



# Zimbabwe Plant Breeders Association

*Innovative. Creative. Exceptional*

NEWSLETTER

ZPBA Newsletter Issue 1 of 2019

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## 1. WHO IS ZPBA- Zimbabwe Plant Breeders Association

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.

ZPBA hopes to contribute towards agricultural and industrial development in Zimbabwe through creating a platform for information exchange and sharing amongst plant breeders and related professionals, contributing towards policy dialogue, building capacity in both the public and private sector through relevant training.

ZPBA is governed by an **elected Executive Committee**, which **derives its powers** from the **membership** and functions through an **appointed Secretariat**.

;Read more <http://zimbabweplantbreedersassociation.org.zw/about-us/>

## 2. IN THE NEWS

### 2.1 Vitamin A Orange maize - an effective weapon in combating hidden hunger

**Sakile KUDITA, Demand Creation Officer - HarvestPlus**

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Despite the successes of the green revolution in increasing the quantity of staple food crops produced globally, more than two billion people worldwide still suffer from micronutrient deficiency or “hidden hunger”. The majority of people are from rural populations in developing countries who rely on staple food crop based diets that are deficient in vitamin A, iron, and zinc. These deficiencies contribute significantly to the global disease burden and reduce productivity by limiting cognitive development, impairing physical development and increasing susceptibility to infections and diseases. This has prompted a paradigm shift from the historic focus on yield and everything else that protects that yield such as biotic and abiotic stress tolerance to the inclusion of increased micronutrient content into breeding targets through biofortification.

Biofortification is the process of increasing the density of vitamins and minerals in staple food crops through conventional breeding, so that, when consumed regularly, the biofortified crops will generate measurable improvement in vitamin and mineral nutritional status.

Vitamin A maize has come to Zimbabwe at a time when according to the national micronutrient survey (2012), 19% of children under the age of 5 years and 23% of women are vitamin A deficient. Vitamin A maize is an effective source of vitamin A when consumed as a staple crop. This has been shown by studies done in Zambia with 5-7-year-old children, whose total body stores of vitamin A improved significantly after just three months of eating vitamin A orange maize compared with those in the control group (Gannon, et al., 2014). Its adoption and widespread cultivation could therefore significantly reduce the prevalence of Vitamin A deficiency in the country and its associated consequences including impaired vision and night blindness, and the increased risk of children dying from common childhood infections, because of a weakened immune system.



Vitamin A maize farmer from Mazoe district, Mary Kangwena

Vitamin A maize has been bred for the ability to accumulate proVitamin A carotenoids in the grain, which are converted by the body into Vitamin A after consumption. These carotenoids are yellow to orange in colour, hence the characteristic bright orange colour of Vitamin A maize. This is why Vitamin A maize is known in some circles as Orange maize, or Vitamin A orange maize. The orange colour is however, for many Zimbabweans, also reminiscent of the 1992 drought and the yellow maize dubbed *kenya* that the country got as food aid which was largely rejected for its colour and strong flavour. This historic experience with yellow maize has been a significant barrier to the fast adoption of Vitamin A orange maize.



*1 vitamin A orange maize ZSS242 variety*

Many farmers and urban consumers who have tasted the vitamin A orange maize have found it different from *kenya* in terms of taste and most of them now prefer orange maize over white maize for sadza, samp, mahewu, green mealies, *mutakura*, just to mention a few. Farmers growing orange maize have confirmed that the varieties are multi-cobbing- producing 2 to 3 cobs per plant under optimum conditions, drought tolerant, early to medium maturing, have yield potential of 7-10t/ha, with good resistance to grey leaf spot (GLS), maize streak virus, leaf rust, *turicum* leaf blight (TLB) and ear rots.

Read more <http://zimbabweplantbreedersassociation.org.zw/>

## COOKING WITH ORANGE MAIZE: Vitamin A maize cheese samp

### Ingredients

750g Samp, 1/2 cup grated cheese, 2 tablespoons margarine or butter, 2 teaspoons garlic powder, 2 tablespoons all-purpose flour, 1/4 teaspoon salt, 1/4 teaspoon black pepper powder, 1 cup milk

### Method

1. Cook Samp and set aside
2. Make a white sauce by melting butter/margarine in a small, heavy saucepan over low heat.
3. Boil milk and add 1/2 cup milk to the melted butter
4. Make a smooth paste by gently adding flour, black pepper, garlic, parsley powder and salt into the melted butter and milk mixture.
5. Whisk properly and ensure there are no lumps
6. Slowly add the remaining milk, stirring constantly
7. Cook over low heat, stirring, for at least 2 minutes to minimize "flour" taste.
8. Then add grated cheese to the sauce.
9. Continue cooking slowly until smooth and thickened.
10. Add cooked samp to the sauce and mix well
11. Also add grated cheese on top and parsley for garnishing
12. Serve warm
13. Enjoy!!!!



## 2.2 High Iron and Zinc cowpea cultivars released in Zimbabwe to fight hunger and malnutrition

Prince MATOVA. Maize/Cowpea Breeder, Crop Breeding Institute of Department of Research & Specialist Services in the Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement

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Figure 1 A prepared meal of the bio-fortified cowpeas CBC7

Cowpea is increasingly gaining popularity because of its wide adaptation, low input requirement, drought tolerance and high nutritive value. The crop is highly adapted to marginal areas. It is an important niche crop that is improving livelihoods and sustaining crop-livestock farming systems in the face of climate change.

The national cowpea breeding programme's breeding objectives seeks to address the production challenges and needs of all cowpea growers in Zimbabwe and the region in order to contribute to food and nutrition security. The crop's importance as a food, feed and soil-improving plant can only be realised with high yielding, stable and farmer preferred varieties. In Zimbabwe, cowpea farmers and consumers prefer large seeded varieties that are high yielding, early maturing and erect and bushy types with significant fodder production.



**Figure 2** Bio-fortified CBC6 under PVS in the drier environment of Mangwe, Matebeleland South

Micronutrient (iron and zinc) deficiency is a growing challenge in Zimbabwe particularly in the rural poor communities. The government is pushing for nutritive value enhancement through bio-fortification in line with 'the national food and nutrition policies'. High yielding and early maturing varieties were developed and released. However, none of these varieties had the minimum micro-nutrient levels and seed sizes to qualify them as bio-fortified and farmer preferred variety respectively. In November 2018, the Crop Breeding Institute (CBI) of the Department of Research and Specialist Services (DR&SS) released two bio-fortified cowpea cultivars. These marked the first generation of bio-fortified cowpeas targeted by the programme (>30 ppm Zinc and >70 ppm Iron content). Apart from being highly nutritive and adapted and stable across environments, the cultivars CBC6 and CBC7 have high grain yield levels and large seed sizes. CBC6 is 11.6% larger while CBC7 is 17.6% larger than CBC3. The two cultivars could help alleviate malnutrition in Zimbabwe due to their high micronutrient content. The two bio-fortified cultivars have at least 13.8% more zinc compared to CBC2 and CBC3. CBC7 has at least 5.4% more iron while CBC6 has 42.7% more iron.



## 2.3 Crop Varieties approved for release in year 2018 in ZIMBABWE

Semantha NYAGURA. Seed Services Institute of the Department of Research & Specialist Services in the Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement

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Table 1: Crop Varieties released in 2018

KIND	VARIETY	MAINTAINER
<b>Maize</b>	SC 659	Seed Co Limited
	SC 661	Seed Co Limited
	SC 657	Seed Co Limited
	SIRDA 713	SIRDC
	PGS 55	Klein Karoo
<b>Sugar bean</b>	NUA 674	Crop Breeding Institute
	CIM-NAV02-16-1 (Protea)	Crop Breeding Institute
	Ukulinga	Seed Co Limited
	Gadra	Seed Co Limited
<b>Cowpea</b>	CBC6	Crop Breeding Institute
	CBC7	Crop Breeding Institute
<b>Soya bean</b>	SC Spike	Seed Co Limited
<b>Potatoes</b>	Larnoma	Seed Potato Co-op
	Fiana	Seed Potato Co-op
	Avalanche	Seed Potato Co-op
	Arizona	Agrico East Africa
	Markers	Agrico East Africa
<b>Millet</b>	SDMV 95023	Crop Breeding Institute
	SDMV 95009	Crop Breeding Institute

The basic criteria for recognition of new varieties under the Seed Certification Scheme Notice, 2000 and granting of Plant Breeders Rights is that all new varieties should be distinct, uniform and stable (DUS). This requirement is in accordance with two important factors of seed legislation namely, subsection 5 of section 10 of the Seeds (Certification Scheme) Notice 2000 and the Plant Breeders Rights Act, Chapter 18:16. When the Certifying Authority is satisfied with the DUS results, the variety will be recommended to the Variety Release Panel for approval. After approval by the Variety Release Panel the variety is listed in the Second Schedule. Table 1 (on previous page) shows the varieties that were released in 2018.

## 2.4 ZPBA Inagural Fundraising Golf on 26 April, 2019

### 2.4.1 In Pictures





## 2.4.2 A big thank you to the sponsors

### *a. Platinum Sponsors*



### *b. Other Sponsors*



CROP BREEDING INSTITUTE



### *c. All PLAYERS,*

### *d. All TEAM SPONSORS, and*

### *e. All DONORS for prizes*

### 3. UPCOMING EVENTS

#### 3.1 African Plant Breeders Association Launch



- The Alumni of the African Plant Breeding Academy (APBA) took over the initiative that was started in 2012 to set up an African Plant Breeders Association (APBA). It has been a long journey; the good news is that the association will be launched this year.
- **The Inaugural meeting will be held in Accra Ghana, 23-25 October, 2019.** Diarize these dates and start planning on attending this very important milestone for the continent.
- The website for the Association is being developed and is still not accessible, the link to the website will be shared in future communications. Information on registration, subscription etc will be posted on the website.
- An interim executive committee has been set up, which will lead the APBA until formal elections are held in October 2019 during the Inaugural meeting.
- Link to the Master Consolidated Breeders List being compiled by the African Plant Breeders Association- add your name and share link with relevant colleagues

[https://docs.google.com/spreadsheets/d/16sG-W-VrgnVL4bO\\_zPi6-RuKQFuep6nzcDR3whRuwBo/edit?ts=5c9073d8#gid=484946574](https://docs.google.com/spreadsheets/d/16sG-W-VrgnVL4bO_zPi6-RuKQFuep6nzcDR3whRuwBo/edit?ts=5c9073d8#gid=484946574)

### ZPBA MEMBERSHIP

#### 4.1 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



## 4.2 Membership Fees

Thank you to members who have already paid their 2019 subscriptions.

If you have not yet paid, the 2019 subscriptions are now overdue and **NOTE** these have been maintained at the previous levels.

The **categories and annual membership fees** are listed below:

i.	Ordinary membership	<b>\$100.00</b>
ii.	Student membership	<b>\$10.00</b>
iii.	Retired membership	<b>\$50.00</b>
iv.	Corporate membership	<b>\$250.00</b>

*The fees can be paid quarterly or half-yearly but this will attract an extra \$5.00 charge.*

Banking details are as below

Account Name: Zimbabwe Plant Breeders Association

Account No.: 1096005470194

Bank Name: FBC Bank Limited; Branch: Borrowdale, Harare

Branch Sort Code: 8127;

You can also pay by Ecocash

Ecocash Merchant Code: 188268

Read more <http://zimbabweplantbreedersassociation.org.zw/membership/>

## 4. ZPBA CONTACT DETAILS

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

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ZPBA website: <http://zimbabweplantbreedersassociation.org.zw/>

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