

**MPS
ECAS**



Certificate

MPS-ECAS awards this certificate in accordance with the certification scheme MPS-ABC version 15, to:

**Luxaflor Roses
Manyewe North Farm, P.O. Box 1
CONCESSION
Zimbabwe
MPS-number: 792011**

Applicable to environmental clusters:
ROSE; ROSE par-mat

Validity: **15-8-2022 valid up to and including 6-11-2022**
Total points: **101,0**
Qualification: **A**

Kind regards,
MPS-ECAS

Signature:

Date of issue:
18-7-2022

Drs. R. Landsmeer, Manager Operations

N.B.: This certificate is only valid for the period specified above.

P.O. Box 114
2678 ZJ De Lier
The Netherlands



QUALIFICATION AND PERIOD GRAPHS

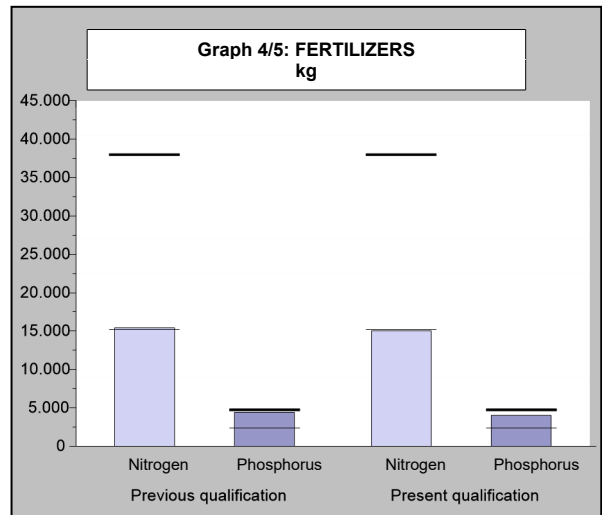
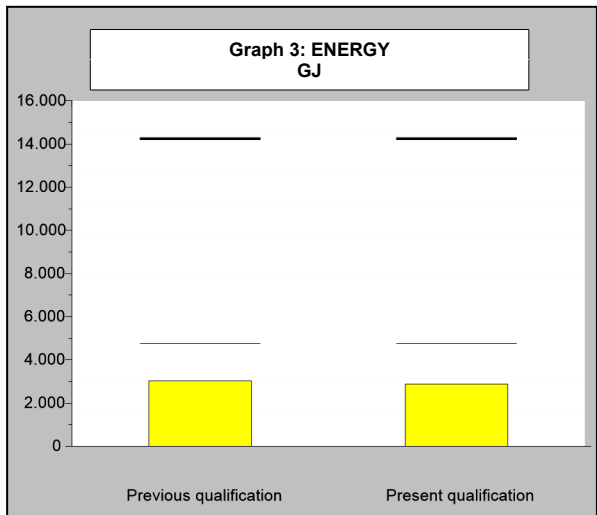
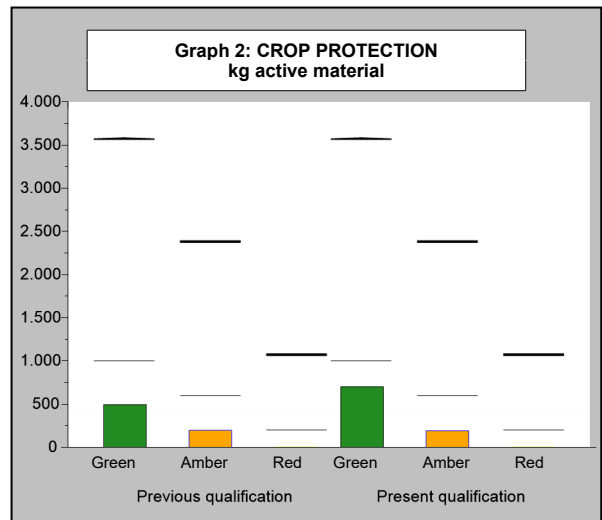
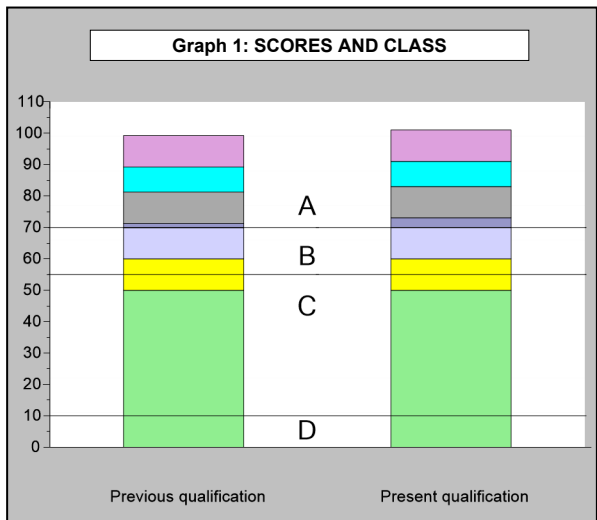
MPS company number: **792011/01**
 Company name: Luxaflor Roses (total)

Valid: Period 8-2021 until Period 7-2022
 Version: 18-7-2022

Table 1: DATA QUALIFICATIONS

SUBJECT	Your Company standard		Your use	Your points	max. points	A+ standard	A+ score	Obtained
	Lower	Upper limit						
Crop protection	Green	1000,6-3573,7 kg	701,8	15	15			
	Amber	600,4-2382,5 kg	192,2	20	20			
	Red	200,1-1072,1 kg	3,5	15	15			
total				50	50	85 %	100 %	yes
Energy total		4750-14250 GJ	2880,2	10	10	75 %	100 %	yes
Fertilizers	Nitrogen	15200-38000 kg	15044,2	10	10			
	Phosphorus	2375-4750 kg	4026	3	10			
total				13	20	75 %	65,2 %	no
Waste		0-130	130	10	10			
Water		0-130	104	8	10			
Certified parental material				10	10			
Total score (points)				101	110	90	101	yes
COMPANY QUALIFICATION				A				

COMPANY USAGE PER 13 PERIODS
 <-----> = Upper limit <.....> = Lower limit

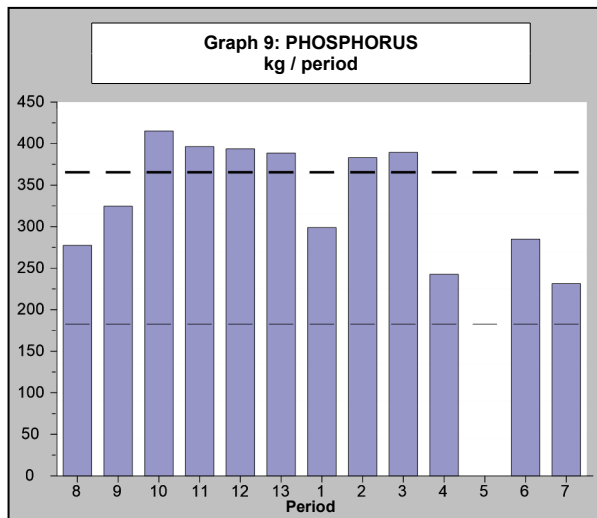
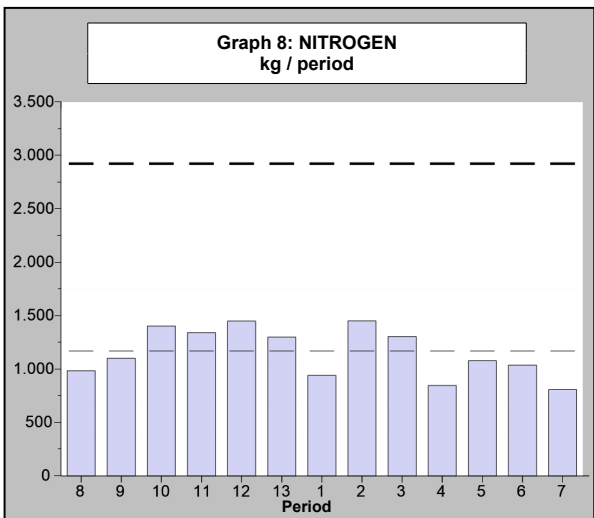
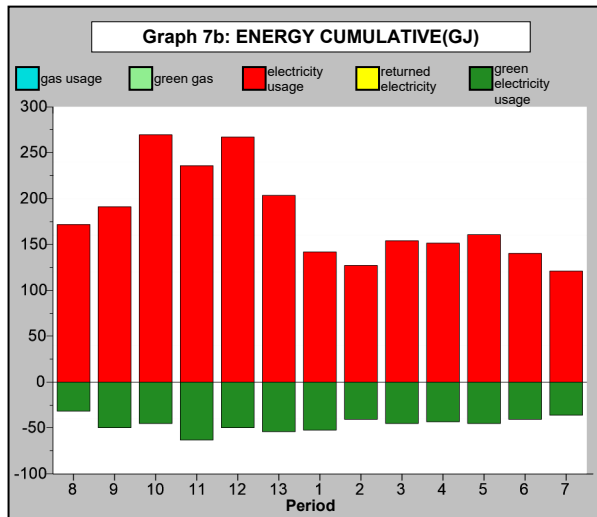
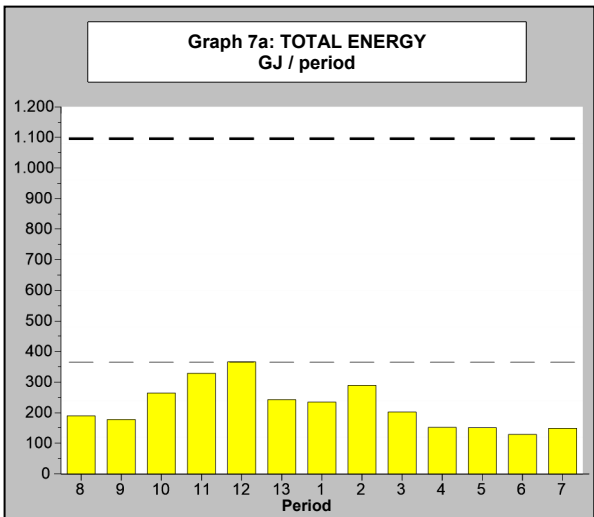
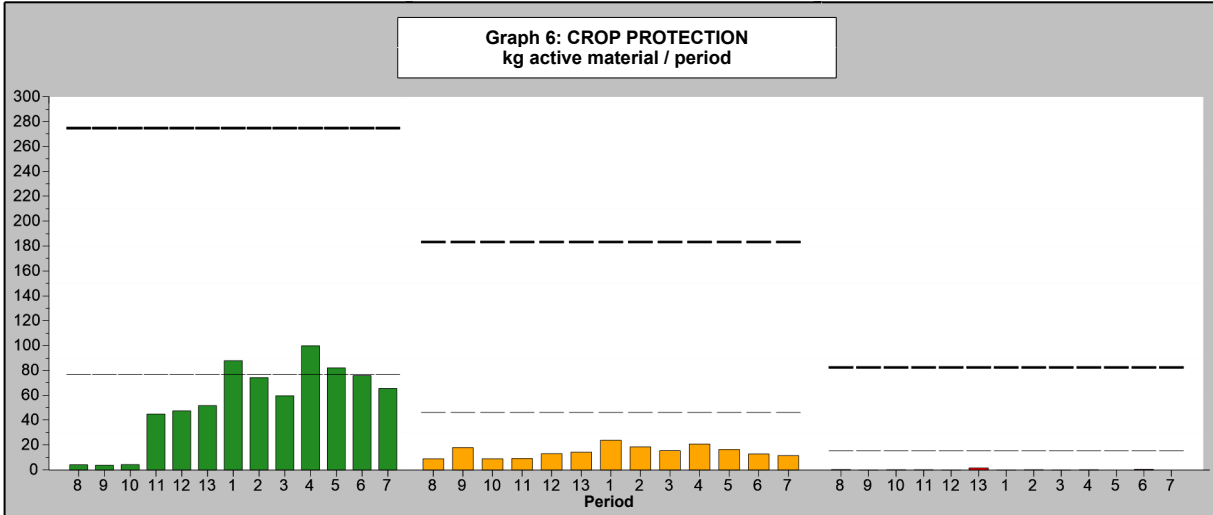


QUALIFICATION AND PERIOD GRAPHS

MPS company number: 792011/01
 Company name: Luxaflor Roses (total)

Valid: Period 8-2021 until Period 7-2022
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<-----> = Upperlimit <.....> = Lowerlimit



MPS-Overview Composition of Qualification

MPS company number: **792011/01**
 Company name: Luxaflor Roses (total)

Valid: Period 8-2021 until Period 7-2022
 Version: 18-7-2022

Composition of points MPS environmentally certified parental material

Certified parental material	(Average) area	Your Points	Max points
Total cultivated area 1)	190000 m2		
Area certified parental material MPS-ABC	190000 m2	10	10
Area certified parental material GLOBALGAP	0 m2	0	5
Total points for Certified parental material		10	10

1) Total means: the total area covered and uncovered cultivation and the second crop layer. Not included is the uncultivated area.

Overview Environmental zones

Period	8	9	10	11	12	13	1	2	3	4	5	6	7
Environmental	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1

Company usage of MPS-MIND

Pesticide	Indicator color	active ingredient	Annual company use of active substance		
			Green	Amber	Red
Agil 100 EC	●	propaquizafop	0,600		
Aluminium sulphate	○	aluminium sulphate			
Alvarion 50 WDG	●	boscalid	11,890		
Applegreen EP599	○	acid blue			
Barco 532 (General Purpose Deterge	○	washing soap			
Barco 541 Liquid Bleach (Sodium Hy	○	sodium hypochlorite			
Barco 564 (Superior Liquid Detergent	○	washing soap			
Bellis	●	boscalid	6,892		
	●	pyraclostrobin	3,501		
Belt	●	flubendiamide	9,717		
Benevia 100 OD	●	cyantranilprole	0,013		
Chess 50 WG	●	pymetrozine		0,345	
Citrisill - W	○	heptamethyltrisiloxane			
Dipel DF	○	bacillus thuringiensis			
Glyphosate 360	●	glyphosate-isopropyl ammonium	20,090		
Hansa Add 1055	○	wetting/sticker agents other			
HTH	○	sodium hypochlorite			
Hydrogen Peroxide 40%	○	hydrogen peroxide			
Infinito	●	fluopicolide	3,598		
	●	propamocarb hydrochloride	35,984		
Karate (86-D-136-1)	●	lambda-cyhalothrin		5,650	
Kumulus D.F. (96-B-3-14)	○	sulfur/sulphur			
Levo 2.4 SL	●	oxymatrine		0,070	
Lime sulphur (72-B-3-3)	○	sulfur/sulphur			
Oberon	●	spiromesifen	1,118		
Ortiva	●	azoxystrobin	48,500		
Phosguard 400 SL	●	potassium phosphite	466,250		
Previcur N 72EC (L339N)	●	propamocarb hydrochloride	61,412		
Pride	●	fenazaquin		1,400	
Prosper	●	spiroxamine		183,946	
Prove 1.92 EC	●	emamectin benzoate		0,719	
Rhizo Protect	○	beauveria bassiana			
	○	metarhizium anisopliae			
	○	verticillium lecanii / lecanicillium s			
RO 208	○	heptamethyltrisiloxane			
Rovral 250EC FL (88-B-36-2)	●	iprodione			3,520
Silwet Gold	○	heptamethyltrisiloxane			

MPS-Overview Composition of Qualification

MPS company number: **792011/01**
 Company name: Luxaflor Roses (total)

Valid: Period 8-2021 until Period 7-2022
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Company usage of MPS-MIND

Pesticide	Indicator color	active ingredient	Annual company use of active substance		
			Green	Amber	Red
Silwet L 77	○	heptamethyltrisiloxane			
Smite	●	etoxazole	8,590		
Steward 150 EC	●	indoxacarb		0,045	
Terminator	●	didecyldimethylammonium chlori	0,500		
Tetradifon 8EC (72-D-52-2)	●	tetradifon	0,120		
Tracer 480 SC	●	spinosad	0,379		
Twist 500 SC	●	trifloxistrobin	22,618		
Annual company use of active substance			701,771	192,175	3,520

OVERVIEW RECORDED DATA

MPS company number: **792011/01**

Company name: Luxaflor Roses (total)

Valid: Period 8-2021 until Period 7-2022

Version: 18-7-2022

Code	Description	Unit	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Subtotal	Year total
FORM RECEIVED			yes	yes	yes	yes	yes	yes	yes		
CROP PROTECTION AGENTS											
3266	Agil 100 EC	ml	1000		5000					6000	6000
3191	Aluminium sulphate	grams	212000	204000	248000	255000	322000	224600	228800	1694400	3054400
3495	Alvarion 50 WDG	grams	1720	800				4400	10280	17200	23780
3479	Applegreen EP599	grams	4350	1950	750	1900		1700	450	11100	11200
3477	Barco 532 (General Purpose Detergent Powder)	grams	42200	42800	44400	51000	51600	47000	37600	316600	645500
3478	Barco 541 Liquid Bleach (Sodium Hypochlorite 5%)	ml	9500	6000	6000	39000	16500	7000	5000	89000	183500
3476	Barco 564 (Superior Liquid Detergent)	ml	40500	41700	47500	38000	39000	37000	26500	270200	505200
3383	Bellis	grams	825	1000		8750	11925	4850		27350	27350
3330	Belt	ml	808	2650	4659	1890	5012	398		15417	20244
3499	Benevia 100 OD	ml									125
3429	Chess 50 WG	grams	180	180			150		180	690	690
3435	Citrisill - W	ml	19800	1800		5200				26800	58000
3344	Dipel DF	grams				3000	1125			4125	4125
3403	Glyphosate 360	ml	10000	15000		10000				35000	49000
3427	Hansa Add 1055	ml	21510	23500	21000	5000	17613	12987	9095	110705	152658
3230	HTH	grams	8100	15800	10400	19100	27300	16600	8600	105900	194900
3424	Hydrogen Peroxide 40%	ml	46432	52890	67590	37090	41925	11280	54143	311350	410975
3397	Infinito	ml				3000	25625	23450	5500	57575	57575
3091	Karate (86-D-136-1)	ml	150	4125	9137	14250	12550	3625	6728	50565	113000
3021	Kumulus D.F. (96-B-3-14)	grams			2250					2250	13975
3359	Levo 2.4 SL	ml					1075			1075	2910
3044	Lime sulphur (72-B-3-3)	ml									250
3339	Oberon	ml									4660
3271	Ortiva	ml	6000	27280	27940	42840	46950	21880	21108	193998	193998
3291	Phosguard 400 SL	ml	104720	78000	77500	100580	78080	87800	86430	613110	832590
3038	Previcur N 72EC (L339N)	ml	25500	18045	7175	30375	1125		3075	85295	85295
3315	Pride	ml					650			650	7000
3311	Prosper	ml	47515	36510	30075	40185	31275	25305	22362	233227	367892
3380	Prove 1.92 EC	ml	500		517					1017	37443
3475	Rhizo Protect	grams									5000
3493	RO 208	ml			500		1100	1950	2100	5650	101840
3092	Rovral 250EC FL (88-B-36-2)	ml	400	800	400	800		1800		4200	14080
3332	Silwet Gold	ml	110825	135373	138200	102987	135615	126105	139800	888905	1415042
3342	Silwet L 77	ml									155360
3316	Smite	ml	3844	12115	14050	5875	1125	7500	500	45009	85900
3451	Steward 150 EC	ml						50		50	298

OVERVIEW RECORDED DATA (Continued)

MPS company number: 792011/01

Valid: Period 8-2021 until Period 7-2022

Company name: Luxaflor Roses (total)

Version: 18-7-2022

Code	Description	Unit	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Subtotal	Year total
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CROP PROTECTION AGENTS (Continued)

3454	Terminator	ml									2000
3015	Tetradifon 8EC (72-D-52-2)	ml									1500
3389	Tracer 480 SC	ml									790
3353	Twist 500 SC	ml	6515	2733			2250	250	1400	13148	45236

WATER

21	Total irrigation	m3	1837	2447	2764	1667	2220	2247	1425	14607	29016
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ENERGY

4	Electricity from the grid (Total)	kWh	15772	14132	17124	16840	17864	15588	13450	110770	259590
54	Diesel oil/fuel	litres	4087	5716	2635	1230	1000	825	1810	17303	32072
6	Green electricity from the grid	kWh	5800	4500	5000	4800	5000	4500	4000	33600	66100

FERTILIZERS

513	Ammonium Nitrate	kg	1273,66	1834,9	1577,6	1173,92	1306,85	1228,85	970,04	9365,82	18286,67
545	Calcium Nitrate	kg	1151,69	1396,18	1580,1	840,53	1403,21	1087,16	952,13	8411	16156,93
733	Elfer Micromax	kg	5,82	24,83		4,9	7,035	16,59		59,175	129,655
752	Fe EDTA 13%	kg	120,43	181,46	191,42	121,54	169,6	120,2	111,02	1015,67	2038,138
744	Hidrospoor	kg	154,69	259,12	236,07	151,39	214,13	173,93	138,36	1327,69	2706,983
516	Magnesium Sulphate	kg			0,2					0,2	0,2
575	Manganese Sulphate	kg	93,24	158,76	144,16	97,1	142,2	127,79	83,24	846,49	1684,58
580	Mono-Ammonium Phosphate 12+61+0	kg	1123,98	1439,85	1464,33	912,04		1071,44	869,99	6881,63	15137,75
691	Muriate of Potash	kg	1644,38	2073,92	2141,54	1329,89	1930,26	1582,92	1233,22	11936,13	22937,11
656	Nitric Acid 55%	litres	454,08	1525,92	1008,83	912,06	1430,35	1135,87	651,86	7118,97	15594,34
710	Potassium Nitrate (Multi-K) 13.5+0+46	kg	977,4	1587,8	1490,4	544,8	1512,45	1153,85	971,55	8238,25	16423,75
766	Sulphuric Acid 98%	kg	1523,06	1996,06	1983,5	1213,88	1560,9	1419	1221,22	10917,62	22824,18
897	Veni Biosulfur	litres	32,8	8,6	28,3	3,8			10,1	83,6	173,54
604	Zincsulphate	kg	20,76	44,935	45,08	28,38	42,855	32,35	27,87	242,23	495,99

ENVIRONMENTAL CLUSTERS

		Indoor crops									
2014	ROSE	m2	188000	188000	188000	188000	188000	188000	188000	188000	
3014	ROSE par-mat	m2	2000	2000	2000	2000	2000	2000	2000	2000	
Subtotal			190000	190000	190000	190000	190000	190000	190000	190000	

OVERVIEW RECORDED DATA (Continued)

MPS company number: **792011/01**

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Company name: Luxaflor Roses (total)

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Code	Description	Unit	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Subtotal	Year total
	Certified parental material										
661	MPS-ABC certif.parental mat.indoor	m2	190000	190000	190000	190000	190000	190000	190000		

GENERAL INFORMATION FORM

MPS-Mind

Surface water

3900 What is the minimum distance of this location to the nearest surface water? > 2500 metres / > 8200 feet

Cover

3910 Does the surface of protected cultivation exceed 95% of this location? Yes

Slope

3902 What is the maximum slope of a plot on this location? flat

Leaching to groundwater

3903 Do you grow more than 95% of your crops in a closed (recirculation) system, with less than 3% loss of drainwater? No

3904 What is the minimum depth of the groundwater on all your plot(s)? 3 - 15 metres / 9,8 - 49,2 feet

3905 What is the lowest percentage of organic material of your soil on all your plots of this location? 1,5 - 3%

3906 What is the average annual rainfall? (if not known, enter nothing) 600 - 1500 mm annually / 23 - 59 inch

3907 How many months per year may be regarded as exceptionally dry (less than 2% of the annual precipitation)? 2 - 6 months

3908 What is the average day and night temperature over a whole year? (if not known, enter nothing) > 20 degrees C / 68 degrees F on aver

Water management

45 Do you collect rainwater? No

47 Do you collect leaking water while working with chemicals? Yes

49 Do you record water use? Yes

50 Do you use drip irrigation or recirculation? Yes

Waste management

41 Do you process organic waste in a responsible way? Yes

42 Do you process paper waste in a responsible way? Yes

43 Do you process plastic waste in a responsible way? Yes

44 Do you process chemical waste in a responsible way? Yes

OVERVIEW RECORDED DATA

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FORM RECEIVED			yes	yes	yes	yes	yes	yes	
CROP PROTECTION AGENTS									
3266	Agil 100 EC	ml							
3191	Aluminium sulphate	grams	204000	202000	228000	262000	212000	252000	1360000
3495	Alvarion 50 WDG	grams	2040	540	800	1200		2000	6580
3479	Applegreen EP599	grams		100					100
3477	Barco 532 (General Purpose Detergent Powder)	grams	49700	53800	59600	61600	67600	36600	328900
3478	Barco 541 Liquid Bleach (Sodium Hypochlorite 5%)	ml	36500	6000	8000	19000	5000	20000	94500
3476	Barco 564 (Superior Liquid Detergent)	ml	36500	31500	53500	41000	38500	34000	235000
3383	Bellis	grams							
3330	Belt	ml	100		300	755	3672		4827
3499	Benevia 100 OD	ml				125			125
3429	Chess 50 WG	grams							
3435	Citrisill - W	ml						31200	31200
3344	Dipel DF	grams							
3403	Glyphosate 360	ml					5000	9000	14000
3427	Hansa Add 1055	ml	7905	6400	4658	7725	4961	10304	41953
3230	HTH	grams	11000	13000	19000	14500	10400	21100	89000
3424	Hydrogen Peroxide 40%	ml		5325			29325	64975	99625
3397	Infinito	ml							
3091	Karate (86-D-136-1)	ml	2300	13250	19590	17060	8435	1800	62435
3021	Kumulus D.F. (96-B-3-14)	grams					225	11500	11725
3359	Levo 2.4 SL	ml		1030		805			1835
3044	Lime sulphur (72-B-3-3)	ml		250					250
3339	Oberon	ml				3000	1660		4660
3271	Ortiva	ml							
3291	Phosguard 400 SL	ml				71480	74000	74000	219480
3038	Previcur N 72EC (L339N)	ml							
3315	Pride	ml					2250	4100	6350
3311	Prosper	ml	17570	34325	15525	16380	24465	26400	134665
3380	Prove 1.92 EC	ml	4538	5935	9745	6140	1750	8318	36426
3475	Rhizo Protect	grams			5000				5000
3493	RO 208	ml	25900	13855	11820	8680	18820	17115	96190
3092	Rovral 250EC FL (88-B-36-2)	ml	1200	400	800	800	400	6280	9880
3332	Silwet Gold	ml	92500	128607	128580	139020		37430	526137
3342	Silwet L 77	ml					155360		155360
3316	Smite	ml	7800	1375	9638	6009	7956	8113	40891
3451	Steward 150 EC	ml			248				248

OVERVIEW RECORDED DATA (Continued)

MPS company number: 792011/01

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Code	Description	Unit	Period 8	Period 9	Period 10	Period 11	Period 12	Period 13	Subtotal
CROP PROTECTION AGENTS (Continued)									
3454	Terminator	ml	1000		1000				2000
3015	Tetradifon 8EC (72-D-52-2)	ml			1500				1500
3389	Tracer 480 SC	ml				790			790
3353	Twist 500 SC	ml	4135	6796	4875	4550	2125	9607	32088
WATER									
21	Total irrigation	m3	1715	2000	2475	2549	2837	2833	14409
ENERGY									
4	Electricity from the grid (Total)	kWh	19092	21244	29956	26220	29684	22624	148820
54	Diesel oil/fuel	litres	1400	1025	1125	4400	4194	2625	14769
6	Green electricity from the grid	kWh	3500	5500	5000	7000	5500	6000	32500
FERTILIZERS									
513	Ammonium Nitrate	kg	1168,62	1294,17	1450,54	1783,08	1849,3	1375,14	8920,85
545	Calcium Nitrate	kg	919,26	1075,86	1426,94	1353,06	1430,38	1540,43	7745,93
733	Elfer Micromax	kg	8,82	15,06	11,7	15	4,2	15,7	70,48
752	Fe EDTA 13%	kg	132,908	147,92	189,2	187,48	179,2	185,76	1022,468
744	Hidrospoor	kg	185,52	203,56	248,313	252,7	246,4	242,8	1379,293
516	Magnesium Sulphate	kg							
575	Manganese Sulphate	kg	111,09	115,81	158,85	164,05	143,81	144,48	838,09
580	Mono-Ammonium Phosphate 12+61+0	kg	1043,44	1220,32	1560,88	1489,95	1480,41	1461,12	8256,12
691	Muriate of Potash	kg	1603,38	1755,72	2240,78	2129,2	1686,6	1585,3	11000,98
656	Nitric Acid 55%	litres	1086,35	1177,86	1915,7	1523,46	1430,18	1341,82	8475,37
710	Potassium Nitrate (Multi-K) 13.5+0+46	kg	1181,51	1294,32	1601,95	913,72	1568	1626	8185,5
766	Sulphuric Acid 98%	kg	1358,75	1472,31	2999,04	2062,3	1971,2	2042,96	11906,56
897	Veni Biosulfur	litres	17	19	28		10,54	15,4	89,94
604	Zincsulphate	kg	31,9	42,26	47,3	46,87	40,71	44,72	253,76
ENVIRONMENTAL CLUSTERS									
Indoor crops									
2014	ROSE	m2	188000	188000	188000	188000	188000	188000	
3014	ROSE par-mat	m2	2000	2000	2000	2000	2000	2000	
	Subtotal		190000	190000	190000	190000	190000	190000	

OVERVIEW RECORDED DATA (Continued)

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Code	Description	Unit	Period 8	Period 9	Period 10	Period 11	Period 12	Period 13	Subtotal
	Certified parental material								
661	MPS-ABC certif.parental mat.indoor	m2	190000	190000	190000	190000	190000	190000	

CO2 Indicator

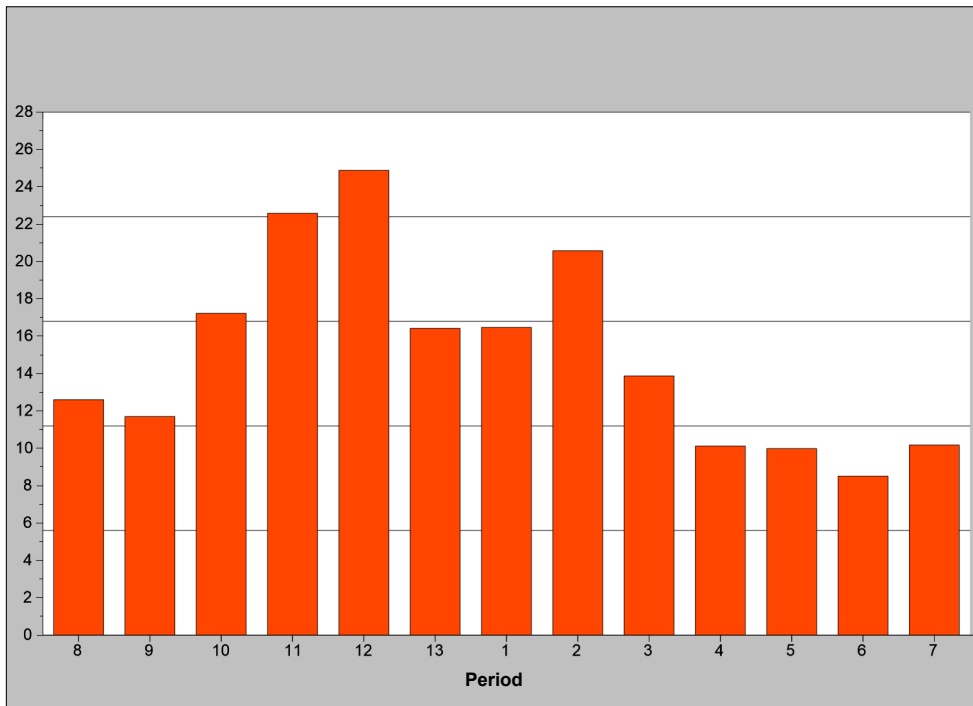
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Review CO2-emission per energy source per year (x 1000 kg)

Code		CO2 production (x 1000)
4	Electricity from the grid (Total)	148
54	Diesel oil/fuel	85
6	Green electricity from the grid	-38
Total		195

Review CO2-emission per period (x 1000 kg)



Disclaimer: the purpose of the above mentioned table and graphics is to give an insight in the CO2-emission on company level. The CO2 emission has been based on the energy consumption in GJ and the internationally accepted arithmetic rules. The calculation of the quantity in GJ is based on the calculation system of MPS for the fuel used by the company and the electricity and heating that has been bought and sold. The review serves only as a management tool. No rights can be derived. It is not allowed to use this review for other purposes. In cooperation with (inter)national stakeholders and research organizations MPS is working on further developments concerning CO2. We mainly focus on CO2 emission in the transport chain and the CO2 emission per physical production.