



# Zimbabwe Plant Breeders Association

*Innovative. Creative. Exceptional*

**ZPBA NEWSLETTER Issue 3 of 2021**

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## 1. THE ZPBA EXECUTIVE COMMITTEE



### ZIMBABWE PLANT BREEDERS ASSOCIATION EXECUTIVE COMMITTEE 2022 - 2023

*Congratulations*



President  
Dr. Frank Magama  
TRB



Vice President  
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CIMMYT



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Dr. Thokozile Ndhlela  
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Committee Member  
Ronica Mukaro  
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Committee Member  
Tariro Kusada  
Seed-Co



Committee Member  
Dr. Charles Mutimaamba  
Dekalb Zadzamura



Committee Member  
Tatenda Mayaya  
Easi Seeds

The new executive committee will continue on the path of contributing towards agricultural and industrial development in Zimbabwe by taking its strategic position in the national agendas for agriculture including, food and nutritional security, climate resilience and a sustainable future.

## 2. ADDRESSING MALNUTRITION WITH INDIGENOUS LEAF VEGETABLES- Potential of African Black Nightshade (*Solanum nigrum* L.)

According to World Health Organization, nutrition-related factors contribute to approximately 45% of death in children aged less than 5 years. Trying to curb malnutrition related challenges as well as food insecurity, African leaf vegetables should be re-introduced into our diets as they are very important indigenous leaf vegetables which are rich in both macro and micro nutrients.

African black nightshade (*Solanum nigrum* L.), local known as musungasunga, has been underutilized even though it is very rich in nutrients. This is because of the unavailability of good quality seed of better varieties. Furthermore, introduced exotic vegetables, most of which have readily available seed of elite varieties, are more preferred in the diet and lifestyle.

African black nightshade has several healthy benefits and both the leaves, seeds and flowers can be consumed as a medicine and as food in our regular diet. Leaves are rich in proteins, iron, ascorbic acid, zinc and riboflavin. Black nightshade also has a lot of health promoting bioactive phytochemicals such as phenolic compounds, carotenoids and chlorophylls.



Photo 1: The African black nightshade Kenyan line: *S. scabrum* L

A study was conducted to evaluate performance of two lines, a local collection from Chipinge and an introduction from Kenya, under different fertilizer regimes. The results showed that the application of fertilisers improved the leaf and seed yields with the Kenyan line having the highest yields at a fertilizer rate of 200kg/ha.

From the preliminary characterization studies of the two African black nightshade lines, the Kenyan line had more desirable attributes. In addition to the higher leaf and seed yield, the Kenyan line has a soft texture, longer harvest duration and does not have a bitter after taste. The Kenyan line is therefore recommended for production given its performance and attributes. However, there is need to conduct more studies across more sites to further characterize the lines and determine the value for cultivation and use of this important vegetable. It is also further recommended to introduce more improved lines and evaluate their performance in Zimbabwe. Availability of good seed of a better performing variety may help improve adoption and utilization of African black nightshade.



Photo 2: Diversity in African black nightshade: Top- local collection; Bottom left- Chipinge line; Bottom right- Kenyan line

For more information contact

Gloria GUSHA  
Marondera University of Science and Technology  
Cell: +263 77 399 4090; Email: [melogusha@gmail.com](mailto:melogusha@gmail.com)

### 3. THE SEED COMPANIES' EFFORTS TO REACH SMALLHOLDER FARMERS WITH QUALITY SEEDS IN ZIMBABWE- The latest insights from the Access to Seed Index, World Benchmarking Alliance

In 2021, the [World Benchmarking Alliance](#) (WBA) published the third Access to Seeds Index. Since its establishment in 2012, the Access to Seeds Index has set out to show leadership and good practices, providing an evidence base for the discussion on where and how the seed industry can step up its efforts to enhance contributions to achieving the UN Sustainable Development Goal (SDG) 2: Zero Hunger.

The [2021 Access to Seeds Index](#) had a total of 67 seed companies across Eastern and Southern Africa, Western and Central Africa and South and South-East Asia. Companies are assessed on [six measurement areas](#): Governance and strategy, Genetic resources and intellectual property management, Research and development, Seed production, Marketing and sales and Capacity building. 32 companies were assessed for their performance in [Eastern and Southern Africa. Of these, 14 companies have reported to be active directly or through partners in Zimbabwe.](#)

Companies with presence in Zimbabwe offer diverse and broad crop portfolios of important



global and traditional crops. Three companies Seed Co, Limagrain and Mukushi Seeds invest in breeding programs in the country.

These companies tend to focus on traits such as early maturing and tolerance/resistance to abiotic and biotic stresses and shelf life. However, traits with relevance to consumption such as improved nutritional value and specific cultural and culinary preferences are not reported as being of high priority. In addition, companies have invested in the capacity building of local plant breeders thereby influencing the

advancement of local breeding research.

Seven of the 14 companies in the country show efforts to support sales with extension services for smallholder farmers to increase the adoption of modern technologies, including quality seeds of better varieties. These companies also use ICT as a tool for building capacity and sharing knowledge about topics such as seed prices, farming practices and weather-related alerts. Despite these efforts, companies fall behind significantly in addressing the specific demands of women and next generation farmers, who face considerable challenges in agricultural development.

The index also shows the efforts of the companies to develop the local seed sector with seed production activities. Of the 14 companies active in Zimbabwe, only four, namely Klein Karoo Seed Marketing, Syngenta Group, Seed Co and Mukushi Seeds report seed production activities in Zimbabwe. Furthermore, a few of these reported involving smallholder farmers in these seed production activities. However, companies need to bring in adequate systems to ensure social and labour standards across seed production activities.

The Access to Seeds Index published in 2021 is followed by a year of impact, 2022. During the impact year, the index published the [Insights report](#) with cross-regional analysis showing leading practices that aim to inspire peer learning. The index is planning to bring this evidence of where and how companies can improve their efforts through engagement activities with companies and industry at events, online seminars and roundtables.

We invite you to join the movement to hold the seed industry accountable for smallholder farmers' access to quality seeds for increased food production and income. The private sector is at the heart of the UN SDGs hence the efforts of the seed industry are crucial to transforming the food and agriculture systems, especially at the very start of the food value chain.

For more information or any questions, please reach out to:

Alice Ingabire, Lead Access to Seeds Index

World Benchmarking Alliance

Tel and WhatsApp: +250 788 577 418; Email: [a.ingabire@worldbenchmarkingalliance.org](mailto:a.ingabire@worldbenchmarkingalliance.org)

## 4. THE ZPBA 2022 ANNUAL EVENT- 'Dr. Joe Mushonga Symposium' in pictures



## Thank you to the PRESENTERS

Master of Ceremonies	Mr. Tatenda MAYAYA- Easiseeds
MAIN PLENARY chair	Dr. Leo Mpofu-ZSAES
Doubled Haploid Technology for Accelerated Maize Breeding	Prof. Pangirayi Tongoona-WACCI
UAV-based multispectral maize disease phenotyping: progress, challenges, and prospects.	Dr. Walter Chivasa-CIMMYT
Modernising breeding programs to accelerate genetic gain in Africa	Prof John Derera- IITA
History of Breeding in Zimbabwe, Challenges and Opportunities	Ms. Busiso Mavankeni- Head CBI
Resilience: The role Agricultural Research Council	Mr. D Dube for Dr. X. Mhike-CEO ARC
STUDENT SESSION chair	Dr. Prince Marowa UZ Crop Science
Optimizing genomic selection application in small breeding programs based on lessons learned from recent studies conducted using a large tropical maize population	Nigel Muchiwanga- ICRISAT
Genotype-by-trait association of sorghum ( <i>Sorghum bicolor</i> (L.) Moench) advanced lines grown under arid and semi-arid regions of Zimbabwe.	Olivia Mukondwa- CBI
Assessing the genetic value of exotic maize inbred lines and agronomic performance of their corresponding maize single-cross hybrids with the elite local CIMMYT lines	Rejoice Nyoni- UZ Crop Science
Combining ability and testcross performance of stress tolerant maize inbred lines under stress and non-stress conditions	Davison Chaingeni- CBI
Screening newly developed experimental genotypes of Zimbabwean wheat ( <i>Triticum aestivum</i> ) for leaf rust resistance, nutritional quality & yield.	Wendy Matashu- Seed Co
Explication of on-farm grain yield stability and farmer perceptions on the elite CBI pearl millet lines in Zimbabwe	Ruvarashe Mhuruyengwe- UZ Crop Science
APBA Solidarity message	Dr Agyemang Danquah for Prof. Eric Danquah- APBA President
CV reading	Ms. Nomusa Muguti CTDO
Guest Speaker	Dr. D. Kutwayo for Dr. J Basera- Perm Sec MLAWF&RD

## Thank you to the PARTNERS



## 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 **26<sup>th</sup> of January, 2016** at Holiday Inn, Harare with financial assistance from FAO.



### Contact Us

Telephone: +263 (0)784 618719 (send your name if you want to be on the ZPBA WhatsApp group)

Email: [zimplantbreedersassociation@gmail.com](mailto:zimplantbreedersassociation@gmail.com)

Website: <http://zgba.org.zw/>

YouTube:

<https://www.youtube.com/channel/UC6Yf7YvujHjNCMuJUt5kgw>

You are receiving this e-mail because you are active or interested in plant breeding or plant breeding related fields. If not and would not like to continue receiving communication from ZPBA, then email 'unsubscribe' to [zimplantbreedersassociation@gmail.com](mailto:zimplantbreedersassociation@gmail.com)

**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 both 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 \(zgba.org.zw\)](http://zgba.org.zw/). Pay your subs and receive your unique membership ID.

### THANK YOU SUBSCRIBED MEMBERS

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.