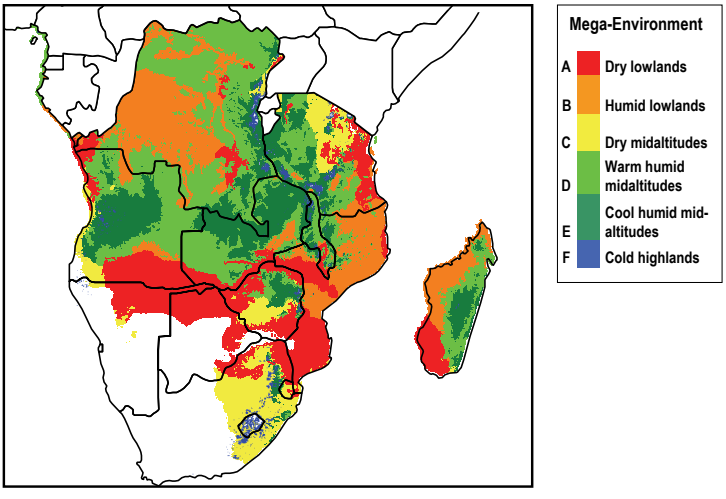
Choosing the Right Open-Pollinated Maize in Southern Africa

Maize is widely grown throughout eastern and southern Africa. However, growing conditions differ for rainfall, temperature, the length of the growing season and the occurrence of diseases and pests. As a consequence, different maize varieties are suitable in different parts of eastern and southern Africa

After testing maize varieties under diverse conditions, we developed a guide that should help you to find the right maize variety for your area. Just follow the steps.

Step 1

Determine your maize-mega-environment on the map



Step 2

Decide what maturity is suitable for your area.

Step 3

Decide what traits are important in your area.

- Is drought frequent?
- Are your soils infertile?
- Are your soils acid?
- Are there many leaf diseases?
- Is there a lot of ear rot?
- Do you want the ears to be well covered by the husks?
- Are there problems with lodged plants?

If you answer "yes" to any of these questions, you may want to look for varieties that are tolerant or resistant to these problems.

Step 4

Look at the characteristics of the different varieties.

The colours and numbers mean

1	Very good for this trait
2	Good for this trait
3	Average for this trait
4	Poor for this trait
5	Very poor for this trait

Grain texture has a special legend

Flint	Flint = hard and shiny kernels
S Flint	Semi-flint
SF/SD	Semi-flint/Semi-dent
S Dent	Semi-dent
Dent	Dent = soft kernels

Step 5

Choose varieties with the right maturity and characteristics

Suitability	Maturity	Variety	Origin	Grain yield	Tolerant to: Drought	Low soil fertility	Acid soils	Resistant to: Maize streak virus	Gray leaf spot	Leaf blight	Rust	Ear rot
Suitable for mega-environment A,B and for December/January plantings	**Extra early variety:** These varieties do not need entire season to mature. Athesis date between 60-63 days and maturity in less than 120 days	KATUMANI ST	TANZANIA	3	3	5	4	3	3	3	3	2
		MMV400	ZAMBIA	5	5	5		3	3	4	2	1
		POOL 16 SR	ZAMBIA	4	5	3	4	2	3	5	4	3
		ZM303	CIMMYT	2	3	3	4	2	2	4	2	3
		ZM305	CIMMYT	2	1	3	3	2	3	3	3	3
		ZM307	CIMMYT	3	1	3	3	2	3	3	3	3
		ZM309	CIMMYT	3	1	2	3	3	3	3	2	2
Suitable for mega-environment B,C, D and for December plantings	**Early to intermediate varieties:** These varieties do not need the entire season but will mature within 2 weeks before the raniny season stops. Athesis date between 63-66 days and maturity less between 121-132 days	GRACE	ECOLINK	3	2	5			3	3	5	4
		KITO ST	TANZANIA	4	5	5		3	3	5	4	2
		MATINDIRI	MALAWI	4	4	3		4	2	3	2	4
		MATUBA	SEMOC	4	5	3	3	1	4	3	3	2
		ZM401	CIMMYT	3	2	2	3	2	2	3	2	3
		ZM421	CIMMYT	2	2	3	2	2	2	2	3	2
		ZM423	CIMMYT	1	1	2	2	2	2	2	2	3
		ZM501	CIMMYT	3	2	3	4	2	2	3	2	3
		ZM521	CIMMYT	2	2	2	2	2	2	2	2	2
		ZM523	CIMMYT	1	1	2	1	3	1	1	1	3
		ZM525	CIMMYT	1	1	2	2	2	2	3	2	2
Suitable for mega environment C, D, E Requires timely planting because of late maturity	**Intermediate to late:** These varieties need the entire season. Athesis date is between 66-68 days and maturity between 133- 143 days	CHITIBU	MALAWI	3	4	3		3	3	2	3	4
		KEP	BOTSWANA	4	4	4	2	5	3	2	3	5
		MASIKA	MALAWI	3	2	3	3	3	3	3	3	3
		POP 10	ZAMBIA	4	4	4	1	2	3	2	4	3
		S01SIWQ	CIMMYT	4	3	5	3	5	4	4	2	4
		SUNDWE	MALAWI	4	5	4		2	3	2	3	4
		TMV-1 SR	TANZANIA	3	4	4	1	1	5	3	5	3
		ZM611	CIMMYT	1	2	2	1	1	2	1	2	3
		ZM621	CIMMYT	2	2	2	2	3	2	3	2	2
Suitable for mega environment D, E Requires early planting because of late maturity	**Very late:** These varieties need to be planted very early with the first rains so that they mature within rainy season. Athesis date is above 74 days and maturity above 155 days	KAKHOMERA	MALAWI	4	4	4		4	2	2	2	4
		KILIMA SR	TANZANIA	3	5	4	3	3	3	3	2	2
		MCHOSANJALA	MALAWI	5	5	5			5	1	2	3
		OBATANPA	GHANA	5	4	5	3	3	3	5	4	3
		POP 25	ZAMBIA	5	4	5	3	4	3	4	3	3
		STAHA SR	TANZANIA	4	5	5	3	1	3	3	4	4
		ZM623	CIMMYT	1	1	1	1	1	2	2	2	3
		ZM625	CIMMYT	2	2	2	2	2	2	2	2	2
		ZM627	CIMMYT	2	2	2	2	3	2	3	2	2
		ZM721	CIMMYT	2	2	2	1	2	2	2	2	1
		ZM725	CIMMYT	1	2	1	2	2	3	2	1	2

Variety	Mozambique	South Africa	Tanzania	Zimbabwe
ZM421	Djandza		Situka-1	
ZM423		ZM1423		
ZM521	Chinaca	ZM1521	Situka-2	
ZM523		ZM1523		Chitima
ZM611		ZM1611		
ZM621	Tsangano			
ZM623		ZM1623	Vumilia K1	Chariot
Obatampa	Sussuma			

Step 6

Look for seed suppliers of these varieties an purchase certified seed

Further information on seed availability and seed production can be obtained from			
Country	**Commercial seed producers for certain OPVs as indicated on the previous page:**	**Name**	**Email**
Malawi	Seed-Co, Lilongwe, Malawi	D.Phiri	SeedCo@malawi.net
Malawi	Seed-Tech, Box 30484, ChiChiri, Blantrye	F.Samidu	seedtechmw@yahoo.com
Malawi	Pannar, Blantyre	M.Nkoma	macleod.nhkoma@pannar.co.mw
Malawi	ZUM Seed P/Bag B387, Lilongwe	P. Khonge	zumseed@malawi.net
Mozambique	Semente Perfeita, Chimoi	T.Chagomoko	tchagomoka@yahoo.co.uk
Mozambique	Semoc, Chimoi	A. Manjate	antoniomanjate@hotmail.com
Mozambique	Pannar, Rua de Coimbra Matola	F. Chilenge	
South Africa	Crown Seeds, box 1032, Emerlo, South Africa	S.Cloete	alet@riverwalk.co.za
South Africa	Capstone Seed, P.O. Box 302, Howick 3290, South Africa	A.Taylor	andrew@capstone.co.za
Tanzania	Tanseed International, P O Box 140	I. M. Mashauri	tanseed@yahoo.com
Zambia	Kamano Seed Co Plot 12922, P.O. box 35330, Zambia	S. Horemans	horemansd@zamtel.zm
Zambia	Zambia Seed Company, P.O. Box 35441, Lusaka, Zambia	B.N Verma	Zamseed@zamnet.zm
Zambia	SeedCo P.O. Box 35310, Lusaka M.	Mbunji	sales@seedco.co.zm
Zimbabwe	Agricultural Seeds and Services (Pvt) Ltd, P.O. Box 6766, Harare, Zimbabwe	N.Chigodora	wchigodora@agricseed.co.zw
Zimbabwe	National Tested Seeds, P.O. Box WGT10, Harare, Zimbabwe	C.Richards	natseeds@kencor.co.zw
Zimbabwe	Pristine Seeds , 6 Willington Avenue, Belvedere, Harare	J.Makoni	John@pristine.co.zw
Zimbabwe	Progene Seeds, P.O. Box BW1500, Borrowdale, Harare	A. Henderson	Kirndean@zol.co.zw
Zimbabwe	Pannar (Pvt) Ltd., P.O. Box 99, Ruwa, Zimbabwe	T. Nkatazo	nkatazo@pannar.co.zw
Zimbabwe	Pioneer , P.O. Box BW6237, Harare, Zimbabwe	P. Muchena	pmuchena@pioneer.com
Zimbabwe	Seed-Co, P.O. Box 1422, Harare, Zimbabwe	B. Nyakanda	deniny@seedcogroup.com
Zimbabwe	Chemcoseed (previously Agpy), P O Box 66024, Kopje, Harare, Zimbabwe	A. Karima	adiel@agpy.co.zw
Zimbabwe	Agricultural Seeds and Services, 5 Wimbledon Drive,Eastlea, Harare	R. Kelly	agriseed@zol.co.zw
National Agricultural Research Programs (direct inquiry to Maize Program Coordinator)			
Angola	Institute de Investigacao Agronomica MINADER, Caixa Postal 2104, Luanda	S. Fernando	fsito@nexus.ao
Botswana	Department of Agricultural Research, Private Bag 0033, Gaborone	S. Maphanyane	S.Maphanyane@gov.bw
DRC	University of Lumbumbashi, Lumbumbashi, Katanga Province	D. Mwamba	deomuloy@yahoo.fr
Lesotho	Agriculture Research Division, P.O. Box 829, Maseru 100 S.	L. Bereng	Simon_bereng@yahoo.com
Malawi	Ministry of Agriculture, Chitedze Research Station, P.O. Box 158, Lilongwe	K. Kesbell	kkaonga@yahoo.co.uk
Mozambique	Instituto de Investigacao Agraris de Mocambique Sussundenga Research Station,Chimoio, Manica Province	D. Mariote	mariotedavid@hotmail.com)
Namibia	Agricultural Research Namibia, Private Bag 13184, Windhoek 9000, Namibia		nldpgfh@gfn.namib.com
South Africa	ARC Grain Crops Institute, Private Bag X1251, Potchefstroom 2520	K. Mashingaidze	MashingaidzeK@arc.agric.za
South Africa	Depart. of Agriculture, Limpopo Province	J.Mkhari	mkharijj@lda.gov.za
Swaziland	Ministry of Agriculture, Malkerns Research Station, P.O. Box 4, Malkerns	V. Simelane	vbsimelane@yahoo.co.uk
Tanzania	Selian Agricultural Research Institute, P.O. Box 6024, Arusha	P. Matowo	prmatowo@yahoo.com
Zambia	Ministry of Agriculture, Mount Makulu Research Station, Private Bag 7, Chilanga	C. Mungoma	maize@zamnet.zm
Zimbabwe	Agricultural Research and Extension, P.O. Box CY550, Harare	D. Hikwa	dhikwa@africaonline.co.zw
Regional Maize Research Organization			
Zimbabwe	CIMMYT P.O. Box MP, 163 Harare, Zimbabwe	J.MacRobert	J.MacRobert @cgiar.org
Zimbabwe	CIMMYT P.O. Box MP, 163 Harare, Zimbabwe	P.Setimela	P.Setimela@Cgiar.org

Disclaimer: The open-pollinated varieties listed in this brochure were rated based on collaborative trials conducted annually by National Agricultural Research Programs, Non-Governmental Organizations, private seed companies and CIMMYT across southern and eastern Africa between 1999 and 2008. Results are based on a minimum of two years' data. The information in this publication is based on results available at the time of publication. This does not exclude that the varieties may perform differently if grown at other sites, or under different conditions, or that certain varieties are also produced by other seed producers.