Evaluasie 2021/Evaluation 2021

KULTIVAR

Reeks
SA Graan Grain Series

KORING • WHEAT

Besproeiing/Irrigation
Winterreënvalgebiede/Winter rainfall regions
Somerreënvalgebiede/Summer rainfall regions

Maart/March
2022

ARC • LNR

GRAIN SA
GRAAN SA

RECORD YIELDS for most cultivars in COOLER CENTRAL IRRIGATION AREAS

ERNEST DUBE, TOI TSILO, DAWIE DU PLESSIS, LIENTJIE VISSER, T OLIPHANT and **RICHARD TAYLOR,** ARC-Small Grain, Bethlehem

La Niña brought us exceptionally wet conditions during the latter part of the 2021 wheat season. Above normal rainfall was received during the months of November and December in most irrigation wheat production regions.

The results of the 2021 National Cultivar Evaluation Programme suggest that the wetter than usual conditions had a positive impact on the yield in the cooler central irrigation areas. The earlier planted wheat cultivars in the region produced the highest yield in the past four seasons, with an average of 11,5 t/ha. On the other hand, the rain caused damage for some producers through lodging and sprouting, resulting in severe reductions in wheat quality.

ARC-Small Grain conducted another successful cultivar evaluation programme in the different irrigation regions in 2021, despite the challenging conditions. Seven of the 20 trials planted had to be excluded because of either rain or hail damage, caused by the exceptionally wet season. Of the 19 cultivars included in the field trials, two were new entries.

1 COOLER CENTRAL IRRIGATION AREA (EARLIER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES FROM 2018 - 2021.

CULTIVAR	2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
DUZI	11,88	2	7,39	12	7,89	5	8,58	16	8,93	7	9,05	5	9,64	7
KOEDOES	11,51	11	7,84	7	7,92	3	9,52	6	9,20	4	9,09	4	9,67	6
KROKODIL	11,55	10	7,27	15	7,02	17	9,85	2	8,92	8	8,61	13	9,41	12
PAN 3400	11,75	5	7,69	10	7,61	9	8,86	13	8,98	6	9,02	6	9,72	5
PAN 3453	11,22	17	7,17	17	-	-	-	-	-	-	-	-	9,19	17
PAN 3471	-	-	-	-	7,06	16	8,57	17	-	-	-	-	-	-
PAN 3497	11,64	7	7,12	18	6,77	20	7,61	22	8,28	13	8,51	14	9,38	13
PAN 3515	-	-	-	-	-	-	8,27	20	-	-	-	-	-	-
PAN 3541	11,43	13	7,17	16	7,27	15	8,80	14	8,67	12	8,62	12	9,30	15
PAN 3555	-	-	7,82	8	-	-	-	-	-	-	-	-	-	-
PAN 3623	-	-	-	-	-	-	9,73	3	-	-	-	-	-	-
PAN 3644	10,69	20	8,22	3	7,91	4	9,45	8	9,07	5	8,94	8	9,45	11
RENOSTER	-	-	7,30	14	7,52	11	8,90	11	-	-	-	-	-	-
SABIE	-	-	-	-	6,40	21	7,75	21	-	-	-	-	-	-
SELONS	11,35	15	-	-	-	-	-	-	-	-	-	-	-	-
SST 806	11,43	14	7,77	9	7,51	12	8,44	18	8,79	10	8,90	9	9,60	9
SST 8135	11,23	16	7,39	13	7,80	7	9,11	9	8,88	9	8,81	10	9,31	14
SST 8154	11,85	3	7,97	5	8,27	1	9,85	1	9,49	1	9,36	2	9,91	3
SST 8156	11,58	8	7,61	11	6,99	19	8,87	12	8,76	11	8,73	11	9,60	10
SST 8175	10,96	19	8,26	2	7,68	8	-	-	-	-	8,97	7	9,61	8
SST 8177	11,57	9	6,84	19	-	-	-	-	-	-	-	-	9,21	16
SST 8205	12,14	1	7,92	6	-	-	-	-	-	-	-	-	10,03	1
SST 835	-	-	-	-	7,43	14	8,34	19	-	-	-	-	-	-
SST 843	-	-	-	-	7,47	13	8,71	15	-	-	-	-	-	-
SST 866	-	-	-	-	7,01	18	9,04	10	-	-	-	-	-	-
SST 875	-	-	-	-	7,54	10	9,52	8	-	-	-	-	-	-
SST 884	11,79	4	8,18	4	8,26	2	9,57	6	9,45	2	9,41	1	9,98	2
SST 895	11,50	12	8,30	1	7,82	6	9,71	5	9,33	3	9,21	3	9,90	4
UMGENI	11,07	18	-	-	-	-	-	-	-	-	-	-	-	-
USUTU	11,72	6	-	-	-	-	-	-	-	-	-	-	-	-
MEAN	**11,49**	**-**	**7,64**	**-**	**7,48**	**-**	**8,96**	**-**	**8,98**	**-**	**8,94**	**-**	**9,58**	**-**
LSD$_t$ (0,05)	**0,80**	**-**	**0,26**	**-**	**0,35**	**-**	**0,43**	**-**	**0,30**	**-**	**0,34**	**-**	**0,43**	**-**

R = Ranking LSD = Least significant difference

Data from the 13 trials harvested successfully was included in the project report and submitted to the National Cultivar Evaluation Workgroup.

Results obtained in the 2021 season

The irrigation wheat production area of the country can be divided into four main geographic regions, namely the cooler central irrigation region in the Northern Cape, the warmer northern irrigation region in the North West, Limpopo and Gauteng provinces, the Highveld region in Mpumalanga and the Free State, and lastly the KwaZulu-Natal region.

In each of these regions, trials must be planted at two different planting times, namely an 'earlier' and a 'later' planting, with the exact dates varying between regions. The exception is the KwaZulu-Natal area, where the planting window is too narrow for two planting dates.

Producers need this information to decide on the best cultivar according to their desired planting dates. For 2021, earlier plantings for all trials in the Highveld were unsuccessful due to rain damage.

In **Tables 1** to **6**, the yield results for the 2021 season, as well as two-, three- and four-year results for each region and planting date, are presented.

More detailed information on the performance of irrigation wheat cultivars are available in the production guidelines published by ARC-Small Grain on an annual basis. These include information on the one-year performance, as well as long-term data for all the production regions and different planting times. The guidelines will be available to producers from the end of February 2022 on the Agricultural Research Council (ARC) website (*www.arc.agric.za*).

For any additional information, producers are welcome to contact Toi Tsilo on 058 307 3400 or *tsilot@arc.agric.za*.

2 COOLER CENTRAL IRRIGATION AREA (LATER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES FROM 2018 - 2021.

CULTIVAR	*2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
DUZI	9,16	12	8,36	6	9,67	8	10,39	11	9,39	8	9,06	8	8,76	6
KOEDOES	9,75	2	8,76	2	10,29	3	11,06	3	9,96	3	9,60	1	9,25	1
KROKODIL	9,36	8	8,13	13	9,66	9	10,24	16	9,35	9	9,05	9	8,75	7
PAN 3400	9,44	6	8,08	16	9,94	6	10,56	9	9,51	5	9,15	5	8,76	5
PAN 3453	9,62	3	7,38	19	-	-	-	-	-	-	-	-	8,50	13
PAN 3471	-	-	-	-	9,36	15	10,11	18	-	-	-	-	-	-
PAN 3497	9,13	14	8,11	14	9,14	19	10,17	17	9,16	13	8,82	13	8,66	8
PAN 3515	-	-	-	-	-	-	10,09	19	-	-	-	-	-	-
PAN 3541	9,22	11	8,25	9	9,16	18	10,68	8	9,17	12	8,67	14	8,42	16
PAN 3555	-	-	8,57	3	-	-	-	-	-	-	-	-	-	-
PAN 3623	-	-	-	-	-	-	10,93	4	-	-	-	-	-	-
PAN 3644	9,37	7	8,20	11	9,66	10	10,26	15	9,40	7	9,12	7	8,85	4
RENOSTER	-	-	8,44	5	9,48	14	10,91	5	-	-	-	-	-	-
SABIE	-	-	-	-	8,75	21	9,34	22	-	-	-	-	-	-
SELONS	8,60	18	-	-	-	-	-	-	-	-	-	-	-	-
SST 806	9,47	5	8,23	10	9,50	13	10,28	14	9,19	11	8,83	12	8,50	12
SST 8135	9,36	9	8,15	12	9,98	5	10,32	12	9,61	4	9,38	4	9,07	2
SST 8154	9,50	4	8,00	17	9,57	12	11,22	2	9,44	6	8,85	10	8,49	14
SST 8156	7,95	20	8,09	15	9,26	16	10,43	10	9,23	10	8,83	11	8,62	9
SST 8175	9,34	10	8,28	8	10,32	2	-	-	-	-	9,14	6	8,56	10
SST 8177	8,55	19	7,83	18	-	-	-	-	-	-	-	-	8,50	11
SST 8205	8,77	17	8,33	7	-	-	-	-	-	-	-	-	4,81	17
SST 835	-	-	-	-	9,25	17	10,08	20	-	-	-	-	-	-
SST 843	-	-	-	-	8,89	20	9,70	21	-	-	-	-	-	-
SST 866	-	-	-	-	9,74	7	10,30	13	-	-	-	-	-	-
SST 875	-	-	-	-	9,59	11	10,71	7	-	-	-	-	-	-
SST 884	10,00	1	8,47	4	10,53	1	11,23	1	10,07	1	9,50	3	8,47	15
SST 895	8,98	15	8,94	1	10,14	4	10,91	5	10,00	2	9,54	2	8,94	3
UMGENI	9,15	13	-	-	-	-	-	-	-	-	-	-	-	-
USUTU	8,83	16	-	-	-	-	-		-		-	-	-	-
MEAN	**9,18**	**-**	**8,24**	**-**	**9,61**	**-**	**10,45**	**-**	**9,50**	**-**	**9,11**	**-**	**8,46**	**-**
LSD$_t$ (0,05)	**1,29**	**-**	**0,30**	**-**	**0,55**	**-**	**0,49**	**-**	**0,24**	**-**	**0,28**	**-**	**0,30**	**-**

**Only Barkly West data*
R = Ranking LSD = Least significant difference

SKEI DIE KORING VAN DIE KAF – ’N KORINGKULTIVAR WAT AAN JOU VOORKEURE VOLDOEN

Behaal topprestasie op jou plaas met Pannar se pakket van hoë-opbrengspotensiaal, wyd aangepaste koringkultivars. Kenmerkend van hierdie kultivars is hulle saailinggroeikragtigheid en goeie strooisterkte, staanvermoë, stoelvermoë en graderingseienskappe. Pannar se kultivar opsies vir droëland of besproeiing sal aan jou voorkeure voldoen ten opsigte van plantdatums, plantdigtheid asook roesverdraagsaamheid. PAN 3471 is ’n beproefde en bewese medium-vinnige kultivar en ’n formidabele keuse vir die Wes-Kaap.

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RECORD YIELDS...

3 WARMER NORTHERN IRRIGATION AREA (EARLIER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES FROM 2018 - 2021.

CULTIVAR	2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
DUZI	9,24	10	7,39	12	7,89	5	8,58	16	8,27	8	8,17	6	8,32	11
KOEDOES	8,73	19	7,84	7	7,92	3	9,52	6	8,50	5	8,16	8	8,29	12
KROKODIL	9,75	1	7,27	15	7,02	17	9,85	2	8,47	6	8,01	11	8,51	7
PAN 3400	8,80	18	7,69	10	7,61	9	8,86	13	8,24	9	8,03	10	8,25	13
PAN 3453	9,31	6	7,17	17	-	-	-	-	-	-	-	-	8,24	14
PAN 3471	-	-	-	-	7,06	16	8,57	17	-	-	-	-	-	-
PAN 3497	8,24	20	7,12	18	6,77	20	7,61	22	7,43	13	7,37	14	7,68	17
PAN 3515	-	-	-	-	-	-	8,27	20	-	-	-	-	-	-
PAN 3541	9,25	9	7,17	16	7,27	15	8,80	14	8,12	12	7,89	13	8,21	15
PAN 3555	-	-	7,82	8	-	-	-	-	-	-	-	-	-	-
PAN 3623	-	-	-	-	-	-	9,73	3	-	-	-	-	-	-
PAN 3644	8,94	17	8,22	3	7,91	4	9,45	8	8,63	4	8,35	5	8,58	5
RENOSTER	-	-	7,30	14	7,52	11	8,90	11	-	-	-	-	-	-
SABIE	-	-	-	-	6,40	21	7,75	21	-	-	-	-	-	-
SELONS	8,99	15	-	-	-	-	-	-	-	-	-	-	-	-
SST 806	8,99	15	7,77	9	7,51	12	8,44	18	8,18	10	8,09	9	8,38	9
SST 8135	9,32	3	7,39	13	7,80	7	9,11	9	8,40	7	8,17	7	8,36	10
SST 8154	9,13	14	7,97	5	8,27	1	9,85	1	8,80	2	8,45	3	8,55	6
SST 8156	9,16	13	7,61	11	6,99	19	8,87	12	8,16	11	7,92	12	8,39	8
SST 8175	9,32	4	8,26	2	7,68	8	-	-	-	-	8,42	4	8,79	2
SST 8177	9,21	12	6,84	19	-	-	-	-	-	-	-	-	8,02	16
SST 8205	9,41	2	7,92	6	-	-	-	-	-	-	-	-	8,67	4
SST 835	-	-	-	-	7,43	14	8,34	19	-	-	-	-	-	-
SST 843	-	-	-	-	7,47	13	8,71	15	-	-	-	-	-	-
SST 866	-	-	-	-	7,01	18	9,04	10	-	-	-	-	-	-
SST 875	-	-	-	-	7,54	11	9,52	8	-	-	-	-	-	-
SST 884	9,22	11	8,18	5	8,26	3	9,57	6	8,81	1	8,55	1	8,70	3
SST 895	9,32	5	8,30	2	7,82	7	9,71	5	8,79	3	8,48	2	8,81	1
UMGENI	9,29	7	-	-	-	-	-	-	-	-	-	-	-	-
USUTU	9,28	8	-	-	-	-	-	-	-	-	-	-	-	-
MEAN	**9,14**	**-**	**7,64**	**-**	**7,48**	**-**	**8,96**	**-**	**8,37**	**-**	**8,15**	**-**	**8,39**	**-**
LSD$_t$ (0,05)	**0,69**	**-**	**0,26**	**-**	**0,35**	**-**	**0,43**	**-**	**0,23**	**-**	**0,27**	**-**	**0,37**	**-**

R = Ranking LSD = Least significant difference

4 WARMER NORTHERN IRRIGATION AREA (LATER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES FROM 2018 - 2021.

CULTIVAR	*2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
DUZI	8,73	18	8,08	5	7,67	13	8,00	6	8,12	8	8,16	9	8,40	8
KOEDOES	8,99	15	8,40	1	8,06	6	7,91	10	8,34	3	8,48	3	8,69	3
KROKODIL	9,43	5	7,61	14	7,86	10	7,75	12	8,16	7	8,30	6	8,52	4
PAN 3400	9,48	4	8,20	4	7,79	11	8,13	5	8,40	2	8,49	2	8,84	2
PAN 3453	8,60	19	6,71	19	-	-	-	-	-	-	-	-	7,66	14
PAN 3471	-	-	-	-	7,37	16	7,59	16	-	-	-	-	-	-
PAN 3497	9,12	11	7,35	17	6,78	20	7,04	21	7,63	12	7,82	13	8,35	9
PAN 3515	-	-	-	-	-	-	7,71	15	-	-	-	-	-	-
PAN 3541	9,34	6	7,37	16	8,11	4	7,76	11	8,12	9	8,23	7	8,29	11
PAN 3555	-	-	7,98	8	-	-	-	-	-	-	-	-	-	-

*Only Skuinsdrift-data R = Ranking LSD = Least significant difference

RECORD YIELDS...

4 WARMER NORTHERN IRRIGATION AREA (LATER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES FROM 2018 - 2021.

CULTIVAR	*2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
PAN 3623	-	-	-	-	-	-	7,99	7	-	-	-	-	-	-
PAN 3644	9,01	14	8,02	7	7,95	8	7,92	9	8,22	6	8,32	5	8,50	6
RENOSTER	-	-	7,76	10	7,87	9	7,24	19	-	-	-	-	-	-
SABIE	-	-	-	-	6,71	21	6,84	22	-	-	-	-	-	-
SELONS	9,22	9	-	-	-	-	-	-	-	-	-	-	-	-
SST 806	9,05	13	7,65	13	7,16	18	7,58	17	7,91	11	8,02	11	8,45	7
SST 8135	9,18	10	8,37	2	8,05	7	7,92	8	8,47	1	8,66	1	8,96	1
SST 8154	8,98	16	7,78	9	8,21	3	7,75	13	8,24	5	8,41	4	8,51	5
SST 8156	9,48	3	7,09	18	7,34	17	7,73	14	7,46	13	7,37	14	7,39	16
SST 8175	9,50	2	7,73	11	7,54	14	-	-	-	-	8,05	10	8,31	10
SST 8177	9,06	12	7,51	15	-	-	-	-	-	-	-	-	7,70	13
SST 8205	9,24	7	8,30	3	-	-	-	-	-	-	-	-	0,40	17
SST 835	-	-	-	-	7,48	15	7,08	20	-	-	-	-	-	-
SST 843	-	-	-	-	7,13	19	7,44	18	-	-	-	-	-	-
SST 866	-	-	-	-	8,09	5	8,17	4	-	-	-	-	-	-
SST 875	-	-	-	-	7,77	12	8,22	3	-	-	-	-	-	-
SST 884	9,55	1	8,07	6	8,38	1	8,40	1	8,28	4	8,23	8	8,07	12
SST 895	9,24	8	7,65	12	8,36	2	8,25	2	8,09	10	8,01	12	7,65	15
UMGENI	7,69	20	-	-	-	-	-	-	-	-	-	-	-	-
USUTU	8,89	17	-	-	-	-	-	-	-	-	-	-	-	-
MEAN	**9,09**	**-**	**7,77**	**-**	**7,70**	**-**	**7,75**	**-**	**8,11**	**-**	**8,18**	**-**	**7,81**	**-**
LSD$_t$ (0,05)	**1,31**	**-**	**0,27**	**-**	**0,40**	**-**	**0,40**	**-**	**0,21**	**-**	**0,24**	**-**	**0,30**	**-**

*Only Skuinsdrift-data R = Ranking LSD = Least significant difference

5 HIGHVELD IRRIGATION AREA (LATER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES FROM 2018 - 2021.

CULTIVAR	2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
DUZI	7,02	12	8,69	4	8,09	13	8,31	18	8,03	8	7,93	6	7,85	6
KOEDOES	7,27	2	8,67	5	8,21	7	9,38	3	8,38	3	8,05	2	7,97	2
KROKODIL	7,08	10	7,65	17	8,80	1	8,44	16	7,99	10	7,84	8	7,36	14
PAN 3400	6,86	14	7,94	14	8,43	4	8,82	11	8,01	9	7,75	10	7,40	12
PAN 3453	6,78	16	7,85	15	-	-	-	-	-	-	-	-	7,32	15
PAN 3471	-	-	-	-	7,83	19	8,12	21	-	-	-	-	-	-
PAN 3497	6,56	18	6,95	19	7,73	20	8,22	19	7,36	13	7,08	14	6,75	17
PAN 3515	-	-	-	-	-	-	8,12	20	-	-	-	-	-	-
PAN 3541	6,98	13	8,08	11	8,14	11	9,20	5	8,10	6	7,74	11	7,53	10
PAN 3555	-	-	8,54	6	-	-	-	-	-	-	-	-	-	-
PAN 3623	-	-	-	-	-	-	8,80	12	-	-	-	-	-	-
PAN 3644	6,80	15	8,52	7	8,13	12	8,47	15	7,98	11	7,82	9	7,66	8
RENOSTER	-	-	7,72	16	8,73	2	9,12	7	-	-	-	-	-	-
SABIE	-	-	-	-	7,37	21	7,23	22	-	-	-	-	-	-
SELONS	5,75	20	-	-	-	-	-	-	-	-	-	-	-	-
SST 806	7,04	11	8,02	12	7,94	17	9,34	4	8,09	7	7,67	12	7,53	11
SST 8135	7,17	5	7,96	13	8,43	5	8,97	9	8,13	5	7,85	7	7,56	9
SST 8154	7,19	4	8,73	2	8,19	9	8,87	10	8,24	4	8,03	4	7,96	3
SST 8156	7,13	8	7,62	18	7,94	18	9,15	6	7,96	12	7,56	13	7,37	13

R = Ranking LSD = Least significant difference

5 HIGHVELD IRRIGATION AREA (LATER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES FROM 2018 - 2021.

CULTIVAR	2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
SST 8175	7,25	3	8,36	9	8,31	6	-	-	-	-	7,97	5	7,80	7
SST 8177	6,22	19	8,11	10	-	-	-	-	-	-	-	-	7,17	16
SST 8205	7,14	7	8,72	3	-	-	-	-	-	-	-	-	7,93	5
SST 835	-	-	-	-	7,97	15	8,48	14	-	-	-	-	-	-
SST 843	-	-	-	-	7,95	16	9,05	8	-	-	-	-	-	-
SST 866	-	-	-	-	8,04	14	8,53	13	-	-	-	-	-	-
SST 875	-	-	-	-	8,20	8	8,40	17	-	-	-	-	-	-
SST 884	7,42	1	8,46	8	8,54	3	9,72	1	8,54	1	8,14	1	7,94	4
SST 895	7,15	6	8,79	1	8,17	10	9,59	2	8,43	2	8,04	3	7,97	1
UMGENI	6,72	17	-	-	-	-	-	-	-	-	-	-	-	-
USUTU	7,10	9	-	-	-	-	-	-	-	-	-	-	-	-
MEAN	**6,93**	**-**	**8,18**	**-**	**8,15**	**-**	**8,74**	**-**	**8,10**	**-**	**7,82**	**-**	**7,59**	**-**
LSD$_t$ (0,05)	**0,49**	**-**	**0,28**	**-**	**0,58**	**-**	**0,41**	**-**	**0,24**	**-**	**0,26**	**-**	**0,27**	**-**

R = Ranking LSD = Least significant difference

6 KWAZULU-NATAL IRRIGATION AREA. AVERAGE YIELD (T/HA) OF ENTRIES FROM 2018 - 2021.

CULTIVAR	2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
DUZI	4,11	20	6,72	12	7,31	13	7,01	16	6,29	10	6,05	16	5,42	18
KOEDOES	4,26	19	6,93	3	6,87	18	6,54	20	6,15	12	6,02	17	5,59	17
KROKODIL	5,80	11	6,79	10	7,49	6	7,88	1	6,99	2	6,69	7	6,30	8
PAN 3400	6,08	6	6,91	7	7,32	11	6,70	19	6,75	7	6,77	5	6,49	6
PAN 3453	5,97	8	6,22	18	-	-	-	-	-	-	-	-	6,09	13
PAN 3471	-	-	-	-	6,96	16	7,20	10	-	-	-	-	-	-
PAN 3497	5,76	13	6,07	19	6,54	20	6,43	21	6,20	11	6,12	13	5,92	15
PAN 3515	-	-	-	-	-	-	7,04	13	-	-	-	-	-	-
PAN 3541	6,49	2	6,84	8	7,61	3	7,33	-	-	-	6,98	1	6,66	2
PAN 3555	-	-	7,02	2	-	-	-	-	-	-	-	-	-	-
PAN 3623	-	-	-	-	-	-	7,31	8	-	-	-	-	-	-
PAN 3644	4,97	17	6,34	16	6,89	17	7,41	-	-	-	6,07	15	5,66	16
RENOSTER	-	-	6,56	14	7,32	12	7,24	9	7,04	1	6,94	2	6,56	4
SABIE	-	-	-	-	6,52	21	6,05	22	-	-	-	-	-	-
SELONS	4,50	18	-	-	-	-	-	-	-	-	-	-	-	-
SST 806	5,58	14	6,74	11	7,66	2	6,82	18	6,70	9	6,66	10	6,16	11
SST 8135	6,06	7	6,36	15	7,77	1	7,59	3	6,94	3	6,73	6	6,21	9
SST 8154	5,56	15	6,82	9	7,36	8	7,43	4	6,79	5	6,58	11	6,19	10
SST 8156	6,38	3	6,68	13	7,41	7	7,19	11	6,91	4	6,82	4	6,53	5
SST 8175	6,23	4	6,93	3	7,50	5	-	-	-	-	6,89	3	6,58	3
SST 8177	5,88	10	6,25	17	-	-	-	-	-	-	6,07	14	6,07	14
SST 8205	6,21	5	7,14	1	-	-	-	-	-	-	6,67	9	6,67	1
SST 835	-	-	-	-	7,28	14	6,83	17	-	-	-	-	-	-
SST 843	-	-	-	-	6,86	19	7,04	14	-	-	-	-	-	-
SST 866	-	-	-	-	7,55	4	7,10	12	-	-	-	-	-	-
SST 875	-	-	-	-	7,23	15	7,63	2	-	-	-	-	-	-
SST 884	5,32	16	6,93	3	7,34	9	7,39	6	6,75	8	6,53	12	6,12	12
SST 895	5,77	12	6,92	6	7,34	9	7,03	15	6,76	6	6,68	8	6,35	7
UMGENI	5,95	9	-	-	-	-	-	-	-	-	-	-	-	-
USUTU	6,90	1	-	-	-	-	-	-	-	-	-	-	-	-
MEAN	**5,69**	**-**	**6,69**	**-**	**7,24**	**-**	**7,10**	**-**	**6,69**	**-**	**6,54**	**-**	**6,20**	**-**
LSD$_t$ (0,05)	**0,65**	**-**	**0,24**	**-**	**0,25**	**-**	**0,23**	**-**	**0,17**	**-**	**0,22**	**-**	**0,32**	**-**

R = Ranking LSD = Least significant difference

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Só presteer Wes-Kaap kultivars oor afgelope vier jaar

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Die 2021 Nasionale Kultivarevaluasieprogram in die Wes-Kaap is deur LNR-Kleingraan, die Departement van Landbou in die Wes-Kaap en Sensako uitgevoer. Hierdie samewerking bied die ideale geleentheid om objektiewe inligting rakende die kultivarprestasie in die verskillende produksiegebiede aan produsente te voorsien.

Proewe word op 'n wetenskaplike gegronde wyse in al die verskillende produksiegebiede aangeplant en data word statisties verwerk om betroubare resultate aan produsente te verskaf. Produsente kan hierdie data gebruik om ingeligte kultivarkeuses te maak.

Die data word statisties verwerk met twee statistiese modelle, naamlik die ANOVA- en AMMI-modelle. Die eerste toets word gebruik om resultate op 'n spesifieke ligging te analiseer, terwyl die AMMI-model die verskillende kultivars met die verskillende liggings vergelyk.

Hierdie tipe ontleding se voordeel is dat die beste presteerders by elke ligging met redelike sekerheid geïdentifiseer word. Uiteraard kan kultivars egter oor jare en liggings verskil, afhangende van grond- en klimaatsverskille.

Belangrike aspekte om te onthou vir 'n goeie oes

Planttyd is die belangrikste tydperk waartydens produsente volle beheer oor die produksieproses het en dit kan dus 'n groot invloed op die uitkoms van die oes hê. Die volgende produksiekriteria moet deur produsente in gedagte gehou word om seker te maak dat hulle die seisoen op die beste moontlike manier afskop:

- Gebruik goeie gehalte saad, m.a.w. saad wat suiwer is en 'n goeie ontkiemingspersentasie het.
- Saadbehandelings moet korrek gedoen wees.
- Baseer die kultivarkeuse vir 75% van die aanplantingsoppervlakte op bekende presteerders en toets nuwe belowende kultivars op 25% van die oppervlakte.
- Gebruik die duisendkorrelmassa van die spesifieke saadlot om die plantdigtheid per vierkante meter te bereken. Dit voorkom groot afwykings in die beplande plantestand as kultivars teen 'n vasgestelde kilogram per hektaar geplant word.
- Gebruik grondontledings om die korrekte tipe en hoeveelheid kunsmis vir elke spesifieke land toe te dien.

Kultivarprestasie in die 2021-seisoen

In **Tabelle 1** tot **7** word alle inligting rakende die kultivars se prestasies wat oor die afgelope vier jaar in die program ingeskryf is, weergegee. Vir korrekte interpretasie en gebruik is die inligting in die verskillende substreke in die winterreëngebied ingedeel.

LNR-Kleingraan publiseer jaarliks 'n reeks breedvoerige handleidings wat alle produksie-inligting vir die onderskeie kleingraanproduksiestreke bevat. Hierdie handleidings word teen einde Februarie aan produsente beskikbaar gestel op die Landbounavorsingsraad (LNR) se webblad. Die amptelike aanbevelings vir kleingrane, sowel as die opsomming van die resultate wat in die 2021-seisoen behaal is, soos goedgekeur deur die Nasionale Kultivarevaluasiewerkgroep, word hierin opgesom.

Produsente wat meer inligting benodig, is welkom om met Toi Tsilo by LNR-Kleingraan in verbinding te tree by 058 307 3400 of *tsilot@arc.agric.za*.

1 SWARTLAND HOË REËNVAL. GEMIDDELDE OPBRENGS (T/HA) VAN INSKRYWINGS VAN 2018 - 2021.

KULTIVAR	2021	R	2020	R	2019	R	2018	R	4-JAAR-GEMIDDELD 2018 - 2021	R	3-JAAR-GEMIDDELD 2019 - 2021	R	2-JAAR-GEMIDDELD 2020 - 2021	R
PAN 3408	-	-	-	-	3,42	7	4,36	10	-	-	-	-	-	-
PAN 3471	5,59	4	4,81	10	3,63	5	4,27	11	4,57	8	4,68	5	5,20	10
RATEL	5,33	12	5,17	6	3,29	11	4,52	6	4,58	7	4,60	10	5,25	8
SST 0117	5,42	9	5,21	4	3,66	3	4,75	5	4,76	3	4,76	3	5,32	5
SST 0127	5,56	6	5,05	8	3,35	9	4,83	2	4,70	5	4,66	6	5,31	6
SST 0147	5,91	3	5,36	2	3,68	2	4,80	3	4,94	2	4,98	2	5,63	2
SST 015	5,42	9	4,76	12	3,35	10	4,50	8	4,51	9	4,51	11	5,09	12
SST 0166	6,09	1	5,39	1	3,95	1	5,05	1	5,12	1	5,14	1	5,74	1
SST 0187	5,99	2	5,22	3	-	-	-	-	-	-	-	-	5,60	3
SST 056	5,57	5	4,89	9	3,40	8	4,52	7	4,59	6	4,62	9	5,23	9
SST 087	5,37	11	5,13	7	3,54	6	4,78	4	4,70	4	4,68	4	5,25	7
STEENBOK	5,46	8	4,80	11	3,66	4	3,85	-	4,4	10	4,64	7	5,13	11
TANKWA	-	-	-	-	-	-	4,42	9	-	-	-	-	-	-
TREDOU	5,50	7	5,17	5	3,27	-	-	-	-	-	4,6	7	5,34	4
GEMIDDELD	**5,60**	**-**	**5,08**	**-**	**3,52**	**-**	**4,55**	**-**	**4,7**	**-**	**4,7**	**-**	**5,3**	**-**
KBV$_t$ (0,05)	**0,3**	**-**	**0,3**	**-**	**0,3**	**-**	**0,2**	**-**	**0,1**	**-**	**0,2**	**-**	**0,2**	**-**

R = Rangorde KBV = Kleinste betekenisvolle verskil

2 MIDDEL-SWARTLAND. GEMIDDELDE OPBRENGS (T/HA) VAN INSKRYWINGS VAN 2018 - 2021.

KULTIVAR	2021	R	2020	R	2019	R	2018	R	4-JAAR-GEMIDDELD 2018 - 2021	R	3-JAAR-GEMIDDELD 2019 - 2021	R	2-JAAR-GEMIDDELD 2020 - 2021	R
PAN 3408	-	-	-	-	3,17	6	3,69	7	-	-	-	-	-	-
PAN 3471	4,45	6	4,26	10	3,16	7	3,81	6	3,92	7	3,96	7	4,35	9
RATEL	4,16	11	4,54	7	2,73	12	3,64	9	3,77	9	3,81	10	4,35	10
SST 0117	4,37	9	4,76	3	3,18	5	4,49	1	4,20	2	4,10	3	4,56	6
SST 0127	4,62	4	4,65	5	2,96	10	4,01	3	4,06	4	4,08	6	4,64	4
SST 0147	4,55	5	4,83	1	3,21	4	3,86	5	4,11	3	4,20	2	4,69	3
SST 015	4,67	3	4,31	9	3,29	3	3,68	8	3,99	6	4,09	5	4,49	7
SST 0166	4,85	2	4,61	6	3,42	1	4,43	2	4,33	1	4,29	1	4,73	2
SST 0187	5,38	1	4,71	4	-	-	-	-	-	-	-	-	5,05	1
SST 056	4,42	7	4,36	8	3,08	8	3,54	10	3,85	8	3,95	8	4,39	8
SST 087	4,40	8	4,83	2	3,07	9	3,89	4	4,05	5	4,10	4	4,61	5
STEENBOK	4,14	12	4,04	12	3,38	2	2,63	-	3,55	10	3,85	9	4,09	12
TANKWA	-	-	-	-	-	-	3,47	11	-	-	-	-	-	-
TREDOU	4,21	10	4,26	10	2,83	11	-	-	-	-	3,77	11	4,23	11
GEMIDDELD	**4,5**	**-**	**4,5**	**-**	**3,1**	**-**	**3,8**	**-**	**4,0**	**-**	**4,0**	**-**	**4,5**	**-**
KBV$_t$ (0,05)	**0,3**	**-**	**0,4**	**-**	**0,3**	**-**	**0,3**	**-**	**0,2**	**-**	**0,2**	**-**	**0,2**	**-**

R = Rangorde KBV = Kleinste betekenisvolle verskil

Proef by Philadelphia (Altona) met Tafelberg in die agtergrond.

SÓ PRESTEER WES-KAAP...

3 SWARTLAND KORINGBERG. GEMIDDELDE OPBRENGS (T/HA) VAN INSKRYWINGS VAN 2018 - 2021.

KULTIVAR	2021	R	2020	R	2019	R	2018*	R	4-JAAR-GEMIDDELD 2018 - 2021	R	3-JAAR-GEMIDDELD 2019 - 2021	R	2-JAAR-GEMIDDELD 2020 - 2021	R
PAN 3408	-	-	-	-	2,68	3	3,08	4	-	-	-	-	-	-
PAN 3471	3,30	12	3,28	6	2,38	8	2,85	9	2,95	9	2,99	11	3,29	12
RATEL	3,72	7	3,34	1	2,15	11	2,96	6	3,04	7	3,07	8	3,53	4
SST 0117	3,65	9	3,28	5	2,92	1	3,24	1	3,27	1	3,29	2	3,47	7
SST 0127	3,65	9	3,32	3	2,52	6	3,18	2	3,17	3	3,16	6	3,48	6
SST 0147	3,87	3	3,06	11	2,62	4	3,09	3	3,16	4	3,19	4	3,47	7
SST 015	3,68	8	3,25	9	2,59	5	2,93	7	3,11	6	3,17	5	3,46	9
SST 0166	3,83	4	3,27	7	2,79	2	2,97	5	3,22	2	3,30	1	3,55	3
SST 0187	4,03	1	3,33	2	-	-	-	-	-	-	-	-	3,68	1
SST 056	4,03	1	3,29	4	2,36	9	2,77	10	3,11	5	3,23	3	3,66	2
SST 087	3,62	11	3,12	10	2,29	10	2,93	8	2,99	8	3,01	10	3,37	10
STEENBOK	3,75	6	2,99	12	2,49	7	2,39	12	2,91	10	3,08	7	3,37	10
TANKWA	-	-	-	-	-	-	2,67	11	-	-	-	-	-	-
TREDOU	3,76	5	3,25	8	2,08	12	-	-	-	-	3,03	9	3,51	5
GEMIDDELD	**3,74**	**-**	**3,23**	**-**	**2,49**	**-**	**2,92**	**-**	**3,09**	**-**	**3,14**	**-**	**3,49**	**-**
KBV$_t$ (0,05)	**0,3**	**-**	**0,3**	**-**	**0,3**	**-**	**0,3**	**-**	**0,2**	**-**	**0,2**	**-**	**0,2**	**-**

* Slegs Porterville-data R = Rangorde KBV = Kleinste betekenisvolle verskil

4 SWARTLAND SANDVELD. GEMIDDELDE OPBRENGS (T/HA) VAN INSKRYWINGS VAN 2018 - 2021.

KULTIVAR	2021	R	2020	R	2019	R	2018	R	4-JAAR-GEMIDDELD 2018 - 2021	R	3-JAAR-GEMIDDELD 2019 - 2021	R	2-JAAR-GEMIDDELD 2020 - 2021	R
PAN 3408	-	-	-	-	1,98	4	3,15	5	-	-	-	-	-	-
PAN 3471	3,13	10	3,14	6	1,91	5	3,32	2	2,88	5	2,73	4	3,13	10
RATEL	3,28	9	3,13	8	1,40	12	2,92	10	2,68	9	2,60	10	3,20	6
SST 0117	3,40	5	2,93	11	1,82	6	3,56	1	2,93	4	2,72	7	3,17	9
SST 0127	3,41	4	3,25	3	1,51	10	2,99	8	2,79	8	2,72	5	3,33	4
SST 0147	3,37	7	2,84	12	1,63	8	3,31	3	2,79	7	2,61	8	3,11	11
SST 015	3,57	1	3,17	4	2,16	2	3,02	6	2,98	2	2,97	1	3,37	2
SST 0166	3,53	2	3,14	5	2,18	1	3,22	4	3,02	1	2,95	2	3,34	3
SST 0187	3,08	11	3,27	2	-	-	-	-	-	-	-	-	3,18	8
SST 056	3,33	8	3,13	7	1,70	7	3,01	7	2,79	6	2,72	6	3,23	5
SST 087	2,82	12	3,11	9	1,63	9	2,99	9	2,64	10	2,52	11	2,96	12
STEENBOK	3,53	2	3,29	1	2,03	3	2,87	11	2,93	3	2,95	3	3,41	1
TANKWA	-	-	-	-	-	-	2,53	12	-	-	-	-	-	-
TREDOU	3,40	5	2,99	10	1,43	11	-	-	-	-	2,61	9	3,19	7
GEMIDDELD	**3,32**	**-**	**3,12**	**-**	**1,78**	**-**	**3,07**	**-**	**2,84**	**-**	**2,74**	**-**	**3,22**	**-**
KBV$_t$ (0,05)	**0,4**	**-**	**0,2**	**-**	**0,3**	**-**	**0,2**	**-**	**0,1**	**-**	**0,2**	**-**	**0,3**	**-**

R = Rangorde KBV = Kleinste betekenisvolle verskil

5 WES-RÛENS. GEMIDDELDE OPBRENGS (T/HA) VAN INSKRYWINGS VAN 2018 - 2021.

KULTIVAR	2021	R	2020	R	2019	R	2018	R	4-JAAR-GEMIDDELD 2018 - 2021	R	3-JAAR-GEMIDDELD 2019 - 2021	R	2-JAAR-GEMIDDELD 2020 - 2021	R
PAN 3408	-	-	-	-	1,52	11	3,34	11	-	-	-	-	-	-
PAN 3471	4,36	7	3,93	11	1,99	2	3,61	7	3,47	8	3,43	7	4,14	9
RATEL	3,92	11	4,25	8	1,62	9	3,58	9	3,34	9	3,26	10	4,08	11
SST 0117	4,57	5	4,36	6	1,91	3	3,61	8	3,61	4	3,61	3	4,46	4
SST 0127	4,67	3	4,22	9	1,82	6	3,96	3	3,67	3	3,57	4	4,45	5
SST 0147	4,67	3	4,75	2	1,78	7	3,77	6	3,74	2	3,73	2	4,71	2
SST 015	3,96	10	4,33	7	1,90	4	4,04	2	3,56	6	3,39	8	4,14	10
SST 0166	4,85	1	4,76	1	2,29	1	4,40	1	4,07	1	3,96	1	4,80	1
SST 0187	4,71	2	4,70	-	-	-	-	-	-	-	-	-	4,70	3
SST 056	4,44	6	4,21	10	1,83	5	3,81	4	3,57	5	3,50	5	4,33	7
SST 087	4,27	8	4,55	5	1,63	8	3,52	10	3,49	7	3,48	6	4,41	6
STEENBOK	4,24	9	3,65	12	1,54	10	2,59	-	3,00	10	3,14	11	3,94	12
TANKWA	-	-	-	-	-	-	3,80	5	-	-	-	-	-	-
TREDOU	3,92	11	4,68	4	1,44	-	-	-	-	-	3,35	9	4,30	8
GEMIDDELD	**4,38**	**-**	**4,36**	**-**	**1,77**	**-**	**3,67**	**-**	**3,55**	**-**	**3,49**	**-**	**4,37**	**-**
KBV$_t$ (0,05)	**0,3**	**-**	**0,4**	**-**	**0,2**	**-**	**0,2**	**-**	**0,1**	**-**	**0,2**	**-**	**0,2**	**-**

R = Rangorde KBV = Kleinste betekenisvolle verskil

6 OOS-RÛENS. GEMIDDELDE OPBRENGS (T/HA) VAN INSKRYWINGS VAN 2018 - 2021.

KULTIVAR	2021	R	2020	R	2019	R	2018	R	4-JAAR-GEMIDDELD 2018 - 2021	R	3-JAAR-GEMIDDELD 2019 - 2021	R	2-JAAR-GEMIDDELD 2020 - 2021	R
PAN 3408	-	-	-	-	2,02	7	2,16	6	-	-	-	-	-	-
PAN 3471	4,22	10	1,58	7	1,76	11	2,10	7	2,42	8	2,52	11	2,90	9
RATEL	4,59	5	1,42	10	1,90	10	2,08	8	2,50	7	2,64	7	3,01	7
SST 0117	4,44	7	2,15	3	2,22	2	2,36	2	2,79	3	2,94	4	3,30	4
SST 0127	4,87	1	2,23	2	2,13	5	2,23	5	2,86	2	3,08	2	3,55	2
SST 0147	4,49	6	1,94	5	2,14	4	2,25	4	2,70	4	2,86	5	3,22	5
SST 015	4,43	8	1,29	12	1,74	12	1,97	11	2,36	9	2,49	12	2,86	11
SST 0166	4,64	3	2,12	4	2,27	1	2,61	1	2,91	1	3,01	3	3,38	3
SST 0187	4,63	4	2,53	1	-	-	-	-	-	-	3,58	1	3,58	1
SST 056	4,65	2	1,50	9	2,12	6	2,05	9	2,58	5	2,76	6	3,08	6
SST 087	4,14	12	1,71	6	2,00	8	2,29	3	2,53	6	2,62	8	2,93	8
STEENBOK	4,15	11	1,30	11	2,21	3	1,73	-	2,35	11	2,55	9	2,73	12
TANKWA	-	-	-	-	-	-	2,01	10	-	-	-	-	-	-
TREDOU	4,24	9	1,51	8	1,92	9	-	-	-	-	2,56	10	2,88	10
GEMIDDELD	**4,46**	**-**	**1,77**	**-**	**2,04**	**-**	**2,15**	**-**	**2,60**	**-**	**2,80**	**-**	**3,12**	**-**
KBV$_t$ (0,05)	**0,38**	**-**	**0,30**	**-**	**0,21**	**-**	**0,16**	**-**	**0,13**	**-**	**0,18**	**-**	**0,26**	**-**

R = Rangorde KBV = Kleinste betekenisvolle verskil

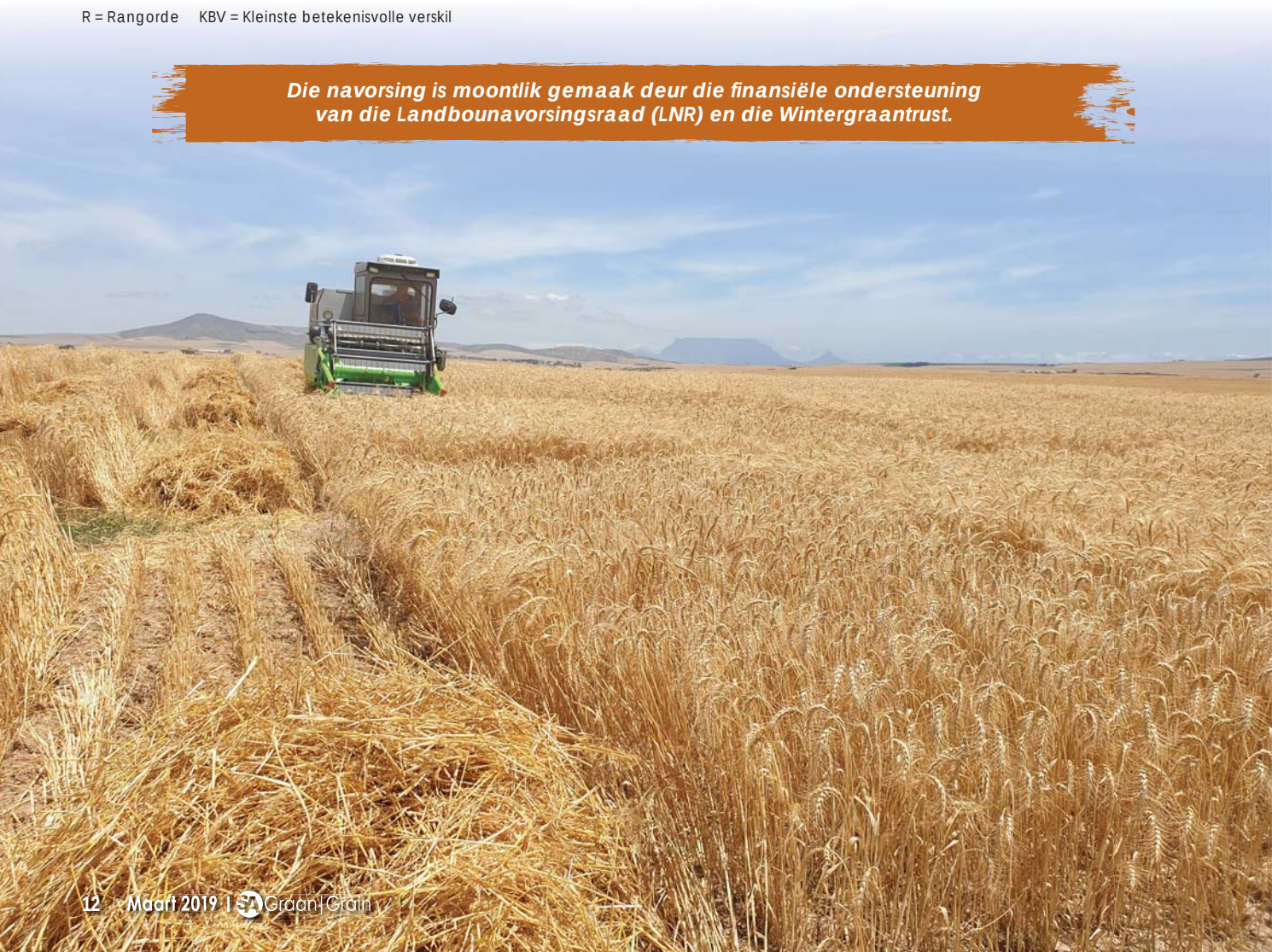
SÓ PRESTEER WES-KAAP...

7 SUID-RÛENS. GEMIDDELDE OPBRENGS (T/HA) VAN INSKRYWINGS VAN 2018 - 2021.

KULTIVAR	2021	R	2020	R	2019	R	2018	R	4-JAAR-GEMIDDELD 2018 - 2021	R	3-JAAR-GEMIDDELD 2019 - 2021	R	2-JAAR-GEMIDDELD 2020 - 2021	R
PAN 3408	-	-	-	-	2,28	10	3,48	9	-	-	-	-	-	-
PAN 3471	3,70	11	3,46	11	2,63	3	3,57	7	3,34	8	3,26	8	3,58	12
RATEL	4,02	8	3,65	9	2,16	11	3,68	4	3,38	7	3,28	7	3,83	8
SST 0117	4,26	5	4,45	1	2,74	1	3,53	8	3,74	4	3,82	1	4,35	3
SST 0127	4,29	4	4,44	2	2,7	2	3,65	5	3,77	2	3,81	2	4,37	2
SST 0147	4,33	3	4,35	4	2,41	6	3,95	2	3,76	3	3,70	3	4,34	4
SST 015	3,93	10	3,52	10	1,9	12	3,42	11	3,19	9	3,12	11	3,72	9
SST 0166	4,40	2	4,00	6	2,63	3	4,44	1	3,87	1	3,68	4	4,20	5
SST 0187	4,87	1	4,39	3	-	-	-	-	-	-	-	-	4,63	1
SST 056	4,19	6	3,82	7	2,56	5	3,65	5	3,55	5	3,52	5	4,00	7
SST 087	3,99	9	4,07	5	2,37	7	3,78	3	3,55	6	3,48	6	4,03	6
STEENBOK	4,10	7	3,06	12	2,35	8	2,70		3,05	10	3,17	9	3,58	11
TANKWA	-	-	-	-	-	-	3,43	10	-	-	-	-	-	-
TREDOU	3,66	12	3,73	8	2,34	9	-	-	-	-	3,24	9	3,69	10
GEMIDDELD	**4,15**	**-**	**3,91**	**-**	**2,42**	**-**	**3,61**	**-**	**3,52**	**-**	**3,46**	**-**	**4,03**	**-**
KBV$_t$ (0,05)	**0,40**	**-**	**0,28**	**-**	**0,3**	**-**	**0,27**	**-**	**0,18**	**-**	**0,21**	**-**	**0,27**	**-**

R = Rangorde KBV = Kleinste betekenisvolle verskil

Die navorsing is moontlik gemaak deur die finansiële ondersteuning van die Landbounavorsingsraad (LNR) en die Wintergraantrust.



Good yields in a challenging, excessively wet season

ERNEST DUBE, TOI TSILO, DAWIE DU PLESSIS, LIENTJIE VISSER and **RICHARD TAYLOR,** ARC-Small Grain, Bethlehem

In the recent past, drought has been the major challenge for dryland wheat farmers in the Free State Province. However, 2021 was an exception as producers faced a new challenge of excessive rain at harvest. Most dryland wheat producers traditionally plant on high water table soils to ensure adequate moisture supply during the dry periods. However, such lands are also highly susceptible to flooding damage in wet seasons.

Excellent spring rain was recorded in the Eastern and Northwestern Free State in 2021, and this translated into higher average yields of up to 5,5 t/ha for some of the high-yield potential cultivars. Extremely high rainfall figures were also recorded during wheat ripening and this unfortunately resulted in a delayed harvesting process. Subsequently, many cultivars evaluated in 2021 had serious problems with sprouting in the ear and reduced falling numbers.

Conditions experienced this season emphasise the need for dryland producers to consider not only their yield, but also sprouting tolerance and lodging resistance when making cultivar choices.

For 2021, four dryland trials were planted under ARC-Small Grain's (ARC-SGs) national cultivar evaluation programme in the Northwestern and Eastern Free State. The trials were all successful, despite the heavy rainfall conditions during the wheat harvest time.

A total of 17 cultivars were provided by three institutions, namely ARC-SG, Sensako and Pannar, for the 2021 programme, and there were no new entries. Data from these trials was included in the project report and submitted to the National Cultivar Evaluation Workgroup.

In **Tables 1** to **4**, the yield results for the 2021 season, as well as two-, three- and four-year results for each region and planting date, are presented.

More detailed information on the performance of irrigation wheat cultivars is available in the production guidelines published by ARC-Small Grain on an annual basis. These include information on the one-year performance, as well as long-term data for all the production regions and different planting times. The guidelines will be available to producers from the end of February 2022 on the Agricultural Research Council (ARC) website (*www.arc.agric.za*).

For any additional information, producers are welcome to contact Toi Tsilo on 058 307 3400 or *tsilot@arc.agric.za*.

1 NORTH WESTERN FREE STATE (EARLIER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES DURING THE PERIOD FROM 2018 - 2021.

CULTIVAR	2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
ELANDS	3,80	15	2,42	6	2,26	8	2,26	18	2,69	10	2,83	8	3,11	9
GARIEP	3,85	14	2,26	12	2,20	9	3,14	9	2,87	8	2,77	9	3,06	11
KOONAP	3,73	16	2,14	15	1,61	18	2,56	13	2,51	13	2,49	13	2,94	14
KOUGAS	4,02	12	2,14	14	1,89	14	3,01	10	2,76	9	2,68	11	3,08	10
KUBETU	5,35	3	2,40	7	2,37	4	3,42	6	3,38	4	3,37	3	3,88	4
MATLABAS	5,07	4	2,93	1	2,50	1	3,42	5	3,48	2	3,50	1	4,00	2
MOKOLO	4,45	10	2,26	13	-	-	-	-	-	-	-	-	3,36	8
PAN 3111	5,79	1	2,31	10	2,26	7	3,67	3	3,51	1	3,45	2	4,05	1
PAN 3161	4,76	8	2,53	3	2,45	3	3,84	1	3,40	3	3,25	5	3,65	7
PAN 3195	-	-	-	-	-	-	3,67	2	-	-	-	-	-	-
PAN 3198	-	-	-		-	-	-	-	-	-	-	-	-	-
PAN 3368	3,72	17	2,27	11	1,86	15	2,27	17	2,53	12	2,62	12	3,00	13
SENQU	3,97	13	2,09	16	2,08	10	2,32	16	2,61	11	2,71	10	3,03	12
SST 3149	-	-	2,38	9	1,84	16	2,79	12	-	-	-	-	-	-
SST 3186	4,36	11	-	-	-	-	-	-	-	-	-	-	-	-
SST 3197	4,60	9	-	-	-	-	-	-	-	-	-	-	-	-
SST 316	-	-	-	-	1,90	12	2,49	15	-	-	-	-	-	-
SST 317	-	-	-	-	2,27	6	2,97	11	-	-	-	-	-	-
SST 347	4,77	7	2,38	8	2,28	5	3,21	8	3,20	6	3,20	6	3,66	6
SST 356	4,93	5	2,46	5	1,95	11	2,51	14	3,08	7	3,27	4	3,93	3
SST 387	5,41	2	2,62	2	1,90	12	3,57	4	3,24	5	3,13	7	3,74	5
SST 398	-	-	-	-	1,76	17	2,26	19	-	-	-	-	-	-
WEDZI	4,86	6	2,53	3	2,49	2	3,29	7	2,18	14	1,81	14	1,47	15
MEAN	**4,56**	**-**	**2,38**	**-**	**2,10**	**-**	**2,98**	**-**	**2,96**	**-**	**2,93**	**-**	**3,33**	**-**
LSD$_t$ (0,05)	**0,40**	**-**	**0,14**	**-**	**0,14**	**-**	**0,16**	**-**	**0,10**	**-**	**0,12**	**-**	**0,18**	**-**

R = Ranking LSD = Least significant difference

GOOD YIELDS IN A...

2 NORTHWESTERN FREE STATE (LATER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES DURING THE PERIOD FROM 2018 - 2021.

CULTIVAR	2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
ELANDS	4,42	12	3,52	8	1,27	12	2,82	12	3,01	11	3,07	11	3,97	11
GARIEP	4,74	6	3,62	7	1,57	4	2,93	8	3,22	5	3,31	6	4,18	7
KOONAP	4,01	16	3,06	14	1,45	5	2,93	7	2,86	14	2,84	14	3,54	14
KOUGAS	4,46	11	3,36	12	1,35	9	2,92	9	3,02	10	3,06	12	3,91	13
KUBETU	4,77	5	4,04	1	1,79	2	2,88	10	3,37	4	3,53	2	4,41	3
PAN 3111	5,21	2	3,41	11	1,67	3	4,03	1	3,58	2	3,43	4	4,31	5
PAN 3161	4,97	3	3,91	3	2,02	1	3,64	2	3,64	1	3,63	1	4,44	2
PAN 3195	-	-	-	-	-	-	3,48	3	-	-	-	-	-	-
PAN 3368	4,39	13	3,64	6	1,40	6	2,57	18	3,00	12	3,14	9	4,02	10
SENQU	4,72	8	3,13	13	1,28	11	2,79	14	2,98	13	3,04	13	3,93	12
SST 3186	4,24	14	-	-	-	-	-	-	-	-	-	-	-	-
SST 3197	4,04	15	-	-	-	-	-	-	-	-	-	-	-	-
SST 316	-	-	-	-	1,38	7	2,71	16	-	-	-	-	-	-
SST 317	-	-	-	-	1,26	13	3,06	6	-	-	-	-	-	-
SST 347	4,47	10	3,81	4	1,23	16	2,80	13	3,08	9	3,17	8	4,14	8
SST 356	4,73	7	3,66	5	1,23	15	2,75	15	3,09	8	3,21	7	4,20	6
SST 374	4,81	4	3,92	2	1,23	14	2,83	11	3,20	6	3,32	5	4,37	4
SST 387	5,45	1	3,51	9	1,35	8	3,25	4	3,39	3	3,44	3	4,48	1
SST 398	-	-	-	-	1,17	17	2,64	17	-	-	-	-	-	-
WEDZI	4,58	9	3,49	10	1,31	10	3,22	5	3,15	7	3,13	10	4,04	9
MEAN	**4,63**	**-**	**3,58**	**-**	**1,41**	**-**	**3,01**	**-**	**3,18**	**-**	**3,24**	**-**	**4,14**	**-**
LSD$_t$ (0,05)	**0,45**	**-**	**0,22**	**-**	**0,08**	**-**	**0,19**	**-**	**0,13**	**-**	**0,12**	**-**	**0,27**	**-**

R = Ranking LSD = Least significant difference

3 EASTERN FREE STATE (EARLIER PLANTING). AVERAGE YIELD (T/HA) OF ENTRIES DURING THE PERIOD FROM 2018 - 2021.

CULTIVAR	2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
ELANDS	3,16	16	2,35	13	0,71	12	1,90	14	2,03	11	2,07	11	2,75	12
GARIEP	3,58	11	2,65	6	0,56	17	1,84	17	2,16	9	2,26	9	3,11	8
KOONAP	3,14	17	2,54	11	0,76	10	1,98	9	2,11	10	2,15	10	2,84	11
KOUGAS	3,33	14	1,85	16	0,77	8	1,86	16	1,95	13	1,98	13	2,59	14
KUBETU	3,63	9	2,84	4	1,05	4	2,17	4	2,42	3	2,51	4	3,24	5
MATLABAS	3,77	5	3,09	1	1,06	3	2,39	2	2,58	1	2,64	2	3,43	1
MOKOLO	3,65	8	2,58	9	-	-	-	-	-	-	-	-	3,12	7
PAN 3111	4,17	2	2,62	8	1,16	2	2,24	3	2,55	2	2,65	1	3,39	3
PAN 3161	3,60	10	2,29	14	1,24	1	2,57	1	2,42	4	2,38	6	2,94	9
PAN 3195	-	-	-	-	-	-	2,07	6	-	-	-	-	-	-
PAN 3368	3,23	15	2,25	15	0,54	18	1,92	12	1,98	12	2,01	12	2,74	13
SENQU	3,35	13	2,48	12	0,98	5	2,03	7	2,21	8	2,27	8	2,92	10
SST 3149	-	-	2,70	5	0,68	14	1,79	19	-	-	-	-	-	-
SST 3186	3,52	12	-	-	-	-	-	-	-	-	-	-	-	-

R = Ranking LSD = Least significant difference

3 **EASTERN FREE STATE (EARLIER PLANTING).**
AVERAGE YIELD (T/HA) OF ENTRIES DURING THE PERIOD FROM 2018 - 2021.

CULTIVAR	2021	R	2020	R	2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
SST 3197	3,76	6	-	-	-	-	-	-	-	-	-	-	-	-
SST 316	-	-	-	-	0,69	13	1,95	10	-	-	-	-	-	-
SST 317	-	-	-	-	0,74	11	1,87	15	-	-	-	-	-	-
SST 347	4,38	1	2,86	2	0,82	6	1,95	11	2,40	5	2,55	3	3,41	2
SST 356	3,96	3	2,85	3	0,63	15	1,83	18	2,25	7	2,39	5	3,27	4
SST 387	3,69	7	2,58	10	0,57	16	2,01	8	2,26	6	2,34	7	3,23	6
SST 398	-	-	-	-	0,77	9	1,908	13	-	-	-	-	-	-
WEDZI	3,88	4	2,65	7	0,80	7	2,15	5	1,47	14	1,24	14	1,47	15
MEAN	**3,64**	**-**	**2,57**	**-**	**0,81**	**-**	**2,02**	**-**	**2,20**	**-**	**2,25**	**-**	**2,96**	**-**
LSD$_t$ (0,05)	**0,29**	**-**	**0,21**	**-**	**0,11**	**-**	**0,10**	**-**	**0,09**	**-**	**0,16**	**-**	**0,20**	**-**

R = Ranking LSD = Least significant difference

GOOD YIELDS IN A...

4 EASTERN FREE STATE (LATER PLANTING).
AVERAGE YIELD (T/HA) OF ENTRIES DURING THE PERIOD FROM 2018 - 2021.

CULTIVAR	2021	R	** 2020	R	* 2019	R	2018	R	4-YEAR AVERAGE 2018 - 2021	R	3-YEAR AVERAGE 2019 - 2021	R	2-YEAR AVERAGE 2020 - 2021	R
ELANDS	3,48	8	2,78	7	0,82	4	2,20	5	2,32	7	2,36	7	3,13	7
GARIEP	3,47	9	2,55	11	0,71	7	2,27	2	2,25	8	2,25	8	3,01	9
KOONAP	2,90	15	2,34	14	0,98	2	2,47	1	2,17	11	2,07	14	2,62	14
KOUGAS	3,12	12	2,72	9	0,56	13	1,87	16	2,07	14	2,13	12	2,92	13
KUBETU	3,58	6	2,75	8	0,79	5	2,19	6	2,33	6	2,37	6	3,17	6
PAN 3111	4,09	1	2,46	13	0,65	9	2,18	7	2,35	5	2,40	5	3,28	5
PAN 3161	3,94	4	2,89	4	1,08	1	2,05	12	2,49	2	2,64	2	3,41	3
PAN 3195	-	-	-	-	-	-	1,96	14	-	-	-	-	-	-
PAN 3368	3,93	5	2,81	6	0,65	8	2,21	4	2,40	4	2,46	4	3,37	4
SENQU	3,29	10	2,59	10	0,79	6	2,08	10	2,19	10	2,22	10	2,94	12
SST 3186	2,99	14	-	-	-	-	-	-	-	-	-	-	-	-
SST 3197	2,80	16	-	-	-	-	-	-	-	-	-	-	-	-
SST 316	-	-	-	-	0,49	16	2,07	11	-	-	-	-	-	-
SST 317	-	-	-	-	0,62	12	1,81	17	-	-	-	-	-	-
SST 347	3,18	11	2,99	3	0,55	14	1,93	15	2,16	12	2,24	9	3,09	8
SST 356	3,99	2	3,09	1	0,84	3	2,12	9	2,51	1	2,64	1	3,54	1
SST 374	3,08	13	2,82	5	0,62	11	2,27	3	2,20	9	2,17	11	2,95	11
SST 387	3,53	7	2,47	12	0,38	17	2,03	13	2,10	13	2,13	13	3,00	10
SST 398	-	-	-	-	0,54	15	1,79	18	-	-	-	-	-	-
WEDZI	3,95	3	3,00	2	0,62	10	2,18	7	2,44	3	2,52	3	3,48	2
MEAN	**3,46**	**-**	**2,73**	**-**	**0,69**	**-**	**2,09**	**-**	**2,28**	**-**	**2,33**	**-**	**3,14**	**-**
LSD$_t$ (0,05)	**0,22**	**-**	**0,24**	**-**	**0,12**	**-**	**0,12**	**-**	**0,09**	**-**	**0,13**	**-**	**0,17**	**-**

R = Ranking LSD = Least significant difference

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