GEELMIELIEKULTIVARS VIR DIE WESTELIKE STREEK (Streek 1)
YELLOW MAIZE CULTIVARS FOR THE WESTERN REGION (Region 1)

Kultivars waarvan inligting vir drie seisoene beskikbaar is (oessekerheidswaardes)
57 proewe (Aantal lokaliteite oor drie seisoene)
Cultivars of which information is available for three seasons (yield reliability values) 57 trials (Sum of the Localities during three seasons)

Opbrengspotensiaal / Yield potential

CULTIVAR	3 TON	4 TON	5 TON	6 TON	Gem/ Mean#	Hell/ Slop	D2
PAN 6Q-708BR*	3.27	4.33	5.39	6.44	5.74	1.06	0.4102
LS 8518	3.08	4.16	5.25	6.34	5.61	1.09	0.3407
PAN 6P-110	3.20	4.18	5.15	6.13	5.48	0.98	0.4044
MP 51-22B	3.27	4.21	5.15	6.08	5.20	0.94	0.3868
Phb 32W72B	2.66	3.67	4.68	5.69	5.02	1.01	0.3386
Phb 33H52B	2.85	3.75	4.65	5.55	4.95	0.90	0.2546

Kultivars waarvan inligting vir twee seisoene beskikbaar is (oessekerheidswaardes) 37 proewe (Aantal lokaliteite oor twee seisoene)

Cultivars of which information is available for two seasons (yield reliability values) 37 trials (Sum of the Localities during two seasons)

Opbrengspotensiaal / Yield potential

CULTIVAR	3 TON	4 TON	5 TON	6 TON	Gem/ Mean#	Hell/ Slop	D2
PAN 6Q-708BR*	3.00	4.16	5.32	6.48	4.95	1.16	0.2632
DKC80-40BR GEN	3.16	4.21	5.26	6.31	4.93	1.05	0.3777
DKC80-12B GEN	3.08	4.17	5.25	6.34	4.91	1.09	0.3628
DKC73-74BR GEN	3.29	4.21	5.12	6.03	4.83	0.91	0.5248
LS 8518	3.08	4.13	5.19	6.24	4.79	1.05	0.2782
PAN 6P-110	3.16	4.12	5.08	6.05	4.78	0.96	0.3075
LS 8524R	3.13	4.04	4.96	5.87	4.67	0.91	0.2563
IMP 51-22B	2.91	3.83	4.83	5.80	4.53	0.96	0.5074
Phb 33H52B	2.70	3.72	4.74	5.76	4.42	1.02	0.2642
Phb 32W72B	2.57	3.64	4.70	5.77	4.37	1.07	0.3688
SC 608	2.99	3.08	4.62	5.43	4.36	0.81	1.0140

Kultivars waarvan inligting vir een seisoen beskikbaar is (gemiddeldes) 17 proewe
(Aantal lokaliteite vir een seisoen)
Cultivars of which information is available for one season (mean values) 17 trials
(Sum of the Localities during one season)

CULTIVAR	Gem/Mean#
PAN 6Q-408CB	4.73
PAN 6R-510R	4.71
P 2432R	4.43
PAN 6Q-708BR*	4.41
DKC73-70B GEN	4.41
KKS 8410BR	4.22
KKS 8408R	4.18
Phb 33H54BR	4.05
SC 506	3.98
LS 8536B	3.98

*Verwysingskultivar / Reference cultivar
Mean yield of the specific cultivar over all trials
Gemmidelde opbrengs vir die spesifieke kultivar vir al die proewe

WITMIELIEKULTIVARS VIR DIE WESTELIKE STREEK (Streek 1)
WHITE MAIZE CULTIVARS FOR THE WESTERN REGION (Region 1)

Kultivars waarvan inligting vir drie seisoene beskikbaar is (oessekerheidswaardes) 57 proewe
(Aantal lokaliteite oor drie seisoene)
Cultivars of which information is available for three seasons (yield reliability values) 57 trials
(Sum of the Localities during three seasons)

	Opbrengspotensiaal / Yield potential						
CULTIVAR	3 TON	4 TON	5 TON	6 TON	Gem/ Mean#	Hell/ Slop	D2
PAN 6Q-445B	3.05	4.23	5.41	6.59	6.04	1.18	0.3737
PAN 6Q-245*	3.32	4.38	5.44	6.50	6.01	1.06	0.4092
LS 8529	3.09	4.11	5.13	6.15	5.68	1.02	0.3579
P 2823WB	2.97	4.02	5.07	6.13	5.64	1.05	0.3057
PAN 5Q-649R	3.22	4.17	5.12	6.07	5.63	0.95	0.3214
DKC78-35R	3.11	4.09	5.06	6.03	5.59	0.97	0.3654
IMP 52-11	2.71	3.64	4.57	5.51	5.08	0.93	0.2482
KKS 8301	2.53	3.37	4.20	5.04	4.66	0.84	0.3968

Kultivars waarvan inligting vir twee seisoene beskikbaar is (oessekerheidswaardes) 37 proewe (Aantal lokaliteite oor twee seisoene)
Cultivars of which information is available for two seasons (yield reliability values) 37 trials (Sum of the Localities during two seasons)

	Opbrengspotensiaal / Yield potential						
CULTIVAR	3TON	4TON	5 TON	6 TON	Gem/ Mean#	Hell/Slop	D2
PAN 6Q-245*	3.30	4.38	5.47	6.55	5.21	1.08	0.3668
PAN 6Q-445B	3.22	4.32	5.42	6.51	5.16	1.10	0.3798
P 2653WB	3.11	4.16	5.20	6.25	4.97	1.05	0.3508
PAN 5Q-649R	3.32	4.24	5.17	6.09	4.95	0.93	0.2409
P 2823WB	3.08	4.13	5.19	6.24	4.94	1.05	0.2782
DKC78-45BR GEN	3.08	4.11	5.14	6.17	4.89	1.03	0.2728
DKC78-35R	3.26	4.07	4.87	5.68	4.86	0.80	0.2620
LS 8529	3.05	4.06	5.08	6.09	4.84	1.02	0.3594
IMP 53-13	3.07	4.07	5.06	6.05	4.82	0.99	0.3843
LS 8533R	3.01	3.99	4.98	5.97	4.75	0.99	0.3664
PAN 5Q-751BR	2.93	3.89	4.85	5.81	4.62	0.96	0.2190
LS 8535B	2.88	3.87	4.85	5.84	4.62	0.99	0.2621
IMP 52-11B	2.86	3.84	4.83	5.81	4.59	0.98	0.3512
IMP 52-11	2.69	3.62	4.56	5.49	4.34	0.93	0.2050
KKS 8301	2.48	3.28	4.09	4.89	3.90	0.80	0.3004

Kultivars waarvan inligting vir een seisoen beskikbaar is (gemiddeldes) 17 proewe (Aantal lokaliteite vir een seisoen)
Cultivars of which information is available for one season (mean values) 17 trials (Sum of the Localities during one season)

CULTIVAR	Gem/Mean#
DKC77-77BR	4.90
PAN 6Q-245*	4.89
DKC78-79BR	4.76
BG 5285	4.69
BG 5485B	4.65
P 2961W	4.63
BG 5685R	4.62
PAN 6Q-345CB	4.61

Continued on p 21

Geelbasters vir 'n suksesvolle oes keer op keer.

'n Pakket met verskillende groeiklasse en agronomiese eienskappe lewer die beste opbrengs op jou belegging.

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PAN 6Q-845CBGT	4.59
DKC77-85B GEN	4.57
PAN 5Q-649R	4.48
DKC78-17B	4.47
LS 8539B	4.35
P 2653WBR	4.33
KKS 4581BR	4.10
SC 533	4.02

*Verwysingskultivar / Reference cultivar
Mean yield of the specific cultivar over all trials
Gemmidelde opbrengs vir die spesifieke kultivar vir al die proewe

AGRONOMIESE EIENSKAPPE VAN MIELIEKULTIVARS VIR DIE WESTELIKE STREKE
AGRONOMIC CHARACTERISTICS OF MAIZE CULTIVARS FOR THE WESTERN AREAS

Kultivars waarvan inligting vir drie seisoene beskikbaar is
Cultivars of which information is available for three seasons

Cultivar	Groei seisoen Growing season	% Omval Lodging	% Spruite Tillers	Koppe Ears plant^{-1}	% Graan Vog Grain moisture
DKC78-35R	M	1.63	19.44	1.94	14.70
IMP 52-11	M	1.18	37.86	1.58	12.91
KKS 8301	M-K/S	0.97	10.89	1.49	12.20
LS 8518	M	2.94	25.47	1.68	15.03
LS 8529	M	0.91	19.30	1.91	14.44
MP 51-22B	M-K/S	1.10	30.49	1.81	11.99
P 2823WB	M	0.47	32.46	1.83	14.60
PAN 5Q-649R	M	2.50	7.70	1.94	13.00
PAN 6P-110	M	1.33	17.78	1.96	14.15
PAN 6Q-245*	M	2.83	25.16	2.06	14.07
PAN 6Q-445B	M	1.30	36.35	2.19	13.90
PAN 6Q-708BR*	M	1.97	14.48	2.01	14.28
Phb 32W72B	M-K/S	2.46	12.08	1.83	11.94
Phb 33H52B	M-K/S	1.09	19.49	1.67	11.99

Kultivars waarvan inligting vir twee seisoene beskikbaar is
Cultivars of which information is available for two seasons

Cultivar	Groei seisoen Growing season	% Omval Lodging	% Spruite Tillers	Koppe Ears plant^{-1}	% Graan Vog Grain moisture
DKC73-74BR GEN	M	1.41	20.98	1.27	13.47
DKC78-35R	M	1.76	36.06	1.77	14.00
DKC78-45BR GEN	M	4.26	29.56	1.83	13.55
DKC80-12B GEN	M	1.69	28.76	1.71	12.11
DKC80-40BR GEN	M	2.52	26.01	1.85	11.86
IMP 51-22B	M-K/S	1.43	43.81	1.69	11.38
IMP 52-11	M	0.91	51.25	1.47	12.44
IMP 52-11B	M-K/S	0.72	53.86	1.55	12.66
IMP 53-13	M	0.69	37.62	1.80	14.36
KKS 8301	M-K/S	1.25	22.38	1.31	11.46
LS 8518	M	2.49	40.03	1.48	14.57
LS 8524R	M	0.24	34.01	1.49	12.17
LS 8529	M	0.41	32.59	1.76	14.33
LS 8533R	M	2.06	46.69	1.81	12.31
LS 8535B	M	1.59	22.72	1.72	14.44
P 2653WB	M	1.79	45.74	1.46	14.33
P 2823WB	M	0.70	47.53	1.69	14.44
PAN 5Q-649R	M	2.27	22.11	1.75	12.16
PAN 5Q-751BR	M	0.42	21.46	1.61	12.47
PAN 6P-110	M	1.02	33.31	1.82	13.65
PAN 6Q-245*	M	4.03	37.00	1.94	13.64
PAN 6Q-445B	M	1.28	52.00	1.99	13.45
PAN 6Q-708BR*	M	1.27	32.85	1.88	13.79
Phb 32W72B	M-S/K	1.56	30.38	1.66	11.32
Phb 33H52B	M-S/K	0.63	32.99	1.56	11.40
SC 608	L	5.01	26.49	1.38	18.95

Kultivars waarvan inligting vir een seisoen beskikbaar is
Cultivars of which information is available for one season

Cultivar	Groei seisoen Growing season	% Omval Lodging	% Spruite Tillers	Koppe Ears plant^{-1}	% Graan Vog Grain moisture
BG 5285	M	2.74	25.10	1.71	13.73
BG 5485B	M	1.21	27.67	1.66	13.86
BG 5685R	M	1.95	22.46	1.76	12.65
DKC73-70B GEN	M	1.51	22.44	1.32	13.88
DKC77-77BR	M	3.93	35.91	1.78	13.54
DKC77-85B GEN	M	5.86	34.27	1.73	12.86
DKC78-17B	M	8.01	35.40	1.77	14.75
DKC78-79BR	M	2.67	31.41	1.79	13.96
KKS 4581BR	M	1.74	30.12	1.56	14.21
KKS 8408R	M	8.27	31.10	1.43	13.91
KKS 8410BR	M	1.53	24.00	1.36	13.98
LS 8536B	M	1.92	26.27	1.47	12.09
LS 8539B	M	5.33	21.63	1.50	14.67
P 2432R	M	0.74	25.01	1.40	13.53
P 2653WBR	M	0.82	40.96	1.45	15.26
P 2961W	M	2.87	39.58	1.60	14.55
PAN 5Q-649R	M	1.63	23.39	1.78	12.87
PAN 6Q-245*	M	5.79	32.06	1.85	14.62
PAN 6Q-345CB	M	3.22	31.96	1.87	13.86
PAN 6Q-408CB	M	2.37	25.25	1.72	14.46
PAN 6Q-708BR*	M	2.07	25.62	1.74	14.66
PAN 6Q-845CBGT	M	1.19	45.06	1.76	13.42
PAN 6R-510R	M	3.17	29.60	1.82	14.63
Phb 33H54BR	M-K/S	2.62	27.61	1.53	11.81
SC 506	M / L	3.12	21.55	1.31	14.96
SC 533	M / L	5.84	33.64	1.24	15.55

DAE TOT BLOM / DAYS TO FLOWERING

	Kort(K)/ Short(S)	Meduim(M)/ Medium (M)	Lank(L)/ Long(L)
Koel Streke/Cool areas	70-75	75-80	80-85
Warm Streke/Warm areas	60-65	65-70	70-75

WEMA: Climate Change-ready Maize for Food Security

Why Maize?

With over 70% of the population in South Africa depending on maize as their staple food it only makes sense that the research focusing on food security and sustainability is aimed at maize.

South Africa is generally not suitable for crop production. Only about 13% of the country is arable due to low rainfall and poor soils. Maize yields obtained by large-scale commercial farmers and smallholder farmers for rain-fed crops are only about 5.0 t/ha and 1.0 t/ha, respectively. This is mainly because, on the one hand, large-scale commercial farmers grow their rain-fed maize crops at very low plant populations to avoid moisture stress. On the other hand, smallholder farmers get very low yields because they apply very little fertiliser and their crops are often subjected to moisture stress during periodic droughts. Only about 10% of the maize crop in South Africa is grown under irrigation because of limited water resources. Climate change is predicted to worsen the situation with more variable rainfall and above average temperatures. Identifying ways to mitigate and adapt to climate change are fundamental to realising food security and improved livelihoods in South Africa and the rest of the continent.

The Solution

To address these challenges the Agricultural Research Council (ARC) is participating in a public-private partnership formed in 2008, called the Water Efficient Maize for Africa (WEMA). WEMA products will be low-cost drought tolerant three-way conventional and transgenic hybrids that give at least 25% yield advantage under moderate drought conditions. The hybrids are currently being developed using a range of approaches including conventional plant breeding, an advanced breeding technique called marker assisted breeding, and transgenic approaches which are sometimes referred to as genetic modification (GM technology).

The project is focused on developing and field testing new varieties of maize in the five African countries: Kenya, Mozambique, South Africa, Tanzania, and Uganda. WEMA's long-term goal is to deploy these varieties and make them available to smallholder farmers royalty-free through local African seed companies.

The WEMA partnership is coordinated by the African Agricultural Technology Foundation (AATF) and brings together the national agricultural research systems in Kenya, Mozambique, South Africa, Tanzania and Uganda.

WEMA Partner Institutions

· African Agricultural Technology Foundation (AATF)
· National agricultural research systems in:
  Kenya-Kenya Agricultural Research Institute (KARI)
  Mozambique-National Agricultural Institute of Mozambique (IIAM)
  South Africa-Agricultural Research Council (ARC)
  Tanzania-Commission for Science and Technology(COSTECH)
  Uganda-National Agricultural Research Organisation (NARO)
· International Maize and Wheat Improvement Center (CIMMYT)
· Monsanto

Funding Partners

· Bill and Melinda Gates Foundation
· Howard G. Buffett Foundation
· United States Agency for International Development (USAID)

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