

Certificate

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

**Hjortebjerg a/s
Hjortebjergvej 26
5471 SØNDERSØ
Denmark
MPS-number: 804516**

Applicable to environmental clusters:

POT PLANTS 2; POT PLANTS 3; POT PLANTS 5; POT PLANTS 6; POT PLANTS 7; POT PLANTS 8
POT PLANTS 9; POT PLANTS-BULB FLOWERS; POT PLANTS 1

Validity: **29-1-2018 until 20-5-2018**

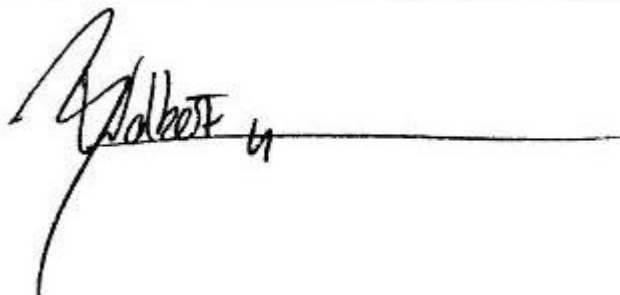
Total points: **90,4**

Qualification: **A**

Kind regards,
MPS-ECAS

Signature:

Date of issue:
3-2-2018



J.J.B. Wolbert MSc
Director

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

MPS-ECAS
Certification



QUALIFICATION AND PERIOD GRAPHS

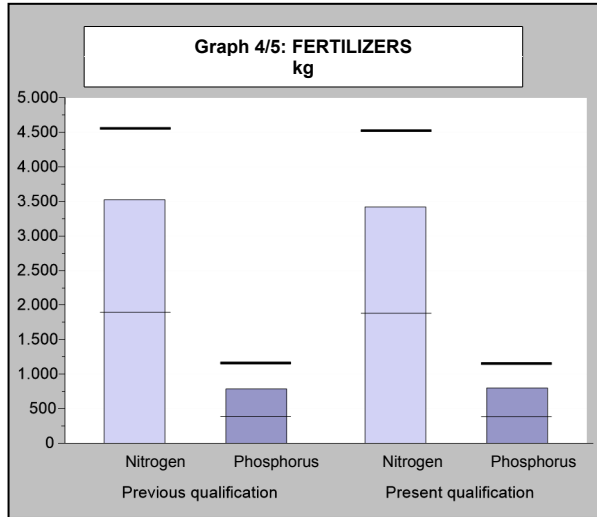
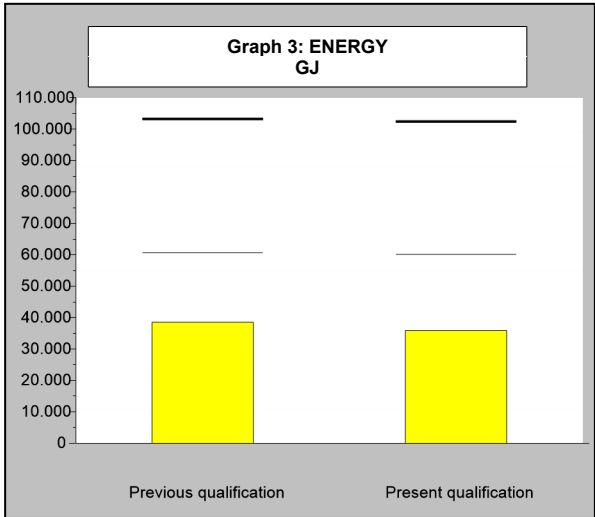
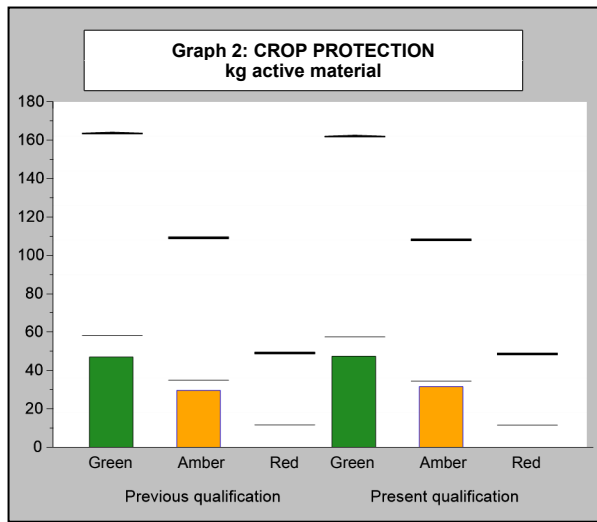
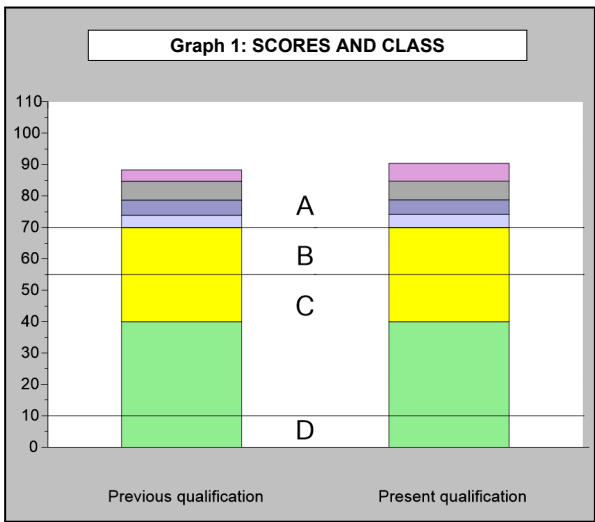
MPS company number: **804516/01**
 Company name: Hjortebjerg a/s (total)

Valid: Period 1-2017 until Period 13-2017
 Version: 3-2-2018

Table 1: DATA QUALIFICATIONS

SUBJECT	Company standard		use	points	max. points	A+ standard	A+ score	Obtained
	Lower	Upper limit						
Crop protection	Green	57,6-162,2 kg	47,5	12	12			
	Amber	34,6-108,1 kg	31,6	16	16			
	Red	11,5-48,7 kg	0	12	12			
total				40	40	85 %	100 %	yes
Energy total		60150,3-102487,7 GJ	35929,4	30	30	75 %	100 %	yes
Fertilizers	Nitrogen	1882,2-4525,2 kg	3421,7	4,2	10			
	Phosphorus	387-1154,5 kg	801,5	4,6	10			
total				8,8	20	75 %	43,8 %	no
Waste		0-130	78	6	10			
Water								
Certified parental material				5,7	10			
Total score (points)				90,4	110	90	90,4	yes
COMPANY QUALIFICATION				A				

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

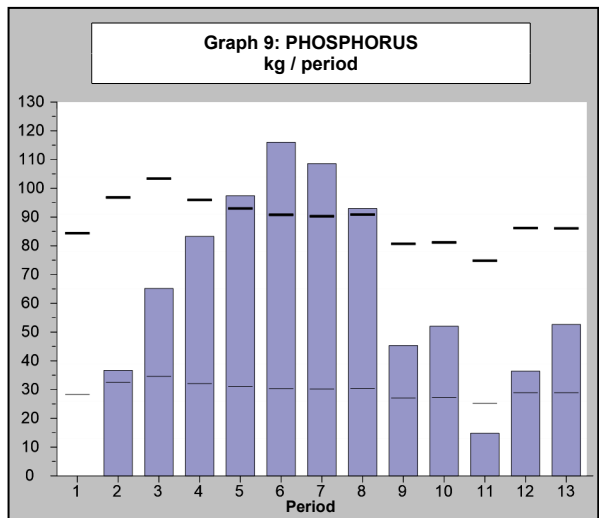
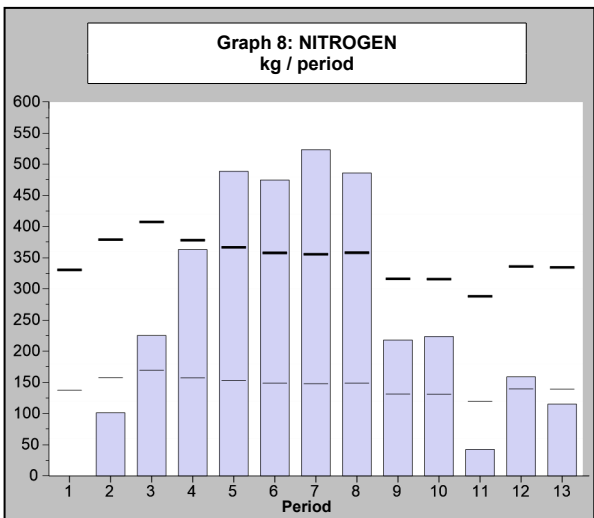
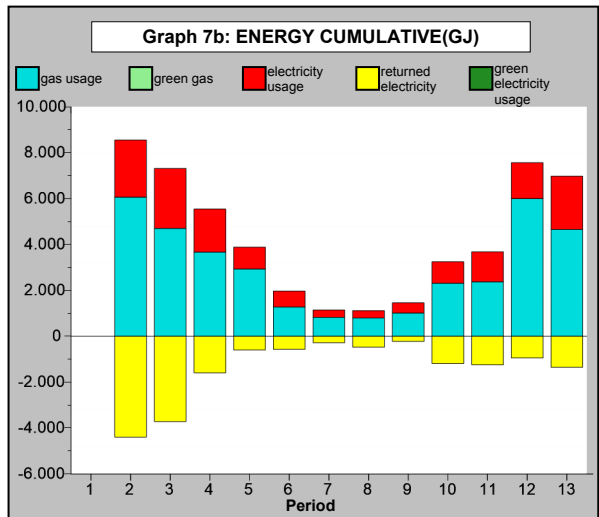
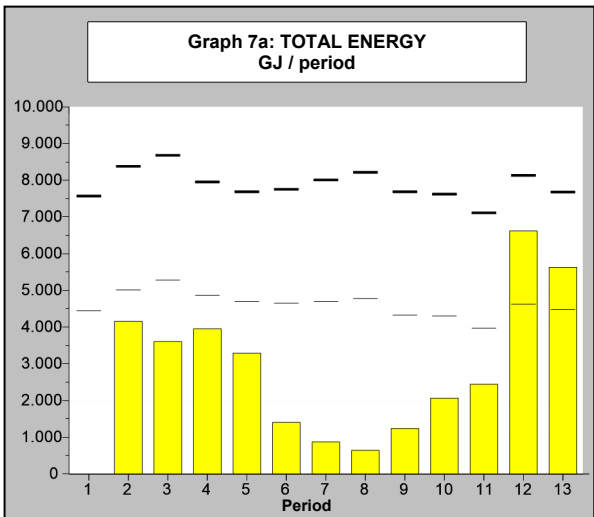
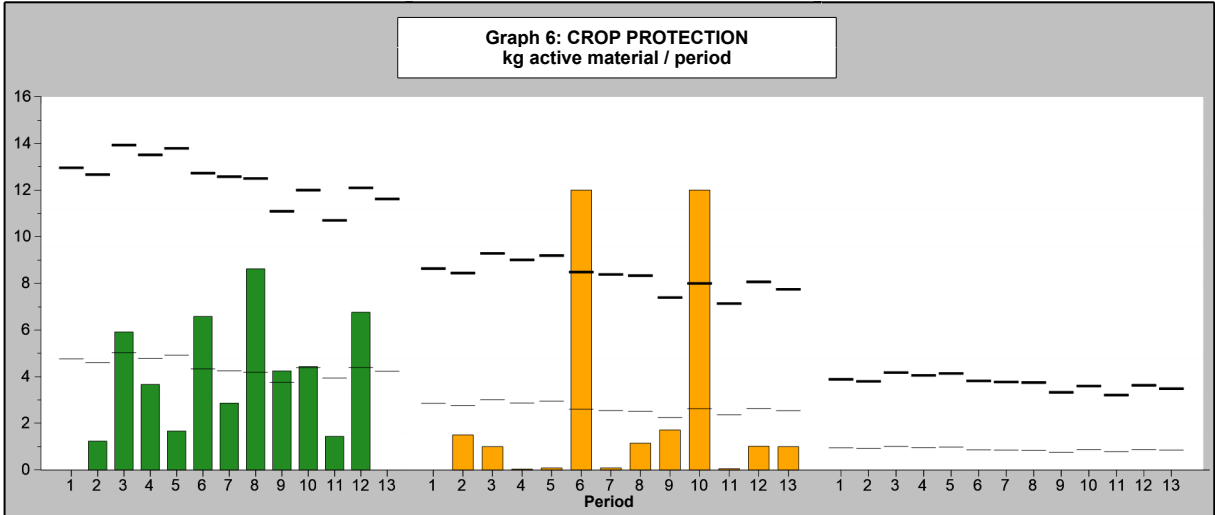


QUALIFICATION AND PERIOD GRAPHS

MPS company number: **804516/01**
 Company name: Hjortebjerg a/s (total)

Valid: Period 1-2017 until Period 13-2017
 Version: 3-2-2018

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



MPS-Overview Composition of Qualification

MPS company number: **804516/01**
 Company name: Hjortebjerg a/s (total)

Valid: Period 1-2017 until Period 13-2017
 Version: 3-2-2018

Composition of company standards MPS-OEX (Area Efficiency index)

THEMA		Basic standard		% OEX	Companystandard	
		lower-limit	upper-limit		lower-limit	upper-limit
Crop protection	Green				57,6-162,2 kg	47,5 kg
	Amber				34,6-108,1 kg	31,6 kg
	Red				11,5-48,7 kg	
Energy		57301-97654,5 GJ		4,9 %	60150,3-102487,7 GJ	35929,4 GJ
Nitrogen (N)		1793-4310,7 kg		5 %	1882,2-4525,2 kg	3421,7 kg
Phosphorus (P)		368,6-1099,6 kg		5 %	387-1154,5 kg	801,5 kg

Composition of points MPS environmentally certified parental material

Certified parental material	(Average) area	Your Points	Max points
Total cultivated area 1)	35609,1 m2		
Area certified parental material MPS-ABC	20175,1 m2	5,7	10
Area certified parental material GLOBALGAP	0 m2	0	5
Total points for Certified parental material		5,7	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	1	2	3	4	5	6	7	8	9	10	11	12	13
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
Acadian	○	seaweed extract			
Alar (22-10)	●	daminozide	17,000		
Bonzi (51-40)	●	paclobutrazol		0,012	
Conserve	●	spinosad	0,480		
Dipel	○	bacillus thuringiensis			
Feromoon Duponchelia fovealis	○	pheromone			
Fiba-Zorb	○	wetting/sticker agents other			
Flexity	●	metrafenone		1,500	
Medax Top	●	mepiquat chloride	4,500		
	●	prohexadione-calcium	0,750		
Mospilan SG	●	acetamiprid	1,000		
Pomoxon	●	1-naphthylacetic acid	0,435		
Previcur Energy	●	fosetyl-aluminium	0,620		
	●	propamocarb	1,060		
Reglone (1-175)	●	diquat dibromide	8,000		
Rizolex 50 FW (3-128)	●	tolclofos-methyl		5,500	
Roundup Bio (48-16)	●	glyphosate		24,000	
Signum WG	●	boscalid	10,680		
	●	pyraclostrobin	2,680		
Silwet Gold	○	heptamethyltrisiloxane			
Sulpher for burning	○	sulfur/sulphur			
Teppeki	●	flonicamid	0,250		
Vertimec	●	abamectin		0,630	
Zipper	○	trisoloxan			

MPS-Overview Composition of Qualification

MPS company number: **804516/01**
Company name: Hjortebjerg a/s (total)

Valid: Period 1-2017 until Period 13-2017
Version: 3-2-2018

Company usage of MPS-MIND

Pesticide	Indicator color	active ingredient	Annual company use of active substance		
			Green	Amber	Red
Annual company use of active substance			47,455	31,642	

OVERVIEW RECORDED DATA

MPS company number: **804516/01**

Company name: Hjortebjerg a/s (total)

Valid: Period 1-2017 until Period 13-2017

Version: 3-2-2018

Code	Description	Unit	Period 8	Period 9	Period 10	Period 11	Period 12	Period 13	Subtotal	Year total
FORM RECEIVED			yes	yes	yes	yes	yes	yes		
CROP PROTECTION AGENTS										
3363	Acadian	ml								20000
3023	Alar (22-10)	gram	5000	5000			5000		15000	20000
990395	Amblyseius / Neoseiulus cucumeris	number	20700000	14260000	10880000	12880000	12260000	11750000	82730000	210462000
3025	Bonzi (51-40)	ml								3000
3205	Conserve	ml	1000						1000	4000
3113	Dipel	ml					500	500	1000	1000
777386	Feromoon Duponchelia fovealis	number				10			10	10
3348	Fiba-Zorb	ml	120000			121000		357500	598500	945973
3337	Flexity	ml		5000					5000	5000
990675	Hypoaspis miles	number	10250000	7000000	4500000	5750000	6875000	9000000	43375000	109000000
3345	Medax Top	ml	5000						5000	15000
3277	Mospilan SG	gram				3000			3000	5000
3174	Pomoxon	ml			29000				29000	29000
3321	Previcur Energy	ml				1000	1000		2000	2000
3212	Reglone (1-175)	ml			20000				20000	40000
3013	Rizolex 50 FW (3-128)	ml	2000				2000	2000	6000	11000
3044	Roundup Bio (48-16)	ml			40000				40000	80000
3270	Signum WG	gram	7500				5000		12500	40000
340393	Silwet Gold	ml		2000					2000	2000
990515	Steinernema feltiae	number	5000000000	4000000000	2500000000	2500000000	3250000000	3000000000	20250000000	63000000000
3101	Sulpher for burning	gram		10000					10000	10000
3293	Teppeki	gram								500
3251	Vertimec	ml	8000	12000		3000	1000		24000	35000
3188	Zipper	ml				1000			1000	1000
WATER										
21	Total irrigation	m3	800	840	1141	472	549	724	4526	11894
ENERGY										
1	Gas consumption	m3	22678	28881	65824	67630	170942	132523	488478	1043470
2	Conversion factor		1	1	1	1	1	1		
3	Caloric value		1	1	1	1	1	1		
4	Electricity usage (Total)	kWh	58653	80865	171094	238483	285081	423294	1257470	2884768
8	Returned electricity	kWh	86400	40000	215600	226000	172000	245600	985600	3011400

OVERVIEW RECORDED DATA (Continued)

MPS company number: **804516/01**

Valid: Period 1-2017 until Period 13-2017

Company name: Hjørtbjerg a/s (total)

Version: 3-2-2018

Code	Description	Unit	Period 8	Period 9	Period 10	Period 11	Period 12	Period 13	Subtotal	Year total
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LIGHTING

550010 HP-Na 400W Conv.	Hour		53	73	145	201	250	373		
	Number		2689	2689	2689	2689	2689	2689		
	kWatt									
550013 HP-Na 600W 400V Conv.	Hour		53	73	145	201	250	373		
	Number		312	312	312	312	312	312		
	kWatt									
550030 Philips GreenPower 400V LED	Hour		53	73	145	201	250	373		
	Number		827	827	827	827	827	827		
	kWatt									

FERTILIZERS

514 Ammonia sulphate	kg									75
937 Blåsten (Koper)	kg									5
545 Calcium nitrate (nitrate o	kg		1225	375	400	100	400	150	2650	6600
640 Dolemit kalk	kg		330	102	22	314	212	715	1695	4115,88
375 Ferrous chelate DTPA 6%	litre			25					25	50
965 HC Magnesium Godning	litre			5	10				15	15
647 Kaliumsulfat (44% K2O)	kg		2,4		4,4				6,8	6,8
638 Kalk	kg		745,2	435,2	96,8	670,2	517,2	1072,5	3537,1	7973,4
516 Magnesium sulphate	kg		250				25	100	375	1350
666 Micromax	kg		16,8	6,8	2,2	16,9	11,8	35,75	90,25	215,99
420 NPK 12+6+20	kg		163,2		13,2	133,1	77	393,25	779,75	1947,95
633 NPK 14+3+15	kg									420
444 NPK 14+7+15	kg									7,44
659 Pioner Makro rød 9+5+30+mg	kg		575	400	425		50		1450	3950
674 Pioner Mikro uden jern	litre					40			40	40
454 Pioner Mikrooplosning med Jern (1.45%)	litre		140	140	80	20	100	40	520	1520
428 Pioner NPK Makro 10+4+25+Mg (Gul)	kg		500	550	400		250		1700	3600
426 Pioner NPK Makro 14+3+23+Mg (Blå)	kg		625	375	150		100	100	1350	4800
948 Pioner NPK Makro Orkidé 19+9+16 +Mg	kg		250		250		150	125	775	2275
539 Potassium sulphate	kg									100
630 Resistim 0+6+11	litre		50					40	90	330
414 Salpeter syre 62%	litre		320	80	120	60	100	60	740	1980
596 Superphosphate	kg		62,4		4,4	48,4	28	143	286,2	711
631 Wuxal Ca Suspension	litre			10					10	30

OVERVIEW RECORDED DATA (Continued)

MPS company number: **804516/01**

Valid: Period 1-2017 until Period 13-2017

Company name: Hjortebjerg a/s (total)

Version: 3-2-2018

Code	Description	Unit	Period 8	Period 9	Period 10	Period 11	Period 12	Period 13	Subtotal	Year total
COMPOUND FERTILIZERS										
100	Compound fertilizer 1	kg	50,4	95,2		67,2	67,2		280	543,2
ENVIRONMENTAL CLUSTERS										
Indoor crops										
4000	UNCULTIVATED	m2	9865	12022	15907	19435	14917	16231		
4061	POT PLANTS 1	m2	907	195						
4062	POT PLANTS 2	m2	3668	779	736	1038	2393	3998		
4063	POT PLANTS 3	m2	4810		2864	1466	3010	7785		
4065	POT PLANTS 5	m2	19644	20501	11129	7252	5939	4641		
4066	POT PLANTS 6	m2	4893	8599	13364	13364	13364	8434		
4067	POT PLANTS 7	m2	118	118	584	1756	1756	1756		
4068	POT PLANTS 8	m2	1586	1739	2373	2646	5578	4112		
4069	POT PLANTS 9	m2	1416	907	1416	1416	1416	1416		
4071	POT PLANTS-BULB FLOWERS	m2	1466	649						
	Subtotal		48373	45509	48373	48373	48373	48373		
Certified parental material										
661	MPS-ABC certif.parental mat. indoor	m2	36683	34782	32466	28937	33455	32140		

GENERAL INFORMATION FORM

MPS-Mind

Surface water

3900 What is the minimum distance of these fields to the nearest surface water? > 2500 metres / > 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? flat

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? Yes

OVERVIEW RECORDED DATA (Continued)

MPS company number: 804516/01

Company name: Hjortebjerg a/s (total)

Valid: Period 1-2017 until Period 13-2017

Version: 3-2-2018

GENERAL INFORMATION FORM

MPS-OEX

Sidescreens:

3950 Are sidescreens being used during lighting in the night? Yes

Topscreens:

3951 Are topscreens being used during lighting in the night? Yes

3952 If yes, what percentage of light-reduction? 85 till 95%

CO2

3953 Do you apply CO2? No

Substrate

3957 Do you cultivate cutflowers on substrate? No

Diffuse light

3961 Do you have diffuse glass on your greenhouse? No

3963 Do you have diffuse foil on your foil-greenhouse? No

3965 Do you have a diffuse screens in a greenhouse? No

3967 Do you use a diffuse coating on a greenhouse? No

Waste management

41 Is organic waste being processed in a responsible way? Yes

42 Is paper being processed in a responsible way? No

43 Is plastic being processed in a responsible way? No

OVERVIEW RECORDED DATA

MPS company number: **804516/01**

Company name: Hjortebjerg a/s (total)

Valid: Period 1-2017 until Period 13-2017

Version: 3-2-2018

Code	Description	Unit	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Subtotal
FORM RECEIVED			yes	yes	yes	yes	yes	yes	yes	
CROP PROTECTION AGENTS										
3363	Acadian	ml		20000						20000
3023	Alar (22-10)	gram			5000					5000
990395	Amblyseius / Neoseiulus cucumeris	number		21580000	22020000	12000000	24080000	30020000	18032000	127732000
3025	Bonzi (51-40)	ml					3000			3000
3205	Conserve	ml							3000	3000
3113	Dipel	ml								
777386	Feromoon Duponchelia fovealis	number								
3348	Fiba-Zorb	ml		105000	237	237	121000		121000	347474
3337	Flexity	ml								
990675	Hypoaspis miles	number		10250000	9000000	12500000	11875000	12500000	9500000	65625000
3345	Medax Top	ml				5000		5000		10000
3277	Mospilan SG	gram		2000						2000
3174	Pomoxon	ml								
3321	Previcur Energy	ml								
3212	Reglone (1-175)	ml						20000		20000
3013	Rizolex 50 FW (3-128)	ml		3000	2000					5000
3044	Roundup Bio (48-16)	ml						40000		40000
3270	Signum WG	gram		2500	5000	5000	5000	2500	7500	27500
340393	Silwet Gold	ml								
990515	Steinernema feltiae	number		8750000000	7000000000	7000000000	6500000000	7500000000	6000000000	42750000000
3101	Sulpher for burning	gram								
3293	Teppeki	gram				500				500
3251	Vertimec	ml				2000	4000		5000	11000
3188	Zipper	ml								
WATER										
21	Total irrigation	m3		2526	1021	365	902	1010	1544	7368
ENERGY										
1	Gas consumption	m3		172762	134074	104563	83693	36489	23411	554992
2	Conversion factor		1	1	1	1	1	1	1	
3	Caloric value		1	1	1	1	1	1	1	
4	Electricity usage (Total)	kWh		452962	475402	341607	172708	125134	59485	1627298
8	Returned electricity	kWh		799000	675600	290000	108000	102800	50400	2025800

OVERVIEW RECORDED DATA (Continued)

MPS company number: **804516/01**

Valid: Period 1-2017 until Period 13-2017

Company name: Hjørtbjerg a/s (total)

Version: 3-2-2018

Code	Description	Unit	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Subtotal
LIGHTING										
550010	HP-Na 400W Conv.	Hour		507	444	331	132	54	54	
		Number		2689	2689	2689	2689	2689	2689	
		kWatt								
550013	HP-Na 600W 400V Conv.	Hour		507	444	331	132	54	54	
		Number		312	312	312	312	312	312	
		kWatt								
550030	Philips GreenPower 400V LED	Hour		507	444	331	132	54	54	
		Number		827	827	827	827	827	827	
		kWatt								
FERTILIZERS										
514	Ammonia sulphate	kg				75				75
937	Blåsten (Koper)	kg						5		5
545	Calcium nitrate (nitrate o	kg		100	425	700	1100	525	1100	3950
640	Dolemit kalk	kg		210	527	571,88	242	556	314	2420,88
375	Ferrous chelate DTPA 6%	litre						25		25
965	HC Magnesium Godning	litre								
647	Kaliumsulfat (44% K2O)	kg								
638	Kalk	kg		315	939,9	1115	363	1033,2	670,2	4436,3
516	Magnesium sulphate	kg			125			700	150	975
666	Micromax	kg		10,5	27,25	29,99	12,1	29	16,9	125,74
420	NPK 12+6+20	kg		115,5	260,15	260,15	133,1	266,2	133,1	1168,2
633	NPK 14+3+15	kg				120		300		420
444	NPK 14+7+15	kg				7,44				7,44
659	Pioner Makro rød 9+5+30+mg	kg			225	200	525	700	850	2500
674	Pioner Mikro uden jern	litre								
454	Pioner Mikrooplosning med Jern (1.45%)	litre		80	60	100	240	280	240	1000
428	Pioner NPK Makro 10+4+25+Mg (Gul)	kg		350		300	750		500	1900
426	Pioner NPK Makro 14+3+23+Mg (Bla)	kg		125	375	425	775	1025	725	3450
948	Pioner NPK Makro Orkidé 19+9+16 +Mg	kg		100	250	250	150	375	375	1500
539	Potassium sulphate	kg				25	75			100
630	Resistim 0+6+11	litre			30	30	110	40	30	240
414	Salpeter syre 62%	litre			20	260	380	300	280	1240
596	Superphosphate	kg		42	94,6	94,6	48,4	96,8	48,4	424,8
631	Wuxal Ca Suspension	litre				10	10			20

OVERVIEW RECORDED DATA (Continued)

MPS company number: **804516/01**

Valid: Period 1-2017 until Period 13-2017

Company name: Hjortebjerg a/s (total)

Version: 3-2-2018

Code	Description	Unit	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Subtotal
COMPOUND FERTILIZERS										
100	Compound fertilizer 1	kg			50,4	78,4		67,2	67,2	263,2
ENVIRONMENTAL CLUSTERS										
Indoor crops										
4000	UNCULTIVATED	m2	12877	13135	9708	9671	9297	9878	10124	
4061	POT PLANTS 1	m2				1426	1296	907	907	
4062	POT PLANTS 2	m2	2847	3599	4946	4946	3546	5065	2864	
4063	POT PLANTS 3	m2	11029	14548	17102	16412	17759	11807	8434	
4065	POT PLANTS 5	m2	5709	6763	8421	8392	10388	13578	17990	
4066	POT PLANTS 6	m2	5255	324	878	880			1937	
4067	POT PLANTS 7	m2	2421	1739					30	
4068	POT PLANTS 8	m2	4112	4112	4112	3205	1739	1739	1739	
4069	POT PLANTS 9	m2	4123	3893	2473	1326	1416	1416	1416	
4071	POT PLANTS-BULB FLOWERS	m2		260	733	2115	2932	3983	2932	
	Subtotal		48373	48373	48373	48373	48373	48373	48373	
Certified parental material										
661	MPS-ABC certif.parental mat. indoor	m2						27151	36662	

CO2 Indicator

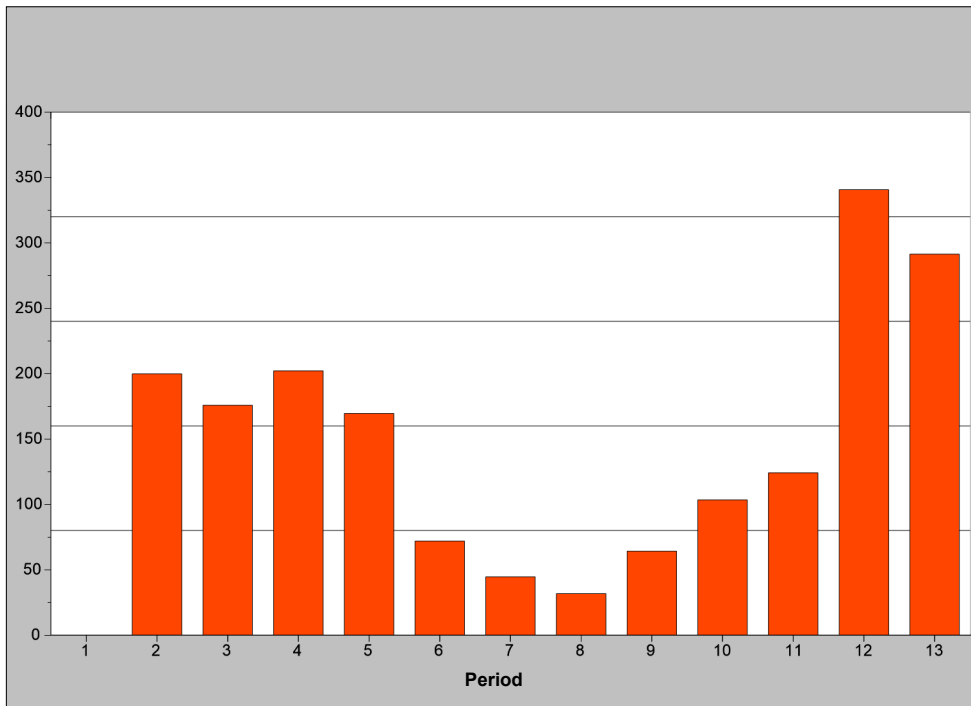
MPS company number: **804516/01**
Company name: Hjortebjerg a/s

Valid: Period 1-2017 until Period 13-2017
Version: 3-2-2018

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

Code		CO2 production (x 1000)
1	Gas consumption	1872
4	Electricity usage (Total)	889
8	Returned electricity	-941
Total		1820

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.