**PRINCIPAL’S MESSAGE FOR THE ANNUAL REPORT FOR 2020**

The College of Agriculture and Veterinary Sciences, commonly referred to as CAVS is one of the six Colleges that make up the University of Nairobi. CAVS has continued to experience growth in various facets as it strives to fulfill its mandate of training human resource in the fields of agriculture, veterinary sciences and environmental studies. Apart from the professional aspect,  we also offer all-round training that includes, but not limited to, mentorship and leadership as  well as guidance and counseling, with the aim of producing graduates who will be responsible  global citizens with the capacity to make positive contributions to society.

CAVS has played its strategic role in helping to realize national and international policy aspirations such as Kenya’s Vision 2030 and the Big 4 Agenda, and the Sustainable  Development Goals (SDGs). In this respect, the College has pioneered the breeding of new bean varieties, established the Seed Enterprise Management Institute (SEMIs), established facilities for training on reducing post-harvest losses and offered higher training in veterinary sciences and environmental sustainability initiatives. All of these are crucial in, *inter alia,* alleviating food security challenges, reducing levels of excruciating poverty and promoting sustainable livelihoods. Our contribution to reducing impacts of the pangs of hunger allows people to engage in productive endeavors at the personal and national levels.

Our academic curricula are continuously and regularly reviewed in response to contemporary global trends, and because of this, the training that our graduates receive has enabled them to excel in diverse fields in different parts of the world. In this respect, several curricula were reviewed during the year.

CAVS does not operate in a vacuum but is fully involved in outreach activities that include corporate social responsibility. Members of staff and students regularly go out to meet farmers to, among other things, train them in various fields and creating awareness on the latest trends in agriculture, veterinary and environmental issues, and vaccinating livestock. The students and Staff in return also share experiential knowledge from the practitioners.

Following the Government of Kenya directive in early 2020 that all educational institutions should have at least 10% of their land under trees, CAVS was given the task of undertaking this responsibility on behalf of the University of Nairobi. As a first step towards this objective, and in liaison with our stakeholders, we planted 3,065 tree seedlings at the Veterinary Farm on November 20, 2020. Since then, a number of corporate organizations and the Indian High  Commission in Kenya have expressed interest in partnering with us towards greening the  University as part of national, if not global efforts, in environmental conservation and protection.

Despite our achievements, 2020 was a difficult year across the world mainly due to the outbreak of the COVID-19 pandemic and our College was not spared the impacts. However, due to the tenacity of members of staff and students, and the unwavering support of University Management, we managed to graduate 820 students, after successfully completing many of the programmes on-line. We also held several webinars that attracted participants with different backgrounds from many parts of the world.

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I therefore wish to thank all the staff and students, and all our partners and collaborators who stood with us during the difficult moments. Each one of us has a responsibility toward good health; I continue to urge all of you to adhere to the laid down protocols availed by the Ministry of Health, and tirelessly offer the College your invaluable support.

We appreciate the Government of Kenya for the continued support, this being a public institution. Our quest for world class excellence is solid as we embrace measures in place to ensure sustainable and maximum utilization of our resources.

Once again I thank all our stakeholders, and urge you not to waver in your support as we forge forward into 2021.

**PROF. ROSE NYIKAL**

**AG. PRINCIPAL,**

**COLLEGE OF AGRICULTURE & VETERINARY SCIENCES**

**ACADEMIC UNITS IN THE COLLEGE**

**Faculty of Agriculture**

1. Department of Agricultural Economics
2. Department of Animal Production
3. Department of Food Science, Nutrition and Technology
4. Department of Land Resource Management and Agricultural Technology
5. Department of Plant Science and Crop Protection

**Faculty of Veterinary Medicine**

1. Department of Clinical Studies
2. Department of Public Health, Pharmacology and Toxicology
3. Department of Veterinary Anatomy and Physiology
4. Department of Veterinary Pathology, Microbiology and Parasitology

**Wangari Maathai Institute of Peace and Environmental Studies**

**MANDATE OF THE COLLEGE**

The mandate of the College is teaching and learning, research and innovation, consultancy and community service. The objectives and functions of the College are given in detail in the University of Nairobi Charter 2013.

The College has aligned its mandate to the University of Nairobi Charter 2013, and its mandate shall be

a) To train high calibre professionals in agriculture, human nutrition, and veterinary, environmental and related sciences,

b) To conduct relevant examinations and recommend to the Senate students who may be awarded certificates, diplomas, and degrees,

c) Business incubation and commercialization of new innovations and technologies,

d) To conduct and disseminate research output or innovation,

e) To offer outreach and community services.

f) To offer consultancy services,

g) To participate in policy formulation in agriculture, human nutrition, and veterinary, environmental and related sciences, and

h) To enhance and intensify income-generating activities.

**Vision**

To be a *centre of excellence in agricultural, food, veterinary and environmental sciences*

**Mission**

To pursue and maintain a leadership role in quality teaching, research, outreach and consultancy in agricultural, food, veterinary, environmental and related sciences for secure livelihoods.

**Core Values**

The college shall be bound by the National Values and Principles of Governance as espoused in articles 10 and 232 of the Constitution of Kenya 2010 and as cascaded from the university corporate strategic plan. The key values include inclusiveness, professionalism, good governance, integrity, transparency and accountability, equity, and sustainable development. The college shall be guided by these core values:

a) *Freedom of thought and expression:* It shall promote and defend freedom of thought and expression in all its academic inquiry and activities.

b) *Innovativeness:* It shall be innovative in meeting its mission.

c) *Commitment:* It is committed to the mission of the university and always will act in the best interests of the university.

d) *Trust:* It trusts the good intentions of others, views conflict as positive and resolves them creatively and effectively to meet the vision and mission of the university.

e) *Care:* It fosters a leadership culture that cares, that is people-focused, that connects to and is responsive to the needs of internal and external customers, and that promotes stewardship over university resources.

f) *Teamwork:* It works together as a team to realize the collective results that the university wishes to achieve.

g) *Stewardship:* It is committed to serving one another for sustainable management of natural resources and biodiversity.

**PUBLICATIONS**

**FACULTY OF AGRICULTURE**

|  |  |  |  |
| --- | --- | --- | --- |
| **AUTHOR** | **TITLE** | **JOURNAL** | **MONTH & YEAR** |
| Ogumo, E. O.  Kunyanga, C. N.  Kimenju, J.  and Okoth, M.  1 | Performance of a fabricated solar-powered vapour compression cooler in maintaining post-harvest quality of French beans in Kenya | African Journal of Food Science  Vol. 14(7) pp. 192-200, August 2020  DOI: 10.5897/AJFS2020.1968  Article Number: 10D5A6164541  ISSN: 1996-0794 | 21st July 2020 |
| Nancy Njeru, Charles Midega, James Muthomi, John Wagacha, Zeyaur Khan | Impact of push–pull cropping system on pest management and occurrence of ear rots and mycotoxin contamination of maize in western Kenya | Plant pathology-Wiley Online | 23rd July 2020 |
| Ogumo, E., Kunyanga, Kimenju, J., Okoth, M. | Performance of a fabricated solar-powered vapour compression cooler in maintaining post-harvest quality of French beans in Kenya | African Journal of Food Science 14 (7): 192-200,  DOI: 0.5897/AJFS2020.1968 | August 2020 |
| Daniel M. Mutyambai, · Nyang’au I. Mbeche, Emmanuel Onamu, Muo J. Kasina, John H. Nderitu  Allan N. Mweke5 | False codling moth, Thaumatotibia leucotreta (Meyrick) a new threat  to horticulture industry: Stakeholders’ perspectives on the status, impact and management in Kenya | Journal of Plant Diseases and Protection (2020) 127:799–804  https://doi.org/10.1007/s41348-020-00363-5 | 5th August 2020 |
| Grace Ochieng, Kahiu Ngugi, Lydia N. Wamalwa, Eric Manyasa,  Nicoleta Muchira, Desterio Nyamongo, Damaris A. Odeny | Novel sources of drought tolerance from landraces and wild  sorghum relatives | Crop Science, DOI: 10.1002/csc2.20300 | 6th August 2020 |
| Grace Ochieng, Kahiu Ngugi, Lydia Wamalwa,  Eric Manyasa, Nicoleta Muchira, Desterio Nyamongo, Damaris Odeny | Novel sources of drought tolerance from landraces and wild sorghum relatives | Crop Science  <https://doi.org/10.1002/csc2.20300> | 12th August 2020 |
| Bancy Waithira Waweru \*, Dora Chao Kilalo  , John Wangai Kimenju1  , Placide  Rukundo  , Douglas Watuku Miano | Farmers’ knowledge and perceptions of viral diseases of hot pepper (Capsicum sp.) and their management in Rwanda | Fundamental and Applied Agriculture  Vol. 5(3), pp. 319–329: 2020  doi: 10.5455/faa.113641 | 16th August 2020 |
| Kyuma R.K.,  Kinama J.M.,  Wahome R.G.,  Mwendwa S.M | Estimation of Prosopis juliflora pod production in the drylands of Magadi region,  Kajiado, Kenya | East African Journal of Science, Technology and Innovation, Vol. 1 (4): September 2020. | September 2020 |
| Caroline K. Kariuki, Eunice W. Mutitu & William M. Muiru | Effect of Bacillus and Trichoderma species in the management of the bacterial wilt of tomato (Lycopersicum esculentum) in the field | Egyptian Journal of Biological Pest Control  (2020) 30:109  https://doi.org/10.1186/s41938-020-00310-4 | 10th September 2020 |
| Rabson Mulenga, Douglas Miano, Evans Kaimoyo, Juliet Akello, Felister Nzuve, et al. | First report of Ethiopian tobacco bushy top virus and its associated satellite RNA infecting two common bean (*Phaseolus vulgaris* L.) in Zambia | Plant disease. <https://doi.org/10.1094/PDIS-03-20-0596-PDN> | 10th September 2020 |
| Ambuko Jane | Tackling postharvest losses  in mango among resource-poor farmers in Kenya | Chronica Horticulturae 60: 3  ISSN: 0578-039X (print), 2506-9772 (electronic). | September 2020 |
| Antony Bundi, John Mburu, Stephen G. Mbogoh, Jane Ambuko | Factors influencing the adoption of pre-harvest practices among mango farmers in Embu and  Machakos counties, Kenya | Int. J. Postharvest Technology and Innovation  7 (1): 56-72 | September 2020 |
| Kyuma R.K.,  Kinama J.M.,  Wahome R.G.,  Mwendwa S.M | Estimation of *Prosopis juliflora* pod production in the drylands of Magadi region, Kajiado, Kenya | East African Journal of Science, Technology and Innovation Vol 1, No. 4 | September 2020 |
| H. Wagaba, P. Kuria, P. Wangari, J. Aleu, D. Miano, et al. | Comparative compositional analysis of cassava brown streak disease resistant  4046 cassava and its non-transgenic parental cultivar | GM CROPS & FOOD  2020, VOL. 12, NO. 1, 158–169  https://doi.org/10.1080/21645698.2020.1836924 | 1st October 2020 |
| Teresa Nyambura Kinyungu , James Wanjohi Muthomi , Sevgan  Subramanian , Douglas Watuku Miano & Florence Mmogi Olubayo | Transmission of viruses causing maize lethal necrosis disease through seed in commercial  hybrids and effect on growth in the subsequent  crop | Archives of Phytopathology and Plant Protection | 7th October 2020 |
| Enock Mosenda1\*, George Chemining’wa  , Jane Ambuko and Willis Owino | Assessment of Agronomic Traits of Selected Spider Plant (Cleome gynandra L.) Accessions | Journal of Medicinally Active Plants  Volume 9, Issue 4, African Indigenous Plants III | 7th October 2020 |
| Bellancile U., Mupenzi M. , Muthomi J. ,  Mwang’ombe A. & Ghimire S. | Disease surveillance and farmers’ knowledge of  Brachiaria (Syn. Urochloa) grass diseases in Rwanda | African Journal of Range & Forage Science | 13th October 2020 |
| Nyangena I.,Owino W., Ambuko J., Imathiu S. | Moisture sorption properties of two varieties of dehydrated  mango slices as determined by gravimetric method using  Guggenheim–Anderson–de Boer model | Journal of Food processing and Preservation  DOI: 10.1111/jfpp.15041 | 14th October 2020 |
| Kasule F, Wasswa P., Mukasa S.  ,Okiror A.  , Nghituwamhata S., Rono E., Mukuze C.   & Mwang’ombe A. | Farmer Preference of Cassava Cultivars in Eastern Uganda: A Choice Beyond Disease Resistance | Agricultural Science; Vol. 2, No. 2; 2020  ISSN 2690-5396 E-ISSN 2690-4799  https://doi.org/10.30560/as.v2n2p169 | 2nd December 2020 |
| Enock Mosenda,  Jane Ambuko,  Willis Owino  Jomo | Assessment of Agronomic Traits of Selected Spider Plant (Cleome gynandra L.) Accessions | Journal of Medicinally Active Plants  Volume 9  Issue 4 Vol 9 Issue 4-African Indigenous Plants III. | December 2020 |
| Samuel A. Were  \*, Rama Narla  , E. W. Mutitu   J.W. Muthomi  , Liza M. Munyua  , Dries Roobroeck  , Bernard  Vanlauwe   and Janice E. | Biochar and vermicompost soil amendments reduce root rot disease of common bean (Phaseolous Vulgaris L.) | African Journal of Biological sciences  Vol 3, No 1, pp 176-196 | 1st January 2021 |
| Edith Khamonya Avedi, Adedapo Olutola Adediji, Dora Chao Kilalo, Florence Mmogi Olubayo, et al. | Metagenomic analyses and genetic diversity  of Tomato leaf curl Arusha virus affecting tomato  plants in Kenya | Virology Journal volume 18, Article number: 2 (2021) | 6th January 2021 |
| Anthony Juma WANGILA≅, Charles Karuku GACHUIRI, James Wanjohi MUTHOMI and John Okeyo OJIEM | Biomass yield and quality of fodder from selected varieties of lablab (lablab purpureus l) in Nandi South sub-county of Kenya | Online journal of Animal and Feed Research  Vol 11, Issue 1: 28-35 | 25th January 2021 |
| Mulenga R, Miano D, Nzuve F, et al. | First report of Ethiopian tobacco bushy top virus and its associated satellite RNA infecting Common Bean (*Phaseolus vulgaris*) in Zambia. | Plant Disease 105:516  https://doi.org/10.1094/PDIS-03-20-0596-PDN | 2021 |
| Alex M. Fulano \*, Geraldin M. W. Lengai  and James W. Muthomi | Phytosanitary and Technical Quality Challenges in Export Fresh  Vegetables and Strategies to Compliance with Market  Requirements: Case of Smallholder Snap Beans in Kenya | Sustainability, MDPI  2021, 13, 1546. https://doi.org/  10.3390/su13031546 | 2nd February 2021 |

**WANGARI MAATHAI INSTITUTE**

1. **Publications and presentations**

Harmsen, H., Wang'ondu, V. W. Mbau, J. S., &Muthama, N. J. (2020). Randomized hotspot strategy is effective in countering bushmeat poaching by snaring. *Biological Conservation*, *253*, 108909. This does not belong to 2020?

Manoa,D. O., Mwaura, F., Thuita, T., &Mukhovi, S. (2020). A Review of the Visible and Hidden Opportunity Costs of Human-Wildlife Conflict in Kenya. *J Biodivers Manage Forestry 9*, *2*, 2.

E Geoffrey, J Mutune - Kenya Policy Briefs (2020) Revisiting Kenyan’s Ban on Plastic Carrier Bags - Where was this submitted?

Edema, G.T.E., Karatu, K., & Edward, Aget the name of this author. (2020). An evaluation of the environmental impact assessment practice in Uganda: challenges and opportunities for achieving sustainable development. *Heliyon*, *6*(9), e04758.

Ang'u, C., Muthama, N. J., Oludhe, C., &Chitedze, I. (2020). The role of diversity, reserve margin and system structure on retail electricity tariffs in Kenya. *Heliyon*, *6*(8), e04626.

Togoch, H. K., Irandu, E.,M., &Thenya, T. (2020). Patterns of Livelihood Diversification among Kamnarok National Reserve Adjacent Communities in Baringo County, Kenya. *Journal of Sustainability, Environment and Peace*, *3*(2), 55-62.

Mwakesi, I. W., Wahome, R. G., &Ichang’i, D. W. (2020). Mining Impacts on Society: A Case Study of Taita Taveta County, Kenya. *Journal of Environmental Protection*, *11*(11), 986-997.

Mwakesi, I., Wahome, R., &Ichang'i, D. (2020). Mining impact on communities’ livelihoods: A case study of Taita Taveta County, Kenya. *AIMS Environmental Science*, *7*(3), 286-301.

Kumunga, E., Ndiwa, T. C., &Nzioka, J. M. (2020). Towards a framework for monitoring and communicating water resources sustainability: A case study of Rwamuthambi Sub Catchment area, Kenya. *Journal of Sustainability, Environment and Peace*, *3*(1), 21-33.

1. **Papers presented at conferences/workshops –**

The Institute has held several webinars despite the Covid 19 Pandemic. The key ones include:

Prof. Stephen Kiama; Webinar, My Reflections of Prof. Wangari Maathai; Part of UoN at 50 Celebrations, the Wangari Maathai Institute Held on November 4, 2020

Cohen Ang’u: Conference presentation; Role of Energy Sources on Rural Electricity Tariffs in Kenya, Held between October 21- 23, 2020

Prof. Nzioka John Muthama, Conference Presentation; Women, Climate Change indoor environmental Quality and Covid- 19 pandemic Held on October 14- 16, 2020

Prof. David N. Mungai: Attended a Planning Workshop on: Green Infrastructure for Sustainable Urban – Rural Development in Kenya (GI4SURD) held on October 9, 2020

Prof. Nzioka John Muthama; Conference Presentation; Transition to Green Growth in KENYA: Horticultural Productivity, Fuel Consumption and Shortlived Climate Pollutant Nexus Held on October 5- 7, 2020

Prof. Kahuziko Takeuchi; Establishing a decentralized and connected society for localizing SDGs in the Face of Covid 19 on September 23, 2020.

Muthama J. Nzioka. International Virtual Symposium on “Climatological, Meteorological and Environmental Factors in then COVID 19 Pandemic” held on 4th to 6th August, 2020

Thuitha Thenya: Webinar. Revivalof Efforts for nomination of Mt. Elgon as as Transboundary Biosphere Reserve held on July 2020

Cohen Ang’u; 14th Kenya Meteorology Society International Conference; Theme; Energy Resources Resilience Approach to Modeling Electricity in Kenya held between April 28-30, 2020

Prof. David N. Mungai: Webinar on Earth Day, Citizen Action Towards Securing our Future, held on April 16, 2020

Prof. J. Muthama; Satellite and Weather information for Disaster Resilience in Africa Workshop held between January 6- 8, 2020 in Adisababa, Ethiopia

**UNIVERSITY OF NAIROBI STUDENTS’ASSOCIATION (UNSA) LEADERS**

1. Sharlete Rutto Chairperson
2. John Mbogo Vice Chairperson
3. Hussein Omar Secretary General
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