

Trial report

**Variety testing of**  
***Lolium perenne, Dactylis glomerata and***  
***Festuca arundinacea***

First year harvest

AGRONOVA



*LC Field Trials*

2007

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## 1. Introduction

This report contains the results of five variety testing trials *Lolium perenne*, *Festuca arundinacea* and *Dactylis glomerata*. The location of the trials was near Koge, Denmark.

<b>Trial number by Agronova</b>	<b>Species</b>
2006.540.00	<i>Lolium perenne</i>
2006.541.00	<i>Festuca arundinacea</i>
2006.542.00	<i>Dactylis glomerata</i>

The trials have been carried out by the GEP-unit at LandboCentrum, Agronova, in 2007 for Barenbrug, Holland.

27 September 2007

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Morten Lind  
Agronova Field Trials  
LandboCentrum

## 2. Trial 2006.540.00 *Lolium perenne* (Rajgræs)

### 2.1 Varieties

Trt No.	Treatment Name
1	Tyrella
2	Corbet
3	Barata
4	Barfort
5	Malone
6	Portrush
7	Dunloy
8	Barrage
9	Bartwingo
10	Bartwingo spray

“Bartwingo spray” is included in the trial to test application of extra 30 N.

### 2.2 Plot map

Block	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	7	2	5	6	9	6	1	4	7	3	10	2	4	5	6	9	7
	10	4	3	1	8	2	10	5	8	9	3	1	7	9	8	1	10

Additional map section below is at right of previous section.

Block	18	19	20	21	22	23	24	25
	4	2	8	2	3	5	8	9
	6	5	3	1	10	4	7	6

## 2.3 Site description

Basic information for trial 2006.540.00 *Lolium perenne* (Rajgræs)

<b>Trial host</b>	Heggelund LandboCentrum		
<b>Soil analysis</b>	Coarsesand: 27,8 % Silt: 14,0 % Humus: 2,0 % Finesand: 42,2 % Clay: 14,0 %	Rt: 5,9 Pt: 1,8 Kt: 8,9 Mgt: 5,4	
<b>Previous crop</b>	Spring Barley		
<b>Drilling date</b>	25-04-2006	<b>Seed rate</b>	9 kg/ha
<b>Fertilizer</b> date type rate	13-9-2006 NS 24-6 20 N	01-04-2007 N 34 150 N	24-04-2007 NS 21-24 20N
<b>Herbicides</b>	23-04-2007 0,1 Primus + 1,0 MCPA 24-05-2007 0,2 Amistar + 0,2 Tern + 0,2 Folicur + 0,1 IT-Cypermethrin		

## 2.4 Results

In the start of July, there was a long rainy period which delayed harvest. The trial was harvested on the 25<sup>th</sup> of July under slightly wet conditions. It should be noticed that there was observed seed shattering due to the rainy period, after full maturity was reached.

In the following table results from harvest, seed analysis and analysis of variance is given. Analysis was done by Student-Newman-Keuls test where different letters indicate statistical significant difference at 95% level.

Location: Heggelund Study Director: Morten Lind			
Crop Code	LOLPE	LOLPE	LOLPE
BBCH Scale	BGRM	BGRM	BGRM
Crop Name	Perennial ryegrass	Perennial ryegrass	Perennial ryegrass
Rating Date	6Aug07	6Aug07	6Aug07
Rating Data Type	YIELD	MOICON	YIELD
Rating Unit	KG/PLOT	%	KG/HA
Sample Size	1	1	1
Sample Size Unit	plot	plot	plot
ARM Action Codes	+	+	T2
Number of Decimals	2	1	1
Trt No.	Treatment Name		
1	<b>Tyrella</b>	4,75 cd	23,4
2	<b>Corbet</b>	4,98 bc	19,3
3	<b>Barata</b>	5,58 ab	22,0
4	<b>Barfort</b>	5,36 bc	17,4
5	<b>Malone</b>	4,31 d	19,1
6	<b>Portrush</b>	5,17 bc	22,4
7	<b>Dunloy</b>	6,00 a	24,5
8	<b>Barrage</b>	5,63 ab	22,9
9	<b>Bartwingo</b>	4,83 cd	22,0
10	<b>Bartwingo spray</b>	5,02 bc	21,7
	<b>LSD (P=.05)</b>	0,454	.
	Standard Deviation	0,355	.
	CV	6,88	.
	Bartlett's X2	8,763	.
	P(Bartlett's X2)	0,459	.
	Replicate F	0,318	0,352
	Replicate Prob(F)	0,8642	0,8406
	Treatment F	9,653	8,502
	Treatment Prob(F)	0,0001	0,0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

### ARM Action Codes

T2 = [C4]-([C4]\*@MVAVGREP([C3])/100)

### 3. Trial 2006.541.00 *Festuca arundinacea* (Strandsvingel)

#### 3.1 Varieties

Trt No.	Treatment Name
1	Barolex
2	Bariane
3	Emeraude
4	Karolina
5	Retu

#### 3.2 Plot map

Block	1	2	3	4	5	6	7	8	9	10	11	12	13
	2	3	5	2	4	3	5	1	3	2	1	3	4
	safeplot	4	1	5	3	1	2	4	1	5	4	2	5

#### 3.3 Site description

Basic information for trial 2006.541.00 *Festuca arundinacea* (Strandsvingel)

<b>Trial host</b>	Heggelund LandboCentrum		
<b>Soil analysis</b>	Coarsesand: 27,8 % Silt: 14,0 % Humus: 2,0 % Finesand: 42,2 % Clay: 14,0 %	Rt: 5,9 Pt: 1,8 Kt: 8,9 Mgt: 5,4	
<b>Previous crop</b>	Spring Barley		
<b>Drilling date</b>	25-04-2006	<b>Seed rate</b>	8 kg/ha
<b>Fertilizer</b>	date type rate	13-9-2006 NS 24-6 30 N	15-03-2007 NPK 18-4-14 60 N
<b>Pesticides</b>	01-04-2007 N 34 60 N		
	23-04-2007 0,1 Primus + 1,0 MCPA 24-05-2007 0,2 Amistar + 0,2 Tern + 0,2 Folicur + 0,4 Moddus + 1,25 CCC + 0,1 IT-Cypermethrin		

### 3.4 Results

To ensure full maturity at harvest all plots were swathed at the 2nd of July. In the start of July, there was a long rainy period which delayed harvest. The trial was harvested on the 17<sup>th</sup> of July under slightly wet conditions.

In the following table results from harvest, seed analysis and analysis of variance is given. Analysis was done by Student-Newman-Keuls test where different letters indicate statistical significant difference at 95% level.

Location: Heggelund Study Director: Morten Lind			
Crop Code	FESAR	FESAR	FESAR
BBCH Scale	BGRM	BGRM	BGRM
Crop Name	Tall fescue	Tall fescue	Tall fescue
Rating Date	18Jul07		18Jul07
<b>Rating Data Type</b>	<b>YIELD</b>	<b>MOICON</b>	<b>YIELD</b>
<b>Rating Unit</b>	<b>KG/PLOT</b>	<b>%</b>	<b>KG/HA</b>
Sample Size	1	1	1
Sample Size Unit	PLOT	PLOT	PLOT
Days After First/Last Applic.			
Trt-Eval Interval			
Plant-Eval Interval	449 DP-1		449 DP-1
ARM Action Codes			T2
Number of Decimals	2	2	1
Trt Treatment			
No. Name			
1 <b>Barolex</b>	4,13 c	15,00	<b>1407,1 b</b>
2 <b>Bariane</b>	4,13 c	16,40	<b>1430,3 b</b>
3 <b>Emeraude</b>	4,27 c	15,10	<b>1490,0 b</b>
4 <b>Karolina</b>	4,91 b	12,60	<b>2027,0 a</b>
5 <b>Retu</b>	5,33 a	16,80	<b>1944,1 a</b>
<b>LSD (P=.05)</b>	0,297	.	<b>106,54</b>
Standard Deviation	0,221	.	79,46
CV	4,85	.	4,79
Bartlett's X2	2,95	.	2,868
P(Bartlett's X2)	0,566	.	0,58
Replicate F	0,673		0,714
Replicate Prob(F)	0,6201		0,5945
Treatment F	29,855		71,464
Treatment Prob(F)	0,0001		0,0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

#### ARM Action Codes

T2 = [C4]-([C4]\*@MVAVGREP([C3])/100)

## 4. Trial 2006.542.00 *Dactylis glomerata* (Hundegræs)

### 4.1 Varieties

Trt No.	Treatment Name
1	Baraula
2	Cristobal
3	Lumont

### 4.2 Plot map

Block	1	2	3	4	5	6	7	8
	1	2	1	2	3	2	3	1
	Safe plot	3	2	3	1	3	1	2

### 4.3 Site description

Basic information for trial 2006.542.00 *Dactylis glomerata* (Hundegræs)

<b>Trial host</b>	Heggelund LandboCentrum		
<b>Soil analysis</b>	Coarsesand: 27,8 %	Rt: 5,9	
	Silt: 14,0 %	Pt: 1,8	
	Humus: 2,0 %	Kt: 8,9	
	Finesand: 42,2 %	Mgt: 5,4	
	Clay: 14,0 %		
<b>Previous crop</b>	Spring Barley		
<b>Drilling date</b>	25-04-2006	<b>Seed rate</b>	7kg/ha
<b>Fertilizer</b>	date	13-9-2006	15-03-2007
	type	NS 24-6	NPK 18-4-14
	rate	60 N	60 N
<b>Herbicides</b>	23-04-2007 0,1 Primus + 1,0 MCPA		
	24-05-2007 0,2 Amistar + 0,2 Tern + 0,2 Folicur + 0,1 IT-Cypermethrin		

## 4.4 Results

To ensure full maturity at harvest all plots were swathed at the 2nd of July. In the start of July, there was a long rainy period which delayed harvest. The trial was harvested on the 17<sup>th</sup> of July under slightly wet conditions.

In the following table results from harvest, seed analysis and analysis of variance is given. Analysis was done by Student-Newman-Keuls test where different letters indicate statistical significant difference at 95% level.

Location: Heggelund Study Director: Morten Lind			
Crop Code	DACGL	DACGL	DACGL
BBCH Scale	BGRM	BGRM	BGRM
Crop Name	Orchard grass	Orchard grass	Orchard grass
Rating Date	19Jul07		19Jul07
<b>Rating Data Type</b>	<b>YIELD</b>	<b>MOICON</b>	<b>YIELD</b>
<b>Rating Unit</b>	<b>KG/PLOT</b>	<b>%</b>	<b>KG/HA</b>
Sample Size	1	1	1
Sample Size Unit	PLOT	PLOT	PLOT
ARM Action Codes			T2
Number of Decimals	2	2	1
Trt Treatment No. Name			
1 <b>Baraula</b>	5,08 a	25,50	<b>1538,8 a</b>
2 <b>Cristobal</b>	4,42 b	19,00	<b>1414,6 b</b>
3 <b>Lumont</b>	4,50 b	19,20	<b>1448,8 ab</b>
<b>LSD (P=.05)</b>	0,317	.	<b>98,33</b>
Standard Deviation	0,217	.	67,42
CV	4,65	.	4,59
Bartlett's X2	1,941	.	1,662
P(Bartlett's X2)	0,379	.	0,436
Replicate F	2,162		2,169
Replicate Prob(F)	0,1642		0,1632
Treatment F	13,846		4,524
Treatment Prob(F)	0,0025		0,0485

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

### ARM Action Codes

T2 = [C4]-([C4]\*@MVAVGREP([C3])/100)

## 5. Trial comments

### Weather conditions for production of grass for seed in Denmark, 2006-2007

Generally autumn was warm and sunny with less than normal precipitation and grasses continued growing longer than normal. Compared to normal, winter was rather warm with average temperatures above 0 °C. Spring was cold and growth started late. Generally spring was favourable for grass for seed production. June gave fine conditions for flowering but from the start of July there was a long rainy period and there was even a thunderstorm just at the end of June. The bad weather conditions delayed and made harvest rather difficult.

All together, conditions were favourable for grass for seed production just until harvest.

### *Lolium perenne* (Rajgræs)

Differences between varieties in yield were from (average) 1333-1846 kg/ha, with Malone as lowest yielding and Barrage as highest yielding.

Barrage yielded significantly more than Bartwingo, Tyrella and Malone. The rest of the tested varieties could not be separated statistically.

There was no statistical significant difference between treatment 9 and 10 (Bartwingo and Bartwingo + 30N).

### *Festuca arundinacea* (Strandsvingel)

Differences between varieties in yield were from (average) 1407-2027 kg/ha, with Bariance as lowest yielding and Karolina as highest yielding.

Karolina and Retu yielded significantly more than the other tested varieties.

### *Dactylis glomerata* (Hundegræs)

Differences between varieties in yield were from (average) 1415-1539 kg/ha, with Cristobal as lowest yielding and Baraula as highest yielding.

There was statistical significant difference on yield between Baraula and Cristobal but neither of them could be statistically separated from Lumont on yield.

## 6. Appendix 1. Single plot data

Trial ID: 200654000				
Location: Heggelund				
Study Director: Morten Lind				
Crop Code	LOLPE	LOLPE	LOLPE	
BBCH Scale	BGRM	BGRM	BGRM	
Crop Name	Perennial ryegrass	Perennial ryegrass	Perennial ryegrass	
Rating Date	6Aug07	6Aug07	6Aug07	
Rating Data Type	YIELD	MOICON	YIELD	
Rating Unit	KG/PLOT	%	KG/HA	
Sample Size	1	1	1	
Sample Size Unit	plot	plot	plot	
ARM Action Codes	+	+	T2	
Number of Decimals	2	1	1	
Trt Treatment				
No. Name Plot				
1 <b>Tyrella</b>	502	4,57	23,4	1378,3
	1002	4,93		1486,9
	1402	4,44		1339,1
	1901	4,68		1411,5
	2202	5,11		1541,2
	<b>Mean =</b>	<b>4,75</b>	<b>23,4</b>	<b>1431,4</b>
2 <b>Corbet</b>	501	5,51	19,3	1783,7
	701	4,35		1408,2
	1401	4,96		1605,7
	2002	5,50		1780,5
	2401	4,58		1482,7
	<b>Mean =</b>	<b>4,98</b>	<b>19,3</b>	<b>1612,2</b>
3 <b>Barata</b>	401	5,60	22,0	1669,1
	602	5,69		1696,0
	1502	5,11		1523,1
	1601	5,77		1719,8
	2302	5,71		1701,9
	<b>Mean =</b>	<b>5,58</b>	<b>22,0</b>	<b>1662,0</b>
4 <b>Barfort</b>	302	5,30	17,4	1663,6
	801	5,57		1748,3
	1301	5,56		1745,2
	1801	5,11		1603,9
	2402	5,24		1644,7
	<b>Mean =</b>	<b>5,36</b>	<b>17,4</b>	<b>1681,1</b>
5 <b>Malone</b>	301	3,86	19,1	1194,2
	702	4,22		1305,6
	1201	4,78		1478,8
	1802	3,98		1231,3
	2301	4,71		1457,1
	<b>Mean =</b>	<b>4,31</b>	<b>19,1</b>	<b>1333,4</b>
6 <b>Portrush</b>	102	4,68	22,4	1546,4
	802	5,18		1711,6
	1101	5,26		1738,0
	2001	5,52		1823,9
	2201	5,19		1714,9
	<b>Mean =</b>	<b>5,17</b>	<b>22,4</b>	<b>1707,0</b>

Crop Code		LOLPE	LOLPE	LOLPE
BBCH Scale		BGRM	BGRM	BGRM
Crop Name		Perennial ryegrass	Perennial ryegrass	Perennial ryegrass
Rating Date		6Aug07	6Aug07	6Aug07
Rating Data Type		<b>YIELD</b>	<b>MOICON</b>	<b>YIELD</b>
Rating Unit		<b>KG/PLOT</b>	<b>%</b>	<b>KG/HA</b>
Sample Size		1	1	1
Sample Size Unit		plot	plot	plot
ARM Action Codes		+	+	T2
Number of Decimals		2	1	1
Trt Treatment				
No. Name	Plot			
7 <b>Dunloy</b>	202	6,50	24,5	1760,5
	901	6,19		1676,5
	1302	5,94		1608,8
	1701	6,13		1660,3
	2501	5,23		1416,5
	<b>Mean =</b>	<b>6,00</b>	<b>24,5</b>	<b>1624,5</b>
8 <b>Barrage</b>	201	5,18	22,9	1697,4
	601	5,75		1884,1
	1102	5,78		1894,0
	1702	6,02		1972,6
	2102	5,43		1779,3
	<b>Mean =</b>	<b>5,63</b>	<b>22,9</b>	<b>1845,5</b>
9 <b>Bartwingo</b>	101	4,99	22,0	1675,2
	1001	4,48		1504,0
	1202	4,68		1571,1
	1602	4,77		1601,4
	2101	5,25		1762,5
	<b>Mean =</b>	<b>4,83</b>	<b>22,0</b>	<b>1622,8</b>
10 <b>Bartwingo spray</b>	402	4,85	21,7	1496,8
	902	5,07		1564,7
	1501	5,07		1564,7
	1902	5,21		1607,9
	2502	4,88		1506,0
	<b>Mean =</b>	<b>5,02</b>	<b>21,7</b>	<b>1548,0</b>

ARM Action Codes

$$T2 = [C4] - ([C4]^* @MVAVGREP([C3])/100)$$

Trial ID: 200654100					
Location: Heggelund					
Study Director: Morten Lind					
Crop Code	FESAR	FESAR	FESAR		
BBCH Scale	BGRM	BGRM	BGRM		
Crop Name	Tall fescue	Tall fescue	Tall fescue		
Rating Date	18Jul07		18Jul07		
Rating Data Type	<b>YIELD</b>	<b>MOICON</b>	<b>YIELD</b>		
Rating Unit	<b>KG/PLOT</b>	<b>%</b>	<b>KG/HA</b>		
Sample Size	1	1	1		
Sample Size Unit	PLOT	PLOT	PLOT		
ARM Action Codes			T2		
Number of Decimals	2	2	1		
Trt	Treatment				
No.	Name	Plot			
1	<b>Barolex</b>	301	3,98	15,00	1355,3
		502	4,20		1430,3
		601	3,81		1297,4
		802	4,53		1542,6
		1102	4,14		1409,8
	<b>Mean =</b>		<b>4,13</b>	<b>15,00</b>	<b>1407,1</b>
2	<b>Bariane</b>	202	4,36	16,40	1508,5
		401	4,20		1453,1
		702	3,95		1366,6
		1001	4,15		1435,8
		1301	4,01		1387,4
	<b>Mean =</b>		<b>4,13</b>	<b>16,40</b>	<b>1430,3</b>
3	<b>Emeraude</b>	201	4,14	15,10	1445,3
		501	4,45		1553,6
		801	4,38		1529,1
		902	4,20		1466,3
		1201	4,17		1455,8
	<b>Mean =</b>		<b>4,27</b>	<b>15,10</b>	<b>1490,0</b>
4	<b>Karolina</b>	101	4,78	12,60	1971,7
		302	4,85		2000,6
		602	5,06		2087,2
		901	5,14		2120,2
		1202	4,74		1955,2
	<b>Mean =</b>		<b>4,91</b>	<b>12,60</b>	<b>2027,0</b>
5	<b>Retu</b>	102	4,98	16,80	1816,4
		402	5,46		1991,5
		701	5,68		2071,7
		1002	5,11		1863,8
		1101	5,42		1976,9
	<b>Mean =</b>		<b>5,33</b>	<b>16,80</b>	<b>1944,1</b>

ARM Action Codes

T2 = [C4]-([C4]\*@MVAVGREP([C3])/100)

**Trial ID: 200654200**  
 Location: Heggelund  
 Study Director: Morten Lind

Crop Code		DACGL	DACGL	DACGL	
BBCH Scale		BGRM	BGRM	BGRM	
Crop Name		Orchard grass	Orchard grass	Orchard grass	
Rating Date		19Jul07		19Jul07	
Rating Data Type		<b>YIELD</b>	<b>MOICON</b>	<b>YIELD</b>	
Rating Unit		<b>KG/PLOT</b>	<b>%</b>	<b>KG/HA</b>	
Sample Size		1	1	1	
Sample Size Unit		PLOT	PLOT	PLOT	
ARM Action Codes				T2	
Number of Decimals		2	2	1	
Trt	Treatment				
No.	Name	Plot			
1	<b>Baraula</b>	101	4,79	25,50	1449,8
		202	4,70		1422,5
		402	5,33		1613,2
		601	5,15		1558,7
		801	5,45		1649,5
	<b>Mean =</b>	<b>5,08</b>	<b>25,50</b>	<b>1538,8</b>	
2	<b>Cristobal</b>	102	4,07	19,00	1302,0
		301	4,52		1446,0
		501	4,67		1493,9
		602	4,60		1471,6
		701	4,25		1359,6
	<b>Mean =</b>	<b>4,42</b>	<b>19,00</b>	<b>1414,6</b>	
3	<b>Lumont</b>	201	4,53	19,20	1457,8
		302	4,23		1361,2
		401	4,61		1483,5
		502	4,58		1473,9
		702	4,56		1467,4
	<b>Mean =</b>	<b>4,50</b>	<b>19,20</b>	<b>1448,8</b>	

ARM Action Codes

T2 = [C4]-([C4]\*@MVAVGREP([C3])/100)

## 7. Appendix 2 – Climate data

Date	Temp	Min Temp	Max Temp	Rain (mm)
01.07.2006	17.9	12.4	22.5	0.0
02.07.2006	18.9	12.7	23.9	0.0
03.07.2006	19.6	13.4	24.3	0.0
04.07.2006	20.3	13.6	25.6	0.0
05.07.2006	21.8	15.8	26.8	0.0
06.07.2006	23.3	17.0	28.8	0.3
07.07.2006	21.8	17.2	26.4	0.2
08.07.2006	18.9	14.7	22.9	0.1
09.07.2006	20.8	18.7	24.1	1.5
10.07.2006	19.1	13.6	22.8	0.0
11.07.2006	18.6	10.8	24.9	1.9
12.07.2006	16.5	9.6	21.9	0.0
13.07.2006	18.8	11.4	24.3	0.0
14.07.2006	16.8	12.0	20.2	0.0
15.07.2006	17.8	10.5	23.3	0.0
16.07.2006	19.8	12.9	25.7	0.0
17.07.2006	21.5	14.8	26.5	0.0
18.07.2006	20.8	14.1	26.0	0.0
19.07.2006	21.4	14.3	27.0	0.1
20.07.2006	23.6	20.1	28.2	0.5
21.07.2006	21.5	17.2	25.0	2.6
22.07.2006	20.8	16.1	25.0	0.1
23.07.2006	22.1	18.9	26.8	5.2
24.07.2006	20.5	14.3	25.2	0.0
25.07.2006	20.9	13.3	26.7	0.1
26.07.2006	22.6	15.6	29.0	0.0
27.07.2006	23.5	20.1	27.3	4.1
28.07.2006	20.1	17.5	23.3	4.0
29.07.2006	21.5	16.2	26.8	0.3
30.07.2006	22.9	19.0	27.1	13.6
31.07.2006	20.0	14.7	23.6	0.2
01.08.2006	20.3	15.8	24.9	11.4
02.08.2006	16.4	12.7	19.3	1.6
03.08.2006	17.1	11.7	21.8	0.5
04.08.2006	19.3	15.3	24.7	1.1
05.08.2006	20.3	14.8	25.0	0.0
06.08.2006	20.5	13.9	26.3	1.5
07.08.2006	20.5	13.5	25.4	0.0
08.08.2006	19.2	14.0	25.3	0.0
09.08.2006	17.9	14.6	21.1	1.4
10.08.2006	16.5	11.8	20.7	2.1
11.08.2006	16.4	14.9	19.7	24.2
12.08.2006	15.5	13.1	17.7	7.9
13.08.2006	16.4	14.8	18.7	24.3
14.08.2006	16.3	14.9	18.6	5.4
15.08.2006	16.3	14.7	18.1	9.4
16.08.2006	17.5	14.3	21.0	1.3
17.08.2006	16.8	13.5	19.8	3.5
18.08.2006	19.4	17.2	22.7	2.3
19.08.2006	19.3	16.2	23.6	1.6

20.08.2006	17.6	14.5	20.9	3.5
21.08.2006	17.0	14.7	20.3	2.9
22.08.2006	17.5	15.7	20.1	7.9
23.08.2006	16.3	12.1	19.2	0.8
24.08.2006	16.2	11.3	21.0	0.0
25.08.2006	17.4	14.1	20.5	1.7
26.08.2006	16.8	13.6	20.0	2.5
27.08.2006	15.5	13.9	18.6	16.9
28.08.2006	15.0	12.2	18.1	2.4
29.08.2006	13.2	12.0	15.1	18.4
30.08.2006	15.0	13.3	17.2	3.5
31.08.2006	16.6	14.2	18.9	3.0
01.09.2006	16.5	14.4	19.0	5.4
02.09.2006	18.0	15.8	20.8	5.6
03.09.2006	16.4	14.5	18.9	4.5
04.09.2006	15.5	14.3	17.3	0.9
05.09.2006	15.0	11.9	18.1	0.1
06.09.2006	17.2	13.3	19.2	0.6
07.09.2006	15.3	12.8	17.9	3.4
08.09.2006	14.2	11.3	17.6	0.5
09.09.2006	13.9	9.3	17.6	0.0
10.09.2006	12.5	8.4	18.5	0.2
11.09.2006	15.0	10.8	20.4	0.0
12.09.2006	16.4	11.6	22.0	0.0
13.09.2006	16.1	10.4	21.6	0.0
14.09.2006	17.0	11.9	21.1	0.0
15.09.2006	17.2	15.2	21.4	0.0
16.09.2006	17.0	15.4	19.3	0.0
17.09.2006	16.6	14.5	19.6	0.1
18.09.2006	16.4	15.0	18.2	0.7
19.09.2006	15.7	12.2	18.6	0.4
20.09.2006	14.2	10.0	17.8	0.0
21.09.2006	15.9	11.9	21.2	0.0
22.09.2006	17.5	15.0	20.6	0.0
23.09.2006	16.4	14.0	18.9	0.0
24.09.2006	17.2	14.8	20.6	0.0
25.09.2006	18.0	15.6	21.6	0.0
26.09.2006	17.4	15.6	21.1	4.3
27.09.2006	15.1	13.5	17.3	6.3
28.09.2006	15.6	13.7	17.7	0.7
29.09.2006	17.0	15.3	20.0	0.2
30.09.2006	16.0	11.1	19.7	1.2
01.10.2006	14.9	10.0	18.3	4.8
02.10.2006	14.7	13.7	16.0	7.8
03.10.2006	13.5	9.9	15.6	1.6
04.10.2006	12.5	9.8	16.3	1.2
05.10.2006	12.5	10.4	14.9	5.5
06.10.2006	14.8	12.0	16.4	4.2
07.10.2006	13.4	11.5	15.5	3.7
08.10.2006	13.8	11.5	15.1	3.9
09.10.2006	12.9	10.2	15.7	0.0
10.10.2006	12.9	10.5	15.9	0.0
11.10.2006	13.5	12.6	14.5	0.0
12.10.2006	13.8	12.3	15.1	0.0
13.10.2006	12.3	10.0	14.6	0.0

14.10.2006	10.3	6.1	13.3	0.0
15.10.2006	9.7	6.0	14.1	0.0
16.10.2006	10.2	8.0	12.2	0.0
17.10.2006	9.2	5.6	14.0	0.0
18.10.2006	11.1	5.7	13.4	0.0
19.10.2006	12.4	11.3	14.3	1.0
20.10.2006	12.2	10.9	13.4	2.0
21.10.2006	13.3	12.2	14.6	0.7
22.10.2006	13.3	12.5	14.5	5.7
23.10.2006	13.8	11.6	15.7	11.3
24.10.2006	12.1	9.4	14.7	7.6
25.10.2006	10.6	7.6	13.4	0.9
26.10.2006	14.2	12.3	16.7	3.1
27.10.2006	10.7	7.2	12.8	0.2
28.10.2006	11.1	7.5	12.5	5.7
29.10.2006	6.0	3.3	9.6	2.1
30.10.2006	9.8	5.8	12.1	2.9
31.10.2006	10.4	6.9	12.7	7.5
01.11.2006	1.0	-0.7	5.0	2.6
02.11.2006	-0.6	-3.5	1.6	3.2
03.11.2006	2.0	-3.3	4.9	1.0
04.11.2006	9.1	7.0	10.2	0.2
05.11.2006	10.4	9.1	11.1	5.5
06.11.2006	11.3	9.6	12.7	0.0
07.11.2006	10.6	9.5	11.7	2.0
08.11.2006	9.4	8.5	10.5	9.8
09.11.2006	6.4	4.1	8.7	2.2
10.11.2006	5.9	3.4	7.2	1.8
11.11.2006	6.1	4.9	8.1	7.8
12.11.2006	6.0	3.9	8.3	3.3
13.11.2006	7.5	5.1	9.3	7.1
14.11.2006	9.2	8.0	10.8	0.8
15.11.2006	10.3	9.3	11.2	0.9
16.11.2006	11.4	9.0	13.5	0.2
17.11.2006	10.0	7.3	11.5	2.1
18.11.2006	8.3	5.2	11.5	0.5
19.11.2006	5.2	2.4	8.2	6.9
20.11.2006	6.1	4.3	6.7	2.7
21.11.2006	6.0	3.7	7.1	3.7
22.11.2006	5.5	3.0	6.7	0.5
23.11.2006	7.2	5.1	9.2	4.9
24.11.2006	8.7	7.4	9.5	0.2
25.11.2006	10.8	9.1	13.2	0.9
26.11.2006	9.2	7.5	10.3	0.3
27.11.2006	7.8	6.6	8.7	0.1
28.11.2006	8.0	6.9	10.8	0.1
29.11.2006	8.6	7.5	10.3	0.2
30.11.2006	7.3	5.1	8.6	0.0
01.12.2006	7.1	5.3	8.1	0.2
02.12.2006	7.9	7.3	8.4	2.8
03.12.2006	8.2	7.1	9.1	3.6
04.12.2006	7.9	7.6	8.1	5.2
05.12.2006	11.2	10.0	12.5	2.0
06.12.2006	8.9	7.7	10.2	2.5
07.12.2006	7.6	6.6	9.0	6.9

08.12.2006	9.1	7.7	10.5	1.5
09.12.2006	7.0	4.2	8.4	0.1
10.12.2006	5.1	3.7	7.3	0.5
11.12.2006	5.9	4.7	7.8	4.3
12.12.2006	6.6	4.9	7.4	2.1
13.12.2006	8.3	7.0	9.9	6.4
14.12.2006	10.1	9.8	10.5	1.6
15.12.2006	8.6	7.4	10.3	2.4
16.12.2006	5.3	3.9	7.1	3.2
17.12.2006	4.0	1.5	5.4	3.3
18.12.2006	2.1	1.0	4.1	0.1
19.12.2006	6.0	4.6	7.0	0.0
20.12.2006	5.7	2.8	8.5	0.1
21.12.2006	6.4	5.7	6.9	0.0
22.12.2006	6.6	5.8	7.2	0.0
23.12.2006	6.7	6.6	6.8	0.1
24.12.2006	7.0	5.9	7.8	0.0
25.12.2006	5.4	5.1	5.9	0.0
26.12.2006	5.4	5.0	5.9	0.0
27.12.2006	5.4	4.1	5.9	0.2
28.12.2006	4.0	3.6	4.7	0.9
29.12.2006	4.5	3.4	5.7	0.1
30.12.2006	6.8	5.1	8.4	14.3
31.12.2006	7.4	6.7	8.1	3.8

Date	Temp	Min Temp	Max Temp	Rain (mm)
01.01.2007	6.8	5.0	8.2	5.6
02.01.2007	4.9	4.2	5.9	0.3
03.01.2007	6.1	4.8	7.2	2.3
04.01.2007	7.6	7.0	8.1	3.2
05.01.2007	6.9	6.2	8.0	0.7
06.01.2007	6.1	5.6	6.7	0.7
07.01.2007	6.8	5.7	7.8	1.2
08.01.2007	6.3	5.6	7.4	3.5
09.01.2007	9.9	8.4	10.8	2.3
10.01.2007	8.2	5.2	9.8	6.5
11.01.2007	5.8	4.2	7.3	11.0
12.01.2007	8.4	7.0	10.5	2.3
13.01.2007	8.4	6.8	9.3	1.6
14.01.2007	6.7	6.3	7.0	1.0
15.01.2007	6.6	4.6	7.4	0.0
16.01.2007	5.6	4.4	7.0	5.0
17.01.2007	6.9	4.8	8.3	7.0
18.01.2007	5.0	2.6	7.2	9.5
19.01.2007	5.0	3.4	6.9	6.4
20.01.2007	6.2	4.5	9.4	13.9
21.01.2007	3.3	1.3	4.5	5.5
22.01.2007	-3.4	-7.4	0.8	1.4
23.01.2007	-3.0	-6.8	0.3	0.3
24.01.2007	-3.6	-6.5	-1.2	0.0
25.01.2007	-4.5	-7.1	-1.4	0.1
26.01.2007	1.5	-0.9	3.6	4.2
27.01.2007	-1.5	-4.5	1.0	2.7
28.01.2007	4.6	2.5	6.5	2.9
29.01.2007	2.5	0.6	5.9	0.7
30.01.2007	6.3	5.2	7.8	0.3
31.01.2007	5.8	4.0	7.8	3.9
01.02.2007	4.8	3.2	5.8	0.3
02.02.2007	6.0	4.9	6.9	3.1
03.02.2007	5.6	3.3	8.4	0.1
04.02.2007	4.9	3.5	6.2	0.0
05.02.2007	2.8	0.9	4.5	0.4
06.02.2007	1.0	-0.1	2.5	1.2
07.02.2007	0.4	-1.1	1.9	1.1
08.02.2007	0.6	-1.7	1.7	1.4
09.02.2007	-1.6	-2.6	-0.6	0.2
10.02.2007	-1.5	-2.6	-0.7	0.0
11.02.2007	-0.4	-1.6	0.3	0.6
12.02.2007	1.6	0.3	2.6	2.8
13.02.2007	2.1	1.9	2.4	2.5
14.02.2007	3.1	1.9	3.8	2.9
15.02.2007	2.6	2.1	3.8	0.7
16.02.2007	3.1	2.6	3.9	0.0
17.02.2007	2.9	0.8	4.0	0.0
18.02.2007	2.9	-0.3	4.5	0.0
19.02.2007	2.3	1.7	3.0	0.0
20.02.2007	2.8	0.4	5.1	3.6
21.02.2007	-0.4	-1.0	0.2	14.0
22.02.2007	-1.7	-2.1	-1.1	1.2

23.02.2007	-1.6	-1.9	-1.2	1.4
24.02.2007	-0.2	-1.4	1.2	5.3
25.02.2007	2.3	1.5	2.8	10.0
26.02.2007	2.4	0.7	3.3	2.1
27.02.2007	1.7	0.2	3.5	5.1
28.02.2007	4.9	0.8	7.0	2.6
01.03.2007	5.2	3.5	7.3	0.8
02.03.2007	3.6	2.7	4.7	0.2
03.03.2007	3.2	2.0	4.1	0.0
04.03.2007	3.2	-0.1	6.9	0.0
05.03.2007	4.4	2.8	6.1	2.5
06.03.2007	6.2	4.0	8.0	3.1
07.03.2007	6.4	4.5	8.2	3.8
08.03.2007	5.7	3.7	7.3	0.4
09.03.2007	5.3	2.8	7.7	1.3
10.03.2007	6.5	2.3	8.5	0.0
11.03.2007	8.3	4.0	12.3	0.0
12.03.2007	8.4	3.0	13.8	0.0
13.03.2007	5.9	2.3	9.4	0.0
14.03.2007	7.2	4.5	10.8	0.0
15.03.2007	7.8	5.2	10.0	0.0
16.03.2007	6.7	4.3	9.0	3.0
17.03.2007	6.8	4.8	8.1	4.0
18.03.2007	5.8	3.6	8.0	2.4
19.03.2007	3.4	0.4	5.5	2.1
20.03.2007	3.6	0.4	6.8	0.4
21.03.2007	3.9	2.3	5.2	2.2
22.03.2007	5.2	3.2	7.8	0.1
23.03.2007	6.7	3.6	8.8	2.0
24.03.2007	7.5	4.3	10.6	0.0
25.03.2007	7.2	4.1	11.8	0.0
26.03.2007	7.0	2.4	11.8	0.0
27.03.2007	6.4	1.9	11.2	0.0
28.03.2007	8.0	2.8	12.8	0.0
29.03.2007	8.0	4.2	12.4	0.0
30.03.2007	6.6	3.1	11.5	0.0
31.03.2007	7.5	2.9	13.4	0.0
01.04.2007	6.2	0.1	12.6	0.0
02.04.2007	8.1	1.3	13.6	0.0
03.04.2007	4.5	-1.3	8.4	0.2
04.04.2007	7.0	1.3	9.8	0.0
05.04.2007	8.9	5.1	12.5	0.0
06.04.2007	5.4	1.9	8.0	0.0
07.04.2007	6.1	3.3	8.5	0.0
08.04.2007	6.0	4.3	7.5	3.0
09.04.2007	8.4	7.4	10.0	2.5
10.04.2007	9.6	8.1	11.5	0.0
11.04.2007	10.6	5.8	15.3	0.0
12.04.2007	8.8	2.8	14.8	0.0
13.04.2007	9.4	3.2	15.1	0.0
14.04.2007	10.4	4.3	16.4	0.0
15.04.2007	10.1	4.7	15.5	0.0
16.04.2007	13.8	8.6	20.0	0.0
17.04.2007	9.3	5.6	12.6	0.0
18.04.2007	7.6	5.0	10.6	0.1

19.04.2007	6.6	3.1	9.6	2.6
20.04.2007	4.2	0.1	7.8	0.0
21.04.2007	5.7	1.3	10.1	0.0
22.04.2007	8.4	6.0	11.1	0.0
23.04.2007	12.1	7.6	16.7	0.0
24.04.2007	12.5	7.7	17.1	0.0
25.04.2007	9.1	6.2	12.4	0.0
26.04.2007	13.2	6.9	20.2	0.0
27.04.2007	14.9	8.7	21.5	0.0
28.04.2007	10.5	5.0	16.0	0.1
29.04.2007	8.8	5.1	12.7	0.0
30.04.2007	7.7	2.3	12.5	0.0
01.05.2007	9.7	4.3	15.7	0.0
02.05.2007	11.9	5.9	17.6	0.0
03.05.2007	7.8	1.5	12.2	0.0
04.05.2007	10.6	3.4	17.1	0.0
05.05.2007	10.0	3.3	16.0	0.0
06.05.2007	13.5	8.3	19.3	3.8
07.05.2007	10.8	8.2	13.5	4.1
08.05.2007	10.4	8.4	12.3	8.2
09.05.2007	8.2	2.9	11.1	1.2
10.05.2007	10.3	7.8	13.4	2.2
11.05.2007	9.8	6.9	11.7	2.5
12.05.2007	10.5	8.4	12.1	4.2
13.05.2007	14.0	11.5	17.2	0.3
14.05.2007	13.7	6.4	18.2	0.0
15.05.2007	9.4	3.5	13.6	0.0
16.05.2007	9.2	7.9	10.0	34.4
17.05.2007	8.3	7.1	9.3	6.9
18.05.2007	12.7	9.6	15.0	0.4
19.05.2007	12.4	6.6	16.7	1.7
20.05.2007	14.2	11.0	17.5	0.0
21.05.2007	15.6	11.4	21.2	0.0
22.05.2007	13.6	8.6	18.2	0.0
23.05.2007	12.1	8.4	15.8	0.0
24.05.2007	15.3	13.1	18.6	0.0
25.05.2007	16.5	12.1	20.1	0.0
26.05.2007	11.0	8.2	13.7	5.3
27.05.2007	13.4	10.9	15.1	2.0
28.05.2007	15.2	13.5	17.6	3.5
29.05.2007	17.1	13.6	22.1	7.0
30.05.2007	11.6	6.1	15.7	0.0
31.05.2007	13.7	8.5	17.9	0.0
01.06.2007	16.9	13.5	19.9	0.0
02.06.2007	12.5	10.2	14.5	0.5
03.06.2007	15.2	12.3	19.0	0.0
04.06.2007	15.2	14.4	16.6	2.4
05.06.2007	17.4	14.5	21.8	4.7
06.06.2007	17.7	14.9	21.3	0.2
07.06.2007	19.5	14.6	24.0	0.0
08.06.2007	18.3	10.7	23.6	0.0
09.06.2007	19.1	11.7	24.3	0.0
10.06.2007	21.0	14.5	26.5	0.0
11.06.2007	22.7	15.3	28.6	0.0
12.06.2007	20.0	14.2	24.4	0.0

13.06.2007	16.4	14.5	18.4	0.5
14.06.2007	13.3	8.5	16.4	0.1
15.06.2007	12.3	11.1	13.2	1.3
16.06.2007	13.8	12.2	15.3	35.6
17.06.2007	15.7	11.4	19.4	2.9
18.06.2007	15.8	12.7	19.2	0.0
19.06.2007	16.3	10.9	20.9	0.0
20.06.2007	18.2	15.8	21.1	1.0
21.06.2007	16.7	13.3	19.2	20.2
22.06.2007	15.7	12.4	19.6	6.8
23.06.2007	15.5	12.2	18.8	6.3
24.06.2007	16.7	14.1	19.0	0.1
25.06.2007	17.4	15.0	19.4	1.4
26.06.2007	14.3	12.0	18.7	3.8
27.06.2007	12.2	10.1	14.3	31.2
28.06.2007	12.8	9.5	15.9	0.0
29.06.2007	15.0	12.5	17.4	6.0
30.06.2007	12.9	9.4	16.3	1.6
01.07.2007	14.9	12.6	17.4	2.5
02.07.2007	16.2	15.0	18.6	12.4
03.07.2007	16.8	13.3	20.1	2.4
04.07.2007	15.6	13.6	18.9	23.1
05.07.2007	14.3	14.1	14.5	29.2
06.07.2007	15.0	13.3	17.3	0.0
07.07.2007	15.3	12.5	18.5	0.3
08.07.2007	15.3	10.9	18.9	0.1
09.07.2007	15.3	10.1	19.2	0.0
10.07.2007	15.0	11.0	19.3	1.6
11.07.2007	14.1	13.3	15.1	7.2
12.07.2007	14.9	13.3	17.2	0.6
13.07.2007	16.2	14.4	18.8	0.4
14.07.2007	19.8	14.1	26.9	2.1
15.07.2007	19.2	15.8	22.4	2.1
16.07.2007	19.6	16.3	24.3	0.0
17.07.2007	19.1	13.8	23.3	0.1
18.07.2007	18.9	13.8	23.0	0.0
19.07.2007	16.4	10.6	20.3	0.0
20.07.2007	17.6	14.8	20.5	2.2
21.07.2007	18.7	14.3	22.9	0.1
22.07.2007	14.2	12.5	16.0	27.5
23.07.2007	16.0	12.9	20.2	0.4
24.07.2007	15.0	13.6	17.1	10.4
25.07.2007	16.4	13.4	20.0	0.1
26.07.2007	18.0	15.8	20.4	7.3
27.07.2007	16.4	14.2	19.1	5.7
28.07.2007	15.4	12.9	19.4	4.2
29.07.2007	13.5	9.7	16.6	1.7
30.07.2007	13.6	12.5	15.3	5.7
31.07.2007	13.4	10.2	15.9	0.0