

## PROFESSIONAL CURRICULUM VITAE: JOHN K. MUORIA

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### Education:

2001 Passed the Institute of Brewing and Packaging Exam given by the Incorporated Brewers Guild (IBG) and City and Guilds of London.

1. **MBA – Management, Marketing and International Business.** College of Business, University of Wyoming, USA.

**Paper Title: “International Trade and World Trade Organization”.**

August 1997 - August 1998:

**Post-Doctoral Research Fellow: Department of Food Science and Human Nutrition, Colorado State University, Colorado, USA.** My responsibilities were writing papers and manuscripts and doing research in foods. I presented papers on original research in the Institute of Food Technologists (IFT) National Meetings.

1. **Ph. D.** Food Science and Nutrition, Colorado State University, USA.

**Dissertation Title: “The suitability of Sorghum, millet and barley varieties for producing brewers malt” – 306 pages.**

1. **M. Sc.** Food Technology and Human Nutrition, University of Nairobi.

**Thesis Title: “Characterization of factors that influence the filterability of Kenyan lager beers” – 176 pages.**

1980 **B. Sc. (Hons)** Food Science and Technology, University of Nairobi.

1976 **A-levels** Nakuru High School – passed **Physics, Chemistry, Biology and General Studies.**

1974 **O-levels** Muhoho High School – passed **1- Division.**

### Professional Qualifications:

- **Professional Brewer.** This is the term given to a **Production Manager and Technical Leader in a Brewery and the terminology has traditionally** been passed on through time. I qualified as a trained Brewer after **two years on job training in Kenya Breweries after graduating from the University of Nairobi with BSc (Hons) Food Science and Technology MSc. or some postgraduate training was also required. In my case the Brewery sponsored me for MSc. Food Science in the University of Nairobi.**
- **General Certificate in Brewing and Packaging** from the Institute of Brewing UK – Training paid for by Coors Brewing Company USA
- **World Class Manufacturing (WCM) Systems** – Trained and Qualified and Sponsored by MillerCoors.
- **Qualified Quality Auditor – Quality and Manufacturing.** Training and qualification in 2013. Training paid for by MillerCoors LLC USA. The Certified Quality Auditor (CQA) Training was facilitated by American Society of Quality (ASQ) in Milwaukee, USA.
- **Process Mapping Specialist** – Able to map any process in order to logically simplify unit operations or processes. This was though Training offered by MillerCoors.

### Skills

- **Management of Business Operations** in Manufacturing and Agricultural Industries.
- **Project management.** Trained and Manages Projects in a Business Environment.
- **Career Services and Recruitment.** Formerly **Project Manager** for Career Services University of Wyoming (UW) – (1998 -1999)
- **Interviewing skills and Job search.** Trained in in University of Wyoming (UW), School of Business USA. Taught the same skills in University of Wyoming.
- **Persuasive Communication Skills – Trained in Influence, Negotiation and Persuasive Communication skills.** This was a Communication elective in the combined Departments of **Communication and Business in University of Wyoming (USA).** Further Training done in MillerCoors in this discipline through MillerCoors University and Harvard University.
- **Presentation Skills** – Presented technical papers in technical meetings and for colleagues.

- **Respect Training** – Trained and was a presenter for this training for teams in **Coors Brewing Company (USA)**.
- **Competitive Business Intelligence** – Skills class taken in **University of Wyoming (UW) – School of Business USA**.

### **Professional Experiences:**

**2018- Present : Lecturer- Department of Food Science and Technology (JKUAT) Since then I have lectured on the following subjects: Introduction to Food Science and Nutrition, Sensory Evaluation of Foods, Plant layout and design, Post-harvest technology of non-perishable foods and post-harvest technology of perishable products. It is been quite rewarding to share my wide and deep knowledge in Food Science and Food Processing.**

**September 2016 – Relocated to Kenya from USA**

**September 2010 – 2017: Corporate Staff Brewer, Corporate in MillerCoors LLC.**

- **MillerCoors LLC** was formed through a merger between **Coors Brewing Company (my original employer)** and **Miller Brewing Company** in 2007. The resulting company is called **MillerCoors** and they have 8 major Breweries in 8 States in the USA. They also have several Craft (Smaller) Breweries and several Cideries.

### **Responsibilities:**

- **Provides input and evaluation of plant brewing operational procedures** and audit systems.
  - Process and Draft audits
  - Travel throughout US continent to evaluate and advise plant operations.
- **Consults with brewing staff and management at the plants on a regular basis** on various problems/issues.
  - Support for brewery operations, domestic and some international.
- **Evaluates Corporate Engineering recommendations** to assure compatibility with current and future brewing requirements.
  - Technical, automation controls, design and compliance, instrumentation
- **Leads and serves as a key participator in ad hoc task forces** working on brewing issues or problems
  - Troubleshooting, process improvements
- **Leads and serves as an important participant in start-up** of new/modified brewing equipment and processes at the breweries.
  - Project start-up support
  - Facilitates training
- **Reviewing and writing technical reports, papers, publications.**
  - Writing, reviewing Standard Operating Procedures (SOP's), specifications, others as necessary
- **Corporate Brewing oversight brewing responsibilities.**
  - **Albany** Brewery Georgia, **Eden** Brewery North Carolina, **Fort Worth** Brewery Texas, **Golden** Brewery Colorado, **Irwindale** Brewery California, **Milwaukee** Brewery Wisconsin, **Trenton** Brewery Ohio and **Shenandoah** Brewery Virginia and **Leinenkugel** Brewery Wisconsin among others.
- **The Subject Matter Expert (SME).**
  - Barley Malt and other Raw Materials, Enzymes and ingredients and Brew house Plant Operations in all the Breweries in MillerCoors.

### **May 2007 – September 2010: Manager Supply Chain logistics.**

#### **Major Responsibilities Included.**

- **Managed Permanent employees** and contract employees.

**Oversaw scheduling and distribution of 365,000 barrels of beer**

- **Safety – Safety Star Point Global Coordinator for Logistics.**
  - I Held monthly star point meetings, coordinated safety initiatives and safety programs including Safety Management Process (SMP) for 182 Logistics and Warehouse employees and the 10 managers and also for the 3- Party Service Providers.
  - Held weekly Safety Meetings and Safety Audits for the 3- party service providers which included 93 employees for GDC (Golden Distribution Center) and Trans load operations ran by Arnold

Logistics and 131 Rails and Truck operations employees operated by Jacobson (Arlo) Transportation.

#### **Other Major Accomplishments in Supply Chain Logistics**

- **September 2009 - December 2009: Project Manager Supply Chain** – Time Studies Project in Logistics and Warehouse Operations. This project helped to optimize manpower requirements to make business functions operate in a cost effective manner. I also worked with an outside contractor from Arena simulations (Rockwell) for Process Optimizations and logistics. Saved about \$10 Million annually as a Business Transformation Project.
- **Nov. 2008 – September 2009: Manager World Class Manufacturing (WCM)** – Implemented WCM for Logistics and Supply Chain. I did this by corroborating with 10 Managers and 182 employees.

#### **February 2003 – May 2007: Senior Research Brewer/Senior Research Maltster Coors Brewing Company:**

##### **Main Responsibilities:**

- **Development** of new products
- **Process optimizations**
- **Testing new raw materials** such as hops, barley starch, enzymes and any materials used in operations.
- **Qualifications of raw material** and process in the Pilot Brewery and subsequent scale-up to production scale operations.

##### **Some Accomplishments:**

- **Development of Honey Moon Beer** with Keith Villa and a **low carbohydrate beer (Aspen)** from concept to production.
- **End Ferment Process:** This enabled construction of Shenandoah Brewery to be completed with a saving of **\$ 50 million** below initially estimated cost for an 8 million barrel brewery.
- **Coors Barley Breeding Program:** Testing barley varieties for breeding by pilot and production scale testing.
- **Hops Qualification** and other ingredients testing.
- **Training Role of the Pilot Brewery:** In corroboration with Coors Brewing Institute trained Managers on the Production and Research process involved in brewing.

#### **June 2000 – 2003: Malting Research, Coors Brewing Company (Quality Research and Development):**

I was attached to the **Brewing Materials Research Group**. I saved \$4.5 million in direct raw material costs. I qualified production with two filtration aids thereby improving the overall Brewery efficiency in **filtration. Brewing 661 test brews in production in the year 2001 helped me achieve this goal. Brewing was done in corroboration with production.**

**For two growing seasons I did variety performance trials and also pilot brewing to help in assessment of 100 acre and 1 acre trials thereby enabling us to have quality barley varieties in the future in the Corporation.**

**I have also qualified the then current malting barley for all areas – M37.** This has been done through production malting with the help of **production** and also by pilot brewing with the help of **Technical services** in Quality Research and Development.

**May 24 1999 – June 2000: Research Scientist/Research Brewer (Part time consulting), in Coors Quality, Research and Development and new product design.** Involved with the contribution of raw materials to the industrial operations with respect to quality, efficiency and throughput (**read filtration**). One technical paper out of this work was presented to the Institute of Food Technologists (IFT), Annual meeting in New Orleans in the year 2001.

**August 1998 – 2000: College of Business, University of Wyoming. I was the Project Manager for the Career Services Center working for the Director.** Responsibilities include workshops and graduate student placements at the workplace.

**1997 August - August 1998: Post Doctoral Research Fellow in the Department of Food Science and Human Nutrition, Colorado State University.** Responsibilities included writing papers and manuscripts and doing research in foods. I completed two projects on production and evaluation of cantaloupe and pepper juices.

**‘91-96: PhD Fellowship Department Food Science and Human Nutrition, Colorado State University, USA.** The fellowship involved carrying out research at Colorado State University, which was funded in part through a research grant. Malt quality and utilization was determined. Additionally, analyses included polyphenols and tannins content, fermentability evaluation, diastatic power and alpha amylase enzymatic determination, and the fructose, glucose, sucrose and maltose sugars content.

**‘95-94:** While still studying for Ph.D., I was employed by the **Academic Committee for Excellence (ACE) in Colorado State University.** The job involved giving lectures on stress management, time management, study and test taking skills, motivation, rapid reading and memory skills, listening and communication skills, money management and healthful nutrition. A monthly column was also written.

**1994-93:** Conducted research at **Busch Agricultural Resources Inc. (BARI) in Fort Collins, Colorado (subsidiary of Anheuser Busch Companies).** Research was on malt quality evaluation. This was part of the Ph.D. project.

**‘94-92:** I was Resident Assistant in family housing in **Colorado State University.** **I worked with students from over 50 countries.** This taught me a lot about **different cultures** and **diversity** related issues on national and worldwide basis. I organized multicultural community activities and worked for the Director of Housing and Food Services, Colorado State University, USA..

**1991-89: Lecturer in Food Science; University of Nairobi, Department of Food Technology and Human Nutrition.**

Courses taught and advised:

1. **A223 Food microbiology and fermentation.** Had the responsibility of teaching, laboratory experiments, setting examinations and grading.
2. **A324 Pilot plant processing.** Involved in the fermentation section of this course.
3. For B. Sc. Agriculture: **FT 300 - Food technology (cereal science, baking and brewing subsection).** Had one-third responsibility of teaching, setting examinations and grading.
4. Advising: **A325 Industrial Practice for B. Sc. Food Technology and Nutrition students.** I advised the students in internships in Breweries in Kenya in corroboration with the Brewmasters and Maltsters.

**1980-89: Kenya Breweries Limited. Worked in all areas of production, bottling, quality control and research as indicated below:**

**‘89-85: Production Brewmaster with Kenya Breweries Limited** - I worked in all areas of production from malting plant, brewhouse, fermentations, filtration, packaging and bottling to transport and distribution. One year in research and group quality control in the Kenya Breweries Group Laboratory. As a brewmaster, I was in charge of brewing operations right from malt and other raw material reception through the brewhouse, the fermenters and the filtration. Duties also included interpreting quality control data from the laboratory and liaison with engineers for maintenance and repair of industrial equipment. As a maltster, duties included grain quality control, storage, steeping, germination, kilning and malt cleaning.

**1986: Europe Assignment:** Assigned to breweries, malt houses and equipment manufacturers and research and development centers in **Europe (Allied Lyons (UK)) – Now part of Carling Brewing company which is now part of Coors Brewing Company, Brewing Research Foundation (UK), Carlsberg Breweries and Carlsberg Research Center- Denmark).**

**1985:** Independently carried out research a project on the **effluent production and control in Tusker brewery Kenya.** This is a 2.8 million barrels brewery and the undertaking was a 6-month project. The results obtained in this project led to major modifications in the brewing unit operations and also led to great savings as waste was minimized and processes optimized.

**1984-1982:** Worked on **beer filtration research as a collaborative research with the University of Nairobi and East African Breweries.** The research led to a research thesis, which was awarded an **M Sc.in Food Science and Human Nutrition by the University of Nairobi, Kenya in 1985.** The filtration problems were also solved. As is documented in the University of Nairobi, this effort **saved the company the equivalent of US \$ 4 million in direct costs and a lot more indirectly** as operations were optimized.

**82-81 Shift Brewmaster with Kenya Breweries Limited.** Had the same responsibilities as a Production Brewmaster but at a lower rank. Additionally I worked as shift manager in the **Barley Syrup Plant, which manufactured syrup for use in the breweries and for sale to confectioners and candy companies.**

**1980 Republic of Kenya- Ministry of Industry.**

**Agro-Industrial Engineer:** The work involved appraising existing industries and doing feasibility of new projects. I worked in collaboration with **United Nations Industrial Development Organization (UNIDO).**

### **Publications:**

**Muoria, J. K., and Bechtel, P. J:** Malt and wort properties of Kenyan sorghum varieties germinated for different time periods. **International Division of the Institute of Food Technologists meeting held on June 15-19, 2002 in Anaheim, California, USA.**

**Muoria, J. K, Dowgiert, T, Bouche, G. and Alan F.** Diastatic power and alpha amylase activities of various barley varieties and their relationships to friability, soluble protein and saccharification rates . **Carbohydrate Division of the Institute of Food Technologists Annual Meeting held on June 23-27, 2001 in New Orleans, Louisiana, USA.**

**Muoria, J. K., and Bechtel, P. J.** Millets malt and worts Properties: Germinated at different times and different temperatures. **International Division of the Institute of Food Technologists. Meeting held on June 23-27, 2001 in New Orleans, Louisiana, USA.**

**Muoria, J. K., and Rittenburg, T. L.** International Business: World Trade Organization (WTO) and Kenya. Invited to present this paper at the **Kenya Community Abroad (KCA) Conference at Concordia University, St. Paul Minnesota, on June 30 – July 3, 2000.**

**Muoria, J. K., and Bechtel, P. J.** Effect of germination time and temperature on malting losses of sorghum, millet and barley. **Carbohydrate Division of the Institute of Food Technologists Annual meeting in Dallas, Texas, USA held on June 10 – June 14, 2000.**

**Muoria, J. K., and Bechtel, P. J.** Malt and Wort properties of Millets, Sorghums and Barleys. **International Division of the Institute of Food Technologists in Dallas, Texas, USA held on June 10 – June 14, 2000.**

**Muoria, J. K., 2000.** World Trade Organization (WTO) issues: Background to its formation, its mandate, and its impact on international trade and globalization. **MBA Paper, University of Wyoming, Laramie Wyoming USA PP 1 –21.**

**Muoria, J. K., and Bechtel, P. J.** Color Determination of Grains, Malts and Worts from Millets, Sorghums and Barleys. **International Division of the Institute of Food Technologists. Meeting held on July 24-28, 1999 in McCormick Place South, Chicago Ill. USA**

**Muoria, J. K., Ryu, S. S., Bartolo, M. E. and Bechtel, P. J.** Effects of Heat Treatment and Storage Time on the Vitamin C Content of Pepper Juice. **Nutrition Division (Vitamins and Trace Minerals) of the Institute of Food Technologists. Meeting held on July 24-28, 1999 in McCormick Place South, Chicago Ill. USA**

**J. K. Muoria, J. C. Linden, and P. J. Bechtel, 1998.** Diastatic Power and Alpha-Amylase Activity in Millet, Sorghum, and Barley Grains and Malts. **Journal of the American Society of Brewing Chemists Vol: 56: No. 4 131-135.**

**Muoria, J. K., Linden, J. C. and Bechtel, P. J., 1998.** Effect of germination time and temperature on diastatic power and alpha amylase activity in grains and malts from millets, sorghums and barleys. **Institute of Food Technologists Annual Meeting Atlanta, Georgia USA pp. 218 – Food Chemistry Division**

**Muoria, J. K. and Bechtel, P. J., 1998.** Fermentability of worts made from millets, sorghums and barleys. **Institute of Food Technologists Annual Meeting Atlanta, Georgia USA pp. 83 – International Division**

**Muoria, J. K. and Bechtel, P. J., 1998** Determination of Sugars in grains, malts and worts of millet, sorghum and barley groups. **Institute of Food Technologists Annual Meeting Atlanta, Georgia USA pp. 145 – Carbohydrates Division**

**Muoria, J. K., 1997.** The suitability of sorghum, millet and barley varieties for producing brewers malt. **Ph.D. dissertation Colorado State University, Fort Collins, Colorado USA. PP 1- 306**

**Muoria, J. K., Lorenz, K. and Bechtel, P. J., 1997.** Content of tannins in malts and worts from barleys, millets and sorghums germinated at different times and temperatures. **Institute of Food Technologists Annual National Meeting Orlando, Florida, USA pp. 162. – Carbohydrates Division.**

**Muoria, J. K., 198.** The effect of betaglucanase addition on total beer haze, betaglacans, polyphenols, viscosity and beer filtration rate. **KBL Fourth Technical conference.**

**Muoria, J. K., 1985.** Characterization of some factors that influence the filterability of Kenyan lager beers. . **KBL Third Technical conference.**

**Muoria, J. K., 1986:** Beer filtration techniques - **Kenya Institute of Food Science and Technology Review.** Vol. 3: No.1 pp. 60.

**Muoria, J. K., 1985:** Characterization of factors that influence the filterability of Kenyan lager beers - **Master of Science Thesis University of Nairobi, Nairobi, Kenya. PP 1- 179**

**Muoria, J. K., 1983:** Beer Filtration and factors that determine the filterability of beer. **EABL, First Technical Conference, pp 11.**

**Muoria, J. K., 1980.** *Bixa orellana* and its utilization to manufacture annatto color and animal feeds: **A profile study.** Government document in the ministry of industry library-Republic of Kenya.

**Muoria, J. K, 1980.** Evaluation of the pharmaceutical industry in Kenya. **A Profile Study.** Government document in the ministry of industry library- Republic of Kenya.

### **Oral Presentations and Sessions:**

**Muoria, J. K.** How to use an MBA in the New Millennium.  
**Speech given to the Annual MBA Banquet in honor of the graduating class of 2002 on April 26, 2002 in Laramie Wyoming. I was invited as a guest of honor to give the speech.**

**Muoria, J. K.** Food Security issues in East Africa. Paper presented by invitation to the **International Division of IFT.** This was a symposium entitled; “The state of the food industry and the food supply in developing regions of the world.” **Institute of Food Technologists Annual meeting held in New Orleans, Louisiana, USA on June 23 – 27, 2001. The meeting had earlier been opened by Elizabeth Dole.**

**Muoria, J. K., Lorenz, K. and Bechtel, P., J., 1997.** Polyphenol content of malts and worts from barleys, millets and sorghums germinated at different times and temperatures. **Institute of Food Technologists Annual National Meeting Orlando, Florida, USA pp. 119. – Food Chemistry Division.**

**1990-1989** Chaired the **Alcoholic Beverages Committee of the Kenya Bureau of Standards**, which is the committee with the mandatory responsibilities of setting the **Kenyan National Standards for industrial manufactured alcoholic beverages.**

**Muoria, J. K., 1988.** The effluent situation in Tusker Brewery. **Overall evaluation of a brewery that manufactures 2.8 million hectoliters of beer per year. Kenya Breweries Annual Technical conference.**

### **Recognition and Boards**

**In 1997:** Was among the founding members of the Kenya Community Abroad (KCA) which can be accessed from the Internet. **As the first chairman of the welfare committee I proposed the first Annual meeting in the University of Maryland.** This has now become an annual event. **With the famine in Turkana (Kenya) in 1999 and 2000, I spearheaded the famine relief efforts for KCA and sent famine relief money to Kenya in January 2000.**

**1995** Won a Rammy award from Colorado State University for lectures and seminars given while working for Academic Committee for Excellence (ACE)

**1994** Awarded \$ 14000 to do research in malting and brewing by the Swiss Development Cooperation (SDC).

**1990** As Chairman of the Institute of Kenya Institute of Food Science and Technology, awarded a travel grant from the Royal Norwegian Embassy (NORAD) to represent Kenya in USA.

**1987** Appointed External examiner for Egerton University, Njoro Kenya in the Department of Dairy and Food Technology.

### **Professional Memberships**

Chairman: Kenya Institute of Food Science and Technology (KIFST)

Hon Secretary: Thika Sports Club Thika

Former Member: **Institute of Food Technologists (IFT), USA.**

Member Kenya: **Institute of Food Science and Technology (KIFST) past National Chairman and Vice-Chairman (1990).**

Former member: **Incorporated Brewers Guild and past Hon. Secretary East African Section.**

**Member: Institute of Brewing, London Section.**

**Former Member: American Society of Brewing Chemists**

**Former Member: Master Brewers Association of the Americas (MBAA)**

Former Member: **Global Business Club, University of Wyoming.**

**Languages:** Fluent in English and two other languages spoken in Africa (Kikuyu and Swahili).

### **References:**

1. **Prof S. K. Mbugua. Department of Food Science and Human Nutrition. University of Nairobi. [Smmbugwa@yahoo.com](mailto:Smmbugwa@yahoo.com), [S.mbugua@uonbi.ac.ke](mailto:S.mbugua@uonbi.ac.ke) Tel: 0722-726-547**
2. **Prof. Michael Okoth. Department of Food Science and Human Nutrition. University of Nairobi. [mwokoth@uonbi.ac.ke](mailto:mwokoth@uonbi.ac.ke)**
3. **Prof. O.L.E. Mbatia. Tel: 0722831-316**
4. **Dr. David Ryder. My Former Boss at MillerCoors LLC. Also immediate former Vice-President; Brewing Research , Innovation and Quality (BRIQ). [Dr.DavidRyder@Gmail.com](mailto:Dr.DavidRyder@Gmail.com). Tel +1414-243-4039 (USA)**