

# Certificate

MPS-ECAS awards this certificate in accordance with the certification scheme MPS ABC version 15 080217, to:

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

Applicable to environmental clusters:  
ROSE

Validity: **20-5-2019 until 11-8-2019**  
Total points: **92,6**  
Qualification: **A+**

Kind regards,  
MPS-ECAS

Signature:

Date of issue:  
24-5-2019



Ing. C. Maas

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

**MPS-ECAS**  
Certification



# QUALIFICATION AND PERIOD GRAPHS

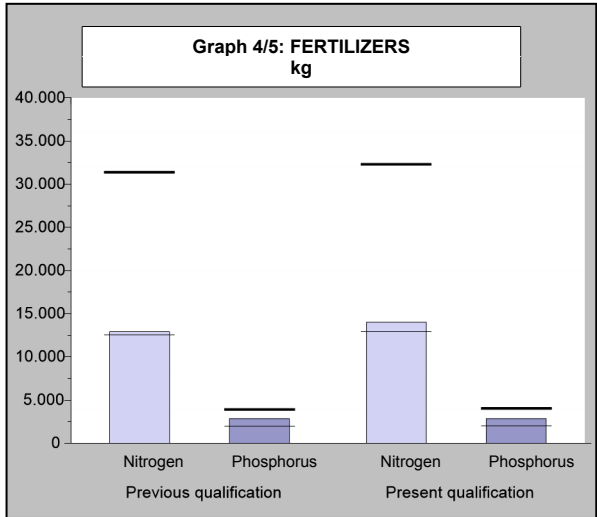
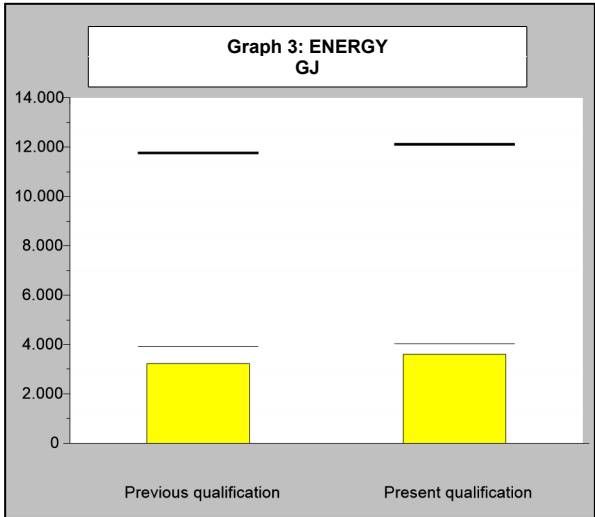
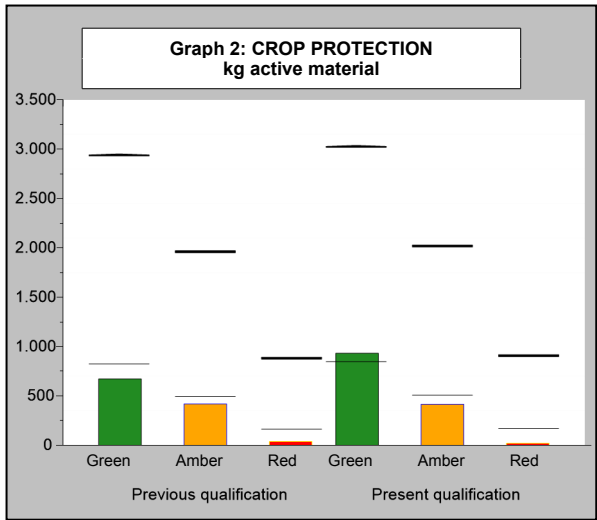
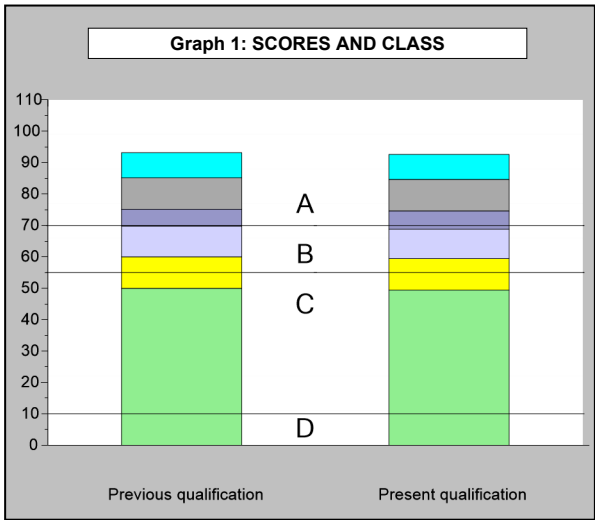
MPS company number: **792011/01**  
 Company name: Luxaflor Roses (total)

Valid: Period 5-2018 until Period 4-2019  
 Version: 24-5-2019

**Table 1: DATA QUALIFICATIONS**

SUBJECT		Uw Company standard	Uw use	Uw points	max. points	A+ standard	A+ score	Obtained
		Lower- Upper limit						
Crop protection	Green	848,1-3028,8 kg	932,9	14,4	15			
	Amber	508,8-2019,2 kg	416,8	20	20			
	Red	169,6-908,7 kg	22	15	15			
total				49,4	50	85 %	98,8 %	yes
Energy total		4038,5-12115,4 GJ	3608,7	10	10	75 %	100 %	yes
Fertilizers	Nitrogen	12923,1-32307,7 kg	14024,2	9,4	10			
	Phosphorus	2019,2-4038,5 kg	2870,3	5,8	10			
total				15,2	20	75 %	76 %	yes
Waste		0-130	130	10	10			
Water		0-130	104	8	10			
Certified parental material				0	10			
Total score (points)				92,6	110	90	92,6	yes
COMPANY QUALIFICATION				A+				

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

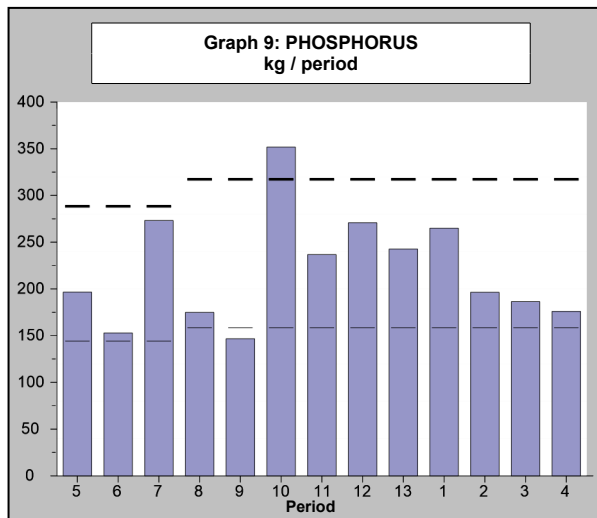
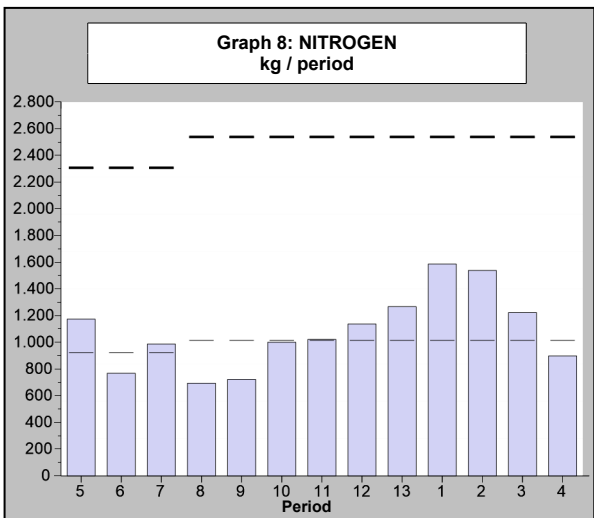
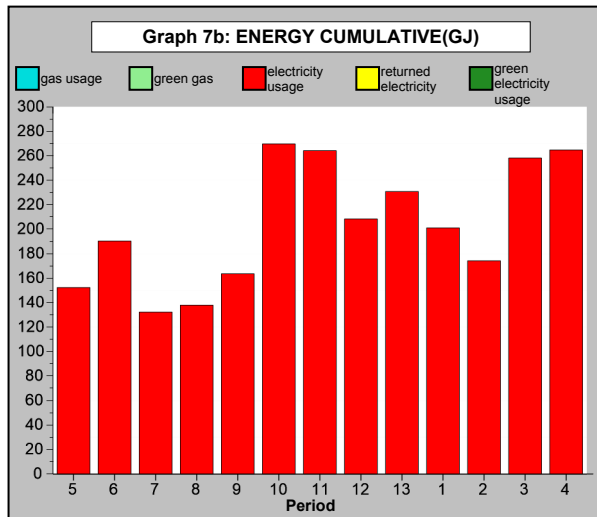
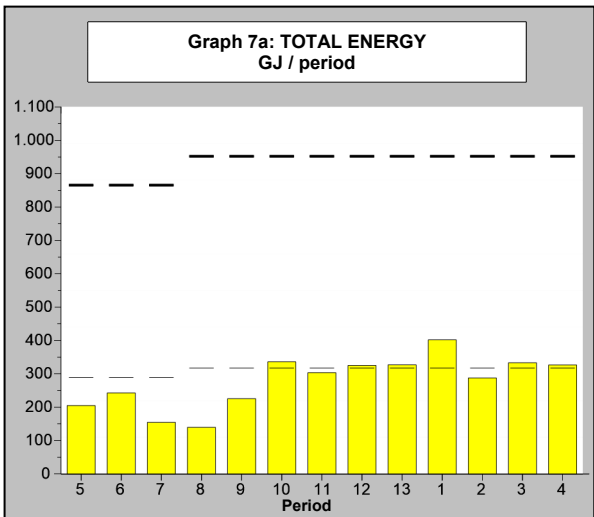
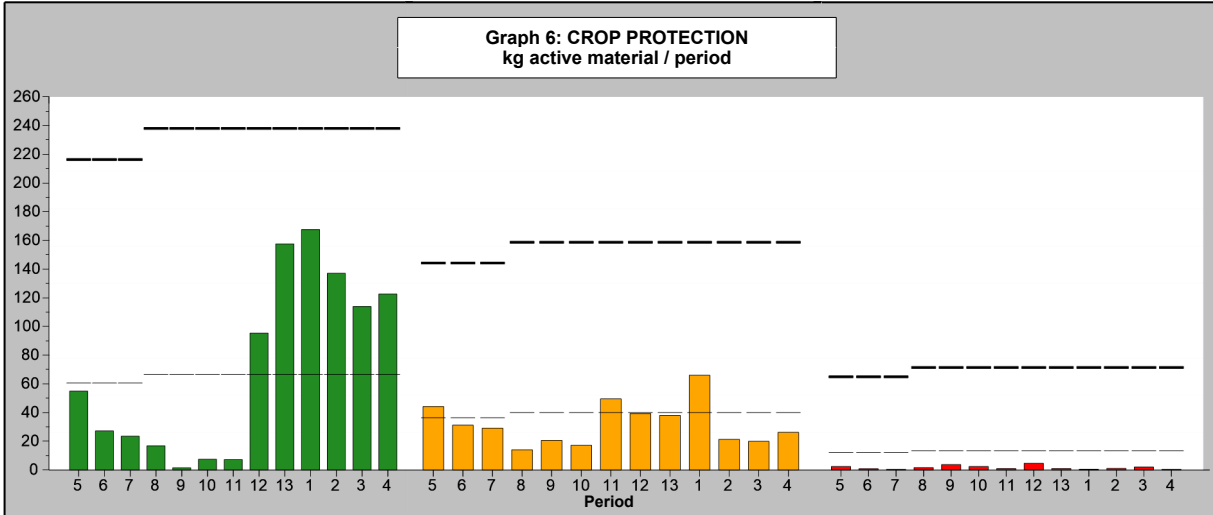


# QUALIFICATION AND PERIOD GRAPHS

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

Valid: Period 5-2018 until Period 4-2019  
 Version: 24-5-2019

<-----> = Upperlimit <.....> = Lowerlimit



# MPS-Overview Composition of Qualification

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

Valid: Period 5-2018 until Period 4-2019  
 Version: 24-5-2019

## Composition of points MPS environmentally certified parental material

Certified parental material	(Average) area	Your Points	Max points
Total cultivated area 1)	161538,5 m2		
Area certified parental material MPS-ABC	0 m2	0	10
Area certified parental material GLOBALGAP	0 m2	0	5
Total points for Certified parental material		0	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	5	6	7	8	9	10	11	12	13	1	2	3	4
Environmental	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3

## Company usage of MPS-MIND

Pesticide	Indicator color	active ingredient	Annual company use of active substance		
			Green	Amber	Red
Abamectine	●	abamectin		2,973	
Acetamark 20 SP	●	acetamiprid	1,242		
Actara SC	●	thiamethoxam		0,466	
Agil 100 EC	●	propaquizafop	0,500		
Agri Gold	●	copper		0,134	
Aluminium sulphate	○	aluminium sulphate			
Apollo 50SC (85-D-129-2)	●	clofentezin		6,900	
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			
Belt	●	flubendiamide	6,253		
Bravo 500 (80-B-7-3)	●	chlorothalonil	59,245		
Cascade (92-D-146-1)	●	flufenoxuron	17,270		
Chess 50 WG	●	pymetrozine		4,196	
Dipel DF	○	bacillus thuringiensis			
Dithane M45 WP (72-B-14-12)	●	mancozeb	20,000		
Fungi Flow	●	copper ammonium acetate		2,205	
Glyphosate 360	●	glyphosate-isopropyl ammonium	82,615		
Hth	○	sodium hypochlorite			
Hurricane 500 WDG	●	emamectin benzoate		1,683	
	●	lufenuron			6,732
Hydrogen Peroxide 40%	○	hydrogen peroxide			
Karate (86-D-136-1)	●	lambda-cyhalothrin		5,961	
Kobe 1.2 SC	○	plant extract			
Lime sulphur (72-B-3-3)	○	sulfur/sulphur			
Match 050 EC	●	lufenuron			2,049
Melody Duo 69 WG	●	iprovalicarb	15,801		
	●	propineb	105,342		
Mitac 20 EC (79-D-115-4)	●	amitraz		239,400	
Neoron 500 EC	●	bromopropylate		10,000	
Nimrod 25EC (92-B-64-1)	●	bupirimate		40,240	
Ortiva	●	azoxystrobin		3,600	
Othello Top	●	azoxystrobin		4,033	
	●	difenoconazole			2,521
Phosguard 400 SL	●	potassium phosphite	600,608		
Previcur N 72EC (L339N)	●	propamocarb hydrochloride	16,902		

# MPS-Overview Composition of Qualification

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

Valid: Period 5-2018 until Period 4-2019  
 Version: 24-5-2019

## Company usage of MPS-MIND

Pesticide	Indicator color	active ingredient	Annual company use of active substance		
			Green	Amber	Red
Pride	●	fenazaquin		0,600	
Prosper	●	spiroxamine		79,185	
Prove 1.92 EC	●	emamectin benzoate		1,174	
Rovral 250EC FL (88-B-36-2)	●	iprodione			3,100
Seradix B No.2 (81-G-6-3)	●	indolybutyric acid	0,041		
Shavit	●	triadimenol		14,069	
Silwet Gold	○	heptamethyltrisiloxane			
Smite	●	etoxazole	3,663		
Steward 150 EC	●	indoxacarb	0,337		
Terminator	●	didecyldimethylammonium chlori	0,250		
Tetradifon 8EC (72-D-52-2)	●	tetradifon	2,800		
Torque (95-D-158-1)	●	fenbutatin oxide			7,645
<b>Annual company use of active substance</b>			<b>932,867</b>	<b>416,819</b>	<b>22,047</b>

# OVERVIEW RECORDED DATA

MPS company number: **792011/01**

Company name: Luxaflor Roses (total)

Valid: Period 5-2018 until Period 4-2019

Version: 24-5-2019

Code	Description	Unit	Period 11	Period 12	Period 13	Period 1	Period 2	Period 3	Period 4	Subtotal	Year total
<b>FORM RECEIVED</b>			yes	yes	yes	yes	yes	yes	yes		
<b>CROP PROTECTION AGENTS</b>											
3231	Abamectine	ml	600	9150	1750	3150	4800			19450	165165
3329	Acetamark 20 SP	gram	135	185	113	645	1930	1513		4521	6209
3411	Actara SC	ml							1940	1940	1940
3266	Agil 100 EC	ml				2000			2000	4000	5000
3430	Agri Gold	ml				750	700			1450	5350
3191	Aluminium sulphate	gram	208000	302000	184000	288000	240000	176000	202000	1600000	2338000
3157	Apollo 50SC (85-D-129-2)	ml	2000	2016	1880	1000	3104		3800	13800	13800
3479	Applegreen EP599	gram	1350	350	2975	2275	420	1000	2200	10570	16470
3477	Barco 532 (General Purpose Detergent Powder)	gram	28800	23400	28800	24200	29400	18200	32800	185600	419000
3478	Barco 541 Liquid Bleach (Sodium Hypochlorite 5%)	ml	23000	16000	10000	13000	9000	10000	16000	97000	215500
3476	Barco 564 (Superior Liquid Detergent)	ml	41500	50000	46800	38500	32000	53300	38800	300900	568900
3330	Belt	ml		1700	1000	913	2193	2795	2528	11129	13028
3164	Bravo 500 (80-B-7-3)	ml	3400	14740	20	29313	15990			63463	118489
3105	Cascade (92-D-146-1)	ml	21800	16100	24900	30100	49600			142500	345400
3429	Chess 50 WG	gram	100	81	3683	2440			1800	8104	8391
3344	Dipel DF	gram	3800	1875	3100	3000	1000	3500	4625	20900	29150
3086	Dithane M45 WP (72-B-14-12)	gram				2650				2650	25000
3350	Fungi Flow	ml									7000
3403	Glyfosate 360	ml	9500	20000	70000	27500	15500	31000	13500	187000	201500
3230	Hth	gram	16750	10750	10250	25250	19500	18500	19000	120000	220500
3481	Hurricane 500 WDG	gram		10475	1805		1800	2700		16780	16830
3424	Hydrogen Peroxide 40%	ml	4500	17500	19875	20750	25600	52830	10250	151305	228629
3091	Karate (86-D-136-1)	ml	11165	7700	4875	7625	11050	1935	27335	71685	119220
3467	Kobe 1.2 SC	ml			2000					2000	2000
3044	Lime sulphur (72-B-3-3)	ml		24500				37000		61500	206500
3270	Match 050 EC	ml	5550	250	375		3125	5500	375	15175	40975
3337	Melody Duo 69 WG	gram	200		53000	15000	13000	13650	52510	147360	175570
3190	Mitac 20 EC (79-D-115-4)	ml	199000	150000	147500	203500	29500	55500		785000	1197000
3355	Neoron 500 EC	ml				1000				1000	20000
3178	Nimrod 25EC (92-B-64-1)	ml	20520	6750	6150	43350	23410	280		100460	160960
3271	Ortiva	ml							9400	9400	14400
3447	Othello Top	ml		375		1375	500	2000	1750	6000	20165
3291	Phosguard 400 SL	ml		137500	160500	208460	187360	158235	137460	989515	1072515
3038	Previcur N 72EC (L339N)	ml			375	12650	6750			19775	23475
3315	Pride	ml									3000
3311	Prosper	ml	2000	8375	6145	21520	11760	12920	32175	94895	158370

# OVERVIEW RECORDED DATA (Continued)

MPS company number: **792011/01**

Company name: Luxaflor Roses (total)

Valid: Period 5-2018 until Period 4-2019

Version: 24-5-2019

Code	Description	Unit	Period 11	Period 12	Period 13	Period 1	Period 2	Period 3	Period 4	Subtotal	Year total
<b>CROP PROTECTION AGENTS (Continued)</b>											
3380	Prove 1.92 EC	ml	9715	563	1251	7637	2250	8763	12370	42549	61149
3092	Rovral 250EC FL (88-B-36-2)	ml	500	1800	800	1200	400	1800	800	7300	12400
3199	Seradix B No.2 (81-G-6-3)	gram	600	600		1800	1200	1200	1200	6600	13800
3261	Shavit	gram	7525	2750	2725	2350	4740	5375	10150	35615	56275
3332	Silwet Gold	ml	126775	102900	105100	123200	117800	111800	102100	789675	1369770
3316	Smite	ml						12375	24250	36625	36625
3451	Steward 150 EC	ml				98	98	1755		1951	2246
3454	Terminator	ml		900						900	1000
3015	Tetradifon 8EC (72-D-52-2)	ml	5000	12000	4600	13400				35000	35000
3109	Torque (95-D-158-1)	ml	1005							1005	13900
<b>WATER</b>											
21	Total irrigation	m3	23925	22275	20790	25200	16995	23100	16500	148785	246135
<b>ENERGY</b>											
4	Electricity usage (Total)	kWh	29360	23164	25652	22348	19360	28684	29420	177988	294252
54	Diesel oil/fuel	litre	1105	3290	2710	5653	3200	2115	1735	19808	27048
<b>FERTILIZERS</b>											
513	Ammonium Nitrate	kg	1478,61	1552,78	1823,52	2356,66	3036,32	1470,06	1057,16	12775,11	18726,75
545	Calcium Nitrate	kg	495,84	481,95	458,82	581,58	371,28	556,98	271,42	3217,87	5138,71
633	Compound C 6+17+15	kg				50	200		50	300	700
634	Compound D 8+14+7	kg		267	230		305		195	997	1400
635	Compound J 15+5+20	kg		100	100	55	25		50	330	680
752	Fe EDTA 13%	kg	57,38	159,61	174,72	157,82	93,18	174,93	126,48	944,12	1664,67
575	Manganese Sulphate	kg					37,64	66,51	45,85	150	248,27
580	Mono-Ammonium Phosphate 12+61+0	kg	890,2	862,65	811,04	977,93	484,21	700,96	599,04	5326,03	9349,49
581	Mono-Potassium Phosphate 0+51.5+34	kg		102	48		150			300	600
691	Muriate of Potash	kg	1813,06	1737,83	1648,42	1929,82	1083,15	1510,88	1233,9	10957,06	16999,42
656	Nitric Acid 55%	litre	1187,2	1662,4	2056,8	2675,2	1728,8	2668,8	1968	13947,2	25580,5
762	Omni.s.SOP 7+21+7	kg									1057,05
754	Omnispor	litre	229,06	227,79	208,82	246,7	175,66	201,12	141	1430,15	2066
710	Potassium Nitrate (Multi K) 13.5+0+46	kg	1202,34	1107,85	1044,7	1264,48	753,28	1135,99	771,9	7280,54	10953,8
537	Potassium Nitrate 13+0+45	kg									918,1
766	Sulphuric Acid 98%	kg	1349,6	1686	1739	2368,3	1985,7	2215,3	2121,5	13465,4	23286
604	Zincsulphate	kg	23,04	22,42	21,21	25,12	26,52	25,65	24,04	168	268,74

# OVERVIEW RECORDED DATA (Continued)

MPS company number: **792011/01**

Valid: Period 5-2018 until Period 4-2019

Company name: Luxaflor Roses (total)

Version: 24-5-2019

Code	Description	Unit	Period 11	Period 12	Period 13	Period 1	Period 2	Period 3	Period 4	Subtotal	Year total
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## ENVIRONMENTAL CLUSTERS

	Indoor crops										
2014	ROSE	m2	165000	165000	165000	165000	165000	165000	165000		
	Subtotal		165000	165000	165000	165000	165000	165000	165000		

## GENERAL INFORMATION FORM

### MPS-Mind

#### Surface water

3900 What is the minimum distance of these fields to the nearest surface water? 250 - 2500 metres / 820 - 8200 feet

#### Cover

3910 Does the surface of covered crops exceed 95% of this part registration? Yes

#### Slope

3902 What is the maximum slope of a field in this part registration? 3 - 10%

#### Leaching to groundwater

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

3904 What is the minimum depth of the groundwater, taken over all your fields? 3 - 15 metres / 9,8 - 49,2 feet

3905 What is the lowest percentage of organic matter of your soil, taken over all your fields of this part registration? > 6%

3906 What is the average precipitation per annum? (if unknown, please leave blank) 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 unknown, please leave blank) < 20 degrees C / 68 degrees F

#### Water management

45 Is rainwater being collected? 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 Is organic waste being processed in a responsible way? Yes

42 Is paper being processed in a responsible way? Yes

43 Is plastic being processed in a responsible way? Yes

44 Is chemical waste being processed in a responsible way? Yes



# OVERVIEW RECORDED DATA

MPS company number: **792011/01**

Company name: **Luxaflo Roses (total)**

Valid: Period 5-2018 until Period 4-2019

Version: 24-5-2019

Code	Description	Unit	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Subtotal
<b>FORM RECEIVED</b>			yes	yes	yes	yes	yes	yes	
<b>CROP PROTECTION AGENTS</b>									
3231	Abamectine	ml	52580	44450	15900	24110	7075	1600	145715
3329	Acetamark 20 SP	gram	240	230	270	479	258	211	1688
3411	Actara SC	ml							
3266	Agil 100 EC	ml			1000				1000
3430	Agri Gold	ml	1250	750	500	1400			3900
3191	Aluminium sulphate	gram	178000	132000	84000	116000	82000	146000	738000
3157	Apollo 50SC (85-D-129-2)	ml							
3479	Applegreen EP599	gram	1700	300	750	1700	200	1250	5900
3477	Barco 532 (General Purpose Detergent Powder)	gram	53200	31800	40200	36600	33400	38200	233400
3478	Barco 541 Liquid Bleach (Sodium Hypochlorite 5%)	ml	19500	14000	29500	19000	11500	25000	118500
3476	Barco 564 (Superior Liquid Detergent)	ml	71000	35400	50600	36000	33000	42000	268000
3330	Belt	ml	225		524	50	25	1075	1899
3164	Bravo 500 (80-B-7-3)	ml		33800	3626	10400		7200	55026
3105	Cascade (92-D-146-1)	ml	26700	24275	24000	37525	29300	61100	202900
3429	Chess 50 WG	gram	20	100		72	62	33	287
3344	Dipel DF	gram	2250	4875				1125	8250
3086	Dithane M45 WP (72-B-14-12)	gram	600	1600	8150	12000			22350
3350	Fungi Flow	ml		7000					7000
3403	Glyfosate 360	ml			14000			500	14500
3230	Hth	gram	15000	17500	27750	12750	4500	23000	100500
3481	Hurricane 500 WDG	gram				50			50
3424	Hydrogen Peroxide 40%	ml	21099	14750	31600	8375		1500	77324
3091	Karate (86-D-136-1)	ml	7550	3025	2750	7000	8575	18635	47535
3467	Kobe 1.2 SC	ml							
3044	Lime sulphur (72-B-3-3)	ml	28000	56000	13000	28500	16500	3000	145000
3270	Match 050 EC	ml	8550		2750	6000	6750	1750	25800
3337	Melody Duo 69 WG	gram	23810	4400					28210
3190	Mitac 20 EC (79-D-115-4)	ml	93900	85500	73800	28800	78000	52000	412000
3355	Neoron 500 EC	ml		4350	9780	870	1975	2025	19000
3178	Nimrod 25EC (92-B-64-1)	ml	44375	6125				10000	60500
3271	Ortiva	ml	5000						5000
3447	Othello Top	ml	5300	2250	1700	1375	2750	790	14165
3291	Phosguard 400 SL	ml	63000	6000	14000				83000
3038	Previcur N 72EC (L339N)	ml	1800	1900					3700
3315	Pride	ml				3000			3000
3311	Prosper	ml	21350	13435	17480	8500	2710		63475

# OVERVIEW RECORDED DATA (Continued)

MPS company number: **792011/01**

Company name: Luxaflor Roses (total)

Valid: Period 5-2018 until Period 4-2019

Version: 24-5-2019

Code	Description	Unit	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Subtotal
<b>CROP PROTECTION AGENTS (Continued)</b>									
3380	Prove 1.92 EC	ml				5000	4037	9563	18600
3092	Rovral 250EC FL (88-B-36-2)	ml	400	2300	400	1200	400	400	5100
3199	Seradix B No.2 (81-G-6-3)	gram	1800	2400	1200	1200	600		7200
3261	Shavit	gram				7075	5775	7810	20660
3332	Silwet Gold	ml	101902	72238	75885	80915	97900	151255	580095
3316	Smite	ml							
3451	Steward 150 EC	ml		180		76		39	295
3454	Terminator	ml				100			100
3015	Tetradifon 8EC (72-D-52-2)	ml							
3109	Torque (95-D-158-1)	ml	2150			1535	5350	3860	12895
<b>WATER</b>									
21	Total irrigation	m3	18893	13860	13365	13860	14273	23100	97351
<b>ENERGY</b>									
4	Electricity usage (Total)	kWh	16932	21156	14700	15328	18176	29972	116264
54	Diesel oil/fuel	litre	1478	1477	630	50	1740	1865	7240
<b>FERTILIZERS</b>									
513	Ammonium Nitrate	kg	1202,39	877,83	899,71	888,44	909,4	1173,87	5951,64
545	Calcium Nitrate	kg	409,6	307,04	214,17	399,57	232,05	358,41	1920,84
633	Compound C 6+17+15	kg		50	100	150		100	400
634	Compound D 8+14+7	kg		50	100	153		100	403
635	Compound J 15+5+20	kg			130		20	200	350
752	Fe EDTA 13%	kg	151,99	106,06	110,14	113,11	91,69	147,56	720,55
575	Manganese Sulphate	kg	46,23	51,26	0,78				98,27
580	Mono-Ammonium Phosphate 12+61+0	kg	739,07	549,56	517,59	536,67	549,92	1130,65	4023,46
581	Mono-Potassium Phosphate 0+51.5+34	kg			100	52		148	300
691	Muriate of Potash	kg	1507,77	1122,32		938,66	1037,56	1436,05	6042,36
656	Nitric Acid 55%	litre	3226,8	1722,3	2565	1021,6	1437,6	1660	11633,3
762	Omni.s.SOP 7+21+7	kg			1057,05				1057,05
754	Omnispor	litre		89,1	125,75	151,75	83,74	185,51	635,85
710	Potassium Nitrate (Multi K) 13.5+0+46	kg	938,04	676,14	677,46	689,36	692,26		3673,26
537	Potassium Nitrate 13+0+45	kg						918,1	918,1
766	Sulphuric Acid 98%	kg	1904,8	1536,6	1631,6	1310,4	1342	2095,2	9820,6
604	Zincsulphate	kg	17,56	14,32	13,5	21,5	14,82	19,04	100,74

# OVERVIEW RECORDED DATA (Continued)

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

Valid: Period 5-2018 until Period 4-2019  
 Version: 24-5-2019

Code	Description	Unit	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Subtotal
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## ENVIRONMENTAL CLUSTERS

2014 ROSE	Indoor crops								
	m2		150000	150000	150000	165000	165000	165000	
	Subtotal		150000	150000	150000	165000	165000	165000	

# CO2 Indicator

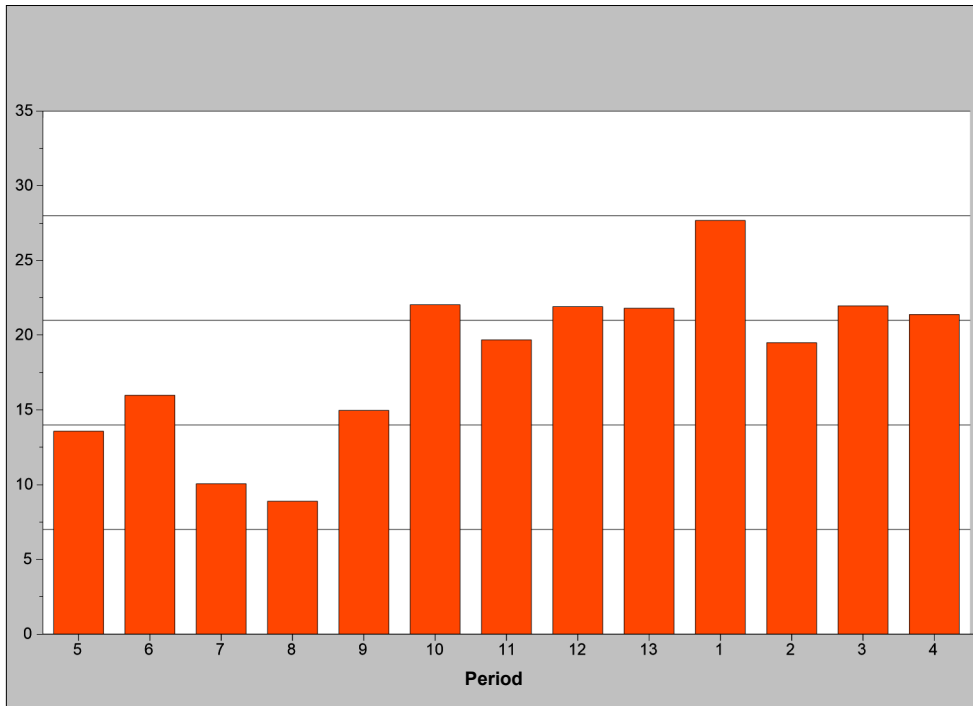
MPS company number: **792011/01**  
 Company name: Luxaflor Roses

Valid: Period 5-2018 until Period 4-2019  
 Version: 24-5-2019

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

Code		CO2 production (x 1000)
4	Electricity usage (Total)	168
54	Diesel oil/fuel	71
<b>Total</b>		<b>239</b>

**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.