7 million when I arrived in 2017 to an annual budget of almost \$40 million in six years.

My career with USDA-ARS as a scientist and scientist-administrator (I am still required to conduct research and publish as the Center Director) has spanned over 35 years. Throughout that time, I have planned and executed several research projects (many with large, diverse collaborative teams), as exemplified by various grants awarded over the years. I have worked to apply and implement new knowledge, such as the activities associated with the advancement of Golden Rice in Southeast Asia. And across all of these activities (and more recently as Center Director) I have supported and championed the career development of new scientists and technical or administrative support staff, who have been instrumental in the goals we've achieved in my research group and more broadly at the Center. My support of many past employees has also provided me with a wealth of contacts that I draw upon today, who are accomplished scientists or staff members in academia, industry, and government.

As already mentioned, my various leadership roles illustrate a long record of innovation, strategic thinking, and driving organizational growth, as I have been responsible for steering the ETSARC's programmatic (several new scientist positions), budget (from \$15.7 to \$40 million in six years), and facilities (laboratory, office and greenhouse renovations) operations. This growth, while greatly appreciated, has also come with growing pains. This has meant that I have had to apply both my quantitative strategic planning and my qualitative soft skills to effectively manage and lead the Center's staff through this growth.

None of the above would have been possible without strong communication and interpersonal skills. And I can attest that I am firmly committed to diversity, equity, inclusion, and accessibility (DEIA) issues. I have made efforts throughout my career to employ as diverse a group of individuals as possible and to strive for an equitable and inclusive workplace wherever I've been. I also continue to use various resources to broaden my understanding of DEIA perspectives.

I have extensive experience working with a broad range of partners, building trust and consensus when needed, and dealing with competing issues as they arose. I have used my analytical skills, people skills, and creativity to work collaboratively (and yes, sometimes under pressure) with team members, industry partners, or governance boards, to advance the mission of different organizations. Examples of this are again the partnerships that were developed and managed to successfully grow the ETSARC to a \$40 million annual program. I would point to the various interdisciplinary research projects I have been involved with as demonstrated by several grant awards. And I also have experience navigating and

leading governance boards through my service as the President of the Crop Science Society of America and the Chair of the Council of Scientific Society Presidents.

Lastly in this section, I would note that I have strong project management skills, as shown by my leadership overseeing the National Sclerotinia Initiative and the Pulse Crop Health Initiative (PCHI), two of the programs at the Center in Fargo that have shown a history of successful growth and outcomes. For instance, the PCHI was started under my leadership and has grown to a program with over 50 collaborative research projects and an annual budget of \$4.5 million.

Regarding the preferred qualifications, I have already mentioned my PhD degree in Botany. With respect to agricultural knowledge, I have worked here in Fargo for seven years and have become very familiar with the broad range of agricultural activities in North Dakota and the upper Midwest. Much of this knowledge has come from my relationships developed with various commodity group stakeholders, but also through my involvement with collaborators at NDSU. As a federal employee, I have managed several federal grants that have been awarded to me as PI or Co-PI (USDA-NIFA, NSF, NIH) and as a Center Director I have extensive experience with contracts and cooperative agreements that we have established with various institutions. As a Director for a \$40 million program, I believe I have strong experience in budgetary matters, including financial forecasting and resource allocation (especially at the start of each fiscal year, when we operate under Continuing Resolutions with a limited budget). I also have a demonstrated ability to be prepared for and respond to rapidly changing conditions – too often we've received large budget increases late in the fiscal year and those appropriated funds had to be spent or allocated on a very short timeline. I pride myself in being able to analyze possible future scenarios and plan for multiple responses before (and in case) they are needed.

What I haven't spoken to yet are my experiences with innovation financing, entrepreneurial support, intellectual property, commercializing innovation, leading start-ups, etc. As a federal employee most of my scientific career, I have not had the opportunity to engage in many of these activities. I do have some experience with intellectual property, as we deal with that through our Technology Transfer Office on germplasm releases, but I have not led these efforts. I have been involved with private-public partnerships that helped move Golden Rice forward, which is a transgenic technology designed to improve the vitamin A status of individuals in low-income countries. I have also been involved with the release of nutritionally improved cassava for regions in sub-Saharan Africa. However, my experience with commercialization of innovations in the US is limited to a familiarity with and knowledge of advancements in ag technology, especially those that would benefit our science activities to advance the needs of our stakeholders. I would also note that I'm an avid learner, I seek out those who can explain new topics to me, and I recognize the importance of working in teams to accomplish goals. I believe my general knowledge in commercialization would grow rapidly with the right team members and partners for the ND Advanced Ag Tech Engine – and that my existing strengths and experiences would allow me to excel in this area as well.

Finally, I would like to comment on why I am interested in this position. I currently have a very rewarding job with the government that has allowed me to grow and contribute to society. And, I will be happy to go back to my Center Director role to lead the ETSARC program when my current Detail ends. However, having been away from the Center in this Detail, it has opened my mind to other possibilities. Frankly, I'm very excited about the opportunity to be at the start of a new program at NDSU, where I could continue to serve and use my skills to have an impact on agricultural producers and companies in North Dakota. I like new challenges. I am driven to excel. I also enjoy supporting those around me with the tools and resources to excel as well. I know this role will probably be a difficult one, bridging and

navigating the interests of a number of partners. Nonetheless, these challenges seem invigorating to me, and I would be honored to take them on and lead this new program.

I appreciate your consideration of my application for this position. I look forward to hearing from you and discussing this opportunity with the search committee.

Respectfully,

A handwritten signature in blue ink that reads "Michael A. Grusak". The signature is written in a cursive style with a large, stylized initial 'M'.

Michael A. Grusak

CURRICULUM VITAE

Michael Grusak

Center Director

Edward T. Schafer Agricultural Research Center

EDUCATIONAL BACKGROUND:

BS Department of Biology, Bates College, Lewiston, Maine, 1979
MS Department of Botany, University of California, Davis, California, 1982
PhD Department of Botany, University of California, Davis, California, 1985

PROFESSIONAL EXPERIENCE:

2023 – present Senior Advisor for Precision Nutrition and Cancer Moonshot, USDA Research Education, and Economics Mission Area, Washington DC
2017 – present Center Director, SSTS, Edward T. Schafer Agricultural Research Center, Fargo, ND
2017 – present Emeritus Professor of Pediatrics, Department of Pediatrics, Baylor College of Medicine, Houston, TX
2016 Acting National Program Leader for Specialty Crops, USDA, ARS Office of National Programs, Beltsville, MD
2013 - 2015 Scientific Officer, USDA, ARS Office of Scientific Quality Review, Beltsville, MD
2012 - 2014 Acting Research Leader, Delta Obesity Prevention Research Unit, Little Rock, AR
2010 - 2017 Professor, Department of Pediatrics, Baylor College of Medicine, Houston, TX
2010 - 2011 Director, USDA-ARS Research Program at North Carolina Research Campus, Kannapolis, NC
2009 Acting Associate Area Director, USDA-ARS Southern Plains Area, College Station, TX
2001 - 2010 Associate Professor, Department of Pediatrics, Baylor College of Medicine, Houston, TX
1990 - 2017 Plant Physiologist, USDA, ARS, Children's Nutrition Research Center, Houston, TX
1990 - 2001 Adjunct Assistant Professor, Department of Pediatrics, Baylor College of Medicine, Houston, TX
1988 - 1990 USDA Postdoctoral Research Associate, US Plant, Soil and Nutrition Laboratory, Cornell University, Ithaca, NY
1987 - 1988 NATO Postdoctoral Fellow, Université de Poitiers, Poitiers, France.
1986 - 1987 Staff Scientist, Plant Biophysics Section, Physics and Engineering Laboratory, Department of Scientific and Industrial Research, Lower Hutt New Zealand

- 1982 - 1984 Graduate Teaching Assistant, Department of Botany, University of California, Davis, CA
- 1980 - 1985 Graduate Research Assistant, Department of Botany, University of California, Davis, CA

HONORS AND AWARDS:

- Chair, Council of Scientific Society Presidents, elected by the Council to Chair the organization of current and past presidents of Scientific Societies, 2022-2024
- President, Crop Science Society of America, elected to this leadership position based on my research credentials in agriculture and my previous service to the Society, 2016
- Fellow, American Association for the Advancement of Science, awarded “For discoveries about the production and accumulation of essential nutrients in plants and the bioavailability in human nutrition, and for leadership in his professional societies”, 2015
- Meritorious Service Award, North American Pulse Improvement Association, awarded in recognition of research excellence in food legume micronutrient nutrition, 2015
- Mission Area Merit Award, USDA, REE, awarded to the ARS Legume and Oilseed Plant Breeding Team for improvements in yield, disease resistance, environmental stress resistance, and nutritional quality of grain crops, 2015
- Extra Effort Award, USDA, ARS, Office of National Programs, awarded by Dr. Molly Kretsch, Deputy Administrator, for “outstanding research leadership and management in helping to launch and implement a new USDA, Agricultural Research Service (ARS) research program linking production agriculture with human nutrition outcomes at the North Carolina Research Campus in Kannapolis, NC”, 2011
- ARS Technology Transfer Award, Superior Effort, Southern Plains Area, awarded to the “Melon Postharvest Quality Team” for developing technologies to extend the shelf-life of melons, 2006
- ARS Senior Scientist of the Year, Southern Plains Area, awarded “For plant physiological research that enhances the nutritional quality of food crops and for leadership in promoting interdisciplinary research between scientists in both plant and human nutrition”, 2002
- NATO Postdoctoral Fellowship, awarded by the National Science Foundation for research at the Université de Poitiers, Poitiers, France, 1987-1988
- Young Botanist Award, Botanical Society of America, awarded for scholarship in undergraduate research in the Botanical Sciences 1979

GRANT AWARDS:

- USDA-CSRS-NRI Grant, Program: Plant Responses to the Environment (1994-1997; Cytoplasmic regulation of root Fe(III) reductase activity in higher plants; \$160,000)
- USDA-CSRS-NRI Grant, Program: Improving Human Nutrition (1994-1996; Co-PI with SA Abrams; Use of intrinsically labeled foods to characterize bioavailability and kinetics of calcium and magnesium in children; \$170,000)
- NSF Grant, Program: Integrative Plant Biology (1996-1999; Phloem loading and transport of metal ions: mechanisms and regulation; \$210,000)
- USDA-CSRS-NRI Grant, Program: Improving Human Nutrition (1999-2001; Co-PI with G Tang; Vitamin A activity of vegetable carotenoids in men; \$190,000)
- USDA-CSRS-NRI Grant, Program: Plant Responses to the Environment (1999-2000; Tenth International Symposium on Iron Nutrition and Interactions in Plants; \$8,500)

- ConAgra Award: (1999-2000; Co-PI with C Lifschitz; Energy utilization of a modified barley by healthy volunteers; \$51,500)
- USDA-CSRS-NRI Grant, Program: Plant Responses to the Environment (2000-2003; Physiology and molecular regulation of zinc homeostasis in *Medicago truncatula*; \$142,000)
- USDA-ARS Grant, Program: Pisum Crop Germplasm Committee (2000-2001; Genetic diversity of *Pisum sativum* core collection for seed mineral content; \$15,500)
- Texas A&M IFSE Award: (2001-2002; Intrinsic ¹³C-labeling of phytochemicals for nutritional investigations in humans; \$7,500)
- US-AID Award: (2002-2005; Nutritional genomics of iron and zinc content in seeds; \$290,000)
- USDA-1890 Capacity Building Grant: (2002-2005; Co-PI with K Pomper; Development of seedless pawpaw fruit by germplasm enhancement; \$299,915)
- NIH Grant, Program: NIDDK (2003-2007; Co-PI with G Tang; Golden Rice – Vitamin A equivalence in humans; \$1,347,000)
- World Bank/Gates Foundation Supported, Multi-Institutional Harvest Plus Program: (2004-2013; Biofortified crops for improved human nutrition; \$90,000,000) (~\$320,000/yr to Grusak lab)
- USDA-ARS Cool Seasons Legume Crop Germplasm Committee: (2004-2005; Genetic diversity of *Cicer arietinum* core collection for seed mineral and protein concentrations; \$15,000)
- Gates Grand Challenges in Global Health Program: (2005-2010; Engineering Rice for High Beta-Carotene, Vitamin E and Enhanced Fe and Zn; \$11,318,955) (~\$520,000/yr to Grusak lab)
- NIH Grant, Program: NIDDK: (2005-2008; Co-PI with S Booth; Dietary and non-dietary components of vitamin K metabolism; \$1,579,000)
- USDA-AFRI: (2009-2013; Co-PI with P McClean; Common Bean Coordinated Agricultural Project; \$4,000,000) (~\$44,000/yr to Grusak lab)
- USDA-AFRI Cool Season Food Legume Program: (2001-2010; Co-PI with CJ Coyne; Genomic assisted breeding for cool season food legumes; \$50,000)
- USDA-AFRI Cool Season Food Legume Program: (2009-2010; Co-PI with G Vandemark; Assessing genetic and environmental variability in seed protein and mineral concentrations of cool season food legumes; \$37,543)
- USDA-ARS Phaseolus Crop Germplasm Committee: (2010-2011; Seed mineral and folic acid diversity of the *Phaseolus vulgaris* core collections; \$16,000)
- USDA-NIFA: (2011-2013; Co-PI with C Kandianis; Genetic regulation of iron and zinc accumulation and bioavailability in rice grain – Investigating reproductive sink-governed dynamics; \$130,000)
- International Atomic Energy Agency: (2011-2013; Co-PI with A Siwela; Comparing the vitamin A value of intrinsically labeled kale cooked in peanut butter with that sautéed in lard for Zimbabwean children under 2 years old; \$40,175).
- International Atomic Energy Agency: (2011-2013; Co-PI with A Siwela; Comparing the vitamin A value of intrinsically labeled kale cooked in peanut butter with that sautéed in lard for Zimbabwean children under 2 years old; \$40,175).
- US-AID: (2012-2017; Feed the Future Grain Legumes Project: Seed Quality – Nutrition; \$420,000).

- American Pulse Association (2013; Co-PI with D Hadsell; Dietary Lentils as a Preventive to High-Fat-Induced Obesity: Feeding Patterns, Metabolic Rate, and Immunological Co-morbidities; \$44,442).
- BioCassava Plus Project, Gates Grand Challenges in Global Health Program (2014-2016; Iron transport and whole-plant distribution in cassava; \$62,191).
- USDA-NIFA-SCRI: (2015-2017; PI; Innovating Beans: Linking Agronomic Aims with Functional Attributes to Increase Dry Bean Consumption for Human Health; \$46,000)
- VIRCA Plus Project (Virus Resistant Cassava for Africa), Gates Grand Challenges in Global Health Program (2017-2021; Sub-Award: Iron and zinc nutritional enhancement; \$175,000).
- USDA-NIFA-SCRI: (2018-2022; Co-PI with M Burrows; Building A Better Lentil From The Ground Up; \$3,266,237).

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

- American Association for the Advancement of Science
- American Society for Nutritional Sciences
- American Society of Agronomy
- Crop Science Society of America
- Council of Scientific Society Presidents

SERVICE TO PROFESSIONAL ORGANIZATIONS AND RESEARCH PROGRAMS:

- Council of Scientific Society Presidents: vice-Chair 2021, Chair 2022-2024
- Crop Science Society of America: Program Planning Officer, 2018-2023.
- Crop Science Society of America: President-Elect, 2015; President, 2016; Past-President, 2017.
- BioCassava Plus Project, Gates Grand Challenges in Global Health Program: Member, Scientific Advisory Council, 2013-2014.
- Feed the Future Innovation Lab for Collaborative Research on Horticulture: Member, External Evaluation Team (for USAID), 2013.
- Dry Grains Pulses Collaborative Research Support Program (CRSP): Member, External Evaluation Team (for USAID), 2012.
- Texas Academy of Science: Botany Section Chair, 2011-2012; Non-Academic Director to the Board of Directors, 2012-2016.
- Alfalfa Crop Germplasm Committee; Vice-Chair, 2011-2013; Chair, 2013-2016.
- Crop Science Society of America, Division C09: Biomedical, Health-Beneficial and Nutritionally Enhanced Plants: Board representative to the Board of Directors, 2008-2013.
- Cool Season Food Legume Crop Germplasm Comm: Secty, 2005-2011; Chair, 2011-2017.
- Chairman, 10th International Symposium on Iron Nutrition and Interactions in Plants, 2000

SERVICE TO SCIENTIFIC JOURNALS:

- Agricultural and Environment Letters, Editorial Board, 2022 – present
- Frontiers in Plant Nutrition, Associate Editor, 2015 – present
- Texas Journal of Science, Editorial Board, 2014 – 2018
- Rice Journal, Editorial Board, 2010 – 2016
- Plant Foods for Human Nutrition, Associate Editor, 2010 – 2016
- Crop Science, Technical Editor, 2009 – 2014; Associate Editor, 2014 – 2020
- Plant and Soil, Editorial Board, 2007 – 2020

RESEARCH INTERESTS:

- Homeostasis of iron and other micronutrient metals in plants
- Mechanisms and regulation of iron and zinc transport to edible sinks
- Production of plant-derived biomolecules for use in human and animal nutrition studies
- Bioavailability of essential nutrients and phytochemicals in humans
- Impact of climate change processes on crop nutritional quality

SPECIAL INVITATIONS

- At the request of the National Academies of Sciences, Engineering, and Medicine, serves as a committee member and nutrition/food systems subject matter expert to prepare the report: *Exploring Linkages Between Soil Health and Human Health*. The report should be released this summer, 2023-2024.
- Serves as a member of the Scientific Advisory Board for the *Optimizing Human Health and Nutrition: From Soil to Society* project at Washington State University, funded through a USDA-AFRI Sustainable Agricultural Systems grant. As a board member, advises the project participants on scientific strategy and overall direction of project research and information dissemination, 2021-present.
- At the request of the U.S. Global Change Research Program, served as an agriculture subject matter expert and co-author on the writing team that developed the chapter: *Agriculture and Rural Communities* in the Congressionally mandated report: *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*, 2017-2018.
- Served as a member of the Intercontinental Scientific Advisory Board of the ‘Transition Path to Sustainable Legume-Based Systems in Europe’ (TRUE) project, an effort to identify and enable transition paths to realize successful legume-supported production systems and agri-feed and agri-food chains. As an Advisory Board member, served as an expert in legume supply chain and policy from around the world, 2016-2019.
- At the request of the ARS Deputy Administrator, Crop Production and Protection, served a four-month detail as Acting National Program Leader for Specialty Crops, June – October, 2016. I was responsible for helping to develop the next 5-year Action Plan for National Program 301 (Plant Genetic Resources, Genomics, and Genetic Improvement), which involved coordinating the Customer/Stakeholder Workshop, defining the critical components of the Action Plan, establishing a writing team, and editing the final version of the document.
- By assignment of the Area Director, and at the request of the ARS Associate Administrator, served on the Planning Team for the ‘Mitigating Emerging Threats Grand Challenge Workshop’ and contributed to the post-workshop writing team. The team was working to re-invent how research activities across National Programs can work in a more integrative manner, 2015-2016.
- Served as an invited panel speaker in the public event: “Grand Debate on Nutrition Security – A Whole System Approach” at EXPO Milan 2015, the 99th World Exposition, Milan, Italy. Following this event, the incumbent was asked to participate in the development of a White Paper that carried ideas from this event forward for possible funding in the European Union, 2015.
- Served on the External Advisory Board of the Grazing CAP Project (funded by USDA-NIFA), a multi-state project aimed at answering critically important research questions and delivering Extension programming about impacts of weather, climate variability and climate change on system vulnerability and resilience un the Southern Great Plains, 2014-2018.

- Served on the Advisory Board of the BioCassava Plus Project (funded by the Bill and Melinda Gates Foundation) in 2013-2014. Because my expertise was needed more directly on the project, I left the Advisory Board in 2014 and became a team member for iron nutrition activities (2014-present).
- Served as an invited Co-Editor (with Irene Murgia; University of Milano, Italy and Laura De Gara; University of Rome, Italy) for a special issue on ‘Biofortification: How can we exploit plant science and biotechnology to reduce micronutrient deficiencies?’ for *Frontiers in Plant Science*. Conceived special issue topic, identified authors, edited submissions; special issue (with 16 accepted articles) was published in 2013.
- At the request of US-Agency for International Development, served on a three-person External Evaluation Team to conduct the 5-year external performance review (and to make recommendations for a possible additional 5 years) for the Horticulture Collaborative Research Support Program (CRSP), a \$15 million program of research sub-contracts administered and managed through the University of California-Davis, 2013.
- By assignment of the Area Director, served as the Acting Research Leader of the Delta Obesity Prevention Research Unit in Little Rock, AR. I was responsible for the physical, financial, human resource, and research activities of the Delta Obesity Prevention Research Unit, located in Little Rock, AR, supervising up to six ARS employees at one point in time. This location was focused on behavioral intervention research designed to understand factors that would prevent obesity in the Mississippi Delta regions of Arkansas, Louisiana, and Mississippi. I oversaw the research activities and funding for a team of six University cooperators who contributed to the research mission of this Unit. 2012-2015.
- Served as an invited Co-Editor (with Gabriella Gazzani; University of Pavia, Italy) for a special issue on ‘Food Biotechnology’ for *Current Opinion in Biotechnology*. Conceived special issue topic, identified authors, edited submissions; special issue (with 12 invited articles) was published in 2012.
- At the request of US-Agency for International Development, served on a four-person panel to conduct the 5-year external performance review (and to make recommendations for a possible additional 5 years) for the Dry Grain Pulses Collaborative Research Support Program (CRSP), a \$14 million program of research sub-contracts administered and managed through Michigan State University, 2012.
- Served as an invited participant (on behalf of the Crop Science Society of America) at the “Plant Science Research Summit”, organized by the American Society of Plant Biologists and the Howard Hughes Medical Institute to develop a 10-15 year forward-thinking research agenda (White Paper) for the plant science community, for use in identifying research needs and funding support, Bethesda, MD, 2011.
- Served as an invited participant in the workshop “Enhancing Pulse Productivity on Problem Soils by Smallholder Farmers – Challenges and Opportunities”, organized by the Dry Grain Pulses Collaborative Research Support Program (CRSP) and US-Agency for International Development to develop a comprehensive research workplan for improving pulse grain productivity in developing countries, 2011.
- Served as an invited Team Co-Leader, Nutrition Section, Pulse Crop Health Initiative (organized by the U.S. Dry Pea and Lentil Council, U.S. Dry Bean Council, and the American Pulse Association); an initiative was developed in 2011 to identify research needs and to target funding sources in the area of pulse crops for human health benefits; the Initiative was authorized in the 2014 Farm Bill.

- By assignment of the Area Director, at the request of the ARS Human Nutrition National Program Leaders, incumbent helped to launch, implement, and direct a new ARS research program at the North Carolina Research Campus in Kannapolis, NC. Efforts for the project “Individualized Nutrition: Interactions between plant food consumption and human health outcomes” involved: project plan development and writing, coordination of partner activities, supervising/mentoring the research activities of two post-docs and assisting with budgetary issues. I executed activities while still located in Houston, TX, 2010-2011. Program was terminated in 2011 due to Congressional decision to end all earmark funding.
- Was invited to serve on the Crop Science Society of America (CSSA), Board of Directors as the first Board Representative for Division C09: Biomedical, Health Beneficial, and Nutritionally Enhanced Plants, 2009-2010 and helped to establish this as a permanent division within CSSA.
- Was invited by the International Plant Nutrition community to organize, serve as Chairman, and host the “Tenth International Symposium on Iron Nutrition and Interactions in Plants”, which was held in Houston, TX, May 14-19, 2000. This international meeting was attended by 120 scientists (85 from overseas), including 13 invited plenary speakers. Following the meeting, I served as co-Editor with Zdenko Rengel (Univ. of Western Australia) on a special issue of the journal *Plant and Soil*, which published 18 proceedings articles, 2000.
- Was invited to co-organize (with Dean DellaPenna; Michigan State University) the Keystone Symposium “Plant Foods for Human Health: Manipulating Plant Metabolism to Enhance Nutritional Quality”, which was held in Breckenridge, CO, April 6-11, 2001, and was attended by 150 participants.
- By assignment of the Area Director, at the request of Kathy Ellwood (then ARS National Program Leader for Human Nutrition), co-wrote the White Paper (with Gerald Coombs, Jr. and Ross Welch): “An ARS Strategy – Food for a Healthy America: Coordinating Research to Enhance Nutrition/Health Values of Agricultural Products”. This paper was used as a planning tool by various National Program Leader’s and ARS Administrators, 2002-2003.
- By assignment of the ARS National Program Staff, served on the Writing Team for the NP107 Human Nutrition Retrospective Review Document, 2006; Attended the Stakeholders Meeting and served on the Writing Team for the NP107 Human Nutrition 2007-2011 Action Plan, 2007.

PUBLICATIONS:

Peer-Reviewed Articles:

1. Thomas RJ, Stanton DS, Grusak MA (1979) Radioactive tracer study of sporophyte nutrition in hepatics. *Am J Bot* 66:398-403.
2. Grusak MA, Thomas RJ, Marsh BH (1980) Wall regeneration by plasmolysed cells from tissue suspension cultures of *Sphaerocarpos donnellii*. *J Cell Sci* 43:167-175.
3. Grusak MA, Lucas WJ (1984) Recovery of cold-inhibited phloem translocation in sugar beet. I. Experimental analysis of an existing mathematical recovery model. *J Exp Bot* 35:389-402.
4. Grusak MA, Lucas WJ (1985) Cold-inhibited phloem translocation in sugar beet. II. Characterization and localization of the slow-cooling response. *J Exp Bot* 36:745-755.
5. Grusak MA, Lucas WJ (1986) Cold-inhibited phloem translocation in sugar beet. III. The involvement of the phloem pathway in source-sink partitioning. *J Exp Bot* 37:277-288.

6. Oross JW, Grusak MA, Lucas WJ (1986) Regulation of long-distance translocation in sugar beet: structural aspects. In: Cronshaw J, Lucas WJ, Giaquinta RT, eds. Plant biology. Vol 1: Phloem transport. New York: Alan R. Liss, pp. 477-486.
7. Newman IA, Kochian LV, Grusak MA, Lucas WJ (1987) Fluxes of H⁺ and K⁺ in corn roots. Characterization and stoichiometries using ion-selective microelectrodes. Plant Physiol 84:1177-1184.
8. Grusak MA, Minchin PEH (1988) Seed coat unloading in *Pisum sativum* - osmotic effects in attached versus excised empty ovules. J Exp Bot 39:543-559.
9. Minchin PEH, Grusak MA (1988) Continuous *in vivo* measurement of carbon partitioning within whole plants. J Exp Bot 39:561-571.
10. Grusak MA, Minchin PEH (1989) Cold-inhibited phloem translocation in sugar beet. IV. Analysis of the cooling-induced repartitioning hypothesis. J Exp Bot 40:215-223.
11. Grusak MA, Welch RM, Kochian LV (1989) A transport mutant for the study of plant root iron absorption. In: Dainty J, De Michelis MI, Marrè E, Rasi-Caldogno F, eds. Plant membrane transport: the current position. Amsterdam: Elsevier, pp. 61-66.
12. Grusak MA, Welch RM, Kochian LV (1990) Physiological characterization of a single-gene mutant of *Pisum sativum* exhibiting excess iron accumulation. I. Root iron reduction and iron uptake. Plant Physiol 93:976-981.
13. Grusak MA, Delrot S, Ntsika G (1990) Short-term effects of heat-girdles on source leaves of *Vicia faba*: Analysis of phloem loading and carbon partitioning parameters. J Exp Bot 41:1371-1377.
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