

VERSLAG VAN DIE GARS
LYNEVALUASIE PROEWE
ONDER BESPROEIING

*REPORT ON THE BARLEY LINE
EVALUATION TRIALS UNDER
IRRIGATION*

SEISOEN 2020 SEASON

**Programme executed by:
South African Barley Breeding Institute
AB-InBev**



GARS LYN EVALUASIE IN DIE BESPROEIINGS GEBIED BARLEY LINE EVALUATION IN THE IRRIGATION AREA

INDEX

	Page
1. Introduction	1
2. Summary	1
3. Localities	1
4. Materials and Methods	1
5. Results	2
5.1 Average yield	2
5.2 Grading characteristics	2
5.3 General appearance	2
5.4 Maturity	2
5.5 Straw height (cm)	2
5.6 Straw strength	2

INDEX OF TABLES AND FIGURES

<i>Table 1</i>	Mean yields of entries for the Irrigation area	3
<i>Table 2</i>	Mean yields of entries for the Northern Irrigation area	4
<i>Table 3</i>	Mean yields of entries for the Southern Irrigation area	5
<i>Table 4</i>	Mean yields of entries for the Far North Irrigation area	6
<i>Table 5</i>	Mean plumpness of entries for the Irrigation area	7
<i>Table 6</i>	Mean plumpness of entries for the Northern Irrigation area	8
<i>Table 7</i>	Mean plumpness of entries for the Southern Irrigation area	9
<i>Table 8</i>	Mean plumpness of entries for the Far North Irrigation area	10
<i>Table 9</i>	Mean screenings of entries for the Irrigation area	11
<i>Table 10</i>	Mean kernel nitrogen of entries for the Irrigation area	12
<i>Table 11</i>	Mean kernel nitrogen of entries for the Northern Irrigation area	13
<i>Table 12</i>	Mean kernel nitrogen of entries for the Southern Irrigation area	14
<i>Table 13</i>	Mean kernel nitrogen of entries for the Far North Irrigation area	15
<i>Table 14</i>	Mean germination energy (4ml) of entries for the Irrigation area	16
<i>Table 15</i>	Mean germination energy (8ml) of entries for the Irrigation area	17
<i>Table 16</i>	Agronomic characteristics for Irrigation area	18
<i>Table 17</i>	Production statistics	19
<i>Table 18</i>	List of entries in the LE trial	20
<i>Figure 1</i>	Average grain yield and quality parameters for the LE trials in the Irrigation area	21
<i>Figure 2</i>	Long term relative performance of lines in the LE trial (3 rd year)	22
<i>Figure 3</i>	Long term relative performance of lines in the LE trial (3 rd year)	23
<i>Figure 4</i>	Long term relative performance of lines in the LE trial (2 nd year)	24
<i>Figure 5</i>	Long term relative performance of lines in the LE trial (2 nd year)	25
<i>Figure 6</i>	Long term relative performance of lines in the LE trial (2 nd year)	26

1. INTRODUCTION

The main objective of the line evaluation program is to plant the best lines from the different breeding programmes under the exact same conditions (soil, climate and management) in order to ensure that the yield, grading characteristics and malting quality results of the lines from the different breeding programmes could be evaluated on a more comparative basis.

During the 2020 season, nine trials were planted under irrigation. All the trials were harvested and used for evaluation of the lines in the trial.

This report will cover all the line evaluation trials as executed by Sabbi and AB-Inbev during the 2020 season. The relevant agronomic data, grading characteristics and yield results will be represented.

2. SUMMARY

As a summary **Figure 1** shows the average grain yield, and quality parameters for the LE trials.

3. LOCALITIES

The present barley production area (Irrigation area) was divided into three sub areas, namely Northern Irrigation area (Taung, Hartswater and Jan Kempdorp), Southern Irrigation area (Rietrivier, Douglas-East, Douglas-West and Orania), and Far North Irrigation area (Koedoeskop and Beestekraal). Each of these sub areas was covered by localities that are representative of the different homogeneous agricultural areas in the respective sub areas.

The different sub areas with their respective localities and some information on the co-workers are listed in **Table 17**.

4. MATERIAL AND METHODS

The trial in the Irrigation area consisted of 25 entries (three replicates) from which two are commercially grown cultivars (controls); one fifth year line (Sabbi), one fourth year lines (Sabbi), eight second year lines (Sabbi) and thirteen first year lines (Sabbi). All the entries for the Irrigation area are listed in **Table 18**.

All the trials were laid out according to the nearest neighbour design and the data analysed with Agrobases Generation II software. In order to standardise the trials, all were planted with a Wintersteiger Plotman trial plot planter. The individual plots consisted of 8 rows with an inter row spacing of 17.5 cm. Plots were planted at 6m in length and just before harvesting trimmed back to a plot of 5m in length. The seeding density of the different lines used in the trials varied according to their thousand-kernel weight. The aim was therefore to establish the same quantity of plants per unit area in a trial for a specific area.

Fertilisation of all the trials was applied according to the area, rotation system and individual recommendations obtained from soil analysis.

Weed, pest and disease control were applied optimally as required in order to ensure a competitive free environment for the barley plants throughout the growing season.

At the end of the growing season all trials were harvested with a Wintersteiger trial plot harvester. The net trial plots consisted of 8 rows of 5 m length (6.8 m²). Yield in kg/ha was determined and a complete grading was done on the harvested samples with a Steinecker grading apparatus and nitrogen content of the kernels was determined with an Infratec 1221 whole grain analyser. For the purpose of this report, only agronomy, yield, percentage plumpness (> 2.5 mm), screenings (< 2.0 mm), germination energy and percentage kernel nitrogen will be represented.

5. RESULTS

The following set of data will be presented for all the trials:

5.1 *Average Yield*

The average yield is expressed in kg/ha. Yield data is presented for each individual trial as well as averages for regions so that evaluation can also be done on a regional basis.

To simplify evaluation all tables will also include the following statistical measurements:

LSD($T_{0.05}$): Least significant difference that is significant at a 5% level

LSD($T_{0.10}$): Least significant difference that is significant at a 10% level

CV: Coefficient of variance

5.2 *Grading characteristics*

The following grading characteristics are presented:

Percentage plumpness (kernels > 2.5 mm)

Percentage screenings (kernels < 2.0 mm)

Percentage total kernel nitrogen

Germination energy (4ml/72h)

Water sensitivity (8ml/72h)

The same statistical measurements as mentioned under average yield are also used for these parameters.

5.3 *General appearance*

As determined on all trials throughout the season and indicated on a scale of 1 to 9. A figure of 9 indicates the best general performance.

5.4 *Stage of ripeness*

Determined on a scale of 1 to 5, where 1 indicates the early maturing lines and 5 the late maturing lines.

5.5 *Straw height (cm)*

This is the general height of an individual line measured from at least two points in the plot chosen at random. The measurement is from ground level to the top of the ear, ignoring awns.

5.6 *Straw strength*

Determined on a scale of 1 to 5, where 5 indicate total resistance to lodging and 1 no resistance to lodging.

TABEL 1: Gemiddelde opbrengste en opbrengstrangordes van inskrywings in die LE Besproeiingsproef, 2020
 TABLE 1: Mean yields and yield rankings of entries in the LE Irrigation trial, 2020

Insk.nr. Entr.no.	Inskrywing Entry	Gem. rel. opb. % van std.	Lokaliiteite/Localities																																																	
			Gemiddelde					TAUNG					HARTSWATER					JAN KEMP					RIETRIVIER					DOUGLAS OOS					DOUGLAS WES					ORANIA					BEESTEKRAAL					KOEDOESKOP				
			Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk																
1	Genie	93.5	7992	23	9270	18	9526	22	8292	22	6982	19	8354	22	6937	20	7019	19	7313	22	8234	11																														
2	Overture	100.0	8547	13	9688	12	9597	19	9155	16	8065	1	10096	6	7680	11	6183	24	8193	7	8270	10																														
3	12-093D-06	102.2	8737	8	9139	20	10857	3	9634	12	7514	9	9547	13	8337	2	7442	10	7952	12	8215	12																														
4	17-900-504	99.6	8510	14	10106	6	9520	23	8602	19	7421	12	9402	14	7679	12	7817	3	7314	21	8725	2																														
5	17-900-511	103.5	8843	6	10258	3	10915	2	9300	15	7589	5	10222	4	8124	3	7371	12	7402	20	8410	8																														
6	17-900-516	101.2	8650	10	9956	8	10383	8	9303	14	7270	13	10334	3	7583	14	7539	8	6854	25	8629	5																														
7	17-900-549	100.9	8623	12	10765	1	9997	13	10075	8	7574	7	9157	17	7721	6	7628	5	7607	17	7088	25																														
8	17-900-551	98.9	8449	15	9225	19	10749	4	9342	13	6883	20	9226	15	7510	16	6808	22	8403	5	7898	19																														
9	15-900-29	102.1	8723	9	9681	13	9774	15	10286	6	7615	4	9785	11	7854	5	7115	17	7958	11	8445	7																														
10	18-900-761	102.3	8744	7	9782	11	9645	18	10805	2	7190	14	10435	2	7713	7	7618	6	7599	18	7908	17																														
11	18-900-762	101.2	8649	11	10095	7	10229	9	9635	11	7148	15	8885	18	6294	24	7702	4	8038	9	9818	1																														
12	18-900-763	95.8	8190	19	9442	17	10205	10	7670	24	7640	3	9702	12	6593	21	6044	25	8298	6	8116	15																														
13	18-900-766	103.6	8859	4	9796	10	10406	7	10456	5	7510	10	9926	10	7984	4	7045	18	8436	3	8167	13																														
14	18-900-768	103.8	8874	3	10257	4	10684	5	10094	7	7530	8	10091	7	7667	13	7197	16	8531	2	7818	20																														
15	18-900-770	103.6	8853	5	9672	14	9759	16	10572	4	7771	2	10078	8	7691	10	7579	7	7892	13	8664	4																														
16	07-042-06	86.8	7418	25	8070	25	8731	25	7551	25	6473	24	7065	25	6459	22	7220	15	7044	24	8154	14																														
17	12-087-06	98.7	8439	16	9016	21	10156	11	8690	18	7046	18	8723	19	7699	8	8452	1	7554	19	8615	6																														
18	12-108-05	95.2	8141	20	8819	24	10107	12	8355	21	6636	23	9219	16	7699	9	7421	11	7839	14	7176	23																														
19	12-108-07	94.0	8033	22	8834	23	9796	14	8181	23	6674	22	8354	21	7559	15	7315	14	7682	15	7904	18																														
20	12-112-06	90.4	7729	24	9006	22	9529	21	8434	20	6469	25	7766	24	7160	19	6818	21	7219	23	7157	24																														
21	12-112-09	95.9	8194	18	9515	16	9490	24	8770	17	6726	21	8253	23	7316	17	7358	13	8016	10	8300	9																														
22	18-900-765	97.3	8320	17	9956	9	9699	17	10581	3	7085	17	8528	20	6401	23	6877	20	8064	8	7688	21																														
23	19-900-1706	105.0	8974	2	10616	2	10593	6	10020	9	7585	6	10779	1	7242	18	7450	9	8549	1	7935	16																														
24	19-900-1715	95.2	8136	21	9622	15	9551	20	9683	10	7101	16	10213	5	5580	25	6566	23	7648	16	7263	22																														
25	19-900-1717	109.3	9338	1	10164	5	11027	1	11386	1	7503	11	10037	9	8512	1	8315	2	8423	4	8678	3																														
GEMIDD/AVERAGE			8479		9630		10037		9395		7240		9367		7400		7276		7833		8131																															
KV/CV			7.2		4.1		7.6		4.9		4.4		4.3		6.2		9.8		9.1		11.6																															
KBV/LSD (T0.10)			427		783		1496		896		628		784		902		1398		1395		1856																															
KBV/LSD (T0.05)			549		939		1794		1075		753		940		1081		1676		1672		2226																															

TABEL 2: Gemiddelde opbrengste en opbrengsrangordes van inskrywings in die LE Besproeiingsproef Noord, 2020
 TABLE 2: Mean yields and yield rankings of entries in the LE Irrigation trial North, 2020

Insk.nr. <i>Entr.no.</i>	Inskrywing <i>Entry</i>	Gem.rel. opb. % van std. <i>Mean rel.</i> yield % of std.	Gemiddelde		Lokaliteite/Localities					
			<i>Mean</i> Yield	<i>Rk</i>	TAUNG		HARTSWATER		JAN KEMP	
					Yield	Rk	Yield	Rk	Yield	Rk
1	Genie	95.2	9029	22	9270	18	9526	22	8292	22
2	Overture	100.0	9480	16	9688	12	9597	19	9155	16
3	12-093D-06	104.2	9877	13	9139	20	10857	3	9634	12
4	17-900-504	99.3	9410	17	10106	6	9520	23	8602	19
5	17-900-511	107.2	10158	6	10258	3	10915	2	9300	15
6	17-900-516	104.2	9881	12	9956	8	10383	8	9303	14
7	17-900-549	108.4	10279	4	10765	1	9997	13	10075	8
8	17-900-551	103.1	9772	14	9225	19	10749	4	9342	13
9	15-900-29	104.6	9914	11	9681	13	9774	15	10286	6
10	18-900-761	106.3	10077	8	9782	11	9645	18	10805	2
11	18-900-762	105.3	9986	10	10095	7	10229	9	9635	11
12	18-900-763	96.1	9106	20	9442	17	10205	10	7670	24
13	18-900-766	107.8	10219	5	9796	10	10406	7	10456	5
14	18-900-768	109.1	10345	3	10257	4	10684	5	10094	7
15	18-900-770	105.5	10001	9	9672	14	9759	16	10572	4
16	07-042-06	85.6	8117	25	8070	25	8731	25	7551	25
17	12-087-06	98.0	9288	18	9016	21	10156	11	8690	18
18	12-108-05	95.9	9094	21	8819	24	10107	12	8355	21
19	12-108-07	94.3	8937	24	8834	23	9796	14	8181	23
20	12-112-06	94.8	8989	23	9006	22	9529	21	8434	20
21	12-112-09	97.7	9258	19	9515	16	9490	24	8770	17
22	18-900-765	106.3	10079	7	9956	9	9699	17	10581	3
23	19-900-1706	109.8	10410	2	10616	2	10593	6	10020	9
24	19-900-1715	101.5	9619	15	9622	15	9551	20	9683	10
25	19-900-1717	114.6	10859	1	10164	5	11027	1	11386	1
GEMIDD/AVERAGE			9687		9630		10037		9395	
KV/CV			5.8		4.1		7.6		4.9	
KBV/LSD (T0.10)			691		783		1496		896	

TABEL 3: Gemiddelde opbrengste en opbrengsrangordes van inskrywings in die LE Besproeiingsproef Suid, 2020
 TABLE 3: Mean yields and yield rankings of entries in the LE Irrigation trial South, 2020

Insk.nr. Entr.no.	Inskrywing Entry	Gem.rel. opb. % van std.	Lokalteite/Localities									
		Mean rel. yield % of std.	Gemiddelde Mean		RIETRIVIER		DOUGLAS OOS		DOUGLAS WES		ORANIA	
			Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk	Yield	Rk
1	Genie	91.5	7323	22	6982	19	8354	22	6937	20	7019	19
2	Overture	100.0	8006	13	8065	1	10096	6	7680	11	6183	24
3	12-093D-06	102.5	8210	6	7514	9	9547	13	8337	2	7442	10
4	17-900-504	100.9	8080	11	7421	12	9402	14	7679	12	7817	3
5	17-900-511	104.0	8326	2	7589	5	10222	4	8124	3	7371	12
6	17-900-516	102.2	8182	7	7270	13	10334	3	7583	14	7539	8
7	17-900-549	100.2	8020	12	7574	7	9157	17	7721	6	7628	5
8	17-900-551	95.0	7607	16	6883	20	9226	15	7510	16	6808	22
9	15-900-29	101.1	8092	10	7615	4	9785	11	7854	5	7115	17
10	18-900-761	102.9	8239	5	7190	14	10435	2	7713	7	7618	6
11	18-900-762	93.8	7507	17	7148	15	8885	18	6294	24	7702	4
12	18-900-763	93.6	7495	18	7640	3	9702	12	6593	21	6044	25
13	18-900-766	101.4	8116	9	7510	10	9926	10	7984	4	7045	18
14	18-900-768	101.4	8121	8	7530	8	10091	7	7667	13	7197	16
15	18-900-770	103.4	8280	3	7771	2	10078	8	7691	10	7579	7
16	07-042-06	85.0	6804	25	6473	24	7065	25	6459	22	7220	15
17	12-087-06	99.7	7980	14	7046	18	8723	19	7699	8	8452	1
18	12-108-05	96.7	7744	15	6636	23	9219	16	7699	9	7421	11
19	12-108-07	93.4	7475	19	6674	22	8354	21	7559	15	7315	14
20	12-112-06	88.1	7053	24	6469	25	7766	24	7160	19	6818	21
21	12-112-09	92.6	7413	20	6726	21	8253	23	7316	17	7358	13
22	18-900-765	90.2	7223	23	7085	17	8528	20	6401	23	6877	20
23	19-900-1706	103.2	8264	4	7585	6	10779	1	7242	18	7450	9
24	19-900-1715	92.0	7365	21	7101	16	10213	5	5580	25	6566	23
25	19-900-1717	107.3	8591	1	7503	11	10037	9	8512	1	8315	2
GEMIDD/AVERAGE			7821		7240		9367		7400		7276	
KV/CV			6.3		4.4		4.3		6.2		9.8	
KBV/LSD (T0.10)			525		628		784		902		1398	

TABEL 4: Gemiddelde opbrengste en opbrengsrangordes van inskrywings in die LE Besproeiingsproef Vêr-Noord, 2020

TABLE 4: Mean yields and yield rankings of entries in the LE Irrigation trial Far-North, 2020

Insk.nr. <i>Entr.no.</i>	Inskrywing <i>Entry</i>	Gem.rel. opb. % van std.	Lokalteite/Localities					
		<i>Mean rel. yield % of std.</i>	Gemiddelde <i>Mean</i>		BEESTEKRAAL		KOEDOESKOP	
			<i>Yield</i>	<i>Rk</i>	<i>Yield</i>	<i>Rk</i>	<i>Yield</i>	<i>Rk</i>
1	Genie	94.4	7774	18	7313	22	8234	11
2	Overture	100.0	8232	6	8193	7	8270	10
3	12-093D-06	98.2	8083	13	7952	12	8215	12
4	17-900-504	97.4	8020	14	7314	21	8725	2
5	17-900-511	96.0	7906	15	7402	20	8410	8
6	17-900-516	94.0	7741	20	6854	25	8629	5
7	17-900-549	89.3	7347	24	7607	17	7088	25
8	17-900-551	99.0	8151	11	8403	5	7898	19
9	15-900-29	99.6	8201	8	7958	11	8445	7
10	18-900-761	94.2	7753	19	7599	18	7908	17
11	18-900-762	108.5	8928	1	8038	9	9818	1
12	18-900-763	99.7	8207	7	8298	6	8116	15
13	18-900-766	100.9	8302	3	8436	3	8167	13
14	18-900-768	99.3	8175	9	8531	2	7818	20
15	18-900-770	100.6	8278	4	7892	13	8664	4
16	07-042-06	92.3	7599	21	7044	24	8154	14
17	12-087-06	98.2	8085	12	7554	19	8615	6
18	12-108-05	91.2	7507	22	7839	14	7176	23
19	12-108-07	94.7	7793	17	7682	15	7904	18
20	12-112-06	87.3	7188	25	7219	23	7157	24
21	12-112-09	99.1	8158	10	8016	10	8300	9
22	18-900-765	95.7	7876	16	8064	8	7688	21
23	19-900-1706	100.1	8242	5	8549	1	7935	16
24	19-900-1715	90.6	7456	23	7648	16	7263	22
25	19-900-1717	103.9	8551	2	8423	4	8678	3
GEMIDD/AVERAGE			7982		7833		8131	
KV/CV			10.5		9.1		11.6	
KBV/LSD (T0.10)			1267		1395		1856	

TABEL 5: Gemiddelde vetkorrelpersentasie (>2,5mm) en rangordes van inskrywings in die LE Besproeiingsproef, 2020
 TABLE 5: Mean plumpness (>2,5mm) and rankings of entries in the LE Irrigation trial, 2020

Insk.nr. Entr.no.	Inskrywing Entry	Gem.rei. vetk. % van std. Mean rel. plump% of std.	Lokalliteite/Localities												BEESTEKRAAL		KOEDOESKOP					
			Gemiddelde Mean		TAJUNG		HARTSWATER		JAN KEMP		RIETRIVIER		DOUGLAS OOS		DOUGLAS WES		ORANIA					
			Plump	Rk	Plump	Rk	Plump	Rk	Plump	Rk	Plump	Rk	Plump	Rk	Plump	Rk	Plump	Rk	Plump	Rk	Plump	Rk
1	Genie	94.8	78.9	25	93.7	23	90.3	24	62.1	22	82.6	25	93.4	12	89.6	25	37.1	25	81.4	10	79.7	21
2	Overture	100.0	83.2	16	94.5	21	94.7	13	66.7	16	92.9	9	92.6	20	96.5	2	40.9	22	87.9	1	82.2	16
3	12-093D-06	96.4	80.2	20	94.7	19	93.6	17	63.9	19	82.8	24	90.0	25	93.3	14	42.0	21	78.1	17	83.7	14
4	17-900-504	99.8	83.0	17	95.8	14	93.0	21	64.9	18	88.2	19	93.7	9	90.9	24	61.8	4	74.2	21	84.8	12
5	17-900-511	95.8	79.7	21	93.2	24	91.3	23	56.5	25	91.5	11	91.3	24	93.0	16	49.2	15	73.7	23	77.9	23
6	17-900-516	102.2	85.1	10	96.7	10	92.6	22	73.2	10	90.9	13	91.7	22	92.1	19	57.2	9	78.2	16	93.1	1
7	17-900-549	98.4	81.9	18	96.4	11	93.4	19	68.7	15	91.1	12	91.5	23	91.9	21	45.8	18	73.3	24	84.9	11
8	17-900-551	95.0	79.1	24	92.3	25	94.4	14	58.3	24	87.1	22	92.7	19	92.0	20	44.1	20	73.7	22	77.2	24
9	15-900-29	103.2	85.9	7	97.4	7	93.5	18	79.5	4	94.5	3	93.8	8	93.4	13	59.2	7	81.5	9	80.3	20
10	18-900-761	104.5	86.9	4	100.0	1	98.9	1	73.9	7	93.9	4	92.7	18	96.1	3	60.4	6	79.8	13	86.8	8
11	18-900-762	106.0	88.2	2	95.8	15	96.7	7	86.7	1	95.6	1	95.2	4	94.8	8	57.5	8	83.0	7	88.6	3
12	18-900-763	102.4	85.2	9	97.4	8	95.7	9	75.1	5	90.2	15	96.1	3	95.7	5	45.9	17	78.8	15	92.3	2
13	18-900-766	103.9	86.4	5	97.3	9	97.6	2	82.4	3	93.1	7	96.1	2	93.0	15	50.4	14	86.1	3	81.9	17
14	18-900-768	101.1	84.2	12	94.5	20	96.9	5	70.8	12	93.2	6	93.4	13	96.0	4	45.2	19	79.7	14	87.8	5
15	18-900-770	103.3	85.9	6	99.3	2	93.7	16	69.2	14	89.9	16	93.5	11	94.8	7	63.6	3	85.3	4	84.3	13
16	07-042-06	108.8	90.5	1	96.1	12	97.4	3	83.5	2	94.6	2	96.4	1	96.7	1	74.5	1	87.1	2	88.3	4
17	12-087-06	101.0	84.0	13	94.8	18	96.0	8	66.3	17	92.6	10	94.9	5	92.9	17	51.6	12	80.4	12	86.8	6
18	12-108-05	103.0	85.7	8	94.2	22	97.2	4	73.3	9	92.9	8	93.4	14	93.6	12	56.1	10	84.1	6	86.3	9
19	12-108-07	101.0	84.0	14	94.9	17	95.5	11	69.8	13	89.6	17	92.8	17	94.3	11	55.9	11	81.0	11	82.7	15
20	12-112-06	98.3	81.8	19	95.5	16	95.6	10	71.9	11	84.2	23	93.5	10	94.7	10	39.2	24	75.0	20	86.8	6
21	12-112-09	101.2	84.2	11	98.1	5	94.9	12	62.4	20	88.8	18	93.0	16	95.6	6	60.6	5	82.6	8	81.6	18
22	18-900-765	95.8	79.7	23	98.2	4	93.0	20	61.7	23	88.0	20	93.1	15	91.4	22	40.0	23	71.1	25	80.7	19
23	19-900-1706	100.0	83.2	15	96.0	13	93.8	15	73.5	8	90.7	14	94.8	6	92.6	18	51.0	13	77.5	18	79.1	22
24	19-900-1715	95.8	79.7	22	98.1	6	86.1	25	62.4	21	87.2	21	92.2	21	91.1	23	48.1	16	77.0	19	75.2	25
25	19-900-1717	105.5	87.8	3	99.0	3	96.9	5	74.6	6	93.5	5	94.6	7	94.8	9	66.0	2	84.9	5	85.5	10
GEMIDD/AVERAGE			83.8		96.2		94.5		70.0		90.4		93.5		93.6		52.1		79.8		83.9	
KV/CV			5.6		1.9		1.7		6.1		1.8		1.8		2.0		18.0		7.8		7.6	
KBV/LSD (T0.10)			3.3		3.5		3.1		8.4		3.2		3.3		3.7		18.4		12.2		12.5	
KBV/LSD (T0.05)			4.3		4.2		3.7		10.1		3.9		4.0		4.4		22.1		14.6		15.0	

TABEL 6: Gemiddelde vetkorrelpersentasie (>2,5mm) en rangordes van inskrywings in die LE Besproeiingsproef Noord, 2020

TABLE 6: Mean plumpness (>2,5mm) and rankings of entries in the LE Irrigation trial North, 2020

Insk.nr. <i>Entr.no.</i>	Inskrywing <i>Entry</i>	Gem.rel. vet. % van std. <i>Mean rel. plump % of std.</i>	Lokalteite/Localities							
			Gemiddelde <i>Mean</i>		TAUNG		HARTSWATER		JAN KEMP	
			<i>Plump</i>	<i>Rk</i>	<i>Plump</i>	<i>Rk</i>	<i>Plump</i>	<i>Rk</i>	<i>Plump</i>	<i>Rk</i>
1	Genie	96.1	82.0	23	93.7	23	90.3	24	62.1	22
2	Overture	100.0	85.3	17	94.5	21	94.7	13	66.7	16
3	12-093D-06	98.5	84.1	21	94.7	19	93.6	17	63.9	19
4	17-900-504	99.2	84.6	19	95.8	14	93.0	21	64.9	18
5	17-900-511	94.2	80.3	25	93.2	24	91.3	23	56.5	25
6	17-900-516	102.6	87.5	11	96.7	10	92.6	22	73.2	10
7	17-900-549	101.0	86.2	15	96.4	11	93.4	19	68.7	15
8	17-900-551	95.7	81.7	24	92.3	25	94.4	14	58.3	24
9	15-900-29	105.7	90.1	6	97.4	7	93.5	18	79.5	4
10	18-900-761	106.6	90.9	4	100.0	1	98.9	1	73.9	7
11	18-900-762	109.1	93.0	1	95.8	15	96.7	7	86.7	1
12	18-900-763	104.8	89.4	7	97.4	8	95.7	9	75.1	5
13	18-900-766	108.4	92.4	2	97.3	9	97.6	2	82.4	3
14	18-900-768	102.5	87.4	12	94.5	20	96.9	5	70.8	12
15	18-900-770	102.5	87.4	13	99.3	2	93.7	16	69.2	14
16	07-042-06	108.2	92.3	3	96.1	12	97.4	3	83.5	2
17	12-087-06	100.5	85.7	16	94.8	18	96.0	8	66.3	17
18	12-108-05	103.4	88.2	8	94.2	22	97.2	4	73.3	9
19	12-108-07	101.7	86.7	14	94.9	17	95.5	11	69.8	13
20	12-112-06	102.8	87.7	10	95.5	16	95.6	10	71.9	11
21	12-112-09	99.8	85.1	18	98.1	5	94.9	12	62.4	20
22	18-900-765	98.8	84.3	20	98.2	4	93.0	20	61.7	23
23	19-900-1706	102.9	87.8	9	96.0	13	93.8	15	73.5	8
24	19-900-1715	96.3	82.2	22	98.1	6	86.1	25	62.4	21
25	19-900-1717	105.7	90.2	5	99.0	3	96.9	5	74.6	6
GEMIDD/AVERAGE			86.9		96.2		94.5		70.0	
KV/CV			3.2		1.9		1.7		6.1	
KBV/LSD (T0.10)			3.5		3.5		3.1		8.4	

TABEL 7: Gemiddelde vetkorrelepersentasie (>2,5mm) en rangordes van inskrywings in die LE Besproeiingsproef Suid, 2020
 TABLE 7: Mean plumpness (>2,5mm) and rankings of entries in the LE Irrigation trial South, 2020

Insk.nr. <i>Entr.no.</i>	Inskrywing <i>Entry</i>	Gem.rel. vetk. % van std.	Lokalteite/Localities									
		<i>Mean rel. plump%</i> <i>of std.</i>	Gemiddelde <i>Mean</i>		RIETRIVIER		DOUGLAS OOS		DOUGLAS WES		ORANIA	
			<i>Plump</i>	<i>Rk</i>	<i>Plump</i>	<i>Rk</i>	<i>Plump</i>	<i>Rk</i>	<i>Plump</i>	<i>Rk</i>	<i>Plump</i>	<i>Rk</i>
1	Genie	93.7	75.7	25	82.6	25	93.4	12	89.6	25	37.1	25
2	Overture	100.0	80.7	18	92.9	9	92.6	20	96.5	2	40.9	22
3	12-093D-06	95.4	77.0	24	82.8	24	90.0	25	93.3	14	42.0	21
4	17-900-504	103.6	83.7	9	88.2	19	93.7	9	90.9	24	61.8	4
5	17-900-511	100.7	81.3	17	91.5	11	91.3	24	93.0	16	49.2	15
6	17-900-516	102.8	83.0	13	90.9	13	91.7	22	92.1	19	57.2	9
7	17-900-549	99.2	80.1	19	91.1	12	91.5	23	91.9	21	45.8	18
8	17-900-551	97.8	78.9	21	87.1	22	92.7	19	92.0	20	44.1	20
9	15-900-29	105.6	85.2	6	94.5	3	93.8	8	93.4	13	59.2	7
10	18-900-761	106.2	85.8	4	93.9	4	92.7	18	96.1	3	60.4	6
11	18-900-762	106.3	85.8	3	95.6	1	95.2	4	94.8	8	57.5	8
12	18-900-763	101.5	82.0	15	90.2	15	96.1	3	95.7	5	45.9	17
13	18-900-766	103.0	83.1	10	93.1	7	96.1	2	93.0	15	50.4	14
14	18-900-768	101.5	81.9	16	93.2	6	93.4	13	96.0	4	45.2	19
15	18-900-770	105.9	85.5	5	89.9	16	93.5	11	94.8	7	63.6	3
16	07-042-06	112.2	90.6	1	94.6	2	96.4	1	96.7	1	74.5	1
17	12-087-06	102.8	83.0	12	92.6	10	94.9	5	92.9	17	51.6	12
18	12-108-05	104.0	84.0	8	92.9	8	93.4	14	93.6	12	56.1	10
19	12-108-07	102.9	83.1	11	89.6	17	92.8	17	94.3	11	55.9	11
20	12-112-06	96.5	77.9	23	84.2	23	93.5	10	94.7	10	39.2	24
21	12-112-09	104.7	84.5	7	88.8	18	93.0	16	95.6	6	60.6	5
22	18-900-765	96.8	78.1	22	88.0	20	93.1	15	91.4	22	40.0	23
23	19-900-1706	101.9	82.3	14	90.7	14	94.8	6	92.6	18	51.0	13
24	19-900-1715	98.7	79.6	20	87.2	21	92.2	21	91.1	23	48.1	16
25	19-900-1717	108.0	87.2	2	93.5	5	94.6	7	94.8	9	66.0	2
GEMIDD/AVERAGE			82.4		90.4		93.5		93.6		52.1	
KV/CV			6.0		1.8		1.8		2.0		18.0	
KBV/LSD (T0.10)			5.2		3.2		3.3		3.7		18.4	

TABEL 8: Gemiddelde vetkorrelpersentasie (>2,5mm) en rangordes van inskrywings in die LE Besproeiingsproef Vêr-Noord, 2020

TABLE 8: Mean plumpness (>2,5mm) and rankings of entries in the LE Irrigation trial Far-North, 2020

Insk.nr. <i>Entr.no.</i>	Inskrywing <i>Entry</i>	Gem.rel. vetk. % van std.	Lokalteite/Localities					
		<i>Mean rel. plump% of std.</i>	Gemiddelde <i>Mean</i>		BEESTEKRAAL		KOEDOESKOP	
			<i>Plump</i>	<i>Rk</i>	<i>Plump</i>	<i>Rk</i>	<i>Plump</i>	<i>Rk</i>
1	Genie	94.7	80.6	18	81.4	10	79.7	21
2	Overture	100.0	85.1	7	87.9	1	82.2	16
3	12-093D-06	95.1	80.9	16	78.1	17	83.7	14
4	17-900-504	93.5	79.5	19	74.2	21	84.8	12
5	17-900-511	89.1	75.8	24	73.7	23	77.9	23
6	17-900-516	100.7	85.7	3	78.2	16	93.1	1
7	17-900-549	93.0	79.1	20	73.3	24	84.9	11
8	17-900-551	88.7	75.5	25	73.7	22	77.2	24
9	15-900-29	95.1	80.9	16	81.5	9	80.3	20
10	18-900-761	97.9	83.3	12	79.8	13	86.8	8
11	18-900-762	100.9	85.8	2	83.0	7	88.6	3
12	18-900-763	100.6	85.6	4	78.8	15	92.3	2
13	18-900-766	98.7	84.0	9	86.1	3	81.9	17
14	18-900-768	98.5	83.7	10	79.7	14	87.8	5
15	18-900-770	99.7	84.8	8	85.3	4	84.3	13
16	07-042-06	103.2	87.7	1	87.1	2	88.3	4
17	12-087-06	98.3	83.6	11	80.4	12	86.8	6
18	12-108-05	100.2	85.2	6	84.1	6	86.3	9
19	12-108-07	96.2	81.8	14	81.0	11	82.7	15
20	12-112-06	95.1	80.9	15	75.0	20	86.8	6
21	12-112-09	96.5	82.1	13	82.6	8	81.6	18
22	18-900-765	89.2	75.9	23	71.1	25	80.7	19
23	19-900-1706	92.1	78.3	21	77.5	18	79.1	22
24	19-900-1715	89.4	76.1	22	77.0	19	75.2	25
25	19-900-1717	100.2	85.2	5	84.9	5	85.5	10
GEMIDD/AVERAGE			81.9		94.1		97.7	
KV/CV			7.7		7.8		7.6	
KBV/LSD (T0.10)			9.5		12.2		12.5	

TABEL 9: Gemiddelde sifselfs (<2,0mm) en rangordes van inskrywings in die LE Besproeiingsproef, 2020
 TABLE 9: Mean screenings (<2,0mm) and rankings of entries in the LE Irrigation trial, 2020

Insk.nr. Entr.no.	Inskrywing Entry	Lokaleite/Localities																																												
		Gemiddelde Mean					TAUNG					HARTSWATER					JAN KEMP					RIETRIVIER					DOUGLAS OOS DOUGLAS WES					ORANIA					BEESTEKRAAL					KOEDOESKOP				
		Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk	Screen	Rk													
1	Genie	159.0	8.4	25	1.3	22	2.6	24	14.3	19	6.5	25	1.6	16	1.5	22	30.5	25	7.6	14	10.1	24																								
2	Overture	100.0	5.3	13	1.1	18	1.3	13	11.9	17	1.9	7	1.7	18	0.5	1	20.2	16	4.0	1	5.1	11																								
3	12-093D-06	99.4	5.3	12	1.2	21	1.1	10	14.2	18	4.3	22	1.8	21	1.5	21	12.1	5	5.9	8	5.5	12																								
4	17-900-504	119.6	6.3	19	0.8	11	1.8	22	16.1	21	3.3	18	1.4	9	1.8	25	14.7	6	10.6	24	6.6	15																								
5	17-900-511	140.7	7.5	21	1.3	23	1.7	20	21.4	25	3.1	16	2.4	25	1.0	9	23.3	21	8.9	19	4.0	9																								
6	17-900-516	100.1	5.3	14	1.0	16	1.6	19	10.1	15	2.7	14	2.1	24	1.7	24	18.5	12	9.2	20	0.8	3																								
7	17-900-549	119.2	6.3	18	0.5	6	1.7	21	11.6	16	1.4	4	2.2	24	1.4	20	19.7	13	9.7	23	8.7	19																								
8	17-900-551	129.9	6.9	20	1.7	25	1.4	14	16.3	22	3.4	19	1.7	18	1.1	15	19.9	14	9.7	22	6.8	16																								
9	15-900-29	88.1	4.7	5	0.3	3	1.4	14	8.0	5	1.1	3	1.4	10	1.1	14	18.1	11	6.8	10	3.7	6																								
10	18-900-761	90.5	4.8	6	0.0	1	0.4	1	10.1	14	1.1	2	1.6	17	0.9	4	16.2	9	7.3	12	5.6	13																								
11	18-900-762	54.1	2.9	2	0.7	8	1.1	11	2.6	1	0.8	1	1.3	3	1.6	23	10.3	2	4.6	2	2.9	5																								
12	18-900-763	109.6	5.8	16	0.9	12	1.4	16	9.8	10	2.2	10	1.0	1	1.0	12	24.5	23	7.6	15	3.9	7																								
13	18-900-766	93.5	5.0	8	0.9	13	1.0	7	4.6	3	1.8	6	1.4	10	1.0	11	20.6	17	4.6	3	8.7	20																								
14	18-900-768	98.4	5.2	11	1.4	24	0.9	5	7.7	4	1.9	9	1.8	20	0.7	2	21.3	18	7.3	12	3.9	8																								
15	18-900-770	92.4	4.9	7	0.4	5	1.0	8	10.0	12	3.0	15	1.5	13	0.8	3	17.5	10	5.7	7	4.1	10																								
16	07-042-06	54.0	2.9	1	0.8	10	0.8	2	3.7	2	4.0	21	1.3	4	1.4	19	8.9	1	4.9	5	0.0	1																								
17	12-087-06	95.6	5.1	10	1.1	17	0.9	3	9.9	11	1.6	5	1.6	15	0.9	6	15.0	7	6.4	9	8.3	18																								
18	12-108-05	81.8	4.3	3	1.1	19	1.0	9	8.8	7	1.9	7	1.4	7	1.0	9	11.7	4	4.8	4	7.3	17																								
19	12-108-07	86.3	4.6	4	1.1	20	0.9	5	9.6	9	2.5	12	1.4	10	1.2	16	11.5	3	7.0	11	5.9	14																								
20	12-112-06	115.1	6.1	17	0.9	15	1.3	12	8.5	6	4.4	23	1.4	8	1.1	13	19.9	15	7.9	16	9.6	23																								
21	12-112-09	151.0	8.0	23	0.8	9	1.4	17	14.4	20	4.7	24	1.5	13	0.9	6	15.5	8	8.0	17	24.7	25																								
22	18-900-765	155.6	8.2	24	0.3	2	1.5	18	16.3	23	3.2	17	1.3	2	1.2	18	29.2	24	11.9	25	9.3	22																								
23	19-900-1706	105.9	5.6	15	0.9	14	2.3	23	10.0	13	2.6	13	1.4	5	0.9	5	23.3	22	8.9	18	0.3	2																								
24	19-900-1715	144.0	7.6	22	0.6	7	2.9	25	18.3	24	3.9	20	1.9	22	1.2	16	21.8	19	9.3	21	8.8	21																								
25	19-900-1717	93.8	5.0	17	0.4	22	0.9	22	9.3	18	2.2	15	1.4	20	0.9	18	22.1	6	5.5	20	2.1	22																								
GEMIDD/AVERAGE			5.7		0.9		1.4		11.1		2.8		1.6		1.1		18.7		7.4		6.3																									
KV/CV			58.8		44.0		31.8		23.4		36.1		32.8		28.0		32.5		35.6		113.8																									
KBV/LSD (T0.10)			2.3		0.7		0.9		5.1		2.0		1.0		0.6		11.9		5.1		13.5																									
KBV/LSD (T0.05)			3.0		0.9		1.0		6.1		2.4		1.2		0.8		14.3		6.2		16.2																									

TABEL 10: Gemiddelde korrelstikstof en rangordes van inskrywings in die LE Besproeiingsproef, 2020
 TABLE 10: Mean kernel nitrogen and rankings of entries in the LE Irrigation trial, 2020

Insk.nr. Entr.no.		Inskrywing Entry		Gemiddelde Mean		Lokaltiteite/Localities																			
						Gem. rel. TN %		TAUNG		HARTSWATER		JAN KEMP		RIETRIVIER		DOUGLAS OOS		DOUGLAS WES		ORANIA		BEESTEKRAAL		KOEDOESKOP	
						TN %	of std.	TN	Rk	TN	Rk	TN	Rk	TN	Rk	TN	Rk	TN	Rk	TN	Rk	TN	Rk	TN	Rk
1	Genie	98.9	1.99	10	1.89	10	1.89	8	1.89	8	2.23	10	2.03	23	1.69	11	2.05	4	2.28	2	1.74	23	2.12	7	
2	Overture	100.0	2.01	8	1.84	18	1.90	6	1.90	6	2.31	5	2.20	7	1.75	5	2.02	8	2.26	4	1.77	21	2.07	13	
3	12-093D-06	97.1	1.95	14	1.86	14	1.86	10	1.86	10	2.25	9	2.12	13	1.63	18	1.99	9	2.10	17	1.86	8	1.92	22	
4	17-900-504	95.8	1.93	16	1.82	20	1.82	14	1.82	14	2.19	14	2.05	21	1.62	19	1.90	17	2.15	10	1.85	9	1.96	20	
5	17-900-511	95.0	1.91	22	1.79	22	1.79	22	1.75	22	2.21	11	2.08	17	1.68	14	1.91	16	2.12	15	1.77	21	1.90	24	
6	17-900-516	95.2	1.92	19	1.85	16	1.85	16	1.74	23	2.11	21	2.00	24	1.65	17	1.93	12	2.14	12	1.78	19	2.05	16	
7	17-900-549	100.1	2.02	6	1.98	2	1.98	13	1.83	13	2.19	14	2.22	6	1.67	15	1.97	10	2.26	4	1.84	11	2.18	4	
8	17-900-551	97.6	1.96	11	1.90	8	1.90	18	1.78	18	2.17	19	2.09	15	1.69	11	1.89	18	2.19	7	1.89	5	2.08	12	
9	15-900-29	97.1	1.96	13	1.83	19	1.83	19	1.90	6	2.14	20	2.14	11	1.70	10	1.89	18	2.06	21	1.84	11	2.10	10	
10	18-900-761	95.0	1.91	21	1.89	10	1.89	10	1.76	19	2.08	24	1.99	25	1.58	22	1.92	13	2.00	25	1.89	5	2.11	9	
11	18-900-762	99.1	1.99	9	1.97	5	1.97	11	1.85	11	2.29	6	2.13	12	1.74	6	1.92	13	2.16	9	1.89	5	2.00	19	
12	18-900-763	97.6	1.96	11	1.86	14	1.86	14	1.79	17	2.21	11	2.08	17	1.66	16	1.92	13	2.27	3	1.83	14	2.06	14	
13	18-900-766	95.7	1.93	17	1.89	10	1.89	10	1.81	15	2.10	22	2.17	9	1.69	11	1.83	25	2.08	19	1.81	16	1.96	20	
14	18-900-768	94.4	1.90	24	1.85	16	1.85	16	1.68	24	2.18	18	2.17	9	1.54	23	1.86	22	2.03	23	1.78	19	2.01	18	
15	18-900-770	95.7	1.93	17	1.73	23	1.73	23	1.84	12	2.19	14	2.04	22	1.71	8	1.94	11	2.08	19	1.72	24	2.09	11	
16	07-042-06	106.8	2.15	1	1.98	2	1.98	2	1.96	2	2.40	1	2.28	3	2.09	1	2.16	1	2.14	12	2.03	1	2.31	1	
17	12-087-06	100.5	2.02	5	1.90	8	1.90	8	1.96	2	2.28	8	2.24	5	1.71	8	2.05	4	2.11	16	1.84	11	2.12	7	
18	12-108-05	100.1	2.02	6	1.98	2	1.98	2	1.93	5	2.29	6	2.31	1	1.74	6	2.03	7	2.14	12	1.81	16	1.91	23	
19	12-108-07	104.7	2.11	2	2.13	1	2.13	1	2.03	1	2.35	3	2.18	8	1.86	3	2.09	3	2.21	6	1.94	3	2.18	4	
20	12-112-06	103.9	2.09	4	1.93	7	1.93	7	1.89	8	2.35	3	2.27	4	1.83	4	2.04	6	2.37	1	1.95	2	2.19	3	
21	12-112-09	103.9	2.09	3	1.96	6	1.96	6	1.96	2	2.36	2	2.29	2	1.93	2	2.13	2	2.10	17	1.90	4	2.20	2	
22	18-900-765	96.0	1.93	15	1.81	21	1.81	21	1.76	19	2.20	13	2.10	14	1.52	24	1.84	24	2.15	10	1.85	9	2.17	6	
23	19-900-1706	90.6	1.82	25	1.65	25	1.65	25	1.65	25	2.10	22	2.07	19	1.49	25	1.88	20	2.03	23	1.69	25	1.85	25	
24	19-900-1715	95.2	1.92	20	1.68	24	1.68	24	1.81	15	2.19	14	2.09	15	1.60	20	1.85	23	2.18	8	1.79	18	2.06	14	
25	19-900-1717	94.6	1.91	23	1.87	13	1.87	13	1.76	19	2.06	25	2.06	20	1.60	20	1.88	20	2.04	22	1.83	14	2.05	16	
GEMIDD/AVERAGE			1.97		1.87		1.87		1.84		2.22		2.14		1.69		1.96		2.15		1.84		2.07		
KV/CV			4.3		5.4		5.4		3.4		2.4		4.7		5.7		2.9		4.0		3.6		5.7		
KBV/LSD (T0.10)			0.1		0.2		0.2		0.1		0.1		0.2		0.2		0.1		0.2		0.1		0.2		
KBV/LSD (T0.05)			0.08		0.24		0.24		0.15		0.13		0.24		0.23		0.14		0.20		0.16		0.28		

TABEL 11: Gemiddelde korrelstikstof en rangordes van inskrywings in die LE Besproeiingsproef Noord, 2020
 TABLE 11: Mean kernel nitrogen and rankings of entries in the LE Irrigation trial North, 2020

Insk.nr. <i>Entr.no.</i>	Inskrywing <i>Entry</i>	Gem.rel. TN. % van std. <i>Mean rel.</i>	Gemiddelde		Lokalteite/Localities					
		<i>TN %</i> <i>of std.</i>	<i>Mean</i> <i>TN</i>	<i>Rk</i>	TAUNG		HARTSWATER		JAN KEMP	
					<i>TN</i>	<i>Rk</i>	<i>TN</i>	<i>Rk</i>	<i>TN</i>	<i>Rk</i>
1	Genie	99.3	2.00	9	1.89	10	1.89	8	2.23	10
2	Overture	100.0	2.02	8	1.84	18	1.90	6	2.31	5
3	12-093D-06	98.7	1.99	11	1.86	14	1.86	10	2.25	9
4	17-900-504	96.4	1.94	15	1.82	20	1.82	14	2.19	14
5	17-900-511	95.0	1.92	19	1.79	22	1.75	22	2.21	11
6	17-900-516	94.2	1.90	22	1.85	16	1.74	23	2.11	21
7	17-900-549	99.2	2.00	10	1.98	2	1.83	13	2.19	14
8	17-900-551	96.7	1.95	14	1.90	8	1.78	18	2.17	19
9	15-900-29	97.0	1.96	12	1.83	19	1.90	6	2.14	20
10	18-900-761	94.7	1.91	20	1.89	10	1.76	19	2.08	24
11	18-900-762	101.0	2.04	7	1.97	5	1.85	11	2.29	6
12	18-900-763	96.9	1.95	13	1.86	14	1.79	17	2.21	11
13	18-900-766	95.9	1.93	16	1.89	10	1.81	15	2.10	22
14	18-900-768	94.4	1.90	21	1.85	16	1.68	24	2.18	18
15	18-900-770	95.2	1.92	18	1.73	23	1.84	12	2.19	14
16	07-042-06	104.8	2.11	2	1.98	2	1.96	2	2.40	1
17	12-087-06	101.5	2.05	6	1.90	8	1.96	2	2.28	8
18	12-108-05	102.5	2.07	4	1.98	2	1.93	5	2.29	6
19	12-108-07	107.6	2.17	1	2.13	1	2.03	1	2.35	3
20	12-112-06	102.0	2.06	5	1.93	7	1.89	8	2.35	3
21	12-112-09	103.8	2.09	3	1.96	6	1.96	2	2.36	2
22	18-900-765	95.4	1.92	17	1.81	21	1.76	19	2.20	13
23	19-900-1706	89.3	1.80	25	1.65	25	1.65	25	2.10	22
24	19-900-1715	93.9	1.89	24	1.68	24	1.81	15	2.19	14
25	19-900-1717	94.0	1.90	23	1.87	13	1.76	19	2.06	25
GEMIDD/AVERAGE			1.98		1.87		1.84		2.22	
KV/CV			3.8		5.4		3.4		2.4	
KBV/LSD (T0.10)			0.09		0.20		0.12		0.11	

TABEL 12: Gemiddelde korrelstikstof en rangordes van inskrywings in die LE Besproeiingsproef Suid, 2020

TABLE 12: Mean kernel nitrogen and rankings of entries in the LE Irrigation trial South, 2020

Insk.nr. <i>Entr.no.</i>	Inskrywing <i>Entry</i>	Gem.rel. TN. % van std.	Lokalteite/Localities									
		<i>Mean rel. TN % of std.</i>	Gemiddelde <i>Mean TN Rk</i>		RIETRIVIER <i>TN Rk</i>		DOUGLAS OOS <i>TN Rk</i>		DOUGLAS WES <i>TN Rk</i>		ORANIA <i>TN Rk</i>	
1	Genie	97.8	2.01	9	2.03	23	1.69	11	2.05	4	2.28	2
2	Overture	100.0	2.06	5	2.20	7	1.75	5	2.02	8	2.26	4
3	12-093D-06	95.3	1.96	13	2.12	13	1.63	18	1.99	9	2.10	17
4	17-900-504	93.8	1.93	18	2.05	21	1.62	19	1.90	17	2.15	10
5	17-900-511	94.7	1.95	14	2.08	17	1.68	14	1.91	16	2.12	15
6	17-900-516	93.8	1.93	18	2.00	24	1.65	17	1.93	12	2.14	12
7	17-900-549	98.7	2.03	7	2.22	6	1.67	15	1.97	10	2.26	4
8	17-900-551	95.5	1.97	12	2.09	15	1.69	11	1.89	18	2.19	7
9	15-900-29	94.7	1.95	15	2.14	11	1.70	10	1.89	18	2.06	21
10	18-900-761	91.0	1.87	24	1.99	25	1.58	22	1.92	13	2.00	25
11	18-900-762	96.6	1.99	10	2.13	12	1.74	6	1.92	13	2.16	9
12	18-900-763	96.4	1.98	11	2.08	17	1.66	16	1.92	13	2.27	3
13	18-900-766	94.4	1.94	16	2.17	9	1.69	11	1.83	25	2.08	19
14	18-900-768	92.3	1.90	22	2.17	9	1.54	23	1.86	22	2.03	23
15	18-900-770	94.4	1.94	16	2.04	22	1.71	8	1.94	11	2.08	19
16	07-042-06	105.3	2.17	1	2.28	3	2.09	1	2.16	1	2.14	12
17	12-087-06	98.5	2.03	8	2.24	5	1.71	8	2.05	4	2.11	16
18	12-108-05	99.9	2.06	6	2.31	1	1.74	6	2.03	7	2.14	12
19	12-108-07	101.3	2.09	4	2.18	8	1.86	3	2.09	3	2.21	6
20	12-112-06	103.4	2.13	2	2.27	4	1.83	4	2.04	6	2.37	1
21	12-112-09	102.7	2.11	3	2.29	2	1.93	2	2.13	2	2.10	17
22	18-900-765	92.5	1.90	21	2.10	14	1.52	24	1.84	24	2.15	10
23	19-900-1706	90.8	1.87	25	2.07	19	1.49	25	1.88	20	2.03	23
24	19-900-1715	93.8	1.93	18	2.09	15	1.60	20	1.85	23	2.18	8
25	19-900-1717	92.1	1.90	23	2.06	20	1.60	20	1.88	20	2.04	22
GEMIDD/AVERAGE			1.98		2.14		1.69		1.96		2.15	
KV/CV			4.4		4.7		5.7		2.9		4.0	
KBV/LSD (T0.10)			0.09		0.20		0.19		0.11		0.17	

TABEL 13: Gemiddelde korrelstikstof en rangordes van inskrywings in die LE Besproeiingsproef Vêr-Noord, 2020

TABLE 12: Mean kernel nitrogen and rankings of entries in the LE Irrigation trial South, 2020

Insk.nr. <i>Entr.no.</i>	Inskrywing <i>Entry</i>	Gem.rel. TN. % van std.	Gemiddelde		Lokalteite/Localities			
		<i>Mean rel.</i> TN % <i>of std.</i>	<i>Mean</i> TN	<i>Rk</i>	BEESTEKRAAL		KOEDOESKOP	
					TN	Rk	TN	Rk
1	Genie	100.5	1.93	14	1.74	14	2.12	12
2	Overture	100.0	1.92	16	1.77	5	2.07	8
3	12-093D-06	98.4	1.89	21	1.86	8	1.92	4
4	17-900-504	99.2	1.91	18	1.85	3	1.96	1
5	17-900-511	95.6	1.84	24	1.77	1	1.90	2
6	17-900-516	99.7	1.92	17	1.78	13	2.05	15
7	17-900-549	104.7	2.01	5	1.84	11	2.18	7
8	17-900-551	103.4	1.99	8	1.89	8	2.08	4
9	15-900-29	102.6	1.97	10	1.84	8	2.10	11
10	18-900-761	104.2	2.00	7	1.89	3	2.11	8
11	18-900-762	101.3	1.95	12	1.89	6	2.00	4
12	18-900-763	101.3	1.95	11	1.83	25	2.06	18
13	18-900-766	98.2	1.89	22	1.81	20	1.96	18
14	18-900-768	98.7	1.90	20	1.78	23	2.01	14
15	18-900-770	99.2	1.91	19	1.72	22	2.09	23
16	07-042-06	113.0	2.17	1	2.03	7	2.31	13
17	12-087-06	103.1	1.98	9	1.84	14	2.12	16
18	12-108-05	96.9	1.86	23	1.81	24	1.91	17
19	12-108-07	107.3	2.06	3	1.94	11	2.18	8
20	12-112-06	107.8	2.07	2	1.95	19	2.19	18
21	12-112-09	106.8	2.05	4	1.90	2	2.20	2
22	18-900-765	104.7	2.01	6	1.85	17	2.17	23
23	19-900-1706	92.2	1.77	25	1.69	20	1.85	18
24	19-900-1715	100.3	1.93	15	1.79	18	2.06	25
25	19-900-1717	101.0	1.94	13	1.83	14	2.05	22
GEMIDD/AVERAGE			1.95		1.84		2.07	
KV/CV			4.9		3.6		5.7	
KBV/LSD (T0.10)			0.15		0.13		0.23	

TABEL 14: Gemiddelde ontkiemingsenergie (4ml; 72h) en rangordes van inskrywings in die LE Besproeiingsproef, 2020
 TABLE 14: Mean germinative energy (4ml; 72h) and rankings of entries in the LE Irrigation trial, 2020

Insk.n. Entr.no.	Inskrywing Entry	Lokaltiteite/Localities																				
		Gemiddelde Mean					Gemiddelde Mean															
		OE % Mean rel. GE % of std.	4ml/72h	Rk	4ml/72h	Rk	4ml/72h	Rk	4ml/72h	Rk	4ml/72h	Rk										
1	Genie	98.0	87.4	13	98	19	89	18	81	18	99	3	56	18	71	6	97	14	98	9	98	10
2	Overture	100.0	89.2	7	99	8	87	21	86	12	92	15	84	2	67	10	99	5	98	9	98	24
3	12-093D-06	102.2	91.2	2	100	1	87	21	93	4	92	15	72	7	81	2	100	1	98	9	98	10
4	17-900-504	95.9	85.6	22	100	1	90	14	83	16	91	19	71	10	48	21	98	7	99	2	90	25
5	17-900-511	98.6	88.0	12	99	8	88	19	94	3	98	7	58	17	67	10	96	18	96	25	96	19
6	17-900-516	100.7	89.9	6	98	19	90	14	98	2	96	10	49	21	80	3	100	1	99	2	99	5
7	17-900-549	96.0	85.7	21	98	19	94	4	88	10	88	22	47	22	63	14	98	7	97	21	98	10
8	17-900-551	99.3	88.6	9	98	19	92	8	76	25	92	15	77	3	68	8	98	7	98	9	98	10
9	15-900-29	99.4	88.7	8	100	1	91	12	83	16	98	7	70	11	63	14	100	1	97	21	96	19
10	18-900-761	97.0	86.6	19	99	8	92	8	89	8	99	3	54	19	53	18	98	7	97	21	98	10
11	18-900-762	97.8	87.2	15	99	8	92	8	90	6	87	24	86	1	37	24	97	14	97	21	100	1
12	18-900-763	96.8	86.3	20	100	1	90	14	81	18	87	24	75	5	52	19	94	23	98	9	100	1
13	18-900-766	97.9	87.3	14	99	8	87	21	87	11	88	22	72	7	65	12	96	18	99	2	93	23
14	18-900-768	92.4	82.4	24	99	8	88	19	89	8	91	19	46	23	37	24	98	7	99	2	95	22
15	18-900-770	92.2	82.2	25	100	1	87	21	85	14	97	9	26	25	52	19	96	18	98	9	99	5
16	07-042-06	97.1	86.7	17	99	8	91	12	81	18	95	12	73	6	43	23	100	1	99	2	99	5
17	12-087-06	98.8	88.1	11	99	8	93	5	79	23	96	10	76	4	55	17	98	7	98	9	99	5
18	12-108-05	99.1	88.4	10	98	19	100	1	90	6	95	12	53	20	65	12	99	5	98	9	98	10
19	12-108-07	97.4	86.9	16	97	24	81	25	86	12	89	21	65	15	74	5	95	22	98	9	97	17
20	12-112-06	102.5	91.4	1	99	8	99	2	77	24	100	1	66	14	89	1	97	14	98	9	98	10
21	12-112-09	92.7	82.7	23	95	25	92	8	80	22	99	3	36	24	48	21	98	7	99	2	97	17
22	18-900-765	101.4	90.4	4	100	1	96	3	81	18	100	1	72	7	75	4	93	24	98	9	99	5
23	19-900-1706	101.4	90.4	4	99	8	93	5	99	1	95	12	69	12	68	8	97	14	98	9	96	19
24	19-900-1715	97.1	86.7	17	99	8	93	5	84	15	92	15	65	15	61	16	87	25	99	2	100	1
25	19-900-1717	101.6	90.7	3	100	1	90	14	93	4	99	3	69	12	69	7	96	18	100	1	100	1
GEMIDD/AVERAGE			88		99		91		86		94		63		62		97		98		97	
KV/ICV			10.4		2.2		7.8		13.9		6.2		26.1		23.6		3.9		1.6		3.5	
KBV/LSD (T0.10)			6		4		14		23		11		33		29		7		3		7	
KBV/LSD (T0.05)			8		5		17		28		14		39		35		9		4		8	

TABEL 15: Gemiddelde ontkiemingsenergie (8ml; 72h) en rangordes van inskrywings in die LE Besproeiingsproef, 2020
 TABLE 15: Mean germinative energy (8ml; 72h) and rankings of entries in the LE Irrigation trial, 2020

Insk.nr. Entr.no.	Inskrywing Entry	Lokaltiteite/Localities										BEESTEKRRAAL 8ml/72h Rk	KOEDOESKOP 8ml/72h Rk									
		Gemiddelde Mean		TAUNG		HARTSWATER		JAN KEMP		RIETRIVIER				DOUGLAS OOSDOUGLAS WES		ORANIA						
		GE % of std.	8ml/72h Rk	8ml/72h Rk	8ml/72h Rk	8ml/72h Rk	8ml/72h Rk	8ml/72h Rk	8ml/72h Rk	8ml/72h Rk	8ml/72h Rk			8ml/72h Rk	8ml/72h Rk	8ml/72h Rk	8ml/72h Rk					
1	Genie	114.6	82.8	6	98	4	82	9	52	22	95	1	100	1	90	23	84	2	63	12	81	4
2	Overture	100.0	72.2	25	82	24	80	13	60	17	82	9	95	17	93	16	52	24	50	22	56	25
3	12-093D-06	118.9	85.9	1	96	7	86	5	71	10	84	5	100	1	97	4	77	5	74	1	88	2
4	17-900-504	108.8	78.6	14	81	25	92	1	66	13	75	19	91	25	84	25	77	5	65	10	76	11
5	17-900-511	100.6	72.7	24	96	7	82	9	60	17	71	22	97	11	89	24	60	22	42	24	57	24
6	17-900-516	116.8	84.3	2	93	12	80	13	85	5	85	4	99	4	97	4	69	13	70	5	81	4
7	17-900-549	108.2	78.1	15	89	19	78	17	75	8	74	20	98	7	91	21	71	10	64	11	63	20
8	17-900-551	107.7	77.8	18	86	22	76	20	84	6	78	16	94	23	95	11	51	25	57	18	79	7
9	15-900-29	108.2	78.1	15	93	12	71	25	86	4	77	17	99	4	91	21	65	18	46	23	75	12
10	18-900-761	106.8	77.1	20	94	11	72	24	61	16	83	7	100	1	95	11	61	21	61	14	67	17
11	18-900-762	116.2	83.9	3	91	17	89	2	94	3	82	9	97	11	98	2	69	13	68	6	67	17
12	18-900-763	108.2	78.1	15	92	14	82	9	63	15	81	13	95	17	100	1	64	19	66	9	60	23
13	18-900-766	116.2	83.9	3	95	10	88	4	100	1	84	5	95	17	97	4	66	17	57	18	73	14
14	18-900-768	113.8	82.2	7	89	19	85	6	80	7	77	17	95	17	92	18	87	1	57	18	78	9
15	18-900-770	112.0	80.9	9	89	19	85	6	67	12	74	20	99	4	96	8	76	7	67	7	75	12
16	07-042-06	103.2	74.6	23	97	6	76	20	66	13	58	25	96	16	93	16	68	15	55	21	62	21
17	12-087-06	112.6	81.3	8	99	3	82	9	72	9	79	15	98	7	94	14	58	23	60	16	90	1
18	12-108-05	110.8	80.0	11	92	14	78	17	69	11	71	22	98	7	96	8	79	4	71	4	66	19
19	12-108-07	109.8	79.3	12	91	17	80	13	60	17	82	9	94	23	95	11	70	11	72	3	70	16
20	12-112-06	110.9	80.1	10	92	14	76	20	58	20	88	2	97	11	92	18	72	8	61	14	85	3
21	12-112-09	104.3	75.3	22	85	23	78	17	36	23	69	24	97	11	98	2	70	11	67	7	78	9
22	18-900-765	106.9	77.2	19	100	1	83	8	53	21	81	13	98	7	97	4	64	19	40	25	79	7
23	19-900-1706	106.0	76.6	21	98	4	76	20	35	24	86	3	95	17	92	18	72	8	73	2	62	21
24	19-900-1715	114.9	83.0	5	96	7	80	13	100	1	82	9	95	17	96	8	67	16	58	17	73	14
25	19-900-1717	109.5	79.1	13	100	1	89	2	24	25	83	7	97	11	94	14	82	3	63	12	80	6
GEMIDD/AVERAGE			79		93		81		67		79		97		94		69		61		73	
KV/ CV			17.4		6.9		7.1		51.0		9.8		4.6		6.5		14.3		18.2		11.9	
KBV/LSD (T0.10)			10		13		11		69		15		9		12		19		22		17	
KBV/LSD (T0.05)			13		15		14		83		18		10		14		23		26		20	

TABEL 16: Agronomiese prestasie van die inskrywings in die LE Besproeiingsproef by verskillende lokaliteite, 2020
 TABLE 16: Agronomic performance of the entries in the LE Irrigation trial at different localities, 2020

Insk.nr. Entry nr.	Inskrywing Entry	General appearance	Stage of Ripeness	Plant Height (cm)	Resistance to Lodging	Peduncle strenght
1	Genie	5.7	3.0	84	4.4	5.0
2	Overture	5.7	3.0	83	4.5	5.0
3	12-093D-06	6.4	2.8	77	4.9	5.0
4	17-900-504	6.1	2.9	77	4.8	5.0
5	17-900-511	6.5	2.7	73	5.0	5.0
6	17-900-516	6.2	2.7	78	5.0	5.0
7	17-900-549	5.9	3.0	81	4.2	5.0
8	17-900-551	6.1	2.9	82	4.7	5.0
9	15-900-29	6.2	2.7	88	4.2	5.0
10	18-900-761	5.8	2.7	82	4.1	5.0
11	18-900-762	6.0	2.6	82	4.2	5.0
12	18-900-763	5.9	2.9	87	4.2	5.0
13	18-900-766	6.0	3.1	82	4.7	5.0
14	18-900-768	6.1	2.9	85	4.4	5.0
15	18-900-770	6.2	2.8	86	4.5	5.0
16	07-042-06	6.1	2.0	79	4.7	5.0
17	12-087-06	7.4	2.9	89	4.9	5.0
18	12-108-05	7.5	3.0	85	4.9	5.0
19	12-108-07	5.9	2.9	90	4.6	5.0
20	12-112-06	6.0	2.8	86	4.2	5.0
21	12-112-09	6.5	2.8	82	4.5	5.0
22	18-900-765	5.8	2.8	81	3.9	5.0
23	19-900-1706	6.5	2.8	79	4.7	5.0
24	19-900-1715	5.9	3.2	82	4.5	5.0
25	19-900-1717	6.2	2.7	82	4.9	5.0

Tabel 17: Produksiestatistiek van die proeflokalityte vir die Lyn Evaluasie Besproeiingsproef, 2020.

Table 17: Production statistics of the trial localities for the Line Evaluation Trial in the Irrigation area, 2020

AREA	LOKALITEIT	PLAASNAAM	ROTASIE (2018/19 Somer Terugwaarts)	PLANT DATUM	PLANT DIGTHEID
Besproeiing Sentraal	Taung	JS2	Mielies	25 Junie 2020	70kg/ha
	Hartswater	5J11 SABB1	Mielies	15 Junie 2020	70kg/ha
	Jan Kempdorp	2C3	Mielies	19 Junie 2020	70kg/ha
Besproeiing Suid	Rietrivier	A Shergold	Uie	27 Julie 2020	70kg/ha
	Douglas-Oos	Vaalboskop	Braak	25 Junie 2020	70kg/ha
	Douglas-Wes	De Hoek	Mielies	18 Junie 2020	70kg/ha
	Orania	Bosjesbult	Mielies	11 Junie 2020	70kg/ha
Besproeiing Noord	Koedoeskop	Allied farms	Soja	24 Mei 2020	70kg/ha
	Beestekraal	Allied farms	Soja	24 Mei 2020	70kg/ha

TABEL 18: Lys van inskrywings in die Lyn Evaluasieproef onder besproeiing, 2020

TABLE 18: List of entries in the Line Evaluation trial under Irrigation, 2020

Insk.nr. <i>Entr.no.</i>	Inskrywing <i>Entry</i>	Jare in LE proef <i>Years in LE trial</i>	Program <i>Program</i>
1	Genie	Control	Sabbi
2	Overture	Control	Sabbi
3	12-093D-06	3	Sabbi
4	17-900-504	3	Sabbi
5	17-900-511	3	Sabbi
6	17-900-516	3	Sabbi
7	17-900-549	3	Sabbi
8	17-900-551	3	Sabbi
9	15-900-29	2	Sabbi
10	18-900-761	2	Sabbi
11	18-900-762	2	Sabbi
12	18-900-763	2	Sabbi
13	18-900-766	2	Sabbi
14	18-900-768	2	Sabbi
15	18-900-770	2	Sabbi
16	07-042-06	1	Sabbi
17	12-087-06	1	Sabbi
18	12-108-05	1	Sabbi
19	12-108-07	1	Sabbi
20	12-112-06	1	Sabbi
21	12-112-09	1	Sabbi
22	18-900-765	1	Sabbi
23	19-900-1706	1	Sabbi
24	19-900-1715	1	Sabbi
25	19-900-1717	1	Sabbi

Figure 1: Average grain yield and quality parameters for the LE trials in the irrigation area, 2020.

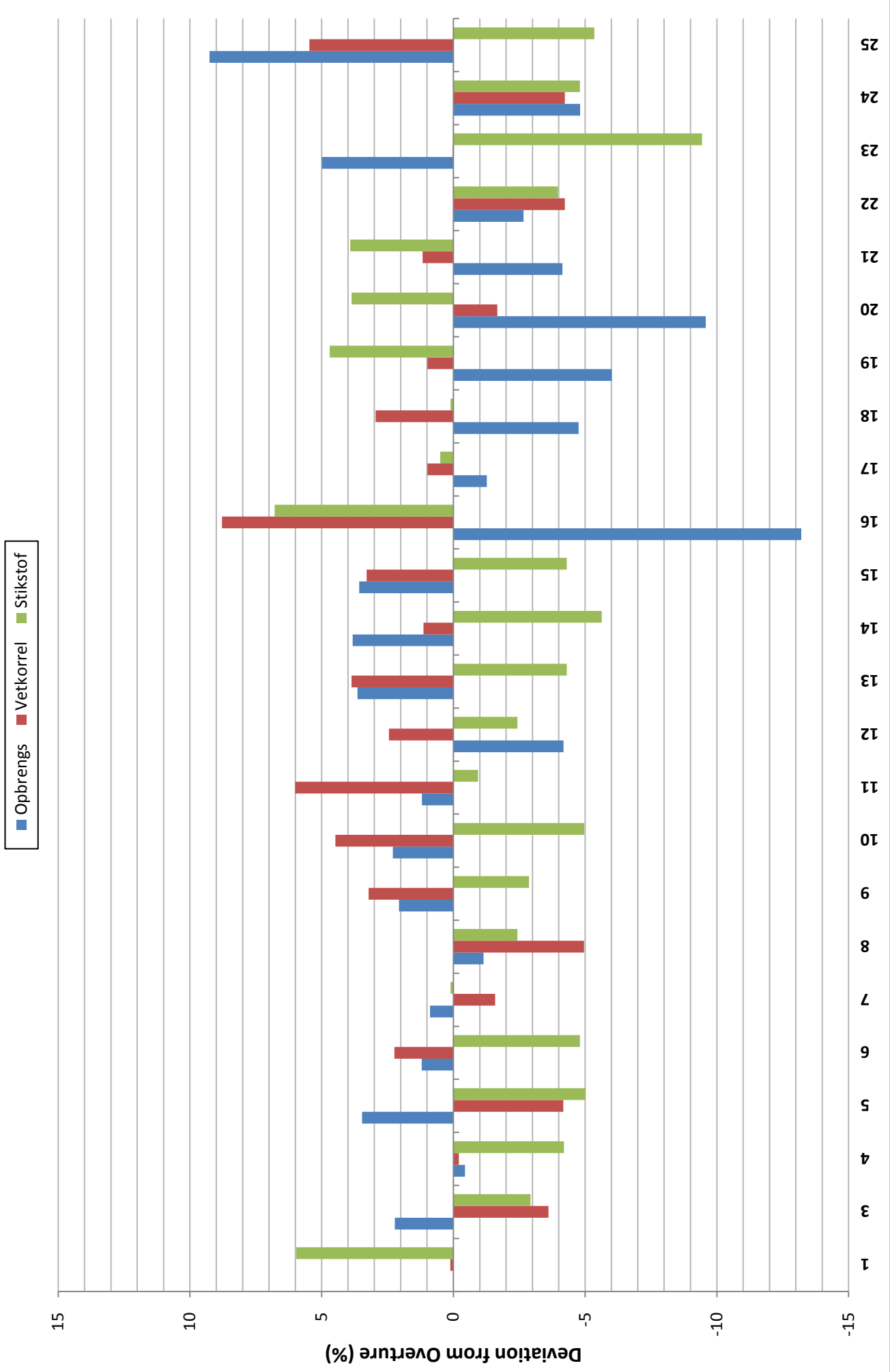


Figure 2: Long term relative performance of lines in the LE trial 2020 (3rd year)

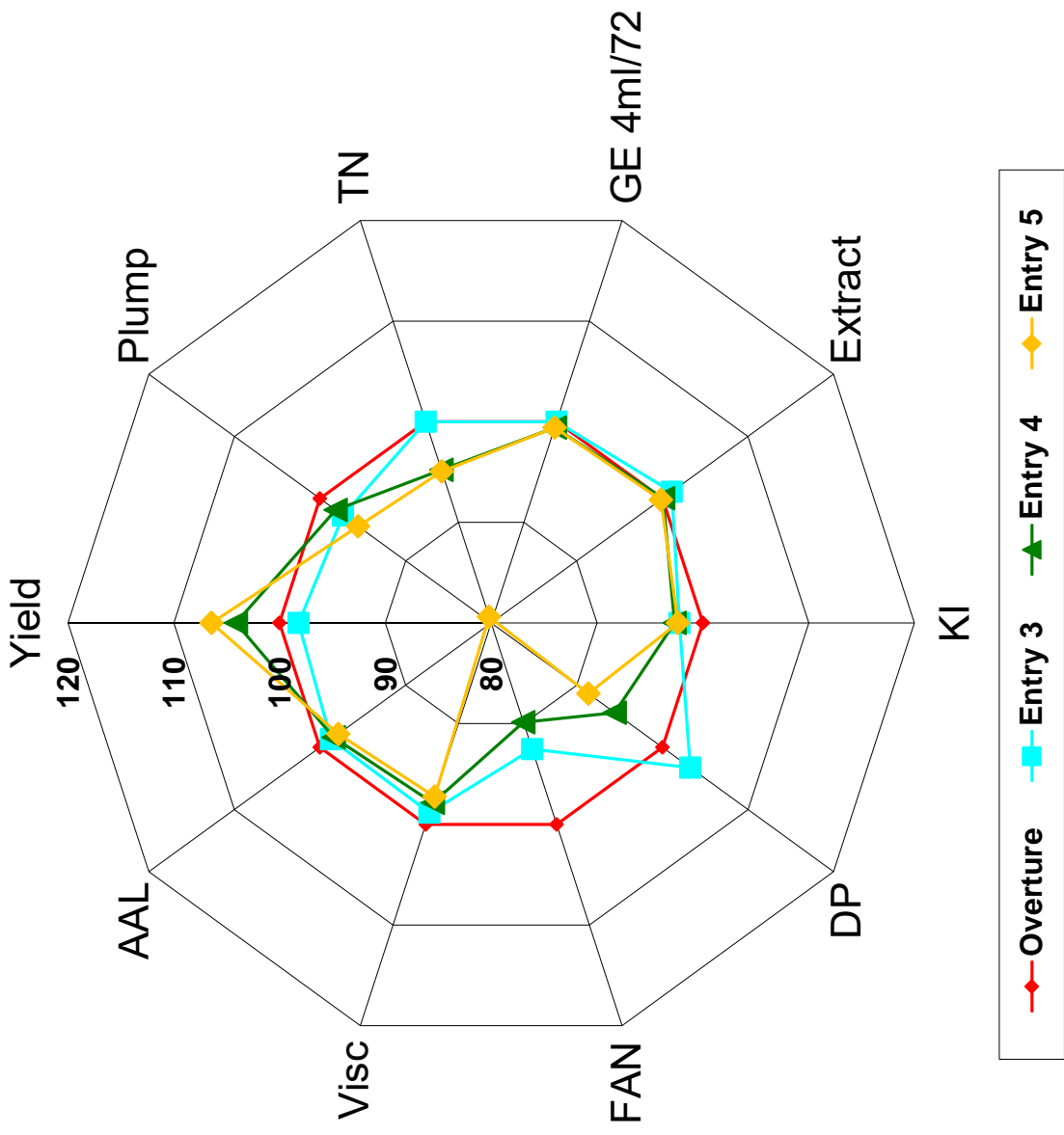


Figure 3: Long term relative performance of lines in the LE trial 2020 (3rd year)

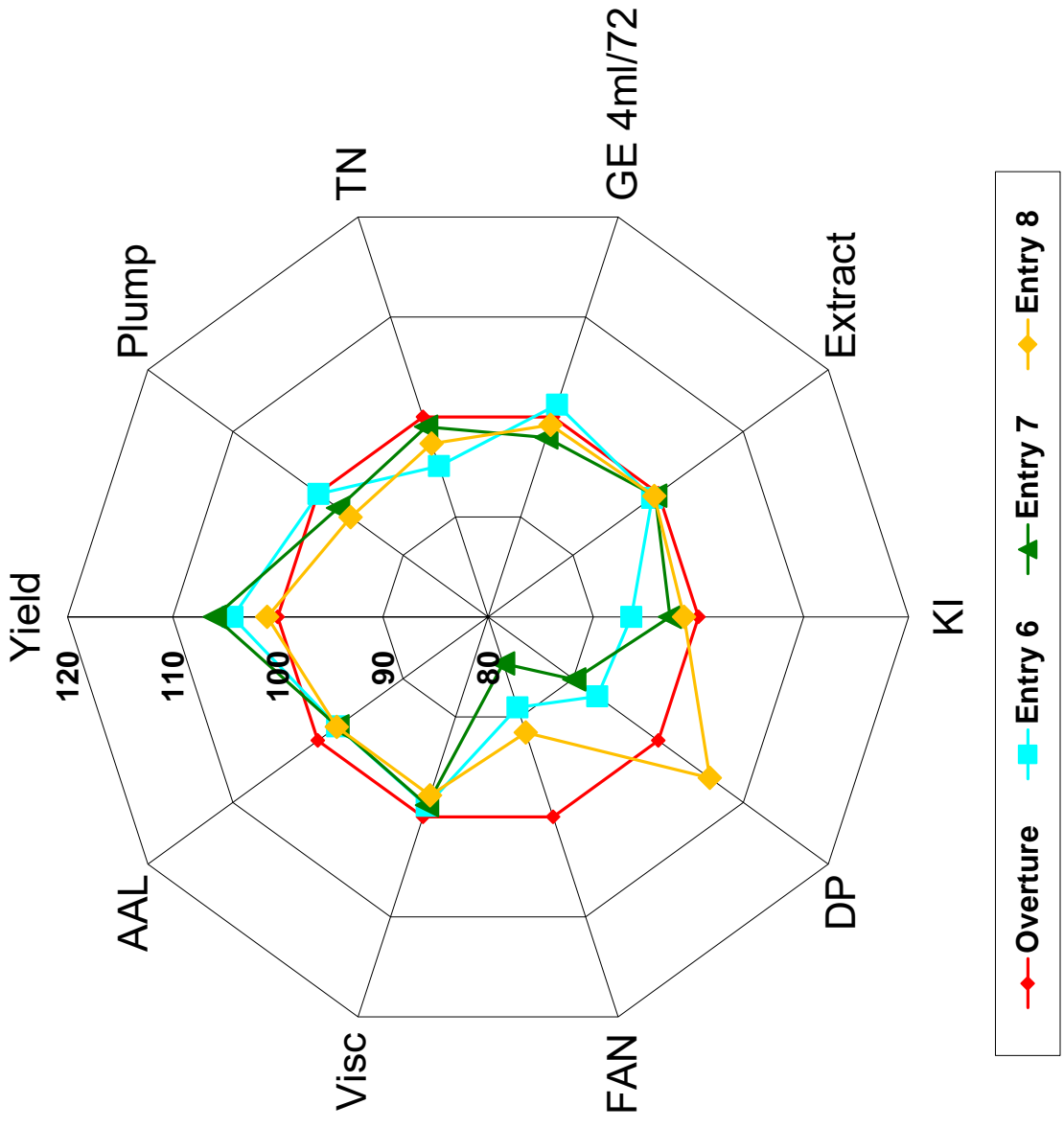


Figure 4: Long term relative performance of lines in the LE trial 2020 (2nd year)

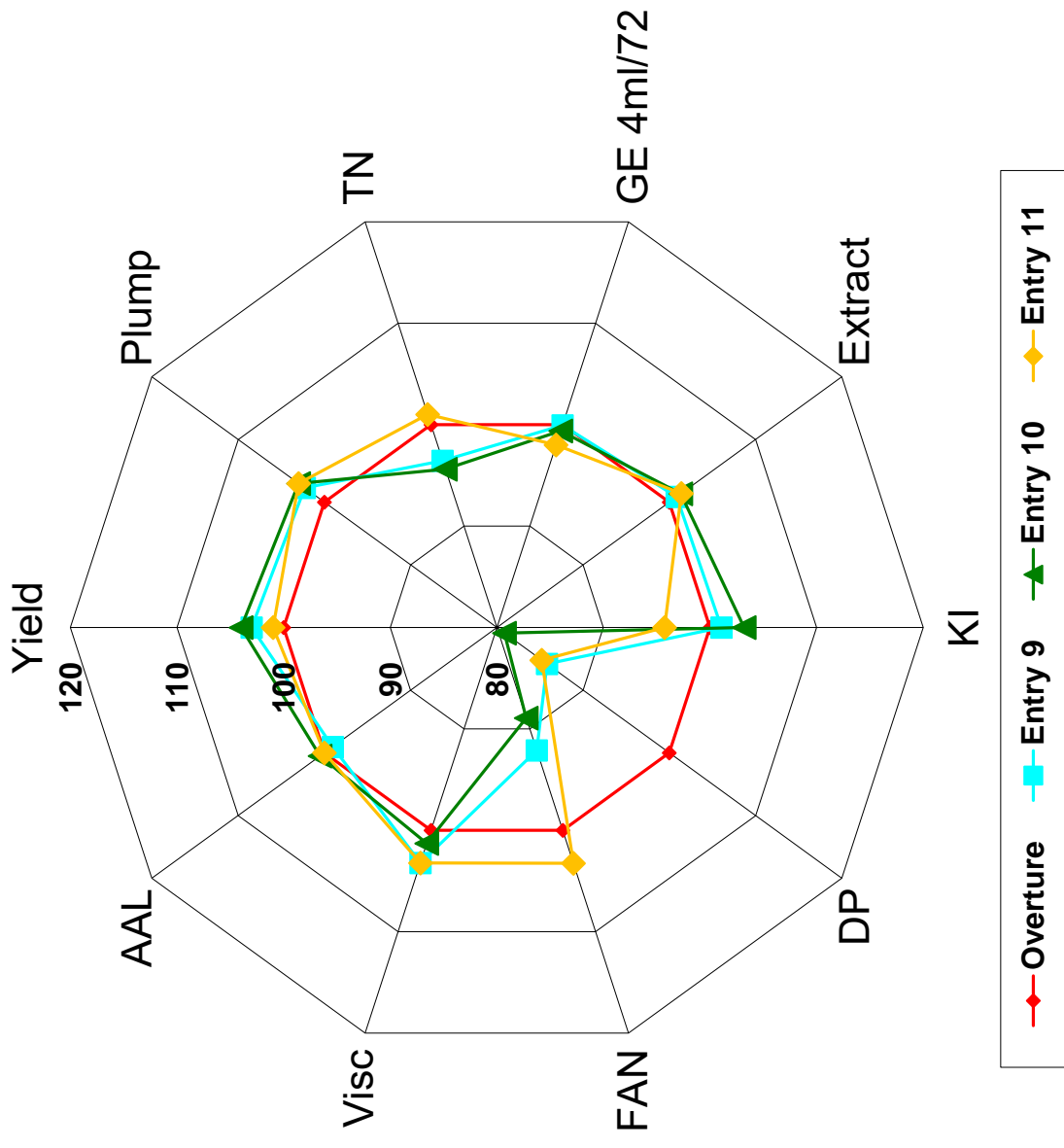


Figure 5: Long term relative performance of lines in the LE trial 2020 (2nd year)

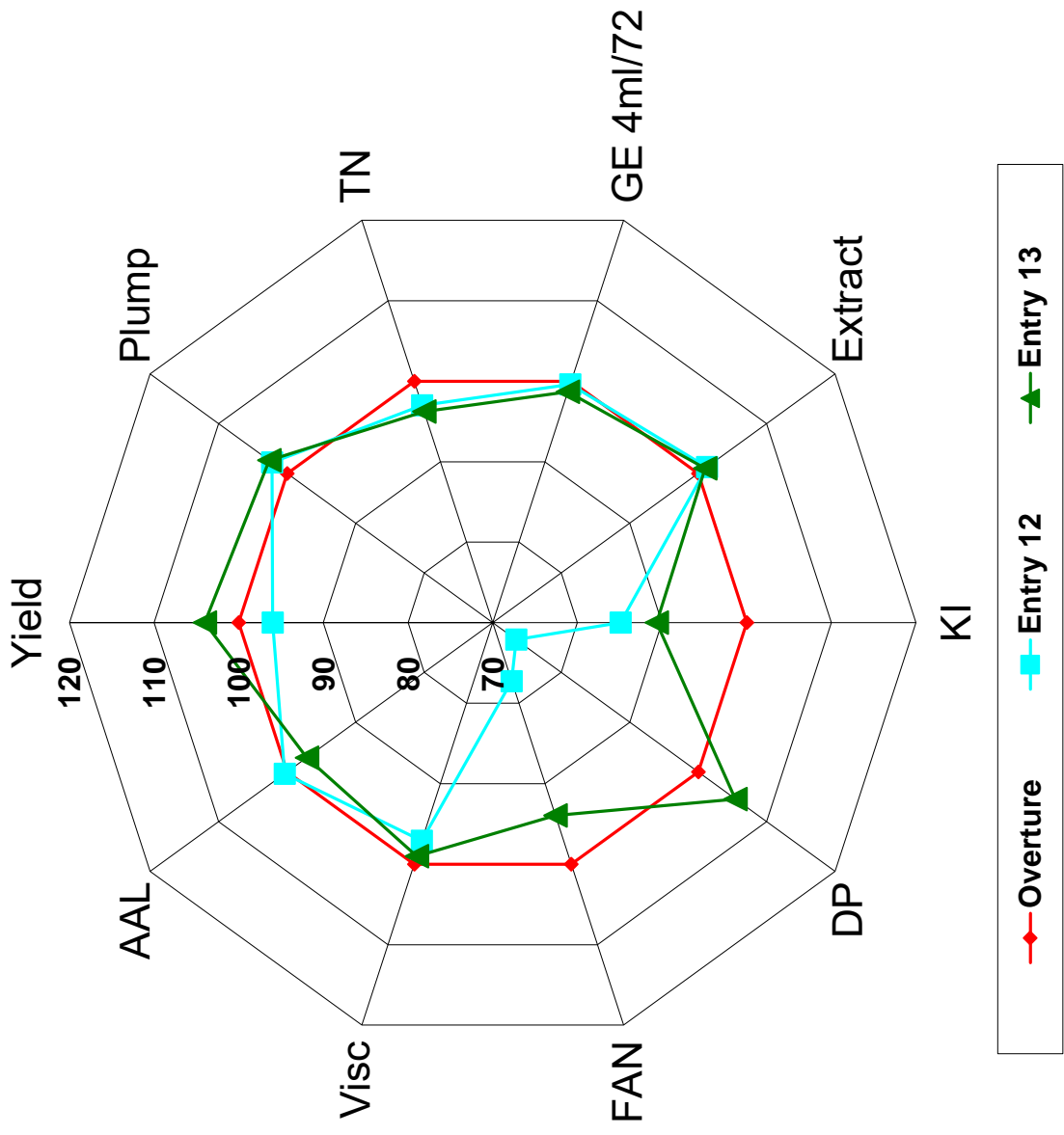


Figure 6: Long term relative performance of lines in the LE trial 2020 (2nd year)

