

CURRICULUM VITAE

Professor O.C. ADEBOOYE

Telephone: +234 7032981634

Email: ocadebooye@daad-alumni.de

Odunayo.Adebooye@umanitoba.ca

PERSONAL DATA

1. NAME: **ADEBOOYE Odunayo Clement**
2. DATE OF BIRTH: 18 Dec., 1966.
3. STATE OF BIRTH: Osun/Ayedaade
4. PLACE OF BIRTH: Gbongan
5. MARITAL STATUS: Married with 3 children
6. NEXT OF KIN: Mrs Rita Adebooye
15 Mohawk Bay
Winnipeg
R2J 2C6. CANADA
Tel: +1 204-256-1588
7. PASSPORT NUMBER: A06465700
8. PLACE OF ISSUE: Nigeria
9. PRESENT ADDRESS: Department of Crop Production and Protection,
Faculty of Agriculture
Obafemi Awolowo University,
Ile-Ife, Nigeria
Tel: 070329863
10. PRESENT POSITION: Professor
11. DATE OF PRESENT POSITION: 2nd September, 2009

ACADEMIC AND PROFESSIONAL QUALIFICATIONS

Institution Attended	Duration	Academic Qualification
Obafemi Awolowo University, Ile-Ife, Nigeria.	1985-1990	B. Agric. (Hons.) Plant Science
University of Ibadan, Ibadan, Nigeria.	1991-1992	M.Sc. Agronomy (with distinction)
University of Ibadan, Ibadan, Nigeria.	1997-2001	PhD Agronomy/Plant Physiology
United Nations University (UNU/INRA), Accra, Ghana.	June-Aug 2000	Certificate Plant Tissue Culture
Central Food Tech. Research Inst, Mysore, India.	Nov 2005-June 2006	Certificate Food Safety and Analysis
Goethe Institute, Bonn, Germany	Oct 2006-Jan 2007	German Language Certificate A1 and A2.

WORK EXPERIENCE WITH DATES:

1. Visiting Professor, University of Manitoba, Canada (October 2016 to date)
2. Professor (Full Time), Osun State University, Osogbo January 2010 to date
3. Visiting Professor, University of Bonn-Germany August-October, 2014.
4. Visiting Professor, Cape Breton University, Canada. May/June 2013.
5. Visiting Professor, University of Hohenheim, Stuttgart, Germany. June-August, 2011
6. Visiting Scientist, University of Bonn, Germany April – July, 2009.
7. Reader/Associate Professor, OAU, Ile-Ife 1995-2009
8. Research Fellow, University of Bonn, Germany October 2006 – November 2007.
9. Research Fellow, UNU/CFTRI, Mysore 570 020, India. November 2005- June 2007.
10. Visiting Senior Lecturer (Sabbatical), Department of Crop, Soil and Environmental Sciences, University of Ado-Ekiti, Ado-Ekiti, Nigeria (2003/2004 session)
11. Gari River Irrigation Project, Kazaure, Kano State 1990/91 (NYSC---Agric. Officer)
12. Teaching Service Commission, Lagos State. March 1993- November 1994.
13. Lagos State Polytechnic, School of Agriculture, Ikorodu. Lecturer II. Nov 1994- March, 1995.

GRANTS (Research and Others):

1. German Government Grant (40,000 Euro) and Canada Government Grant (\$50,000) to equip plant physiology lab. Grant won by me.
2. Canada Government IDRC-CIDA research grant on indigenous vegetables of Nigeria. January, 2015-2019 (\$4.45 million). Grant No: 107983-IDRC-GAC. I led the development of the proposal for this grant and also leads in the project implementation.
3. German Government Alexander von Humboldt Foundation conference grant to organize an international conference in August 2015 (Euro 30,000). Grant No: 1116100-GF-2015. I won this grant alone.
4. Canada Government IDRC-CIDA research grant on indigenous vegetables of Nigeria. January, 2011-2014 (\$3.0 million). Grant No: 106511-IDRC-GAC. I led the development of the proposal for this grant and also leads in the project implementation.
5. German Government Humboldt Grant to organize a Conference in Nigeria. May 2009. (Euro 40,000). Grant No: 1116100-GF-2009. I won this grant alone.
6. Alexander von Humboldt Foundation (Germany) Equipment Grant. March 2008). Euro 40,000. Grant No: 1116100-GF-2008. I won this grant alone.
7. Alexander von Humboldt Foundation Conference Grant to me to organize an International Conference in Nigeria. Grant approved in March 2008. (Euro 40,000). Grant No: 1116100-GF-2008. I won this grant alone.
8. UNU/CSIR Research grants to investigate nutraceuticals and anti-oxidant properties of the indigenous leaf vegetables of Nigeria. (November 2005- June 2006). Funds utilized at UNU-CFTRI, Mysore, India and Nigeria (\$250,000). Grant No: UNU-CFTRI/2005-11. I won this grant alone.
9. United Nations University/Institute for Natural Resources in Africa (UNU/INRA) Research Grant on “Threatened leaf vegetables field gene bank” (2003-2005). (\$50,000). UNU002/03. I won this grant alone.

10. Obafemi Awolowo University, Ile-Ife Research Grant on Agronomy of Snake Tomato (2002). (N240,000). I won this grant alone.
11. United Nations University Research Grant on “Ethnobotany of Indigenous leaf Vegetables of Southwest Nigeria”. (2000-2002). (\$50,000). UNU/001/2000. I led this project and collaborated with University of Benin, Nigeria.
12. Obafemi Awolowo University Research Grant on Survey of Indigenous Leaf Vegetables of Osun State. (1998). (N140,000). Won this grant with Prof Obisesan
13. National Agricultural Research Project (NARP) (Nigeria) funded research. 1998 (N440,000). Won this grant with Prof Tunde Fatunla.

GRADUATE AND POSTDOC STUDENTS SUPERVISION

- a. **Dr Uyi Osaremkwen (Zoology, UNIBEN) 2016.** Post-doc Supervision (2016): Under the African-German Network of Excellence in Science (AGNES) being funded by the German Humboldt Foundation, I secured funding for this candidate.
- b. **Dr Ademola Ademosun (Biochemistry FUTA)** Post-doc Supervision (2015): Under the African-German Network of Excellence in Science (AGNES) being funded by the German Humboldt Foundation, I secured funding for this candidate.
- c. **Dr Reama George (Chemistry OAU, Ile-Ife) -** Post-doc Supervision (2014): Under the African-German Network of Excellence in Science (AGNES) being funded by the German Humboldt Foundation, I secured funding for this candidate.
- d. **Dr Richard Akinwale (Agric OAU, Ile-Ife)-** Post-doc Supervision (2013): Under the African-German Network of Excellence in Science (AGNES) being funded by the German Humboldt Foundation, I secured funding for this candidate.
- e. **Dr Joseph Adeyemi (Microbiology, FUTA) -**Post-doc Supervision (2013): Under the African-German Network of Excellence in Science (AGNES) being funded by the German Humboldt Foundation, I secured funding for this candidate.
- f. **Dr (Mrs) Funmilayo Oloyede (Agric UNIOSUN)-**Post-doc Supervision (2012): Under the African-German Network of Excellence in Science (AGNES) being funded by the German Humboldt Foundation, I secured funding for this candidate.
- g. **Dr Olalekan Soyelu (Agric OAU, Ile-Ife)-** Post-doc Supervision (2012): Under the African-German Network of Excellence in Science (AGNES) being funded by the German Humboldt Foundation, I secured funding for this candidate.
- h. I secured German Government DAAD funding for two German MSc students (**Ms Josephine Figiel** of University of Hannover and **Mr Jonas Fischer** of University of Jena) who conducted their research under my supervision in 2011 and 2013, respectively, in Nigeria.
- i. Higher Degree By Research: (MSc and PhD)
 - i. **Mrs. Oloyede, F.M.-** M.Sc.(Plant Science) Completed in 2005.
 - ii **Mr. F. O. Obinyan-** M.Sc. (Ecology) Completed in 2002(Co-supervision).
 - iii. **Mrs F. M. Oloyede:** - PhD student (80% supervision completed before I left OAU in December 2009. Supervision completed under Prof. Isreal Obisesan in 2010).

- b. Undergraduate: I have supervised over 70 Bachelor degree final projects.
- i. **Miss O.T. Philips**, a candidate that I supervised won the Second Duncan's Prize for final project at the 2004 Convocation Ceremonies at OAU, Ile-Ife.
 - ii. **Mr Somade Augustine**, a candidate that I co-supervised with Prof Alofe won the First Duncan's Prize for final project at the 1998 Convocation Ceremonies at OAU, Ile-Ife.

ACADEMIC PUBLICATIONS (Books and Journal peer reviewed articles)

Books and Monographs and Contribution to Books

1. **Adebooye O.C. (2015)** Driving Agricultural business for sustainable development: The key to a better Nigeria. Chapter 50: 813-822: Towards a new dawn in Nigeria post 2015. A publication of the *Center for Human Security*, Olusegun Obasanjo Library, Abeokuta. Edited by Olusegun Obasanjo, Akin Mabogunje and Peter Okebukola.
2. **Adebooye O. C.**, Olanike Fasilat Deji, Adeolu Babatunde Ayanwale, Oyedele Durodoluwa Joseph and Alao Titus Oluwagbenga (2014). *Stories of Change: Nigerian women reap benefits from indigenous vegetables*. International Development Research Centre, Canada Publication. Copyright 2014.
3. **Adebooye O.C.** (2011) Exploring the vegetables world: Nutraceutical and Physiological Investigations. Professorial Inaugural Lecture Series 03 Presented at the Osun State University, Osogbo delivered on Wednesday March 16, 2011.
4. **Adebooye O.C.**, K.A. Taiwo and A.A. Fatufe (Editors) (2010) Biotechnology development and threat of climate change in Africa: The case of Nigeria Volume 1. **Cuvillier Publishers Göttingen, Germany. ISBN 978-3-86955-402-0. 311 pages.**
5. **Adebooye O.C.**, K.A. Taiwo and A.A. Fatufe (Editors) (2010) Biotechnology development and threat of climate change in Africa: The case of Nigeria Volume 2. **Cuvillier Publishers Göttingen, Germany. ISBN 978-3-86955-403-7. 292 Pages.**
6. **Adebooye O.C.**, K.A. Taiwo and A.A. Fatufe (Editors) (2008). Food, Health and Environmental Issues in Developing Countries: The Nigerian Situation. **Cuvillier Publishers, Göttingen, Germany ISBN 978-3-86727-771-6. 489 pages.**
7. **Adebooye O.C.** and F.M. Oloyede (2008). The food situation in Nigeria: Issues, perspectives and lessons for developing countries. In Food, Health and Environmental Issues in Developing Countries: The Nigerian Situation. **Cuvillier Publishers, Göttingen, Germany. Pp 20-28.**
8. **Adebooye O.C.** (2004) *Solanecio biafrae* (Olive&Heirne) C. Jeffery. In Plant Resources of Tropical Africa (*PROTA*): **Vegetables: 2: 469-471. (Wageningen University, Netherlands)**
9. **Adebooye, O. C.**(2001) Wild plants for medicinal and culinary uses. *Sharing Innovative Experiences (Twas/UNDP) 2: 69-78. (Italy)*

Peer Reviewed Journal Articles

10. Odunlade, T.V., A.A. Famuwagun, O.O. Orekoya, K.A. Taiwo, S.O. Gbadamosi, D.J. Oyedele, R.E. Aluko, **O.C. Adebooye** (2019) Development of maize *ogi* powder fortified with polyphenolic rich extract from fluted pumpkin leaves. *Acta Horticulturae* 1238:

11. Idris-Adeniyi, K.M., L.A. Akinbile, A.O. Busari, **O.C. Adebooye** (2019) Factors influencing household food security among MicroVeg project beneficiaries in Nigeria. *Acta Horticulturae* 1238:
12. Famuwagun, A.A. T.V. Odunlade, K.A. Taiwo, S.O. Gbadamosi, D.J. Oyedele, **O.C. Adebooye** (2019) Some chemical compositions and sensory properties of wheat bread fortified with fluted pumpkin leaf slurry. *Acta Horticulturae* 1238:
13. Lawal, B.O., O.I. Akintayo, O.T. Ayoola, M.O. Oyedokun, L.B. Taiwo, D.J. Oyedele, **O.C. Adebooye** (2019) Farmers' participation in vegetable innovation platforms in Southwest Nigeria. *Acta Horticulturae* 1238:
14. Alashi, A. M, K. A Taiwo, D Oyedele, **O. C Adebooye**, R. E Aluko (2018) Antihypertensive properties of aqueous extracts of vegetable leaf-fortified bread after oral administration to spontaneously hypertensive rats. *International Journal of Food Science & Technology* (In Press-Already published online) <https://onlinelibrary.wiley.com/doi/full/10.1111/ijfs.13755> (ISI Impact Factor: 2.38)
15. Olarewaju OA, Alashi AM, Taiwo KA, Oyedele D, **Adebooye O. C**, Aluko RE (2018). Influence of nitrogen fertilizer micro-dosing on phenolic content, antioxidant, and anticholinesterase properties of aqueous extracts of three tropical leafy vegetables. *J Food Biochem.* 2018; <https://doi.org/10.1111/jfbc.12566> (ISI Impact Factor: 1.56)
16. Alashi A. M, Taiwo K. A, Oyedele D. J, **Adebooye O. C**, Aluko R. E. Polyphenol composition and antioxidant properties of vegetable leaf-fortified bread. *J Food Biochem.* 2018:e12625. <https://doi.org/10.1111/jfbc.12625> (ISI Impact Factor: 1.56)
17. Ayanwale, A.B., T. O. Alao, J. Ayinde, Y. Olugbade, D. Oyedele & **O.C Adebooye** (2018) Branded Radio Program and Awareness of Under-utilized Indigenous Vegetable Innovations in Southwestern Nigeria (Innovation Dissemination through Branded Radio Program). *Journal of Agricultural & Food Information*, DOI: [10.1080/10496505.2018.1441716](https://doi.org/10.1080/10496505.2018.1441716) (Taylor and Francis)
18. Olayinka A.Olarewaju, Adeola M. Alashi, Kehinde A. Taiwo, Durodoluwa Oyedele, **Odunayo C. Adebooye**, Rotimi E. Aluko. (2018). Antioxidant and anti-acetylcholinesterase activities of aqueous polyphenol extracts of *Amaranthus spinosus*, *Telfairia occidentalis* and *Solanum macrocarpon*. *Journal of Food Biochemistry*. Published online (ISI Impact Factor: 1.56)
19. **Adebooye, O. C.**, Alashi, M. A., & Aluko, R. E. (2017). Economic potentials of polyphenols. *Journal of Food Biochemistry*. Wiley Press (In Press-Already published online) <http://onlinelibrary.wiley.com/doi/10.1111/jfbc.12519/full> (ISI Impact Factor: 1.56)
20. Ajekiigbe, N.; A. B. Ayanwale; D.J. Oyedele and **O.C. Adebooye** (2017). Technical Efficiency in Production of Underutilized Indigenous Vegetables. *Journal of Vegetable Science* (Taylor and Francis Publishers). Already published online <http://dx.doi.org/10.1080/19315260.2017.1396276>
21. Famuwagun, A. A., Taiwo, K. A., Gbadamosi, S. O., Oyedele, D. J., Aluko, R. E. and **O.C. Adebooye** (2017a). Extraction optimization and antioxidant properties of African eggplant (*Solanum macrocarpon*) leaf polyphenols. *Journal of Food Quality*. Already published online <https://doi.org/10.1155/2017/2159183> (ISI Impact Factor: 0.84)

22. Odunlade, T.V., A. A. Famuwagun, K. A. Taiwo, S. O. Gbadamosi,, D. J. Oyedele and **O. C. Adebooye** (2017) Chemical Composition and Quality Characteristics of Wheat Bread Supplemented with Leafy Vegetable Powders. *Journal of Food Quality* (Wiley Press). <https://doi.org/10.1155/2017/9536716> (ISI Impact Factor: 0.84)
23. Akinde S.B., Abiodun A. Sunday, Folasade M. Adeyemi, Iyabobola B. Fakayode, Odunola O. Oluwajide, Adetoun A. Adebunmi, Julius K. Oloke, and **Clement O. Adebooye** (2016) Microbes in Irrigation Water and Fresh Vegetables: Potential Pathogenic Bacteria Assessment and Implications for Food Safety. *Applied Biosafety* 21(2): 1-9 (American Bio-Safety Association) (ISI Impact Factor: 0.13)
24. **Amujoyegbe, B.J., Oyedele, D.J., Idowu, M.K., Ayinde, J.O., and Adebooye, O.C.** (2015) Adaptation of Farming Practices by the Smallholder Farmers in Response to Climate Change. *J. Agric. Ext. Rural Dev.* 7: 33-40. <http://www.academicjournals.org/journal/JAERD/article-full-text-pdf/9C51C5355989>
25. Amujoyegbe, BJ, DJ Oyedele, MK Idowu, JO Ayinde, **OC Adebooye** (2016) On-farm adoption of under-utilized indigenous vegetable production among small holder farmers in Nigeria: Implication for economic empowerment and genetic conservation. *J. Agric. Ext. Rural Dev.* 7 (9): 283-289
26. Alao Oluwagbenga T, **O. C Adebooye**, Olanike F Deji, Kaothar M Idris-Adeniyi, Oluwafemi Agbola & Ahmed O Busari (2014): Analysis of the impact of production technology and gender on under-utilised indigenous vegetables production in south-western Nigeria. *African Journal of Science, Technology, Innovation and Development*,(Taylor and Francis) 6(1): 51-59.
27. Oloyede F.M., **Adebooye O.C.** and Obuotor E.M. (2013) Planting Date and Fertilizer Affect Antioxidants in Pumpkin Fruit. *Scientia Horticulturae* 168:46–50 (Elsevier). (ISI Impact Factor: 1.76)
28. **Adebooye O.C.**, M. Hunsche, G. Noga and C. Lankes(2012) Morphology and density of trichomes and stomata in *Trichosanthes cucumerina* L. (Cucurbitaceae) as affected by leaf age and salinity. *Turkish Journal of Botany(Turkey)* 36: 328-335 (Turkish Academy of Science) (ISI Impact Factor: 1.11)
29. **Adebooye O.C.**, M. Schmitz-Eiberger, C. Lankes and G.J. Noga (2010) Inhibitory effects of sub-optimal root zone temperature on leaf bioactive components, photosystem II (PS II) and minerals uptake in *Trichosanthes cucumerina* L- Cucurbitaceae. *Acta Physiologiae Plantarum* 32: 67- 73 (**Springer**) (ISI Impact Factor: 1.44)
30. **Adebooye O.C.**, G.J. Noga and C. Lankes (2009) Rooting zone temperature affects emergence and growth traits of Snake Tomato (*Trichosanthes cucumerina* L.). *Journal of Central European Agriculture* 10(3): 239-244 (**Hungarian Academy of Science**)
31. **Adebooye O.C.**, G.J. Noga and M. Schmitz-Eiberger (2009) Effects of root zone temperature and paraquat in the induction of oxidative stress in *Trichosanthes cucumerina* L. *Acta Physiologiae Plantarum* 30: 873-879. (**Springer**) (ISI Impact Factor: 1.44)
32. **Adebooye O.C.**, Noga G and M. Schmitz-Eiberger (2008) Stress response of *Trichosanthes cucumerina* L. to elevated UV-B doses. *Acta Botanica Croatica(Croatia)* 67 (1): 69-80 (**University of Croatia**) (ISI Impact Factor: 0.83)
33. **Adebooye, O.C.** (2008) The properties of seed oil and protein of three under-utilized edible cucurbitaceae of Southwest Nigeria. *Acta Horticulturae(Belgium)* 806: 347- 354 (**Journal of International Society for Horticultural Science, Belgium**)

34. **Adebooye, O.C.** (2008) Reducing the oligosaccharide and anti-nutritional factors contents of two under-utilized grain legumes of Southern Nigeria. *Acta Horticulturae(Belgium)* **806: 355-360** (**Journal of International Society for Horticultural Science, Belgium**)
35. **Adebooye, O.C., M.R. Vijayalakshmi and V. Singh** (2008) Peroxidase activity, chlorophyll and antioxidant components of two leaf vegetables subjected to six pre-treatment methods. *International Journal of Food Science and Technology* **43: 173-178** (**Wiley**) (ISI Impact Factor: 2.38)
36. **Adebooye, O.C and V. Singh** (2007) Effect of cooking on the Profile of phenolics, tannins, phytate, amino acid, fatty acid and mineral nutrients in whole-grain and decorticated vegetable cowpea. *Journal of Food Quality* **30 (2007) 1101–1120.** (**Wiley**) (ISI Impact Factor: 0.84)
37. **Adebooye, O. C..** (2008) Phyto-constituents and antioxidant activity of the fruit pulp of Snake Tomato (*Trichosanthes cucumerina* L.). *African Journal of Traditional Medicine and Alternative Therapy* **5: 173-179.** (ISI Impact Factor 0.55)
38. **Adebooye O.C. and V. Singh** (2008) Physico-chemical characteristics of flour and starch of two varieties of vegetable cowpea. *Innovative Trends in Food Science and Emerging Technologies* **9: 92–100** (**Elsevier**). (ISI Impact Factor: 3.71)
39. **Adebooye, O.C. and F.M. Oloyede** (2007) Effect of phosphorus on the fruit yield and food value of two landraces of *Trichosanthes cucumerina* L.- Cucurbitaceae . *Food Chemistry* **100 (3): 1259-1269** (**Elsevier**). (ISI Impact Factor: 4.95)
40. **Adebooye, O. C., S.O.Ajadi, and A.B.Fagbohun** (2006) An Accurate Mathematical Formula for Estimating Plant Population in four dimensional field of sole crop. *Journal of Agronomy* **5(2): 289-292**
41. **Shittu O.S., O.C. Adebooye, A.S. Fasina and F.O. Omolayo** (2006)). Responses of leaf yield and chemical composition of *Amaranthus cruentus* L. and *Celosia argentea* L to land use types and fertilizer regimes. *International Journal of Agric Research* **1 (3): 286-293.**
42. **Owolarafe, O.K., O. C. Adebooye and O.A. Adegbenjo** (2006) Physical characteristics and food value of *Spondias mombin* L. *Journal of Food Science and Technology* **43(6): 626-628** (**Springer**). (ISI Impact Factor: 1.80)
43. **Adebooye O. C., G. O. Adeoye and H. Tijani-Eniola**(2006) Effects of phosphorus on quality of fruits of three varieties of tomato (*Lycopersicon esculentum* (L.) Mill). *Journal of Agronomy* **5(3): 396-400**
44. **Adebooye, O.C and O.T. Phillips** (2005) Studies on seed characteristics and chemical composition of three morphotypes of *Mucuna urens* (L.) Medikus. *Food Chemistry* **95 (4) : 658-663** (**Elsevier, UK**) (ISI Impact Factor: 4.95)
45. **Oloyede, F.M. and O. C. Adebooye** (2005) Effect of season on growth, fruit yield and nutrient profile of two landraces of *Trichosanthes cucumerina* L. *African Journal of Biotechnology*, **4(6): 1040-1044** (ISI Impact Factor 0.57)
46. **Adebooye, O.C, F. M. Oloyede, J.T. Opabode and O.O. Onagoruwa** (2005) Fruit characteristics and nutrient composition of three Nigeria landrace morphotypes of snake tomato (*Trichosanthes cucumerina* L.) *Journal of Vegetable Science* **11(4): 5-16.** (**Taylor and Francis**)

47. Opabode, J.T. and **O.C. Adebooye (2005)** Application of biotechnology for the improvement of indigenous leaf vegetables of Nigeria. *African Journal of Biotechnology* 4(3): 138-142 (Impact Factor 0.57)
48. **Adebooye O.C.**, G.O. Adeoye and H. Tijani-Eniola (2005) Effects of ripening media and season on postharvest qualities of three varieties of tomato. *Journal of Applied Horticulture* 7 (2): 95-98 (Indian Society for Horticultural Science, India)
49. **Adebooye, O.C.**, S.A. Ajayi, J. J. Baidu-Forson and J.T. Opabode (2005) Seed constraint to cultivation and productivity of African indigenous leaf vegetables. *African Journal of Biotechnology* 4 (13): 1480-1484 (ISI Impact Factor 0.57)
50. **Adebooye, O.C** and J.T. Opabode(2004). Status of conservation of the indigenous fruits and vegetables of Africa. *African Journal of Biotechnology* 3(12): 700-705. (ISI Impact Factor 0.57)
51. **Adebooye, O.C.**, F.M.D. Ogbe and J.F. Bamidele(2003) Ethnobotany of indigenous leaf vegetables of Southwest Nigeria. *Delpinoa* 45: 295-299. (Botany Department, University of Naples, Naples, Italy)
52. **Adebooye, O.C.** and O.Olorode(1999)Nutrient profile and botanical description of an exotic *Jatropha sp.* eaten as a leaf vegetable in southwest Nigeria. *Ife Journal of Agriculture* 20: 90-103. (Obafemi Awolowo University, Ile-Ife, Nigeria)
53. **Adebooye, O.C.** and S.A. Bello(1998) Fruit characteristics and nutrient analysis of fifteen accessions of *Irvingia gabonensis* var. *dulcis* of southwest Nigeria. *Nigeria Journal of Tree Crops Research*. 2(1): 30-40. (Cocoa Research Institute, Ibadan)
54. **Adebooye, O.C.** and A.J. Farinde(1997) A review of postharvest losses in fruits and vegetables in Nigeria: The need for an extension strategy. *Journal of Agricultural Extension* 2: 91-100. (University of Ibadan, Ibadan, Nigeria)
55. **Adebooye, O.C.** and C.O. Oputa(1996) Effect of Galex on growth and fruit nutrient composition of okra. *Ife Journal of Agriculture* 18(1&2):1-9. (Obafemi Awolowo University, Ile-Ife, Nigeria)
56. Alofe,C.O., **O.C. Adebooye** and A.J. Isei (1996) Effect of N and stand density on grain yield performance of maize in a southwest location *Ife Journal of Agriculture* 18(1&2): 37-44. (Obafemi Awolowo University, Ile-Ife, Nigeria)
57. **Adebooye, O.C.** (1996) Proximate composition and nutrient analysis of six selected leaf vegetables of southwest Nigeria. *Ife Journal of Agriculture* 18(1&2): 56-62. (Obafemi Awolowo University, Ile-Ife, Nigeria) .
58. **Adebooye, O.C.** (1996) A preliminary investigation of onion cultivation in a southwest location in Nigeria. *Onion Newsletter for the Tropics* 6: 49-52. (Natural Resources Institute, Overseas Development Administration, UK)

Conference Refereed proceedings

59. Olarewaju, B.E., J.O. Ayinde, D.O. Torimiro, O.T. Alao, D.J. Oyedele, O.C. Adebooye(2019) Knowledge, attitude and practices (KAP) analysis of underutilized indigenous vegetables (UIVs) technologies among the Southwest Nigerian young farmers. *Acta Horticulturae* 1238:

60. Adewoyin, E.O., J.O. Ayinde, D.O. Torimiro, O.T. Alao, D.J. Oyedele, O.C. Adebooye (2019) Assessment of perceived knowledge and consumption frequency of underutilized indigenous vegetables (UIVs) among the rural youth in Osun State, Nigeria. *Acta Horticulturae* 1238:
61. Akintayo, O.I., B.O. Lawal, D.J. Oyedele, O.C. Adebooye (2019) Marketing of indigenous leafy vegetables by farmers in Oyo State, Nigeria: constraints and opportunities. *Acta Horticulturae* 1238:
62. Aduwo, O.E., J.O. Aransiola, L.O. Ikuteyijo, O.T. Alao, O.F. Deji, J.O. Ayinde, O.C. Adebooye, D.J. Oyedele (2019) Gender differences in agricultural technology adoption in developing countries: a systematic review. *Acta Horticulturae* 1238:
63. Faniyi, E.O., O.F. Deji, D.J. Oyedele, O.C. Adebooye (2019) Gender assessment of vegetable farmers' utilisation of soil and water conservation technologies in MicroVeg project Sites, Southwest Nigeria. *Acta Horticulturae* 1238:
64. Alao, O.T., A.B. Ayanwale, L.O. Ikuteyijo, J.O. Aransiola, O. Adesiyani, M. Ojo, N. Ajeigbe, O.C. Adebooye, D.J. Oyedele (2019) Gender involvement in the production of indigenous vegetables in Southwest Nigeria. *Acta Horticulturae* 1238:
65. Ayanwale, A.B., N. Ajekiigbe, Durodoluwa Joseph Oyedele and O. C. Adebooye (2018) Economic impacts of fertilizer micro-dosing in the production of underutilized indigenous vegetables in south west Nigeria: an ex-ante approach. *Acta Horticulturae* (Journal of the International Society for Horticultural Science, Belgium) DOI:10.17660/ActaHortic.2018.1225.42
66. **Adebooye O. C., M. Schmitz-Eiberger, M. Hunsche, C. Lankes, and G. Noga (2013) Pigments, photochemistry, leaf ultra-structure and minerals quantification of *Solanum macrocarpon* L. as affected by salinity in a perlite-compost medium. **Proceeding of African Crop Science Conference, Mozambique, 2011: Volume 10: 79 – 85****
67. Ayanwale A. B., D. J. Oyedele, **O.C. Adebooye** and V. A. Adeyemo(2012) A socio-economic analysis of the marketing chain for under-utilised indigenous vegetables in Southwestern Nigeria. **Proceeding of African Crop Science Conference, Mozambique, 2011: Volume 10: 515-519**
68. **Adebooye O.C.** (2012) Food Value of Underutilized African Indigenous Vegetables: Preservation and Processing options to optimize nutrients supply. **Proceeding of African Crop Science Conference 2011: Volume 10: 1-7**
69. **Adebooye O.C.** (2012) African Indigenous Vegetable Resources in a changing world. United Nations University/INRA, Accra, Ghana. **Publication 2013 (In Press)**
70. **Adebooye O.C.** and O. Adedayo Ajayi (2009) Future of the Nigerian under-exploited indigenous fruits and vegetables in the era of climate change: The Need for farmers Education. Proceedings of Tropentag 2008 University of Hohenheim, Germany.

Conference Unrefereed proceedings

71. **Adebooye, O.C.** (2013) Underutilized Indigenous Vegetables For Food Security and Livelihood Resilience In Nigeria. Paper presented at FARA Conference Accra, Ghana. July 2013. Available at www.fara.org . **Published as PowerPoint document.**
72. **Adebooye O.C.** (2014) Advancing indigenous vegetables from the wild to the field to foster livelihood resilience in Nigeria. Paper presented at International Food Security Dialogue,

Research/Technical Reports:

73. **Adebooye O.C.** et al. (2015, 2016, 2017, 2018). Synergizing fertilizer microdosing and agronomic innovation for indigenous production and value addition Volume 2: Reports submitted to IDRC Canada on a funded project. Report accepted with commendation
74. **Adebooye O.C.** et al. (2015). Synergizing fertilizer microdosing and agronomic innovation for indigenous production and value addition Volume 1: Report submitted to IDRC Canada on a funded project. Report accepted with commendation
75. **Adebooye O. C. et al** (2014) Sustainable production and utilization of selected under-utilized vegetables of southwest Nigeria for food security. Final Technical Report: Report submitted to IDRC Canada on a funded project. Report accepted with commendation
76. **Adebooye O. C. et al** (2013) Sustainable production and utilization of selected under-utilized vegetables of southwest Nigeria for food security. Volume V: Year III: Report submitted to IDRC Canada on a funded project. Report accepted with commendation
77. **Adebooye O. C. et al** (2012) Sustainable production and utilization of selected under-utilized vegetables of southwest Nigeria for food security. Volume IV: Year II: Report submitted to IDRC Canada on a funded project. Report accepted with commendation.
78. **Adebooye O. C. et al** (2011) Sustainable production and utilization of selected under-utilized vegetables of southwest Nigeria for food security. Volume I: Year: Report submitted to IDRC Canada on a funded project.
79. **Adebooye O.C.** (2007) Nutritional profile of cowpea and selected vegetables after cooking and processing. Report submitted to the United Nations University after my Visiting Scientist appointment. June 2006.
80. **Adebooye, O.C,** F.M. Ogbe, J.F Bamidele (2002) Ethnobotany of indigenous leaf vegetables of southwest Nigeria. Submitted to the United Nations University/Institute for Natural Resources in Africa as the first submission on the funded project. The UNU/INRA Council accepted the report.
81. **Adebooye, O.C.**(2004) Detailed morpho-typical variation and food value of some selected indigenous leaf vegetables of southwest Nigeria. Submitted to the United Nations University/INRA Council. Report was accepted with commendation in January 2005.
82. **Adebooye, O.C.** (2006) Quality characteristics and anti-nutritional factors of selected indigenous African leafy vegetables and legumes. Report submitted to the United Nations University, Tokyo and the Council for Scientific and Industrial Research (CSIR), India on the project executed at the Central Food Technological Research Institute, Mysore, India (November 2005-May 2006. 107 pages.

INTERNATIONAL FELLOWSHIPS AND TRAVEL GRANTS:

1. Not less than 20 other travel grants between 2014 and 2018 to attend present papers and KEYNOTE papers at conferences in Kenya, Addis Ababa, Benin Republic, Canada, Germany, Poland, Belgium, Ghana etc.
2. Canadian Government travel grant to attend Food Security meeting in Ottawa. January 2019.

3. Canadian Government Travel Grant to attend project meeting at the University of Saskatchewan in November 2017.
4. German Government travel grant to attend a selection meeting at the University of Cape Town, South Africa, June 2016.
5. IDRC-DFATD Grant to attend Research to Africa Symposium, Kenyan Agricultural Research Institute, Nairobi-Kenya. June 23- 28, 2014. Nairobi, Kenya.
6. IDRC-DFATD Grant to attend International Food Security Dialogue, University of Alberta, Edmonton Canada. April 28-May 8, 2014. Edmonton, Canada.
7. Alexander von Humboldt Stiftung Grant to attend a Conference on Research Excellence in Africa. Safari Park, Nairobi, Kenya, March 6-14, 2014.
8. IDRC-CIDA Grant to attend a training workshop on communicating research for impact and influence, Pretoria South Africa. November 7-16, 2013.
9. IDRC-CIDA Grant to attend and present a paper at FARA Conference, Accra, Ghana. July 11-21, 2013.
10. IDRC-CIDA funding to attend training on operations of autoanalyzer at Seal Analytical, Hamburg, Germany. January 20-Feb 5, 2013.
11. ETF Grant to attend German Society for Horticultural Science Conference at the University of Bonn, Germany. February 25-March 6, 2013.
12. IDRC-CIDA Grant to spend 6 weeks at Cape Breton University, Canada to write some scientific papers. May/June, 2013.
13. Humboldt Foundation grant to participate in German-African Horticultural Network Meeting, University of Bonn, Germany. May 5-12, 2012.
14. Canadian IDRC-CIDA grant to attend Project 106511 Meeting. Cape Breton University, Sydney, Canada. April 7-15, 2012.
15. German Humboldt Foundation Grant to participate in the African-German Network of Excellence in Science, Addis Ababa, Ethiopia. November 15-19, 2011.
16. Canadian IDRC Grant to attend African Crop Science Conference in Maputo, Mozambique October 5-14, 2012.
17. German-African Horticultural Network Meeting, Addis Ababa, Ethiopia. Feb 2-12, 2012.
18. United Nations University financial support to attend UNU-INRA Conference in Accra, Ghana. Dec 2011.
19. German AvH Travel Fellowship to attend African-German Research Network meeting at the University of Bonn, Germany. November 2009.
20. DAAD Fellowship to attend International Academic Leadership Course, Addis Ababa, Ethiopia. February 10 – 18, 2008.

21. CTA Grant to attend the International Underutilized Plant Conference in Arusha, Tanzania. March 2-8, 2008.
22. United Nations University Fellowship to attend International Training programme on capacity building in food safety in nutritional outreach. April 3-8, 2006. Held at the Central Food Technological Research Institute, Mysore, India.
23. United Nations Fellowship to attend the 3rd Session of the College of Research Associates (CRA) Meeting at Accra, Ghana. April 22-26, 2003.
24. United Nations University Fellowship to attend and present a paper at the 3rd International Ethnobotanical Conference at the University of Naples, Italy. September 22-October 5, 2001.
25. Third World Academy of Science (TWAS) Fellowship to attend and present a paper at the 3rd International Conference on “Sustainable use of indigenous food and medicinal plants” at the University of Karachi, Pakistan; September 18-29, 2000.
26. United Nations University Fellowship to attend Tissue Culture Training Course at the University of Ghana, Legon- Accra, Ghana. July-August, 2000.
27. IITA Fellowship to attend Training in Cytogenetics at the Sub-Station, Onne, Rivers State, Nigeria. June 2000.

ADMINISTRATIVE EXPERIENCE AT UNIVERSITY LEVEL:

1. Deputy Vice-Chancellor (Academic and Research), UNIOSUN, Osogbo 2017-2019
2. Provost/Dean, College of Agriculture, UNIOSUN, Osogbo 2015-2016.
3. Director, Quality Assurance, Osun State University, Osogbo 2014
4. Director, Research and Linkages, Osun State University, Osogbo 2010-2013
5. Member, Committee of Provosts, Deans and Directors, UNIOSUN 2011 to 2016
6. Member, University Management Committee, UNIOSUN. 2011 to date
7. Chairman, NURESDEF Committee, Osun State University 2011 to date.
8. Editor-In-Chief, UniOsun Journal of Sciences 2011 to date.
9. Member, Board of Postgraduate College, UNIOSUN. 2010 to date
10. Member of Senate, Osun State University, Osogbo(January 2010 to date)
11. Head, Department of Agronomy, Osun State University, Osogbo (Aug 2010 – Aug 2011)
12. Coordinator, UTME UniOsun, Ejigbo Campus. (2010 to date)
13. Chairman, Faculty Council, OAU, Ile-Ife, Nigeria (2002-2004).
14. Member, University Senate, OAU, Ile-Ife, Nigeria (2001-2005).
15. Member, Appointment and Promotions Committee (A&PC), OAU, Ile-Ife. (2001-2004)
16. Secretary, ASUU-OAU 2000-2004
17. Chairman Excess-Work-Load Committee 1998-2004.
18. Assistant Secretary ASUU-OAU 1998-2000
19. Member, Board of Students' Affairs, Division of Students' Affairs OAU (1997-2005).
20. Member, Governing Board of Fajuyi Hall of residence 2000-2005
21. Chairman, Crop Type Collection Center (CTC), Department of Plant Science (2002-2005)
22. Member, Standing Committee of the University Congregation (2004-2005).
23. Chairman, Departmental Postgraduate Selection Committee 2008
24. Member, Faculty Selection Panel, Faculty of Basic Medical Sciences 2008.
25. Member, Departmental Curriculum Development Committee 2008
26. Member, Faculty Consultancy Committee 2008.

IMPORTANT CONFERENCES/MEETINGS ATTENDED WITH DATES:

1. American Society for Horticultural Science Conference, Las Vegas, USA. July 2019

2. United Nations SDGs grant proposal writing. June 2019.
3. Government of Canada Food Security Meeting. Ottawa Canada. January 2019
4. IDRC-GAC Food Security meeting, University of Manitoba. March 2018
5. IDRC-GAC Linkage with industry meeting. Ottawa, Canada. May 2017.
6. Canada IDRC Project meeting. University of Saskatoon. March 2017.
7. Selection Meeting of Humboldt Foundation (AGNES), Cotonou, December 2016.
8. Selection Meeting of Humboldt Foundation, Cape Town, South Africa June 2016.
9. German Society for Horticultural Science Annual Conference, Technical University, Munich, Germany. February 21-28, 2015.
10. Africa Union Food Security Meeting. Addis Ababa. September 2014.
11. IDRC Training workshop on Communicating Research for Influence. Pretoria South Africa. November, 2013.
12. FARA Conference, Accra, Ghana. July, 2013.
13. IDRC-CIDA Project 106511 workshop, University of Manitoba, Canada. May 10-17, 2013
14. German Society for Horticultural Science Conference. University of Bonn, Germany. Feb 28-March 5, 2013.
15. Training workshop on use and operation of autoanalyzer. Seal Analyticals, Hamburg, Germany. January 26- 6 Feb 2013.
16. German-Africa Horticultural Network meeting, University of Bonn, Germany (May 5-12, 2012)
17. IDRC-CIDA Vegetable Project Meeting, Sydney, Canada (April 5- 15, 2012)
18. German-Africa Horticultural Network meeting, Addis Abba, Ethiopia (February 5-12, 2012)
19. United Nations University Conference on Natural Resources, Accra, Ghana(December 4-12, 2011).
20. African Crop Science Conference, University of Mozambique, Maputo (October 5-14, 2011)
21. German Society for Horticultural Science Conference, University of Hannover, Germany Feb 2011.
22. Center of Excellence for Horticulture Workshop, University of Bonn, Germany April 2009.
23. Humboldt International Conference, FUTA, Akure June 7-9, 2010.
24. Humboldt International Conference, LAUTECH, Ogbomosho February 10-14, 2010.

25. 3rd International University Leadership Course at the Addis Ababa University, Ethiopia Feb 10-16, 2008.
26. International under-utilized plants symposium, Arusha, Tanzania March 3-8, 2008.
27. 44th Conference of Horticultural Science, Erfurt, Germany Feb 21 – 23, 2007.
28. Workshop on diversity and utilization of coffee. Lehr- und Forschungstation, Wesseling, Germany April 2-3, 2007.
29. Meeting of specialist group on indigenous African vegetables. Katholik University, Leuven, Belgium May 2-3, 2007.
30. 1st International Deans and University Leadership Course at the Freie Universität Berlin, Germany. May 6-17, 2007.
31. 6th Oxidative Stress and Photosynthesis Seminar. Institut für Gartenbauwissenschaft, Universität Bonn, Germany May 21-22, 2007.
32. Greenhouse Vegetables: Factors combination. One-day workshop at Lehr- und Forschungstation, University of Bonn, Klein Altendorf, Germany June 28-29, 2007.
33. 97th Open-door day of Agrotechnik, Pulheim, Germany July 11-12, 2007.
34. German Society for Horticultural Science Meeting, Berlin, Germany. August 16-17, 2007.
35. 1st Intermediate Deans and aspiring Deans course. University of Applied Sciences, Osnabrück September 16-19, 2007.
36. Phytosäre Conference, Forschung Zentrum, Jülich, Germany. September 2008.
37. International Conference on Sustainable Greenhouse Systems - GREENSYS2007, University of Naples, Italy. October 4-5, 2007.
38. International Conference on Precision Crop Protection. Stressman Institute, Bad-Godesberg, Germany. October 10-11, 2007.
39. Alexander von Humboldt Foundation Network Meeting Munich, Germany. February 12-14, 2007.
40. *Forschung Tagung* Alexander von Humboldt Foundation, Bonn, Germany. April 14-16, 2007.
41. Nigerian Genetics Society Conference 2003.
42. 3rd International Ethnobotanical Conference, University of Naples, Italy (September 22-October 3, 2001)
43. International Workshop on Sustainable use of Indigenous Medicinal and Food Plants in the Developing Countries held at the University of Karachi, Pakistan. September 15 - 29, 2000.

O. CONTRIBUTION TO KNOWLEDGE:

The thrust of my research is: Physiology and food value of the indigenous vegetables of Nigeria and I used the following crops as my target:

1. Snake tomato (*Trichosanthes cucumerina* L.): My studies which are based on field-work, greenhouse/growth chamber and laboratory analyses on the physiology of this plant produced **nine (9)** published articles **My major findings are:**

- A survey of *T. cucumerina* diversity in Southwest Nigeria identified three variants of this plant. We also reported the anatomical characteristics of the three variants.
- My work showed that the fruit pulp of *T. cucumerina* is sweet tasting, aromatic, deep red in colour and does not go sour as quickly as paste of *L. esculentum*.
- We established that the Vitamin C content of *T. cucumerina* was more than double that of tomato (*Lycopersicon lycopersicum*). Our findings on the food value of this fruit have also been confirmed by the plant analyses laboratories in Germany.
- I reported the anti-oxidant profile and radical scavenging activity of two Nigeria variants of *T. cucumerina*. The studies showed that the lycopene, lutein, α -carotene, β -carotene, total phenolics, total flavonoids and total ferric reducing antioxidant power (FRAP) of the two morphotypes of *T. cucumerina* can qualify them as viable substitute to the Solanaceous tomato. Other authors have referenced this work.
- The summary of my findings (based on the information above) is that this plant is a viable substitute to the Solanaceous tomato.
- My studies demonstrated that P is a highly critical nutrient required for growth and fruiting in *T. cucumerina*. and 90 kg P/ha is the optimum level required for optimal fruit yield with reduced flower abortion in *T. cucumerina*. Optimum food value was obtained at 90 kg P/ha.
- Studies showed that early season is the best time for high quality fruit production in southwest Nigeria. This work has been cited by other scientists.
- I documented the detailed physico-chemical properties of the oil and protein of the seed of *Trichosanthes cucumerina* and two other cucurbitaceae. I provided biochemical information on the amino acids and fatty acids profiles of the seed of this plant. I postulated that the seed of this plant could be explored for use by livestock feed industry because of its high oil and protein contents. I also postulated that the emerging bio-fuel industry can take advantage of the high oil content to boost the industry. Other authors have referenced this work.
- Our work in digitally simulated media documented the oxidative and photosynthetic damage suffered by *T. cucumerina* in response to Ultra-violet radiation (UV-B). We showed that ascorbic acid and photochemical parameters (A, g1, SC, G, Fv/Fm, Fm, Fo) decreased sharply at 4 hours after exposure to UV-B while at 8 hours the values increased by over 100%. We used these results to provide the first literature report and new idea on scientific insight into stress defense mechanism in *T. cucumerina*. Other authors have referenced this work.
- We provided the first available literature report on the anti-oxidative response of *T. cucumerina* to a combination of root zone temperature (RZT) and stress-inducing-agent : methyl-viologen MV^{2+} , also known as paraquat. This work presented new findings on plant anti-oxidative response. We showed that the degree of oxidative damage suffered by *T. cucumerina*, when treated with methyl-viologen MV^{2+} either at 25 or 30 °C RZT was similar at 48 h after treatment.
- We showed that at 48 h after precision aerial application of methyl-viologen MV^{2+} the value of Fv/Fm (*0.07) and A (*0.7 $\mu\text{mol CO}_2 \text{ m}^2/\text{s}$) were close to zero indicating that significant damage had occurred in the photosystem II (PS II) reaction centers and that net photosynthesis

was almost completely inhibited. We also postulated that ascorbic acid is much likely to play a major role in anti-oxidative response of *T. cucumerina* to oxidative damage.

2. The indigenous leaf vegetables and legumes crops: My studies on the physiology of indigenous legumes and leaf crops produced 20 publications

- My research works on the indigenous leaf vegetables of southwest Nigeria formed significant part of the contribution of the Department of Plant Science to the 40th Anniversary Edition of the Ife Journal of Agriculture. My study documented the detailed nutrient composition of indigenous leaf vegetables namely, *Crassocephalum bialfræ* (= *Solanecio bialfræ*), *Crassocephalum crepidoides* and *Launea taraxacifolia*.
- The Plant Resources of Tropical Africa (PROTA), The Netherlands requested for a contribution to a book from me on *Solanecio bialfræ*. This Chapter that I contributed on *Solanecio bialfræ* in PROTA vegetables (365-367 pp) was a major report on the full agronomy of this plant.
- The research on botanical description of *Jatropha spp* provided detailed report on the full botany and food value of this plant. Our studies established and wrote the floral formulae for the male and female parts of this plant. We also established that the plant, despite having itching property, was a good source of protein for man. We recommended further studies on its anti-nutritional and medicinal properties.
- We employed theoretical approach to sensitize Africans and governments to the threat posed to indigenous leaf vegetables through my publications on the Status of Conservation of the Indigenous Vegetables and Fruits of Nigeria. The paper discussed approaches that African governments could use to arrest loss of plant genetic resources. This paper has been widely cited in United Nations documents, on the Internet and by several authors in international literature.
- We published a paper that suggested biotechnological approaches that could be used to rapidly multiply and conserve the remaining African leaf vegetables and legumes heritage. This paper has been widely cited in United Nations documents, on the Internet and international literature.
- We examined the seed constraint to cultivation and productivity of the indigenous leaf vegetables of Africa. Through this publication we provided practical approaches to solving seed supply problems of indigenous leaf vegetables and we also postulated on the challenges ahead of African Scientists to solve the problem of seed supply in indigenous leaf vegetables. This paper has been cited in international literature.
- Our work showed that chlorophyll 'a' and 'b' occur in ratio 3:1 in the *Amaranthus cruentus* and *Solanum nigrum*. We also showed that irrespective of the pretreatment imposed this chlorophyll ratio remained unchanged suggesting that they are tied together in each of these vegetables. Our study showed that there was no peroxidase activity in *A. cruentus*, irrespective of the pretreatment imposed showed, while *S. nigrum* showed high peroxidase activity. This work has been referenced by other scientists in literature.
- We also showed that there was a significantly higher content of antioxidant carotenoids in *A. cruentus* when compared with *S. nigrum*, while the antioxidant total phenolics, total flavonoids and total tannins contents were higher in *S. nigrum* when compared with *A. cruentus*, irrespective of the pretreatment method used. For the two vegetables, the percentage losses in antioxidant total carotenoids, phenolics, flavonoids and total tannins could be up to 53.3–60.5%, 55.6–57.1%, 62.4–63.6% and 66.1–73.5%, respectively depending on the pretreatment used.

- I studied the anti-oxidant, oligosaccharides and anti-nutrients contents in cowpea and two indigenous under-exploited edible legumes. I reported substantial reduction in the oligosaccharide and anti-nutrients composition following decortication and cooking.
- We studied the physiology of cowpea starch and reported its physico-chemical properties. We modified the starch isolation procedure and obtained the pure cowpea starch. We compared the industrial properties of cowpea starch with the other known popular starch sources. We finally suggested, based on my findings, the possible industrial applications of cowpea starch. This work has been cited by other scientists.

3. Physiology and food value of other minor crops. My works produced 3 publications

- The work on *Irvingia gabonensis* documented in detail the variation within the species in selected locations in Southwest Nigeria in terms of fruit characteristics and nutrient composition. We demonstrated that fruit size was not a perfect determinant of seed/cotyledon size. We also established the food value of this plant.
- Our works on *Mucuna urens* (agbaarin) and *Spondias mombin* (iyeye) have attracted international audience. The results of the studies provided the information required for an opportunity to take advantage of the useful characteristics of these plants. The paper on *Mucuna urens* has been variously cited in international literature.
- We established that *M. urens* is a better source of protein and oil in comparison with many other known protein and oil crops.
- It was demonstrated that seed size is not a perfect determinant of cotyledon size in *M. urens*.
- Our work showed that *S. mombin* is a good source of vitamin C and we presented the engineering properties that could be used in designing extraction machine for the juice. We suggested the use of the fruit for fruit juice industry.

4. My theses works (Bachelors, Masters and PhD)

- My Bachelors study (Published) on response of maize to N application established that maize would respond positively to N application up to an optimum level (120 kg/ha) beyond which no further yield increase would be recorded. It was also established that maize varieties differ in their response to seasons, in particular some varieties performed better in the late than in the early season. This work formed part of the contribution of the Department of Plant Science to the 40th Anniversary Edition of the Ife Journal of Agriculture.
- My MSc study (Published) on the response of okra to Galex[®] (metolachlor + metobromuron) established that application of Galex, a pre-emergence herbicide, at a concentration of >1.5 kg a.i /ha was lethal to emerging okra seed. The application of 1.0 kg a.i./ha led to 45 and 57% increases in Calcium and potassium contents, respectively, of okra fruits. This work has been cited in international literature.
- My Ph.D. research (Published) showed that the storage media had a profound effect on the quality of tomato fruits harvested at breaker stage. It was established that some of the most important changes in composition that took place when tomato ripened on the parent plant would also take place when the fruit was detached at mature green stage/breaker stage. It therefore follows that, at least some aspects of ripening depended on the metabolism of components already existing in the fruit, and not on the import of materials from the parent plant.

5. Mathematical study:

In the area of application of mathematical sciences to agronomy and horticulture, I led a study (xx) that investigated the accuracy of the formula for estimating plant population in a four dimensional experimental plot. The study showed that plant population estimation based on the existing formula was not accurate.

$$Pp = \frac{10,000(m^2) \times \text{no of seeds per stand} \times \text{no of ha}}{\text{Product of spacing (m}^2\text{)}}$$

We then derived a mathematical formula that can estimate correctly the plant population in four dimensional regular fields of sole crop. We also developed the optimization principle for non-regular field. Our work concluded as follows:

“Therefore, for any given four dimensional regular field of length (L) and breadth (B), given a spacing of ($l \times b$), number of seed per stand (N), plant population can be accurately estimated by equation (5),

$$Pp = \frac{(B + b)(L + l)}{lb} \times N$$

For Non-regular Field:

We may propose plant population formula for a non-regular field, whose sides can be represented as a function of a variable. Let dL' , dB' be the elemental length and breadth of farm field respectively, while dl' , db' are the length and breadth of spacing respectively, then equation (5) becomes:”

$$Pp(l, b) = \frac{\int_0^L \int_0^B dB' dL' + \int_0^B \int_0^L dL' dB' + \int_0^L \int_0^b db' dL' + \int_0^L \int_0^b db' dl'}{\int_0^l \int_0^b db' dl'} \times N$$

6. Published Book:

- Together with two other colleagues (Prof Kehinde Taiwo and Dr Andrew Fatufe), I published three edited books on the Humboldt International Conference which I hosted in August 2008 and 2009 with full financial support from the Alexander von Humboldt Foundation, Germany. The publisher is the Cuvillier Publisher, Goettingen, Germany. A total of 147 peer-reviewed articles were published in the three books.

22/03/2017.

Signature and Date

Declaration: As of March 22nd, 2017, I certify the contents of this document are accurate.