



Curriculum Vita

GARY W. STUTTE, PH.D.

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PROFESSIONAL EXPERIENCE/RESEARCH AND EDUCATION

SyNRGE, LLC, EXPLORATION PARK, FL

2016-date

Founder and President

- Consultant on optimization of greenhouse, indoor and plant factories environments for production of high value edible, ornamental and medicinal plants with academic, government and private companies.
- Client base includes over 50 greenhouse, aquaculture and indoor agriculture producers in North America, Latin America, and Europe.
- Successfully funded and completed two experiments to the International Space Station.
- Primary subcontractor on multiple NASA and USDA funded R&D projects.
- Serves as advisor to state, federal and private funding and regulatory bodies (e.g. USDA, NASA, UF, UND, IICA, CIPAC).

JOHN F. KENNEDY SPACE CENTER, FL

1992-2016

Senior Scientist V/ Sustainable Systems Group, Vencore, (March 2014-date)

Senior Scientist IV/Sustainable Systems QinetiQ-NA, (Mar 2011-Feb, 2014)

Senior Scientist/ Principal Investigator, Dynamac Corporation, (Jan 2005-Feb 2011)

Manager/Supervisor Plant Research Group, Dynamac Corporation, (Jan 1999-Dec 2004)

Lead, Plant Physiologist, Dynamac Corporation, (Jan 1995-Dec 1998)

Technical Lead/Plant Physiologist, The Bionetics Corp, CELSS, (1993-1995)

- Provide leadership and support to biological research initiatives on Life Science and Engineering Services Contract.
- Supervise research scientists and support staff of from 5 to 50 personal for plant research group.
- Manage budget of up to \$5,000,000 for contract, programmatic and extramural research activities.
- Principal Investigator for the PESTO experiment that was performed for 73 days onboard the International Space Station and evaluated the physiological effects of microgravity on the genetic, biochemical, physiological and whole plant adaptations to the space flight environment.
- Principal Investigator for NASA's R&D activities in plant science and plant physiology with responsibility for development, implementation, and management of ~ \$ 1 Million in research per year.
- Principal Investigator for NASA's baseline testing to determine responses of salad crops (lettuce, radish, onion, tomato, pepper) to CO₂, temperature and light conditions anticipated for long-duration space missions.
- Principal Investigator for continuous strawberry production system for space-based salad machine.
- Principal Investigator for RASTA experiment that has designed tested and utilized specialized growth chambers to establish exposure thresholds of plants to volatile organic compounds.
- Principal Investigator on international research effort to evaluate the effects of low pressure on photosynthesis, transpiration, and productivity of plants.
- Principal Investigator for increasing bioprotectant properties of salad crops as a countermeasure to radiation exposure for crews on long duration space missions.

LIMERICK INSTITUTE OF TECHNOLOGY, LIMERICK, IE**2011-2015*****Senior Visiting Research Professor (2013-2015)***

- Support research, development, and enterprise initiatives of LIT Executive team, resulting in increases in external funding of € 500,000.
- Foster and develop international student exchange programs between US and Ireland
- Identify, develop and secure external research and enterprise funding.
- Provide training and support for space-based education and industry research activities.

Marie Curie Senior Research Professor (2011-2013)

- Visiting Research Professorship in CELLS Lab at Limerick Institute of Technology, Limerick, IE
- Lead research to understand effects of environmental conditions on production of plant high value products
- Principal Investigator on SyNRGE³ space flight experiment-the first space investigation led by an Irish Institution

UNIVERSITY OF MARYLAND, COLLEGE PARK, MD**1984-1992*****Assistant Professor, Pomology and Plant Physiology Horticulture Sciences Department***

- Performed field tests non-chemical regulation of growth of peach, apple, and strawberry using environmental and cultural management techniques.
- Developed videographic techniques for early detection of environmental stress using digital image analysis tools.
- Researched effects of environment on dormancy and metabolism of fruit.
- Taught graduate and undergraduate courses in environmental physiology.
- Taught undergraduate course in pomology.
- Served as major Professor and research advisor for 4 M.S. and 2 Ph.D. students.

PROFESSIONAL EXPERIENCE/NOT FOR PROFIT

CONTROLLED ENVIRONMENT AGRICULTURE DESIGN STANDARDS**2020-DATE*****Founding Member and Director***

- Development of industry benchmarks to guide CEA enterprises in improving design and performance of operations, considering economic environmental and social development.
- Launch of the industry driven standards and oversight of the implementation of the CEADS certification process (ceads.ag).

AMERICAN COUNCIL FOR MEDICINALLY ACTIVE PLANTS**2009-2018*****Founding Member and Executive Director***

- Provide all administrative and executive support to Board of Directors, including strategic planning, fund raising, conference management, and recruitment.
 - Oversaw founding, development and growth of ACMAP (www.acmap.org), including establishment of professional journal, nine conferences, one international conference, developing transition plans, and financial stability.
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EDUCATION

Ph.D.	<i>University of California, Davis, CA</i>	Plant Physiology
M.S.	<i>University of Georgia, Athens, GA</i>	Horticulture Science
B.S.	<i>Oklahoma State University, Stillwater, OK</i>	Biological Science
----	<i>University of Arkansas, Fayetteville, AR</i>	Horticultural Food Science

PROFESSIONAL SERVICE

Professional Organizations: Controlled Environment Agriculture Design Standards, Inc (CEADS), **Founder and Director 2020-date**); American Council for Medicinally Active Plants (ACMAP), **Executive Director** (2009-date) and founding member; Plant Growth Regulation Society of America **President (2001-2002) and Steering Committee Member (1996-2003)**. American Society for Horticultural Science (1983-date); NCERA 101 Committee on Controlled Environment Technology and Use Chairman (2008-2009) Board member since 2006. American Society Horticultural Science's Growth Chamber and Controlled Environment working group; Chairperson (1996-98; 2000-2002). Organizer International Horticultural Congress Colloquia on "Mission to Mars" (2002).

Editorial Boards Member *J. Medicinally Active Plants (2011-date)*, *J. Plant Growth Regulation (2001-2010)*; *J. Alternative Agriculture (1989-1991)*; and *J. Consumer Agriculture (1991-92)*. Reviewer for *HortScience*, *HortTechnology*, *J. Amer. Society Horticultural Science*, *Advances Space Agriculture*, *Planta*, *Plant Growth Regulation*, *Habitation*, and *Life Support and Biospheric Science*.

Advisory Panel/ Science review board member: Controlled Environment Agriculture Design Standards (CEADS), USDA Foundation for Future of Agriculture Research (FFAR), NASA's Small Business Innovation Research (SBIR) and Office Physical and Biological Research (OPBR) programs, NSF's Academic Infrastructure Panel, and USDA's SBIR and National Research Initiative (NRI) programs. Technical advisor on numerous NASA task force teams.

PROFESSIONAL RECOGNITION

Honors and Awards: Food Hero, Orlando Science Center (2021); Master of Innovation Award, ICCEA (2019); Marie Curie Research Fellowship (2010), American Society Horticultural Science Outstanding Industry Scientist (2008); Professor Adjunct, Horticultural Sciences, University of Florida, Gainesville (1992-date); Professor (Examining), Kuwait University, Kuwait City, Kuwait; NASA Commercialization and Technology Development awards for new technology submissions, patent submission, patent awards, and TechBrief publications; NASA Award of Excellence, *Space Flight Awareness award* and numerous other NASA awards for service, project savings, group achievement, and public service.

Invited Speaker (selected), Solar Greenhouse Conference (2022, Alameria Spain); Indoor AgCon (2021), Grand Farm Space Ag Conference (2021), Humanity in Deep Space, 2021, (online) IndoorAg Conversations, 2021 (online) Phenome 2020 (Tucson AZ), 2nd International Congress on Controlled Environment Agriculture (2019) Panama City, Panama), London Food Tech Week (2017, London, UK), XIX International Botanical Congress (2017) Shenzhen, China; 2nd International Congress on Controlled Environment Agriculture (2017) Panama City, Panama), Plant Factory Expo and Conference (2016, Taipei, Taiwan); Plant Factory Technology and Indoor Vertical Farming (2015, Seoul, S. Korea), International Congress on Controlled Environment Agriculture (2015, Panama City, Panama), BioScience Colloquia (2014, Galway, IE), LED Lighting in Horticulture (2014, Orlando), Internal



Symposia Indoor Air (2010, Seoul S. Korea), FÁS Opportunities (2004, Dublin, IE), WPGRSA (2002, Irvine, CA) Rod Bielecki Memorial Address (1997, Palmerton North, NZ),

Television features include interviews on *BBC* (UK), *CNN* (US), *TVNZ* (New Zealand), *NDTV* (India), *RTE* (Ireland) and *EFE* (Central America). Research has been featured in multiple documentaries that have aired on *National Geographic*, *Discovery Channels* in US and numerous outlets outside of US.

Newspaper, magazines, and websites have featured interviews and research and impact of space research.

PATENTS

U.S. No. 5992060. Process for producing vegetative and tuber growth regulator. 1999. G.W. Stutte and N.Y. Yorio (assigned to *Dynamac Corporation*, Rockville, MD).

PUBLICATIONS

>**150 Research** publications in leading peer-reviewed scientific and technical journals & proceedings.

>**180** published abstracts of research presented at International, National, and Regional Meetings.

Numerous contract deliverables, white papers, technical and strategic reports.

Publications

2022

1. Russell, J., P. DeLeon, and G.W. Stutte. (2022). Evaluation of Candidate Crop Plant *Lactuca Sativa* in Biologically Enhanced Martian Regolith. ICES-2022-64.
2. Stutte, G.W., N.C. Yorio, S.L. Edney, J.T. Richards, M.P. Hummerick, M. Stasiak, M. Dixon, and R.M. Wheeler. (2022). Effect of reduced atmospheric pressure on growth and quality of two lettuce cultivars. *Life Sciences in Space Research*. 34: 37-44

2021

3. Stutte, G.W.; J. Nyenhuis. (2021) Plant-based foods as primary defense for health. In *Integrative Health in Clinical Practice*, ed. C.S. Rohde and M.R. Ghelmanant, Manole (translated into Portuguese)

2019

4. Spencer, L, M. Hummerick, G.W. Stutte, T. Sirmons, G.T. Graham, G. Massa and R.M. Wheeler. (2019) Dwarf tomato and pepper cultivars for space crops. ICES-2019-164.

2017

5. Lunn, G.M., G.W. Stutte, L.E. Spencer, M.E. Hummerick, L. Wong, R.M. Wheeler. 2017. Recovery of nutrients from inedible biomass of tomato and pepper to recycle fertilizer. ICES 2017-60.
6. Mitchell, C. and G.W. Stutte. (2017). Sole-Source Lighting for Controlled Environment Agriculture. In Lopez, R and E. Runkle (eds). *Light management in controlled environments*. Meister Media Worldwide
7. Stutte, (2017), Lighting the way to the stars. In Lopez, R and E. Runkle (eds). *Light management in controlled environments*. Meister Media Worldwide

2016

8. Stutte, G.W. (2016). Space agriculture is bringing farming indoors. *environmental Scientist (nature)*. Feb, 2016” 34-41/
9. Stutte, G.W., (2016) Controlled Environment Production of Medicinal and Aromatic Plants. In, Jeliakov, V. (ed) *Medicinal and aromatic crops: Production, phytochemistry and utilization*. Pg 49-63. ACS

2015

10. Stutte, G.W., 2015. Commercial transition to LEDs: A Pathway to high-value products. *HortScience* 50: 1297-1300.
11. O’Keefe, C.M., G.W. Stutte and M. McKeon-Bennett. 2015. Ragwort: Invasive weed and potential pharmaceutical. In Janick, J. (ed), *Horticultural Reviews* 43: 145-178/
12. Stutte, G.W., O.M. Monje, R.M. Wheeler, 2015. A. Rai and N. Hosein (eds). *ISS Researchers Guide: Plant Science*. NASA NP-2015-03-014-JSC, 47 pgs.
13. Massa, G.D., R.M. Wheeler, G.W. Stutte, J.T. Richards, L.E. Spencer, M.E. Hummerick, G.L. Douglas, T., Sirmons. 2015. Selection of leafy green vegetable varieties for a pick-and-eat diet supplement on ISS. *Selection of leafy green vegetable varieties for a pick and eat diet supplement on ISS*, ICES-2015-252.
14. Graham, T., R. Scorza, R. Wheeler, B. Smith, C. Dardick, A. Dixit, D. Raines, A. Callahan, C. Srinivasan, L. Spencer, J. Richards, G. Stutte. 2015. Over-expression of FT1 in plum (*Prunus domestica*) results in phenotypes compatible with spaceflight: A potential new candidate crop for bioregenerative life support systems. *Grav. Space Res.* 3: 39-50.

2014

15. Hayes, M.W., G.W. Stutte, M. McKeon-Bennett, P.G. Murray. Mutualism within a simulated microgravity environment; *Piriformospora indica* promotes the growth of *Medicago truncatula*. 2014. *Grav. Space Res.* 2: 21-32.

2013

16. Massa, G., G. Newsham, M.E., M.E. Hummerick, J.L. Caro, G.W. Stutte, R.C. Morrow, R.M. Wheeler. 2013. Preliminary species and media selection for the Veggie space flight hardware. *Grav. Space Res.* 1: 95-106.
17. Massa, G.D., M. Simpson, R.M. Wheeler, G. Newsham and G.W. Stutte. 2013. Plant atrium system for food production in NASA’s Deep Space Habitat tests. *Amer. Inst. Aeronautics Astronautics AIAA* 2013-3359.
18. Stutte, G.W. and R.M. Roberts 2013. Microgravity effects on the early events of biological nitrogen fixation in *Medicago truncatula*: Results from the SyNRGE experiment. *Proc. Life in Space for Life On Earth ESA SP-706*, 5p

2012

19. Wehkamp, C.A., M. Stasiak, J. Lawson, N.Yorio, G. Stutte, J. Richards, R. Wheeler and M. Dixon. 2012. Radish (*Raphanus sativa* l. cv. Cheery Bomb II) growth, net carbon exchange rate, and transpiration at decreased atmospheric pressure and/or oxygen. *Grav. And Space Biol* 26: 1-16.
20. Roberts, M. S., and G. W. Stutte. 2012 "Microgravity effects on the early events of biological nitrogen fixation in *Medicago truncatula*: Results from the SyNRGE flight experiment. *Science and Technology Series* 114.20130000: 111.
21. Stutte, G.W. Phytoremediation of indoor air: NASA, Bill Wolverton and the development of an industry. *Value Creation of Plants for Future Urban Horticulture.*, National Inst Hort. Herbal Science. 47-63.

2011

22. Stutte, G.W., N.W. Yorio, S.L. Edney, J.T. Richards, M. Stasiak, M. Dixon and R.M. Wheeler. 2011 Effect of reduced atmospheric pressure on yield and quality of two lettuce cultivars. *J. Amer. Soc. Hort. Sci.*(accepted)
23. Stasiak, J., C.A. Wehkamp, J. Lawson, N.Yorio, G. Stutte, R.Wheeler and M. Dixon. (2011). Hypobaric chambers for biological life support research: System specifications and response of radish to decrease pressure and oxygen. *J. Exp. Bot.* (accepted)

2010

24. Stutte, G.W., S. Edney and G. Newsham. 2010. Effects of UV light on anthocyanin content of red leaf lettuce under narrow and broad band light sources. *Proc. Plant Growth Reg. Soc. Amer.* 36: 121-127
25. Takeda, F., D.M. Glenn, A. Callahan, J. Slavin and G.W. Stutte. 2010. Delaying flowering in short-day strawberry transplants with photoselective nets. *Intern. J. Fruit Science* 10: 134-142.

2009

26. Stutte, G.W., O. Monje, N.C. Yorio, S.L. Edney, G. Newsham, L. Connole, and R.M. Wheeler 2009. Sustained salad crop production requirements for lunar surface. *ICES SAE Tech. Paper* 2009-01-2381.
27. Stutte, G.W., S. Edney, P. Bisbee and T. Skerrit. 2009. Effect of light quality on morphology and anti-oxidant content of red leaf lettuce. *Proc. Plant Growth Regul. Soc Amer.* 35: 125-130.
28. Takeda, D.M. Glenn and G.W.Stutte , 2009. Flower bud formation in short-day strawberry cultivar under non-phototinductive condition. *Acta Hort* 842:761-764.
29. Stutte, G.W. 2009. Light emitting diodes for manipulating the phytochrome apparatus. *HortScience* 44(2): 231-234..
30. Stutte, G.W., S. Edney and T. Skerritt. 2009. Photoregulation of bioprotectant content of red leaf lettuce with light emitting diodes. *HortScience* 44 (1): 79-82. 2009.

2008

31. Takeda, F., D.M. Glenn and G.W. Stutte. 2008. Red light affects flowering under long days in a short-day strawberry cultivar. *HortScience* 43: 2245-2257
32. Stutte, G.W., I. Eraso, and A. Rimando. 2008. Carbon dioxide enrichment effects growth and flavonoid content of two *Scutellaria* species. *J. Amer. Soc. Hort. Sci.* 133:1-8.
33. Wheeler, R.M., G.W. Stutte, C.L. Mackowiak, N.C. Yorio, J.C. Sager and W.M. Knott. 2008. Gas Exchange Rates of Potato Stands for Bioregenerative Life Support. *Adv Space Res.* 41: 798-806.
34. Levine, L.H., P.A. Bisbee, J.T. Richards, M.N. Birmele, R.L. Prior, M. Perchonok, M. Dixon, N.C. Yorio, G.W. Stutte, and R. M. Wheeler. 2008. Quality characteristics of the radish grown under reduced atmospheric pressure. *Adv Space Res*41: 754-762.
35. Wheeler, R.M., C.L. Mackowiak, G.W. Stutte, N.C. Yorio, L.M. Ruffe, J.C. Sager, R.P. Prince and W.M. Knott. 2008. Crop productivities and radiation use efficiencies for bioregenerative life support. *Adv. Space Res.* 41: 706-713

2007

36. Stutte, G.W., I. Eraso, and K.B. Downing. 2007. Feasibility of controlled environment production of *Scutellaria* species. *Acta Hort* 756: 213-219.
37. Monje, O. S. Anderson and G.W. Stutte. 2007. The effects of elevated root zone temperature on the development and carbon partitioning of spring wheat. *J. Amer. Soc. Hort. Sci* 132:178-184.
38. Edney, S.L., J.T. Richards, N.C. Yorio, M.D. Sisko, G.W. Stutte and R.M. Wheeler. 2007. Mixed vs. monoculture hydroponic production of salad crops at three CO₂ concentrations. *Proc PGRSA* 33: 193-200.
39. Stutte, G.W., I. Eraso and S. Matthews. 2007. Volatile ethanol affects germination and growth of lettuce, radish, soybean and wheat seeds. *Proc PGRSA* 33: 192

2006

40. Richards, J.T., S.L. Edney, N.C. Yorio, G.W. Stutte and R.M. Wheeler. 2006. Yields of salad crops grown under potential Lunar or Mars habitat environments: Effect of temperature and lighting intensities. ICES SAE Technical Paper 2006-1-2029.
41. Shevtsov, J., I. Eraso, G.W. Stutte, (2006) *Paecilomyces lilacinus* and *Fusarium verticillioides* remove *t*-butanol from contaminated air. ICES SAE Technical paper 2006-01-2150.
42. Eraso, I, G.W. Stutte, O. Monje, S. Anderson and R.D. Hickey. 2006. Sensitivity screening of radish seedlings to spacecraft VOC's. PGRSA 32: 141.
43. Stutte, G.W., I. Eraso, S. Anderson and R.D. Hickey. (2006). Bioactivity of volatile alcohols on the germination and growth of *Raphanus sativus* L. seedlings. HortScience 41: 108-112.
44. Stutte, G.W. (2006). Process and Product: Recirculating hydroponics and bioactive compounds in a controlled environment. HortScience 31: 526-530.
45. Stutte, G.W., O. Monje, R.D. Hatfield, A-L Paul, R.J. Ferl, and C.G. Simone (2006) Microgravity effects on leaf morphology, cell structure, carbon metabolism and mRNA expression of dwarf wheat. Planta 224: 1038-1049.

2005

46. Paul, A-L, H. Levine, W. McLamb, K. Norwood, D. Reed, G. Stutte, H. Wells, R. Ferl. 2005. Plant molecular biology in the space station era: Utilization of KSC fixation tubes with RNALater. Acta Astro 56: 623-628.
47. Prenger, J.J., H.H. Kim, J.T. Richards, O. Monje, H.G. Levine, N. Yorio, G. Stutte, R. Wheeler, and J. Sager. 2005. Crop production in an extraterrestrial (controlled-environment, microgravity) environment. J. Agric. Meteorol. 60(5): 385-390.
48. Sager, J.C., G.W. Stutte, R.M. Wheeler, and N.C. Yorio. 2005. Advanced life support project: Crop experiments at Kennedy Space Center. In: Y. Tako (ed.) Proc. Intl. Symp. Closed Habitation Expe and Material Circ Tech. Inst. Environ. Sci., Rokkasho, Japan. pp. 120-130.
49. Monje, O., G. Stutte, D. Chapman. 2005. Microgravity does not alter plant stand gas exchange of wheat at moderate light levels and saturating CO₂ concentration. Planta 222: 336-346.
50. Richards, J.T., S.L. Edney, M.C. Yorio, G.W. Stutte, M.D. Sisko, N. Cranston, and R.M. Wheeler. 2005. Effect of light intensity and temperature on yield of salad crops for space exploration. SAE Tech. Paper 2005-01-2820.
51. Larrat, E.P., G.W. Stutte, and R.M. Wheeler. 2005. Potential effects of biogenic compound production on human health in closed life support systems. SAE Tech. Paper 2005-01-2772.
52. Norikane, J.H., J.C. Sager, R.M. Wheeler, G.W. Stutte, and H.H. Kim. 2005. Characterization of nutrient solution changes during flow through media. ICES-SAE Tech Paper #2005-01-2774.
53. Stutte, G.W., P.A. Fowler, I. Eraso, and L.L. Koss. 2005. Volatile Organic compound analysis (VOCA): A system for evaluating atmospheric contaminants on plant growth. SAE Tech Paper 2005-01-2771.
54. Stutte, G.W., O. Monje, G.D. Goins, and B.C. Tripathy. 2005. Microgravity effects on thylakoid, single leaf, and whole canopy photosynthesis of dwarf wheat. Planta 223: 45-56.

2004

55. R.M. Wheeler, B.V. Peterson, and G.W. Stutte. 2004. Ethylene Production throughout growth and development of plants. HortScience, 39: 1541-1545.
56. Stutte, G.W., I. Eraso, and P.A. Fowler. 2004. Effects of Common ISS Volatile Organic Compounds on Growth of Radish. SAE Technical Paper 2004-01-2297.
57. Richards, J.T., S.L. Edney, N.C. Yorio, G.W. Stutte, N. Cranston, R.M. Wheeler and G.D. Goins. 2004. Effects of lighting intensity and supplemental CO₂ on yield of potential salad crops for ISS. SAE Technical Paper 2004-01-2296.
58. Stutte, G.W., I. Eraso and S. Anderson. 2004. Sensitivity of radish to volatile organic compounds: toluene, ethanol and acetone. Proc PGRSA 31: 55
59. Richards, J.T., N.C. Yorio, S.L. Edney, C.E. Yunker, and G.W. Stutte. 2004. Evaluating growth characteristics and total anthocyanin content in three cultivars of red romaine-type lettuce (*Lactuca sativa* L.) in response to three lighting intensities. Proc PGRSA 31: 110-115.
60. Liao, J., G. Liu, O. Monje, G.W. Stutte, D. M. Porterfield. 2004 Induction of hypoxic root metabolism results from physical limitations in O₂ bioavailability in microgravity. Adv. Space Res. 34: 1579-1584.

2003

61. Frazier, C.M, J.B. Simpson, M.S. Roberts, G.W. Stutte, N.D. Fields, J. Melendez-Andrade, R.C. Morrow. 2003. Bacterial and Fungal Communities in BPS chambers and Root Modules. SAE Technical paper 2003-01-2528.
62. Yorio, N.C., G.D. Goins, R.M. Wheeler, and G.W. Stutte. 2003 Regulation of Biomass Partitioning in Hydroponically-Grown Potato by Altering Nitrogen Concentrations, PGRSA 30: 163-168.

63. Eraso, I. G.W. Stutte, E.C. Stryjewski. 2003. Chronic Exposures to Ethylene Induces Stress Symptoms in Radish. In. M. Vendrell et al. (eds). *Biology and Biotechnology of the Plant Hormone Ethylene II*. IOS Press, pg 94-99.
64. Edney, S.L., N.C. Yorio, G.W. Stutte, O.A. Monje, and R.M. Wheeler. 2003. Comparison of bunching onion (*Allium fistulosum*) growth under high-pressure sodium and cool white fluorescent lamps 2003. PGRSA 30:
65. Eraso, I. and G.W. Stutte. 2003. Cultivar effects on radish sensitivity/ resistance to chronic ethylene exposure, PGRSA 30:152-158.
66. Monje, G. W. Stutte, G. D. Goins, D. M. Porterfield and G. E. Bingham. 2003. Farming in space: Environmental and biophysical concerns. *Advances in Space Research*. V31: 151-167.
67. Wheeler, R. M., J.C. Sager, R.P. Prince, W.M. Knott, C.L. Mackowiak, G.W. Stutte, N.C. Yorio, L.M. Ruffe, B.V. Peterson, G.D. Goins, C.R. Hinkle, W.L. Berry. 2003. Crop Production for Advanced Life Support Systems-Observations from the Kennedy Space Center Breadboard Project. NASA TM-2003-211184.
68. Wheat (*Triticum aestivum* l. cv. USU Apogee) growth onboard the International Space Station (ISS): germination and early development. G.W. Stutte, O. Monje and S. Anderson. *Proc. PGRSA 3*): 66-71

2002

69. Stryjewski, E. I. Eraso, and G. Stutte. 2002. Characterization of potential ISS/Space Shuttle Environment conditions and growth and development of *R. Sativus*: Ground studies for the RASTA Space flight experiment. *Proceedings 39th Space Congress*. P 167-172.
70. Stryjewski, E., I. Eraso, and G. Stutte. 2002. Leaf Anatomy of *R. sativus* exposed to space shuttle/ISS temperature profiles. ICES Technical paper 2002-01-2387.
71. N.C. Yorio, S.L. Edney, O.M. Monje, I. Eraso, G.W. Stutte, and R.M. Wheeler. 2002. Comparison of radish growth under high-pressure sodium and cool white fluorescent lamps. *Proc. Plant Growth Reg. Soc. of Amer.* 28:113-117.

2001

72. Darnell, R.L and G.W. Stutte. 2001. Nitrate concentration effects on NO₃ uptake and reduction, growth and productivity in strawberry. *J. Amer. Soc. Hort. Sci.* 125:560-563.
73. Stutte, G.W. O.M. Monje, G.D. Goins and L.M. Ruffe. 2001. Evapotranspiration and Photosynthesis Characteristics of Two Wheat Cultivars Measured in the Biomass Production Chamber. ICES Technical Paper 2001-01-2180.
74. Monje, O., G.W. Stutte, H.T. Wang and C.J. Kelly. 2001. NDS Water Pressures Affect Growth Rate by Changing Leaf Area, Not Single Leaf Photosynthesis. ICES. Technical Paper. 2001-01-2277.
75. Monje, O. J. Garland, and G.W. Stutte. 2001. Factors Controlling Oxygen Delivery in ALS Hydroponic Systems. ICES Technical Paper, 2001-01-2425.
76. Wheeler, R.M., G.W. Stutte, G.V. Subbarao, and N.C. Yorio. 2001. Plant Growth and Human Life Support for Space Travel. in M. Passarakli (ed): *Handbook of Plant and Crop Physiology 2nd ed* Marcel Dekker, Inc, NY. Pg 925-941. (Book Chapter)
77. Subbarao , G.V., L.H. Levine, R.M. Wheeler and G.W. Stutte. 2001. Glycine Betaine accumulation-Its role in stress resistance. in M. Passarakli (ed): *Handbook of Plant and Crop Physiology 2nd ed*. Marcel Dekker, Inc, NY. Pg 881-907. (Book Chapter)
78. Subbarao , G.V., G.W. Stutte, R.M. Wheeler and W.L. Berry.2001 Sodium-A functional nutrient. in M. Passarakli (ed): *Handbook of Plant and Crop Physiology 2nd edition.*, Marcel Dekker, Inc, New York. Pg 363-384. (Book Chapter)
79. Stryjewski, E. G. Tynes, I. Eraso, G. Stutte. 2001. Effects of Elevated Temperature on Radish Growth and Development. *Proc. Plant Growth Reg. Soc. Amer.* Vol 28:
80. Edney, S.L., N.C. Yorio, and G.W. Stutte. Evaluation of a Potential Potato tuber inducing factor on seedling growth of several species. *Proc. PGRSA Vol 28*: pg 94-96
81. Yorio, N.C., and G.W. Stutte. 2001. A naturally occurring vegetative growth and tuber-inducing factor accumulates in hydroponic nutrient solution of potato. *Proc PGRSA Vol 28*: pg 101-103
82. Eraso, et al. 2001. Effects of ethylene on growth and development of radish. *Proc PGRSA Vol 28*: pg 117-122.

2000

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