



ZIMBABWE PLANT BREEDERS ASSOCIATION



TOP NEWS OF THE MONTH

MEET THE 2024-25 ZPBA EXECUTIVE COMMITTEE MEMBERS

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The Zimbabwe Plant Breeders Association held virtual elections in 2024, electing Dr. Casper Nyaradzai Kamutando as President and other key leaders, ensuring smooth transitions and member participation as per the constitution.

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Gus Le Breton highlighted the economic and environmental potential of the indigenous plant sector, advocating for policy changes, investment, and market development to empower women, promote sustainability, and support small-scale producers.

LOCAL PLANTS FOR GLOBAL MARKETS

ZPBA HONORARY MEMBER-MR ENOCH TICHAWONA MUDZINGERERE

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Enoch, a pioneering tobacco breeder, developed high-yield, disease-resistant varieties that improved farmers' livelihoods and earned Zimbabwe substantial foreign currency. He received numerous accolades and nurtured future breeders.

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Wheat, domesticated 8,000-10,000 years ago, became crucial in Zimbabwe after 1965 for self-sufficiency. Despite climate change and pests, improved agronomy and resilient varieties have enhanced production and yields.

WHEAT PEST AND DISEASE MANAGEMENT

1. Meet the 2024-25 ZPBA Executive Committee members



INTRODUCTION

Since its inception in 2016, the Zimbabwe Plant Breeders Association (ZPBA) has been able to conduct elections and have a smooth leadership transition, according to the constitution. The 2024 elections were conducted using a virtual tool and all paying members of ZPBA were free to exercise their right to vote or be voted for. The results were announced during the AGM held on 2 February 2024. Congratulations to the elected 2024-25 leaders (see picture above) and below is more detailed information.

PRESIDENT – Dr. Casper Nyaradzai Kamutando is a Senior lecturer and acting Chairperson in the Department of Plant Production Sciences and Technologies at the University of Zimbabwe. He holds a PhD in Genetics from the Center for Microbial Ecology and Genomics (University of Pretoria, South Africa), obtained in 2018, a Masters in Crop Science (Plant Breeding option: Distinction) and a BSc Honours Degree in Agriculture (Crop Science), both obtained from the University of Zimbabwe in 2015 and 2012, respectively. His research interests span across Plant breeding, Metagenomics, Microbial Ecology and Plant-microbe Interactions. Casper has so far contributed to more than 30 peer reviewed journal articles and two book chapters in his area of specialisation. Through his ambassadorial roles in the International Society for Microbial Ecology (ISME) Ambassador program, Dr Kamutando founded

the Microbial Ecology Research Network in Zimbabwe (MERNZ) in order to promote collaborative research and information sharing among microbial ecology enthusiasts in Zimbabwe.

VICE PRESIDENT – Dr. Kumbirai Ivyne Mateva is a breeder and ecophysiologicalist contributing to crop improvement, genetic resource conservation, and sustainable agriculture. He holds a Ph.D. in Biological Sciences from the University of Nottingham, Malaysia, an M.Sc. in Crop Breeding, and a B.Sc. in Natural Resources Management and Agriculture (Agronomy) from Midlands State University, Zimbabwe. Dr. Mateva began his career as a Research Intern with CIMMYT, contributing to the Drought Tolerant Maize for Africa project. At ICRISAT, he served as a Research Associate, coordinating breeding activities and regional conservation of legume and cereal germplasm. Currently at Kutsaga Research, Dr. Mateva is pioneering *Cannabis sativa* L. breeding in Zimbabwe, focusing on fiber (textiles), grain (food), and cannabidiol flower lines (pharmaceutical industry). His work supports Zimbabwe's crop diversification efforts. A fellow of the IRDR Young Scientists Programme, Dr. Mateva's expertise spans breeding, metabolomics, phenomics, environmental plant physiology, and controlled environment research.

SECRETARY – Ms. Ronica Mukaro is a graduate of the University of Zimbabwe with a Master's degree in Crop Science majoring in Plant breeding. She has just submitted her thesis towards a PhD in Plant breeding at the University of KwaZulu Natal. She has vast experience in maize, soybean, and sunflower breeding. She is passionate about advancing new innovations and technologies for food and nutrition security as well as sustainable development. She is currently employed as a maize breeder with the Crop Breeding Institute in the Ministry of Lands, Agriculture, Fisheries, Water and Rural Development.

TREASURER – Dr. Hapson Mushoriwa holds a Ph.D. in Plant Breeding from University of KwaZulu Natal, a Master's degree in Crop Science (Plant Breeding and Agronomy) as well as a Master's degree in Business Administration both from the University of Zimbabwe, and a BSc from Zimbabwe Open University. His major interest is in applying quantitative genetics to achieve continuous genetic enhancements particularly in legume crops. Hapson started off at the Crop Breeding Institute (CBI) in Zimbabwe where he contributed to the release of four soybean varieties. Still working with soybean he joined Seed Co Research & Development in 2003, then Pannar Seed in South Africa in 2012, back to Seed Co in 2015, all in all contributing to the release of more than 10 improved soybean varieties. In 2019 Hapson joined ICRISAT as a Regional Theme Lead and Pigeonpea Breeding Lead Scientist for ESA, He spearheaded the establishment of inclusive demand led breeding and testing pipelines across ICRISAT's six mandate crops that uses cutting edge tools and technologies in collaboration with multidisciplinary experts within and outside ICRISAT. Currently he is the Head of Breeding for IITA based at Ibadan in Nigeria. Over the years he has effectively built and cultivated networks and partnerships with a broad range of institutions.

COMMITTEE MEMBER – Mr. Alec Magaisa is a Scientific Officer with ICRISAT involved in the design and implementation of field trials (Agronomy & Plant Breeding), also offering agricultural extension and advisory services including project management (design, implementation, monitoring & evaluation). He has vast practical work experience in Disaster Risk Reduction (DRR), Farmer Field Schools, Climate Smart Agriculture, Nutrition-Sensitive Agriculture, Community Seed Production, Community Seed Banks, Farming as a Business, Crop-livestock farming systems, Designing and implementing of demonstration plots showcasing best practices, as well as Capacity building of project stakeholders through trainings, technical backstopping, and field visits. He has experience in project proposal writing responding to calls for funding, Budgetary Control, Monitoring and Evaluation of projects, as well as Tracking and documentation of project impact. Alec's research interests are around plant adaptation to abiotic stressors based on plant root system architecture and plant-rhizosphere microbiome interactions. He strongly believes in participatory research approaches so that research products meet the needs and preferences of clients. Alec is currently doing his PhD studies with the University of Zimbabwe and holds an MSc in Crop Science and Crop Improvement from Midlands State University and a BSc Agriculture honours in Crop Science from the University of Zimbabwe.

COMMITTEE MEMBER – Mr. Forward Makasi is a Technical Agronomist with CP Chemicals, before that he was a graduate trainee in the research and development department at Easiseeds. He is also studying for his MSc Plant Breeding and Biotechnology with the University of Zimbabwe, having graduated with a BSc from the same university. Forward is eager to learn and grow as a scientist.

COMMITTEE MEMBER – Dr. Walter Chivasa has more the 25 years of experience in the crop improvement/ seed sector having graduated with a PhD in remote sensing from the University of KwaZulu Natal, and an MBA, MPhil in Crop Science and BSc Agriculture Hons Crop Science from the University of Zimbabwe. He is an experienced seed systems specialist with a demonstrated history of working in international crop research and commercial seed industry settings. Skilled in seed systems work, including seed production research, seed marketing, and sales, developing strategic sales and marketing objectives, territory planning, seed road map formulation and go-to-market strategies, knowledge of African seed market structure and industry trends, crop research, agronomy, budgets formulation and control, and geospatial technology. Hands-on experience in designing, implementing, and managing crop variety evaluation, and seed business development in Africa. Currently he is the Maize Seed Systems Lead for Africa with CIMMYT having previously worked for Seed Co and ICRISAT.

COMMITTEE MEMBER – Mr. Tinovonga Gonhi is a PhD candidate in Plant Breeding and Biotechnology at Makerere University in Uganda having graduated with an MSc in Crop Science (Plant Breeding option) and BSc Agriculture Hons. Crop Science both from the University of Zimbabwe. He is a recipient of DAAD scholarship from Germany for both his MSc and PhD studies. Tino is an enthusiastic crop scientist with research interests focusing on improving the productivity, sustainability (economic and environmental) and quality of agricultural production through scientific research and development. Also, he has interests in crop breeding and genetics, pathology, physiology, and agronomy and to be part of the next generation of scientists who will address critical issues related to the production of food, feed, fuel, fiber, and pharmaceutical crops. It is his desire to be associated with researches that are economically viable, socially acceptable, and environmentally responsible for sustainable development. Tino has experience and skills in practical plant breeding methods (conventional and modern), agronomy, and the use of data science to make useful deductions in breeding programs. Currently he is a Research Fellow in plant breeding at Marondera University of Agricultural Sciences and Technology (MUASt), working on African Indigenous Vegetables (AIVs) that include but not limited to spider plant (nyevhe/ulude), amaranth (mowa/imbuya), black jack (mutsine/umhlavangubo), and cowpea (munyemba/dinawe). In his work he collects, characterize, develop, evaluate and release improved varieties of AIVs for commercial use in Zimbabwe. He is also leading the breeding program of “smart grains” at MUASt working on sorghum, pearl millet and chickpea.

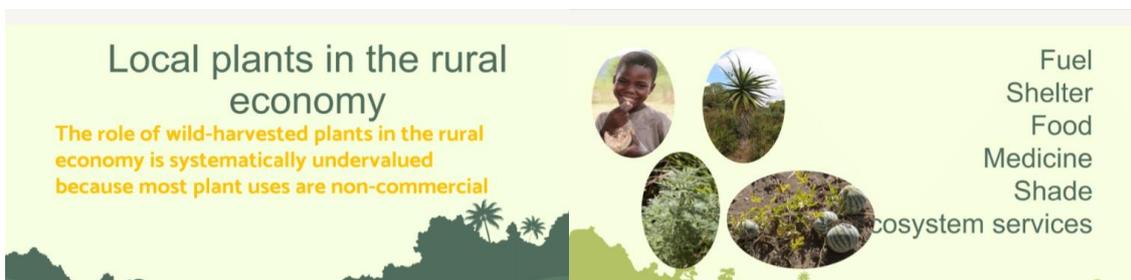
EX OFFICIO – IMMEDIATE PAST PRESIDENT – Dr. Frank Magama is the Chief Executive Officer of Kutsaga (formerly Tobacco Research Board) and a scientist by profession with more than 20 years' experience. Frank holds a BSc. Agriculture Hons (Crop Science) from the University of Zimbabwe, an MSc in Plant Sciences and Biotechnology from the University of Leeds (England) and a PhD in Plant Molecular Genetics from the University of Dundee (Scotland). He also has business qualifications; an MBA from NUST (Zim), an Executive Diploma in Business Leadership from the Zimbabwe Institute of Management and a Certificate of Competency in Project Management from the Project Management Institute of Zimbabwe.

2. LOCAL PLANTS FOR GLOBAL MARKETS- How Zimbabwe can utilise indigenous plants to build a vibrant export-oriented natural ingredient industry

By **Gus Le Breton (The African Plant Hunter)**

A summary of the 25 April 2024 webinar

[youtube.com/AfricanPlantHunter](https://www.youtube.com/AfricanPlantHunter); [facebook.com/AfricanPlantHunter](https://www.facebook.com/AfricanPlantHunter); [Instagram.com/AfricanPlantHunter](https://www.instagram.com/AfricanPlantHunter)



Gus Le Breton successfully conveyed the potential economic and environmental impact of the indigenous plant sector, emphasizing its significance in biodiversity conservation and sustainable land management. He discussed the changing landscape driven by global trends in healthy eating and herbal medicine, highlighting the policy-level recognition and international interest in African natural ingredients. Additionally, he outlined the commercial advantages and benefits of investing in the natural ingredient sector, particularly in promoting sustainable use of biodiversity and creating opportunities for small-scale producers.



Gus Le Breton passionately advocated for investing in the natural ingredients sector, highlighting its potential to empower women, promote climate resilience, and support regenerative practices. He emphasized the link between natural ingredients and the tourism sector, using the example of argan oil

production in Morocco. Additionally, he discussed the potential for a healthier population through a more diverse diet and criticized past policy blindness and neglect of indigenous plants in agricultural policies.

He stressed the need for policy changes and investment to create markets for indigenous plants, citing missed opportunities in the past, such as the extensive investment in the tobacco industry. He also provided a comprehensive overview of the development of the Baobab sector, detailing the progression from the absence of Baobab products in the market to the establishment of a sector support organization, the African Baobab Alliance.



Gus Le Breton delivered a compelling presentation on the untapped potential of developing the local and regional markets for natural ingredients, using examples such as indigenous herbal teas in Zimbabwe. He emphasized the significant benefits and opportunities, highlighting the lower regulatory obstacles in these markets. Le Breton urged proactive efforts and proposed the establishment of a multi-stakeholder sector development organization, drawing parallels with successful models in other countries. Additionally, he addressed funding concerns, suggesting potential sources and emphasizing the need for both government and private sector involvement. The baobab story clearly illustrates how this can be done systematically for other natural ingredients. There is a challenge for all those active or interested in the natural ingredients/ orphan crops/ opportunity crops/ Neglected and underutilised crop species.... whatever name you want to give them

Photo credits to Gus Le Breton

Gus Le Breton (the African Plant Hunter) is a Zimbabwean ethnobotanist, entrepreneur and video presenter whose 30-year career has been focused on unlocking the economic potential of indigenous plants. Through his research organisation Bio-Innovation Zimbabwe, Gus and colleagues have developed commercial opportunities for rural farmers and harvesters from a range of Zimbabwean tree and plant species. His diverse business interests include companies in the food, beverage and cosmetics industries, all based around indigenous plant ingredients. Gus is also president of the African Baobab Alliance, an Africa-wide organisation representing baobab producers from across the continent. His YouTube channel African Plant Hunter is followed by plant enthusiasts from around the world.

3. ZPBA HONORARY MEMBER - Mr Enoch Tichawona MUDZENERERE



Enoch is a remarkable contributor to the global tobacco industry. He developed and released elite tobacco varieties that have significantly improved the livelihoods of growers. Enoch is known for his unconventional approach and perseverance. As a student in 1973 at UZ, he got arrested for activism against unjust regulations and served time. Although he read for a Bachelor of Arts in History degree, his first job was in technical road construction, before turning his interest to agriculture (Blackforby graduate). His groundbreaking research in the development of high-yielding, disease-resistant tobacco burley varieties with exceptional cured leaf quality transformed the tobacco sector in Zimbabwe and beyond, significantly improving the livelihoods of farmers and contributing to the growth of the tobacco industry in SADC countries. Currently, his varieties sell >1,000 kg of seed worth USD 1.5 million annually, earning the country the much-needed foreign currency from his varieties. In recognition of the sterling work, Enoch was awarded a Presidential gold medal by the Air Cured Tobacco Association in July 1999. Enoch has collaborated with international partners, in China, he was awarded a Visiting Professorship by the Yunnan Academy of Tobacco Sciences for his expertise. In addition to his technical accomplishments, he has nurtured numerous new-generation breeders and researchers, ensuring the continuous advancement of the field. He has continued providing strategic support to both ZPBA and plant breeders including being the inaugural invited speaker at both the inception and formation of the ZPBA in 2016. He occasionally undertakes plant breeding consultancy in the region.

4. WHEAT PEST AND DISEASE MANAGEMENT

By **LIZZIE GOKO** and **FORWARD MAKASI**

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Wheat is one of the world's oldest plants to be domesticated by ancient civilizations between 8 000 and 10 000 years ago. Currently, wheat is grown almost everywhere in the world and is regarded as a key grain commodity in the global economy. European missionaries brought the cultivation of bread wheat to Zimbabwe in the late 19th century, but it only became a significant crop after the Unilateral Declaration of Independence in 1965 when grain imports were reduced, driving the country's need for self-sufficiency in the production of staple grains. The 2 000 commercial wheat producers in the country at the time met the challenge by quickly developing a profitable wheat business. According to historical data, the increase in production between 1965 and the present resulted from both an expansion of the area planted under wheat, good agronomic practices especially improved pest and disease management due to better crop protection chemicals and a steady increase in yields.

Challenges in wheat production

The increase in the demand for wheat products coupled with the world population estimated to surpass nine billion people by 2050, future wheat production must increase exponentially. In this regard, the yearly production of cereal is expected to increase by over one billion tonnes. However, the quest to match yield and quality in wheat is faced with several constraints. wheat production in Zimbabwe and throughout the world is continuously challenged by the effects of climate change and a wide range of unanticipated biotic and abiotic pressures. Climate change characterized by less and inconsistent rainfall patterns (drought stress), rising temperature (heat stress), or excessive rainfall (flooding) poses a significant challenge to humanity and the agriculture sector as a whole. The biotic stresses in wheat production include pests like insects, Aphids, Head armyworm and Fall armyworm, fungal diseases (stripe rust, stem rust, leaf rust, septoria and fusarium) and bacterial disease (bacterial leaf streak) making agricultural productivity less predictable.

Management Practices for Wheat Production

A commendable work in terms of wheat varieties breeding and improvement was done in Zimbabwe. There is a remarkable number of varieties which have good traits in terms of yielding and pest and disease tolerance. To ensure that the genetic potential of varieties grown is realized below are agrochemical requirements from CP Chemicals

SEED DRESSING

- Seed dressing is important as it helps to protect the seed from pests and diseases.

Problem	Product	Rate	Application details
Sucking pests, soil pests, soil borne.	Seed Ultra 250FS	300ml/ha	300ml of seed ultra + 400ml of water per 100kg of seed grain.
Loose smut, Aphids	Seed Gold 40 FS	750ml -1L/ha	750- 1L/100kg of seed gold
Wireworm, White grub, cutworms, ants and Beetles	Seed Dress plus 300 WS	400g/ha	1kg/100kg in small seeds

- Weed control is vital in wheat production, because weeds decrease yields, increase production costs, interfere with harvest and lower product quality.

Problem	Product	Application rate	Application details
Broadleaf weeds	MCPA	3L /ha	Applied at 3 - 5 leaf stage of crop
	Bentazone 48EC	3-5L/ha	Applied at 3-4 leaf stage of crop. Suppresses sedges
	Dicamba 480 SC	250ml-300ml/ha	Weeds should be not more than 4 leaves
	Bromoxynil 500EC	1L/ha	Applied at 2-4 leaf stage.
Grass weeds +vnt maize	Fenoxaprop-P-ethyl 12 EC	300ml/ha	Applied at 3 leaf stage.
Grass weeds + vnt maize	Disarm 240 EC	335ml/ha	Applied at 3-5 leaf stage

DISEASE	SIGNS AND SYMPTOMS	CONTROL
Brown/Stem rust/ Yellow leaf rust	Yellow leaf rust is identified by parallel rows of yellowish orange coloured postules on leaves of adult plants.	Propiconazole 25 EC Atlas 500 EC Tebuconazole 250 EC Triademinol 250EC Supertop 32.5SC
Powdery mildew	Whitish powdery postules on leaves	Triademinol 250 EC

INSECT	INSECTICIDE
APHIDS	Imidachlopid 200 SL/350SC Volt star 70 EC Horizon 46 SC Acetamiprid 20 SP Dimethoate 40EC
Head armyworm	Volt star 70EC Spear 1.92 EC/50 SG
Flour Beetles/LGB	Pirimiphos methyl 50EC
Weevils	Pirimiphos methyl 50 EC

5. UPCOMING EVENTS

1. ZPBA Webinar 22 May 2024
 - **Theme:** Advancing Maize Breeding in sub-Saharan Africa: Harnessing Modern Tools for Climate Resilient Varieties
 - **Presenter 1. Dr. Vijay Chaikam-** 'Integration of Double Haploid (DH) Technology in Maize Breeding in the Tropics
 - **Presenter 2: Dr Manje Gowda-** 'Integration of Modern Tools to breed Climate Resilient Maize in CIMMYT's Maize Breeding Program
2. ZPBA organized Harare-Chiredzi Look and learn Tour for July 2024 (date to be advised)
 - Focus: 'Sugarcane research and development' hosted by ZSAES
 - Other interesting side-stops
3. APBA 2025 Conference at Victoria Falls in Zimbabwe
 - Calling on volunteers to be part of the local organizing committee – ZPBA needs you
 - It is also time to work on your presentations, seek sponsorship to participate-don't leave it till the last minute.
 - For corporates, how about sponsoring the event/ a participant or exhibit
 - **You are ALL encouraged to participate in one way or another**
4. Call to be a subscribed (paying) member of ZPBA
 - ❖ This is a call to be a subscribed member and pay your annual subscriptions (US\$10.00 for students, US\$40.00 for ordinary members, US\$250.00 for corporates) – ZPBA needs the funds to keep the basic infrastructure running, particularly as it prepares to host APBACon'25.
 - ❖ For more details on membership and benefits visit [Memberships – Zimbabwe Plant Breeders Association \(zgba.org.zw\)](https://zgba.org.zw)



WHO IS ZPBA

ZPBA IS A MEMBERSHIP-BASED, NOT-FOR-PROFIT, NON-POLITICAL, PROFESSIONAL ASSOCIATION OF ZIMBABWEANS BASED LOCALLY OR ABROAD ACTIVE OR INTERESTED IN PLANT BREEDING AND/OR PLANT BREEDING-RELATED FIELDS (E.G. SEED AGRONOMIST, SEED INSPECTORS, SEED TECHNOLOGISTS, GENETICISTS, GERMPLASM CONSERVATION SPECIALISTS, BIOTECHNOLOGISTS, MOLECULAR BIOLOGISTS, ETC.) LAUNCHED ON THE 26TH OF JANUARY, 2016 AT HOLIDAY INN, HARARE WITH FINANCIAL ASSISTANCE FROM FAO.

ZPBA IS LEGALLY REGISTERED AS A TRUST IN ZIMBABWE: REGISTRATION NUMBER 1791/2018. THE ZPBA BOARD OF TRUSTEES CONSISTS OF THE ELECTED EXECUTIVE COMMITTEE OF THE ZPBA WHO ARE BOUND BY THE TRUST DEED AND THE ZPBA CONSTITUTION.

MEMBERSHIP BENEFITS INCLUDE

PROFESSIONAL AND PERSONAL DEVELOPMENT; SHARED COSTS ON HUMAN RESOURCE DEVELOPMENT; NETWORKING; TIMELY COMMUNICATION (ESPECIALLY FOR EVENTS, INTERNSHIPS, JOB VACANCIES, SCHOLARSHIPS); VOTING RIGHTS; DISCOUNTED RATES FOR EVENTS; SENSE OF PRIDE IN THE PROFESSION AND INDUSTRY

WANT TO BE A SUBSCRIBED MEMBER?

WHAT ARE YOU WAITING FOR, VISIT [APPLY FOR MEMBERSHIP - ZIMBABWE PLANT BREEDERS ASSOCIATION \(ZPBA.ORG.ZW\)](http://ZPBA.ORG.ZW). PAY YOUR SUBS AND RECEIVE YOUR UNIQUE MEMBERSHIP ID.

THANK YOU SUBSCRIBED MEMBER

THANK YOU TO MEMBERS WHO CONTINUE TO PAY THEIR SUBSCRIPTIONS AS WELL AS THOSE WHO SUPPORT FUNDRAISING INITIATIVES. YOUR CONTRIBUTIONS MAKE IT POSSIBLE FOR YOUR ASSOCIATION TO KEEP GOING.

CONTACT US:

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ZPBATWITTER: @ZPBA_OFFICIAL

YOUTUBE:

[HTTPS://WWW.YOUTUBE.COM/CHANNEL/UC6YF7YVUJHJNCMUJUJT5KGW](https://www.youtube.com/channel/UC6YF7YVUJHJNCMUJUJT5KGW)

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