CURRICULUM VITA

SAMUEL Y.C. ESSAH, Ph.D.
Research Scientist, Potato Management and Physiology
Colorado State University, San Luis Valley Research Center
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Area of Specialization
Crop management and physiology with emphasis on cultural management practices and soil-nutrient-plant interactions

Degrees Received
1999 Ph.D. Plant and Soil Science (Agron. and Seed Techn.), Alabama A&M University
1994 M.S. Crop Production and Physiology, University of Guelph, Canada
1989 B.S. Agricultural Science, University of Science and Technology, Ghana

Professional Training
2000 The University of Nebraska, Lincoln, NE. Crop Modeling for Environment-Specific Management Workshop.
1993 The University of Lethbridge, Alberta, Canada. International Workshop on Sustainable Land Management for the 21st Century.
The University of Guelph, Canada. Postgraduate Certificate in University Teaching: Theory and Practice.
1991 Ghana Grains Development Board. Multiple Cropping using minimum tillage management

Present and Past Positions and Accomplishments
2002 – Present: Research Scientist, Colorado State University, Department of Horticulture and Landscape Architecture, San Luis Valley Research Center. Research emphasis has been on development of cultivar specific management profiles for new and existing potato cultivars, using various methods to quantify optimal potato management practices including the evaluation of nitrogen application rate and time; seed piece spacing; seed size, age, and type; vine kill timing; chemical application for color enhancement and retention, on yield and quality of potatoes. Current research program is conducted on both experimental plots and production fields to evaluate field-scale responses to management practices. The research program also supports and participate in Cooperative Extension and Technology Transfer activities associated with the potato research and development program. Management profiles have been documented for four newly released potato cultivars Rio Grande Russet, Mountain Rose, Purple Majesty, and Colorado Rose.
200 – 2002: Postdoctoral Research Associate, USDA-ARS, New England Plant, Soil, and Water
Lab, Orono, ME. Collaborated with a team of scientists whose overall research addressed the development of low-input, sustainable potato production and disease management systems for northeast United States. Conducted research to (i) evaluate how pre-planting management of potato seed tubers planted in raised beds, ridges, and chisel

plow fields influence growth, development, yield, and quality of potatoes (ii) evaluate soybean and canola cultivars suitable for northeast United States (iii) determine yield potentials and the influence of management practices such as no-tillage systems, different weed control programs, and planting strategies on soybean and canola, and (iv) determine the impact of these management practices on the growth and development of the crop. Weekly crop samples were taken during the growing season to collect data on pattern of leaf area development and dry matter accumulation and partitioning to the various plant parts, in an effort to establish growth analysis data from which optimum crop management strategies could be developed.

1996-1999: Teaching and Research Assistant, Alabama A&M University. Assisted in the teaching and laboratory demonstration of Weed Science, Crop Production Practices and Plant Ecology. Also, conducted tutorials and graded laboratory reports and class assignments. Involved in a project aimed at evaluating canola and genetically engineered cotton varieties in northern Alabama. Conducted research on the effect of weed control timing on seed yield and quality of glyphosate resistant soybean.

1991-1995: Teaching and Research Assistant, University of Guelph, Canada. Assisted in the teaching of Field Crops Production, Forage Crops Production, Principles of Weed Control, Grain and Oil Seed Crops. Assisted in the coordination, organization, and accompanied students on agricultural field trips in and around Guelph, Ontario, Canada. Assisted in Weed Control and Weed Ecology Research Studies.

1989-1991: Teaching and Research Assistant, University of Science and Technology, Ghana. Assisted in the teaching of Field Crops Production and Crop Physiology. Conducted research on corn and cowpea intercropping systems, partitioning and accumulation of dry matter in plantain (*Musa spp*., AAB), contribution of the top, middle and bottom layers of plantain leaves and peels to dry matter accumulation, partitioning , and total yield of the crop. Involved in sending students to farms and agro-based industries on educational tours.

Part-time instructor, Agricultural Surveying and Mechanization, Kumasi Institute of Tropical Agriculture, Ghana.

Professional Activities

2006, Vice Chair, Physiology section of Potato Association of America.
2004-2006, Minorities in Agronomy, Crop Science, Soil Science (ACS) Steering Committee
2005, ACS Membership and Society Identity Committee
2005, Secretary, Physiology section of Potato Association of America
2005, Chair of the Southwest Regional Potato Research Committee
2005, Journal of Crop Research Editorial Board
2005, External committee member, faculty promotions committee, Jordan Univ. of Sci. & Tech.
2005, Peer reviewer for Journal of Agronomy Research
2005, Panel of judges, minority student poster contest at annual meeting of the American Society of Agronomy, Crop Science and Soil Science, Salt Lake City, UT
200-Present, Peer reviewer for Agronomy Journal
2002-Present, Peer reviewer for journal of Soil and Tillage Research
2004, Proposal review panel member for the USDA-CSREES Potato Breeding Special Grant
2004, Secretary of the southwest regional potato research committee

2004, Presiding Officer, American Society of Agronomy [Session 14, Crop Protection Issues], Seattle, WA
2004, Presiding Officer, American Society of Agronomy [Session 4, Approaches to Nutrient Management in Asia and Africa], Seattle, WA
2003, Presiding Officer, American Society of Agronomy [Session 12, Climate, Soil, Plant, and Management Interactions], Denver, CO
2002, Presiding Officer, American Society of Agronomy [Session 10, Weed Dynamics and Management], Indianapolis, IN

Membership in Professional Societies
2003-Present, American Society for Horticultural Science
2000-Present, Potato Association of America
2000-Present, Global Potato News
2005, Indian Potato Association
1997-Present, American Society of Agronomy
1997-Present, Crop Science Society of America
1997-2004, Weed Science Society of America

Awards and Honors
2004, Crop Science Society of America Travel Grant to attend and present a scientific paper at the International Crop Science Congress, Brisbane, Australia
1991, Canadian Commonwealth Scholarship
1989, Distinguished student Award (First Class Honors), University of Science and Technology, Ghana

Selected Publications
Essah, S.Y.C. 2005. Impact of vine kill timing on yield, tuber size distribution and quality of two red potatoes. Colorado Spud Items. Vol.2, Issue 3, page 4.
Essah, S.Y.C. 2005. Influence of nitrogen rate on yield and quality of colored-flesh potatoes. Colorado Spud Items. Vol. 2, Issue 1, page 5.
Essah, S.Y.C., D.G. Holm and R.D. Davidson. **2005.** Timing vine kill to manipulate yield, tuber size distribution and quality of two red potatoes. *In* Annual Meetings Abstract. Potato Association of America. July 17-21. Calgary, Alberta, Canada.
Essah, S.Y.C., J.A. Delgado, D.G. Holm and R. Davidson **2005.** Effect of nitrogen fertilizer on yield and quality of Colorado Russet Potato lines. *In* Annual Meetings Abstract [CD-ROM]. ASA, CSSA, SSSA, Nov. 6-10. Salt Lake City, UT.
Akromah, R., **S.Y.C. Essah** and A.K. Obour. **2005.** Reaction of local and improved cassava germplasm to the African Cassava Mosaic Virus Disease in the humid tropics of Ghana. *In* Annual Meetings Abstract [CD-ROM]. ASA, CSSA, SSSA, Nov. 6-10. Salt Lake City, UT.
Essah, S.Y.C. 2005. Dry matter accumulation and partitioning in plantain (*Musa spp*. AAB Group). Crop Res. 30:xxx-xxx.
Akromah, R., **S.Y.C. Essah** and A.K. Obour. **2005.** Reaction of local and improved cassava germplasm to the African cassava mosaic virus disease. Crop Res. 30: xxx-xxx.

Essah, S.Y.C. and C.W. Honeycutt. **2004.** Tillage and seed-sprouting strategies to improve potato yield and quality in short season climates. Am J Potato Res. 81:177-186.

Essah, S.Y.C., D.G. Holm and J.A. Delgado. **2004.** Yield and quality of two U.S. Red Potatoes: Influence of nitrogen rate and plant population. Proceedings of the 4th International Crop Science Congress. Sept. 26-Oct.1, 2004. Brisbane, Queensland, Australia.

Essah, S.Y.C. 2004. Yield and quality of two red potatoes in the San Luis Valley: Influence of nitrogen rate and seed piece spacing. Pomme de terre. 10:7-8.

Holm, D.G., R.D. Davidson and **S.Y.C. Essah. 2004.** Colorado Rose: A new High yielding red. Colorado Spud Items. Volume 1, Issue 3, page 5.

Essah, S.Y.C. and D.G. Holm. **2004.** Response of three Colorado specialty potatoes to nitrogen application rate. *In* Annual Meetings Abstract [CD-ROM]. Potato Association of America. August 8-12. Scottsbluff, Nebraska.

Holm, D.G., R.D. Davidson and **S.Y.C. Essah. 2004.** Rio Grande: New high quality fresh market russet. Colorado Spud Items. Volume1, Issue 2, page 5.

Essah, S.Y.C., J.A. Delgado and D.G. Holm. **2004.** Dry matter accumulation, partitioning, and leaf area duration in two Colorado red potatoes: Influence of nitrogen application rate. *In* Annual Meetings Abstracts [CD-ROM]. ASA, CSSA, SSSA, Oct. 31-Nov. 4, 2004. Seattle, WA.

Halloran, J.M., **S.Y.C. Essah** and C.W. Honeycutt. **2004.** An economic analysis of green sprouted seeds, alternate bed construction, and tillage systems for potatoes. *In* Annual Meetings Abstracts [CD-ROM]. ASA, CSSA, SSSA, Oct. 31-Nov. 4, 2004. Seattle, WA.

Akromah, R., **S.Y.C. Essah** and W. Sefah. **2004.** Growth and yield of cocoyam planted in upland and lowland soils in Ghana. . *In* Annual Meetings Abstracts [CD-ROM]. ASA, CSSA, SSSA, Oct. 31-Nov. 4, 2004. Seattle, WA.

Essah, S.Y.C. and U.R. Bishnoi. **2004.** Seed quality response of soybean to weed control timing using glyphosate. Can. J. Plant Sci. 84:1213-1219.

Essah, S.Y.C. and C.W. Honeycutt. **2003.** Raised beds and green sprouted seed improve Russet Burbank yield and quality in short growing seasons. Northeast Potato Technology Forum, March 12-13, 2003. Bangor, Maine.

Essah, S.Y.C. and C.W. Honeycutt. **2003**. Dry matter accumulation, partitioning, and leaf area index in potatoes: Influence of tillage and green-sprouting. The Potato Association of America Annual Meeting, August 10-14, 2003. Spokane, Washington.

Essah, S.Y.C. and U.R. Bishnoi. **2003.** Glyphosate application timing effects on seed yield and yield components of glyphosate-resistant soybeans. Crop Res. 26:1-16.

Essah, S.Y.C. and C.W. Honeycutt. **2002**. Russet Burbank performance using green- and non-sprouted seed under fall and spring tillage. XXVIth International Horticultural Congress, August 11-17, 2002, Toronto, Canada.

Essah, S.Y.C. and N.C. Stoskopf. **2002**. Mixture performance of phenotypically contrasting barley cultivars. Can. J. Plant Sci. 82:1-6.

Thesis: Three thesis.