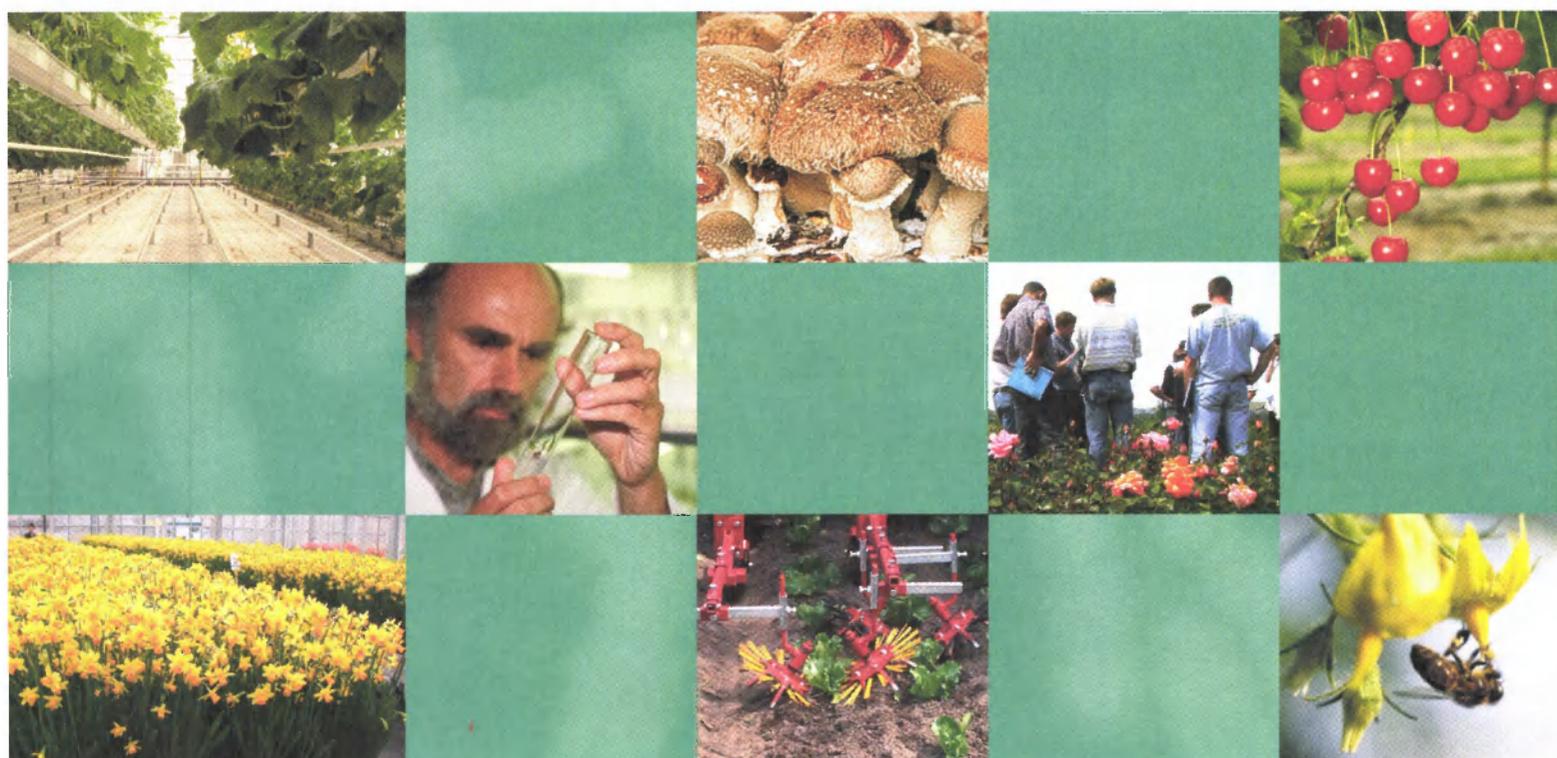




Efficacy evaluation of an experimental fungicide to control *Phytophthora cinnamomi* in *Chamaecyparis lawsoniana* 'Ellwoodii'

Phytophthora Scotts 12



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By order of:

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1 Objective

Testing the efficacy of different doses of the product CRCFOS 17.15 at two formulations to control *Phytophthora cinnamomi* in the woody ornamental *Chamaecyparis lawsoniana* 'Ellwoodii' during at least five months.

2 Materials and methods

2.1 Trial Design

The trial is done in potted plants, which were placed outside on the 'container'-field. Nine treatments were randomized within 4 blocks. The trial period was from 29 March 2006 until 24 October 2006

Lay out trial size: 20 m²

Lay out plot size: tray with 10 plants: 0.6 m x 0.4 m

Plot size: 0.24 m²

Replicates: 4

Number of trial plants: 360

Soil type: delivered by Scotts International BV

Irrigation: overhead

2.2 Crop

Rooted cuttings *Chamaecyparis lawsoniana* 'Ellwoodii' grew in 1-liter containers (P11) and were placed on a container field on 29 March 2006.

2.3 Treatments

The experimental product CRCFOS 17.15 was tested in different doses (Table 1). The experimental treatments were mixed through the soil substrate. Treatment S was applied as a drench, five times once every four weeks, beginning one week after potting (6 April, 4 May, 1 and 29 June, 26 July 2006).

Table 1. Treatments.

Nr	Code	Fungicide	Application	# appl./interval	Product rate g ai/m ³	Product rate g/m ³
1	O	Untreated	-	-		
2	Pc	Inoculated untreated	-	-		
3	S	Aliette	Drench	5/28 days	5 x 40	
4	A	CRCFOS 17.15 (1) 0.5N	Incorporation	once	100	600
5	B	CRCFOS 17.15 (1) 0.75N	Incorporation	once	150	900
6	C	CRCFOS 17.15 (1) N	Incorporation	once	200	1200
7	D	CRCFOS 17.15 (2) 0.5N	Incorporation	once	100	600
8	E	CRCFOS 17.15 (2) 0.75N	Incorporation	once	150	900
9	F	CRCFOS 17.15 (2) N	Incorporation	once	200	1200

2.4 Inoculation

All treatments except O (untreated) were inoculated with a suspension with propagules of four different isolates of *Phytophthora cinnamomi* on 19 of April 2006.

2.5 Statistics

An ANOVA is done with the program Genstat 8th edition ($P=0.05$). The raw data and the ANOVA's are shown in appendix 3.

3 Assessments

3.1 Disease

The assessment started when the first symptoms appeared. Every week, plants were observed and received a number according to the index below:

0. no symptoms
1. doubt, slight wilting or slight discoloration
2. obvious wilting of tops and/or discoloration
3. complete plant wilted
4. complete plant wilted and first brown shoots or branches
5. brown or dead plant

(appendix 2.3).

3.2 Growth

At the beginning and at the end of the trial the length of the plant was measured. Growth was determined by calculating the difference between the two measurements (appendix 2.1).

3.3 Roots

At the end of the trial the root quality was described according to the index below:

1. roots white, adequate growth
2. adequate growth, roots partly brown
3. growth, roots brown
4. insufficient growth, roots brown

(appendix 2.2)

3.4 Phytotoxicity and residue

A remark was written if phytotoxicity or residue did arise.

4 Results and discussion

4.1 Disease

The first disease symptoms were found on 9 May 2006 in the untreated inoculated control Pc and in treatment D three weeks after inoculation. The untreated control O and the standard S stayed almost healthy during this trial.

Treatment D was remarkably faster affected than the other treatments, which did not show disease symptoms until 9 July 2006 (Figure 1).

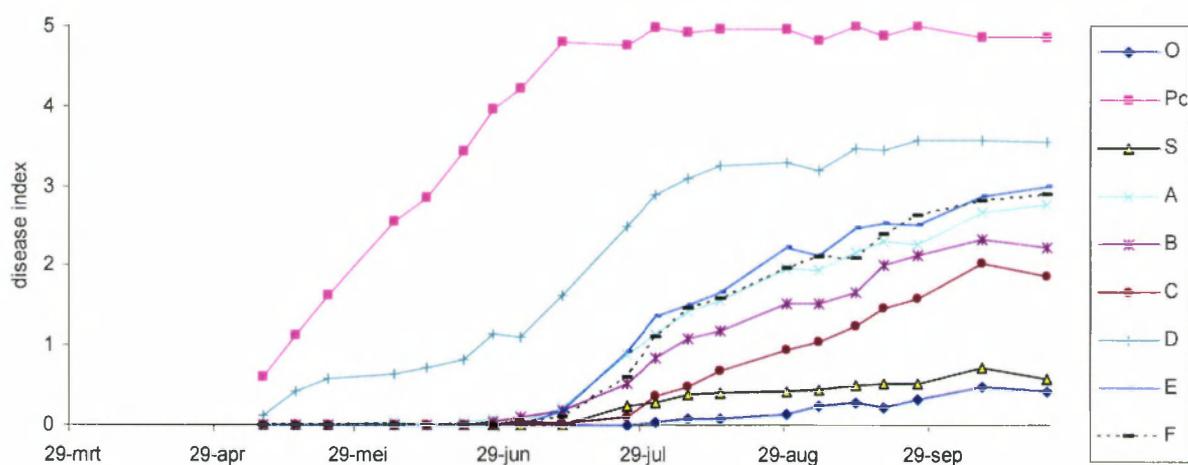
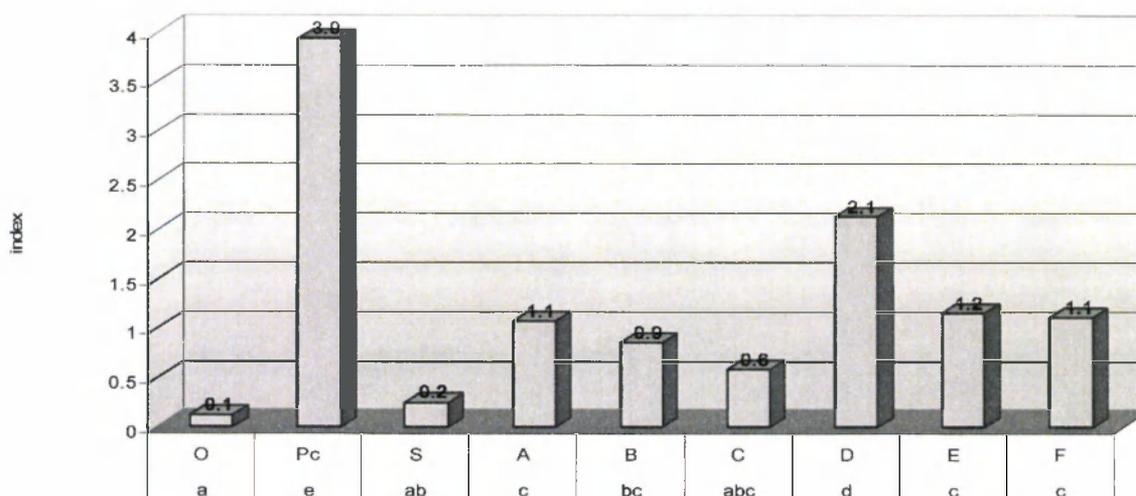


Figure 1. Disease progression.

In this trial no significant difference was found between the untreated control, the standard S and C. Objects Pc (untreated inoculated control), A, B, D, E and F showed more symptoms than the untreated control O. Objects B and C did not differ from the standard S.

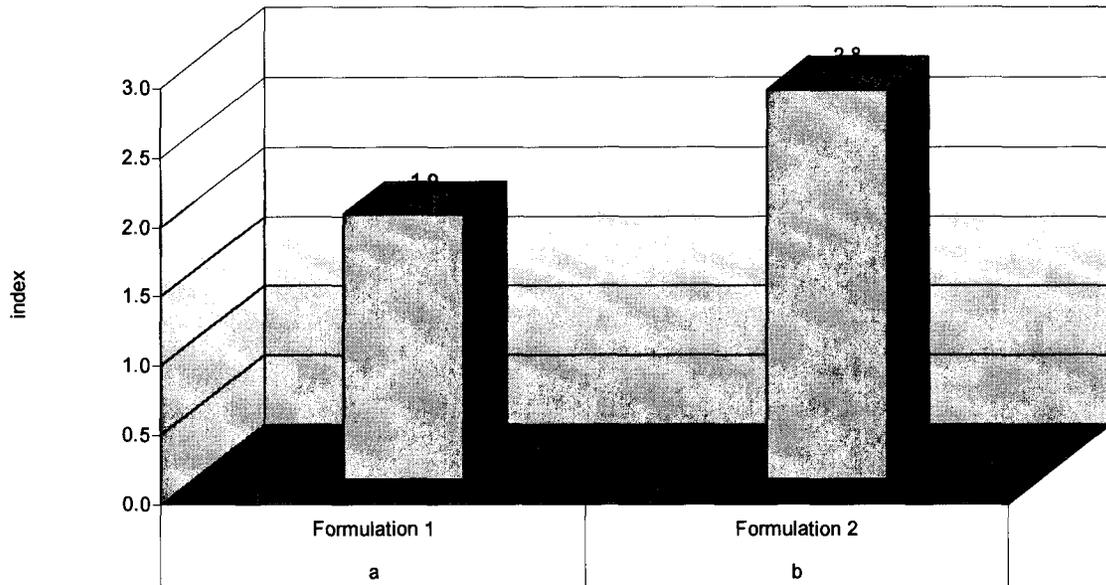
The average of disease index was higher at the untreated inoculated object Pc in comparison to the other treatments (Figure 2).



a, b, c... = objects with different letter-codes differ significantly.

Figure 2. Average disease index per treatment, overall analysis.

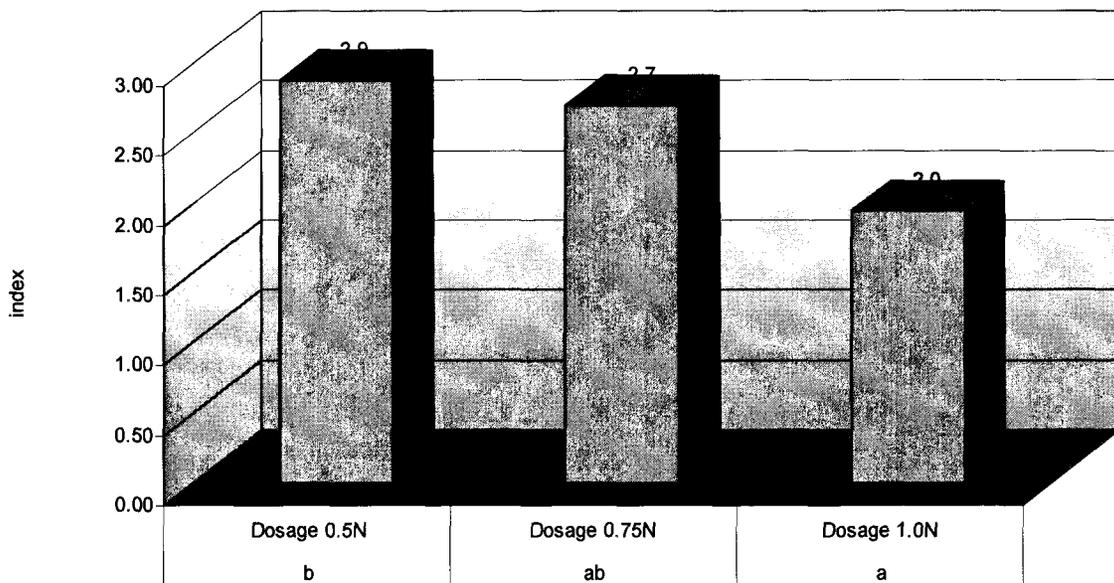
An analysis to compare formulations and doses is performed with the data from 19 September 2006. This is the assessment five months after inoculation. Formulation 1 was the better formulation in this trial (Figure 3).



a, b, c... = objects with different letter-codes within the same column or row differ significantly.

Figure 3. Average disease index, formulations compared, 19 September 2006.

Dosage 1.0N gave a better result than dosage 0.5N (Figure 4).

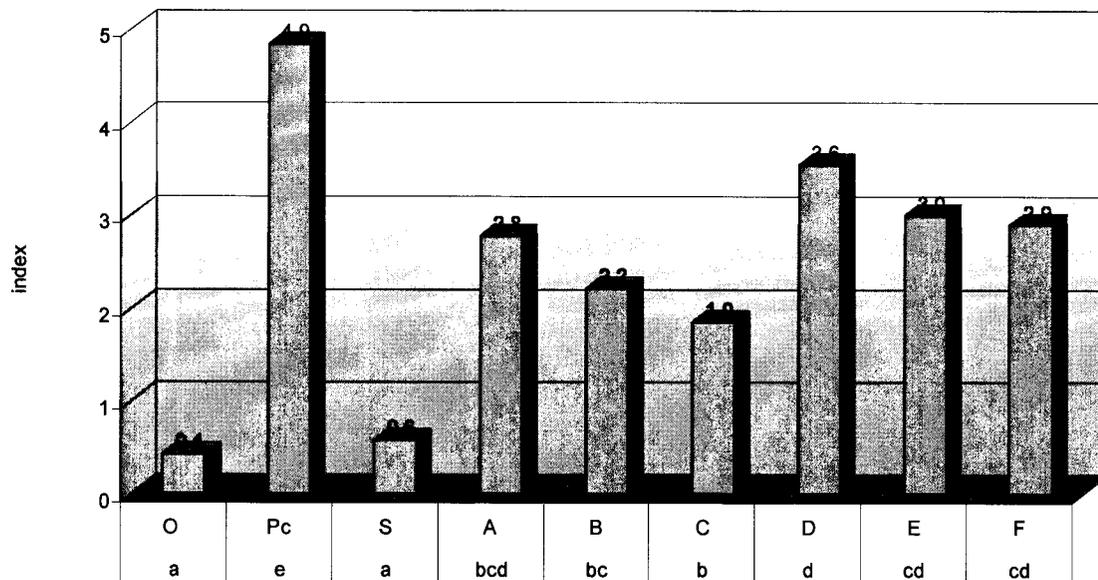


a, b, c... = objects with different letter-codes within the same column or row differ significantly.

Figure 4. Average disease index, doses compared, 19 September 2006.

Because a longer lasting effect is expected, the final assessment (24 October 2006) is also statistically analyzed.

No significant difference was found between the untreated control O and the standard treatment S. All other objects showed more symptoms than O and S, and less than the untreated inoculated object Pc (Figure 5).

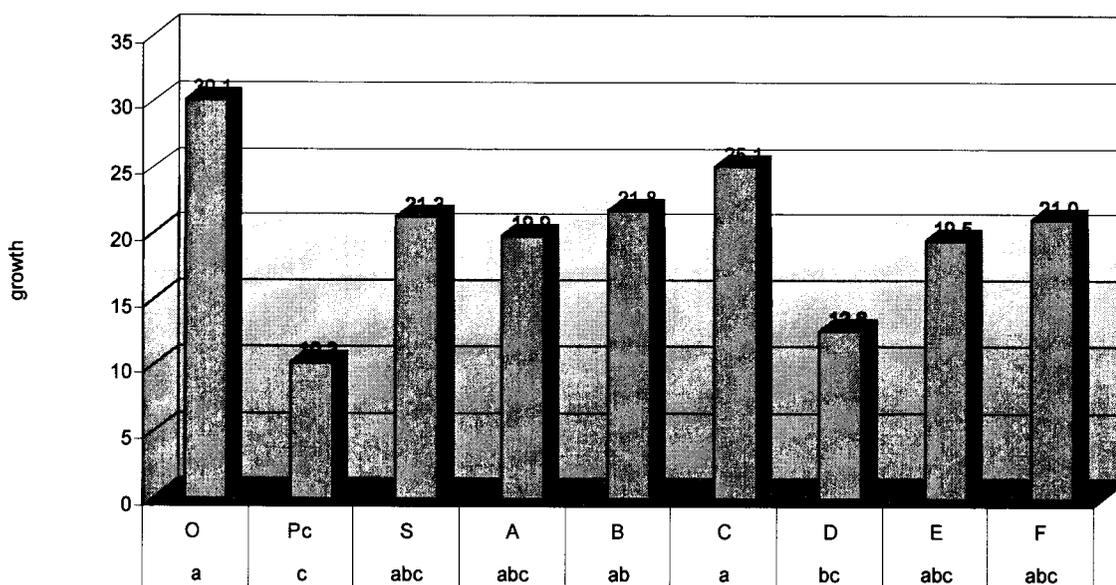


a, b, c, ... = objects with different letter-codes differ significantly.

Figure 5. Average disease index per treatment, final assessment.

4.2 Growth

In this trial only the plants of objects D and Pc grew less than the untreated control O. None of the experimental treatments grew less than the standard S (Figure 6).

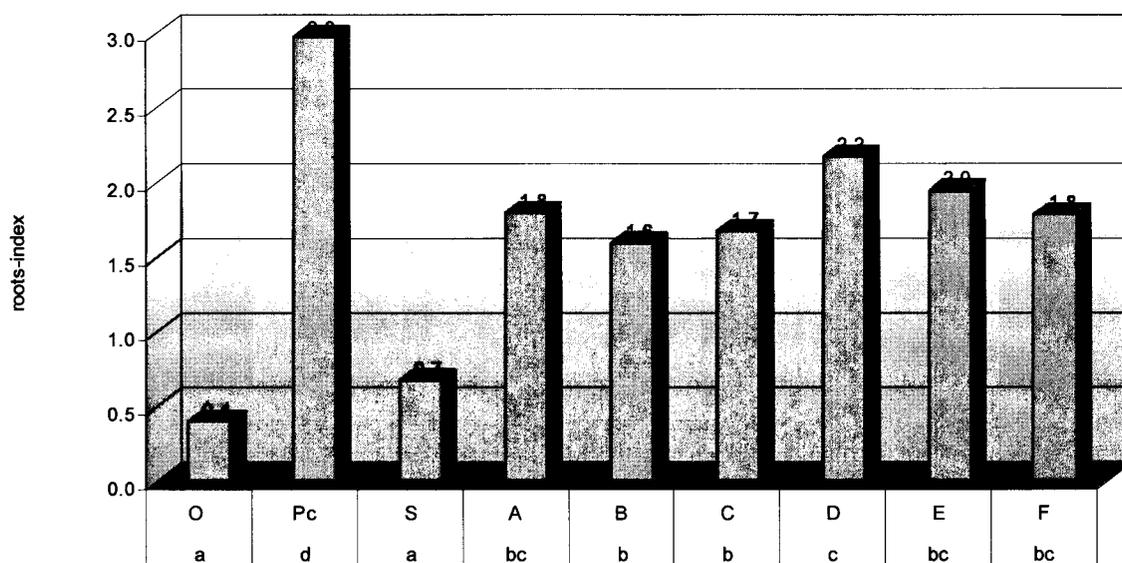


a, b, c, ... = objects with different letter-codes differ significantly.

Figure 6. Average growth per treatment.

4.3 Roots

At the end of the trial the untreated inoculated Pc had the more brown roots than the other objects. Objects O (untreated control) and S (standard) had healthier roots according to the other objects (Figure 7).



a, b, c... = objects with different letter-codes differ significantly.

Figure 7. Average root index per treatment.

4.4 Phytotoxicity and residue

No phytotoxicity or residue was seen in this trial.

5 Conclusion

In this trial all treatments with product CRCFOS 17.15 in different doses and formulations were effective against *Phytophthora cinnamomi* for more than five months.

Formulation 1 seems a better formulation, with less diseased plants in this trial, than formulation 2. Dosage 1N gave a better result than dosage 0.5N.

None of the experimental products were as effective as the standard Aliette (5 drench application).

No signs of phytotoxicity were seen in this trial.

Appendix 1. Layout

Trail layout 32 340263/4-00

	BLOK I	BLOK II	BLOK III	BLOK IV
Scotts 12	O E A S F D B C Pc	O S A E Pc F D C B	E C D Pc B S O A F	A C O D E B S Pc F
Scotts 13	D O A C Pc E F S B	C A O F E S B Pc D	A S F E B C Pc D O	S E C A F B D Pc O
Scotts 14	S A C B O D F E Pc	B F S A E D Pc O C	B D E F A C Pc S O	B E F A D Pc S O C
Scotts 15	O E S Pc F D A C B	E Pc O S C D B A F	S O D E Pc B A C F	O S A D E Pc B C F

Appendix 2. Raw data

2.1 Length

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
6-apr	1	O	7.5	7.5	5	6.5	5.5	7	7	8.5	6	8	6.9
6-apr	1	Pc	6.5	7.5	6.5	6	8	8	7	7.5	7.5	7	7.2
6-apr	1	S	8	7	5.5	5.5	7	7	7	6.5	8	6	6.8
6-apr	1	A	8.5	8	8	9.5	7	8	9	8	8	7	8.1
6-apr	1	B	7.5	7	7	7	7	7	7.5	6	8	7	7.1
6-apr	1	C	7.5	9	8	7	7	8.5	7.5	9	8.5	8	8.0
6-apr	1	D	8.5	9	8	8	8.5	7.5	8.5	8.5	10	8	8.5
6-apr	1	E	7	6	7.5	6	4.5	7.5	7	5.5	4.5	6.5	6.2
6-apr	1	F	7	7.5	6.5	6.5	6	6	7	8	9	9	7.3
6-apr	2	O	8	7	7	8.5	7	7.5	6	6	7	7	7.1
6-apr	2	Pc	8	5	6.5	6	7	6.5	8	7	7.5	9	7.1
6-apr	2	S	7	7	8	4.5	8	6.5	6.5	7	5.5	7	6.7
6-apr	2	A	9	8	8	9.5	7	8	7.5	8	9	9.5	8.4
6-apr	2	B	8	7	6	7	6	7.5	8.5	6.5	7	6	7.0
6-apr	2	C	7	8	6	7	7.5	8	7	7.5	8	6	7.2
6-apr	2	D	9.5	9	11	7	9.5	8.5	9	8.5	7	9.5	8.9
6-apr	2	E	8	6.5	7	6.5	7.5	9	6.5	6.5	7.5	6	7.1
6-apr	2	F	8	8	8	8	6	6	7	6	6	9.5	7.3
6-apr	3	O	7	6	5.5	8.5	7	6.5	8	6	6.5	7.5	6.9
6-apr	3	Pc	7	6.5	7	7	7	6	6.5	7.5	7	8	7.0
6-apr	3	S	5.5	6	6.5	6.5	6.5	7	7	6.5	5.5	5.5	6.3
6-apr	3	A	8.5	9.5	7.5	10	8.5	10.5	9	10	10	9.5	9.3
6-apr	3	B	6	6.5	10	8	9.5	8	9	7	7.5	9	8.1
6-apr	3	C	9	8.5	8.8	9	8	8	7.5	6	8	6.5	7.9
6-apr	3	D	8	8.5	10.5	9	9	8.5	8	8.5	7	7.5	8.5
6-apr	3	E	8.8	8	9	7	6.5	9	6.5	8	6.5	6.5	7.6
6-apr	3	F	8	10	7.5	7	6	7	7	7.5	7	8	7.5
6-apr	4	O	6	7	6.5	7	6	6.5	7	8.5	6.5	5.5	6.7
6-apr	4	Pc	6.5	7.5	7	8	7	6.5	8	7.5	7	7	7.2
6-apr	4	S	4.5	6.5	7	7.5	5	8.5	8	7	8	6	6.8
6-apr	4	A	8.5	9	9.5	10.5	8	8	9.5	8	9	9	8.9
6-apr	4	B	5.5	6.5	7.5	7.5	7	6.5	8.5	8.5	7	7.5	7.2
6-apr	4	C	6	8.5	7.5	8	9	9	6	7	*	*	7.6
6-apr	4	D	10	9.5	7	6.5	7	9	7.5	8.5	10.5	7	8.3
6-apr	4	E	7	7	7	6	8.5	7	9	8	5.5	*	7.2
6-apr	4	F	7	6	9	7.5	6	8	8	9	*	*	7.6

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
24-okt	1	O	40	42	43	35.5	41	46.5	47	36	45	38	41.4
24-okt	1	Pc	42	39	33.5	40	43	38.5	48	49	40	38	41
24-okt	1	S	8	9	6	9	12	11	10	6.5	10	11	9.2
24-okt	1	A	30	45	32.5	39.5	30	32	32	20	36	28	32.5
24-okt	1	B	29	28	34	39	31	29	27	45	32.5	35	32.8
24-okt	1	C	36	29	34	30	35	43	22	37	40.5	37	34.3
24-okt	1	D	21	15	25.5	32.5	16	8	9.5	6.5	10	31	17.4
24-okt	1	E	34	20	27	26.5	33	21	36	38	29	37	30
24-okt	1	F	23	40	22	25	31	39	19	30	33	30	29.2
24-okt	2	O	44	27	40	42	34	35	42	44	41	42	39.1
24-okt	2	Pc	10	8	9	12	8	7.5	11	7	9	9	9.05
24-okt	2	S	44	28	46	*	47	46	39	44	46	38	42
24-okt	2	A	33	34	29.5	31	30	31	26	25	29.5	41	30.9
24-okt	2	B	18	26	15	33.5	24	22	37	19	33.5	23	25
24-okt	2	C	15	33	24.5	33	27	21	34	31	32	31	28.1
24-okt	2	D	20	21	14	18	23	23.5	12	18	14	11	17.4
24-okt	2	E	20	17	30	29.5	25	20.5	27	20	35	26	24.9
24-okt	2	F	25	32	34.5	38.5	27	25.5	28	26	29.5	24	29
24-okt	3	O	24	23	34	30	46	29	41	34	37.5	32	33
24-okt	3	Pc	10	9.5	6	11	9.5	6.5	6.5	9	10	8.5	8.65
24-okt	3	S	34	41	27.5	31	31	21	31	38	45.5	30	32.9
24-okt	3	A	20	14	17	24.5	28	36	39	15	28	38	25.8
24-okt	3	B	24	36	29	27	30	39	43	22	22.5	30	30.1
24-okt	3	C	36	29	29	43	50	31	39	30	36.5	33	35.5
24-okt	3	D	22	24	19.5	21	26	28	27	24	25.5	17	23.3
24-okt	3	E	25	28	27	27	22	41	25	23	26.5	28	27.2
24-okt	3	F	41	37	40	28	21	38	25	23	26	33	31.1
24-okt	4	O	31	35	41	25.5	31	41.5	39	43	35	25	34.6
24-okt	4	Pc	6.5	15	15	8.5	11	10	7	9	11	14	10.6
24-okt	4	S	17	23	25	21.5	37	37.5	33	20	27	36	27.7
24-okt	4	A	26	23	21	24	30	24	27	26	22	27	25
24-okt	4	B	26	28	28	30	27	21	37	21	31.5	38	28.7
24-okt	4	C	41	29	29.5	36	41	26	31	35	*	*	33.4
24-okt	4	D	27	26	26	39	16	21	31	26	12	41	26.4
24-okt	4	E	22	24	27.5	20.5	24	21.5	30	19	31	*	24.2
24-okt	4	F	24	24	32	28	19	27	21	20	*	*	24.2

2.2 Roots

Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
1	O	0	0	0	0	0	0	0	0	0	0	0.0
1	Pc	3	3	3	3	3	3	3	3	3	3	3.0
1	S	0	0	0	0	0	0	0	0	0	0	0.0
1	A	2	1	2	2	2	1	2	2	0	2	1.6
1	B	2	2	1	0	2	2	2	0	2	1	1.4
1	C	2	2	2	2	1	0	2	1	1	2	1.5
1	D	2	3	2	2	2	3	3	3	3	2	2.5
1	E	3	3	3	3	2	2	0	1	2	1	2.0
1	F	2	1	2	2	1	1	3	2	2	2	1.8
2	O	0	0	0	0	2	0	0	0	0	0	0.2
2	Pc	3	3	3	3	3	3	3	3	3	3	3.0
2	S	0	2	0	1	0	0	1	0	1	0	0.5
2	A	1	2	2	2	2	2	2	2	2	0	1.7
2	B	3	1	3	2	2	2	0	1	2	1	1.7
2	C	3	1	2	0	2	2	2	1	2	2	1.7
2	D	2	2	3	2	2	2	3	2	3	3	2.4
2	E	2	2	2	2	2	3	2	2	1	2	2.0
2	F	2	1	1	1	2	2	1	2	2	2	1.6
3	O	0	0	0	2	0	0	2	0	0	0	0.4
3	Pc	3	3	3	3	3	3	3	3	3	3	3.0
3	S	1	0	2	2	1	2	2	0	0	0	1.0
3	A	2	3	3	2	2	1	0	2	2	2	1.9
3	B	2	1	2	2	2	0	2	2	2	2	1.7
3	C	2	2	2	1	0	2	2	2	2	2	1.7
3	D	2	2	2	2	2	2	2	2	2	2	2.0
3	E	2	2	2	2	2	0	2	2	2	2	1.8
3	F	2	2	2	2	2	0	2	2	2	2	1.8
4	O	2	2	0	2	2	0	2	0	0	0	1.0
4	Pc	3	3	2	3	3	3	3	3	3	3	2.9
4	S	1	1	2	2	1	0	1	2	2	0	1.2
4	A	2	2	2	2	2	2	2	2	2	2	2.0
4	B	1	2	2	2	2	2	2	2	1	0	1.6
4	C	0	2	2	2	2	2	2	2	2	2	1.8
4	D	2	2	2	1	3	2	1	2	3	0	1.8
4	E	2	2	2	2	2	2	2	2	2	2	2.0
4	F	2	2	2	2	2	2	2	2	*	*	2.0

2.3 Disease

Date	Block	Treat. 1	2	3	4	5	6	7	8	9	10	average
9-mei	1	O	0	0	0	0	0	0	0	0	0	0.0
9-mei	1	Pc	0	0	0	0	0	0	3	0	0	0.5
9-mei	1	S	0	0	0	0	0	0	0	0	0	0.0
9-mei	1	A	0	0	0	0	0	0	0	0	0	0.0
9-mei	1	B	0	0	0	0	0	0	0	0	0	0.0
9-mei	1	C	0	0	0	0	0	0	0	0	0	0.0
9-mei	1	D	0	0	0	0	2	0	3	0	0	0.5
9-mei	1	E	0	0	0	0	0	0	0	0	0	0.0
9-mei	1	F	0	0	0	0	0	0	0	0	0	0.0
9-mei	2	O	0	0	0	0	0	0	0	0	0	0.0
9-mei	2	Pc	0	0	0	0	2	0	0	0	3	0.5
9-mei	2	S	0	0	0	0	0	0	0	0	0	0.0
9-mei	2	A	0	0	0	0	0	0	0	0	0	0.0
9-mei	2	B	0	0	0	0	0	0	0	0	0	0.0
9-mei	2	C	0	0	0	0	0	0	0	0	0	0.0
9-mei	2	D	0	0	0	0	0	0	0	0	0	0.0
9-mei	2	E	0	0	0	0	0	0	0	0	0	0.0
9-mei	2	F	0	0	0	0	0	0	0	0	0	0.0
9-mei	3	O	0	0	0	0	0	0	0	0	0	0.0
9-mei	3	Pc	0	0	0	0	2	0	3	0	0	0.7
9-mei	3	S	0	0	0	0	0	0	0	0	0	0.0
9-mei	3	A	0	0	0	0	0	0	0	0	0	0.0
9-mei	3	B	0	0	0	0	0	0	0	0	0	0.0
9-mei	3	C	0	0	0	0	0	0	0	0	0	0.0
9-mei	3	D	0	0	0	0	0	0	0	0	0	0.0
9-mei	3	E	0	0	0	0	0	0	0	0	0	0.0
9-mei	3	F	0	0	0	0	0	0	0	0	0	0.0
9-mei	4	O	0	0	0	0	0	0	0	0	0	0.0
9-mei	4	Pc	2	0	0	0	0	3	0	0	0	0.7
9-mei	4	S	0	0	0	0	0	0	0	0	0	0.0
9-mei	4	A	0	0	0	0	0	0	0	0	0	0.0
9-mei	4	B	0	0	0	0	0	0	0	0	0	0.0
9-mei	4	C	0	0	0	0	0	0	0	*	0	0.0
9-mei	4	D	0	0	0	0	0	0	0	0	0	0.0
9-mei	4	E	0	0	0	0	0	0	0	0	*	0.0
9-mei	4	F	0	0	0	0	0	0	0	*	0	0.0
16-mei	1	O	0	0	0	0	0	0	0	0	0	0.0
16-mei	1	Pc	0	0	0	0	0	0	4	0	0	0.6
16-mei	1	S	0	0	0	0	0	0	0	0	0	0.0
16-mei	1	A	0	0	0	0	0	0	0	0	0	0.0
16-mei	1	B	0	0	0	0	0	0	0	0	0	0.0
16-mei	1	C	0	0	0	0	0	0	0	0	0	0.0
16-mei	1	D	0	0	0	0	3	2	4	3	0	1.2
16-mei	1	E	0	0	0	0	0	0	0	0	0	0.0
16-mei	1	F	0	0	0	0	0	0	0	0	0	0.0
16-mei	2	O	0	0	0	0	0	0	0	0	0	0.0
16-mei	2	Pc	0	0	0	0	3	2	0	3	0	1.2
16-mei	2	S	0	0	0	0	0	0	0	0	0	0.0
16-mei	2	A	0	0	0	0	0	0	0	0	0	0.0
16-mei	2	B	0	0	0	0	0	0	0	0	0	0.0
16-mei	2	C	0	0	0	0	0	0	0	0	0	0.0
16-mei	2	D	0	0	0	0	0	0	0	0	0	0.2
16-mei	2	E	0	0	0	0	0	0	0	0	0	0.0
16-mei	2	F	0	0	0	0	0	0	0	0	0	0.0
16-mei	3	O	0	0	0	0	0	0	0	0	0	0.0
16-mei	3	Pc	0	0	0	0	3	2	4	0	2	1.4
16-mei	3	S	0	0	0	0	0	0	0	0	0	0.0
16-mei	3	A	0	0	0	0	0	0	0	0	0	0.0
16-mei	3	B	0	0	0	0	0	0	0	0	0	0.0
16-mei	3	C	0	0	0	0	0	0	0	0	0	0.0
16-mei	3	D	0	0	0	0	0	0	0	0	0	0.0
16-mei	3	E	0	0	0	0	0	0	0	0	0	0.0
16-mei	3	F	0	0	0	0	0	0	0	0	0	0.0
16-mei	4	O	0	0	0	0	0	0	0	0	0	0.0
16-mei	4	Pc	3	0	0	0	0	4	2	0	0	1.2
16-mei	4	S	0	0	0	0	0	0	0	0	0	0.0
16-mei	4	A	0	0	0	0	0	0	0	0	0	0.0
16-mei	4	B	0	0	0	0	0	0	0	0	0	0.0
16-mei	4	C	0	0	0	0	0	0	0	*	0	0.0
16-mei	4	D	0	0	0	0	0	0	0	3	0	0.3
16-mei	4	E	0	0	0	0	0	0	0	0	*	0.0
16-mei	4	F	0	0	0	0	0	0	0	*	0	0.0

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
23-mei	1	O	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	1	Pc	2	0	3	0	0	0	0	4	0	0	0.9
23-mei	1	S	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	1	A	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	1	B	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	1	C	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	1	D	0	0	0	0	4	2	4	3	0	0	1.3
23-mei	1	E	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	1	F	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	2	O	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	2	Pc	3	0	0	3	2	0	3	0	4	0	1.5
23-mei	2	S	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	2	A	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	2	B	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	2	C	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	2	D	0	0	2	0	0	0	2	0	0	3	0.7
23-mei	2	E	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	2	F	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	3	O	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	3	Pc	0	0	4	0	2	3	3	4	0	3	1.9
23-mei	3	S	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	3	A	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	3	B	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	3	C	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	3	D	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	3	E	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	3	F	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	4	O	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	4	Pc	3	0	0	3	0	0	4	2	0	0	1.2
23-mei	4	S	0	0	0	0	0	0	0	0	*	0	0.0
23-mei	4	A	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	4	B	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	4	C	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	4	D	0	0	0	0	0	0	0	0	3	0	0.3
23-mei	4	E	0	0	0	0	0	0	0	0	0	0	0.0
23-mei	4	F	0	0	0	0	0	0	0	0	0	*	0.0
23-mei	4	F	0	0	0	0	0	0	0	0	0	*	0.0
6-jun	1	O	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	1	Pc	2	2	4	2	2	3	2	4	2	2	2.5
6-jun	1	S	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	1	A	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	1	B	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	1	C	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	1	D	0	0	0	0	0	4	3	4	3	0	1.4
6-jun	1	E	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	1	F	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	2	O	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	2	Pc	2	2	3	0	4	3	2	4	3	4	2.7
6-jun	2	S	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	2	A	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	2	B	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	2	C	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	2	D	0	0	2	0	0	0	2	0	0	3	0.7
6-jun	2	E	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	2	F	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	3	O	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	3	Pc	2	3	4	2	2	4	4	4	2	3	3.0
6-jun	3	S	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	3	A	0	2	0	0	0	0	0	0	0	0	0.2
6-jun	3	B	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	3	C	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	3	D	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	3	E	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	3	F	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	4	O	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	4	Pc	4	0	0	4	0	3	5	2	2	0	2.0
6-jun	4	S	0	0	0	0	0	0	0	0	*	0	0.0
6-jun	4	A	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	4	B	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	4	C	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	4	D	0	0	0	0	0	0	0	0	4	0	0.4
6-jun	4	E	0	0	0	0	0	0	0	0	0	0	0.0
6-jun	4	F	0	0	0	0	0	0	0	0	0	*	0.0
6-jun	4	F	0	0	0	0	0	0	0	0	0	*	0.0

Date	Block	Treat. 1	2	3	4	5	6	7	8	9	10	average
13-jun	1	O	0	0	0	0	0	0	0	0	0	0.0
13-jun	1	Pc	2	3	4	3	2	3	4	3	2	2.9
13-jun	1	S	0	0	0	0	0	0	0	0	0	0.0
13-jun	1	A	0	0	0	0	0	0	0	0	0	0.0
13-jun	1	B	0	0	0	0	0	0	0	0	0	0.0
13-jun	1	C	0	0	0	0	0	0	0	0	0	0.0
13-jun	1	D	0	2	0	0	0	4	3	5	4	1.8
13-jun	1	E	0	0	0	0	0	0	0	0	0	0.0
13-jun	1	F	0	0	0	0	0	0	0	0	0	0.0
13-jun	2	O	0	0	0	0	0	0	0	0	0	0.0
13-jun	2	Pc	3	3	3	2	4	3	4	3	4	3.2
13-jun	2	S	0	0	0	0	0	0	0	0	0	0.0
13-jun	2	A	0	0	0	0	0	0	0	0	0	0.0
13-jun	2	B	0	0	0	0	0	0	0	0	0	0.0
13-jun	2	C	0	0	0	0	0	0	0	0	0	0.0
13-jun	2	D	0	0	2	0	0	0	0	0	3	0.7
13-jun	2	E	0	0	0	0	0	0	0	0	0	0.0
13-jun	2	F	0	0	0	0	0	0	0	0	0	0.0
13-jun	3	O	0	0	0	0	0	0	0	0	0	0.0
13-jun	3	Pc	2	3	4	2	3	4	4	2	4	3.2
13-jun	3	S	0	0	0	0	0	0	0	0	0	0.0
13-jun	3	A	0	0	0	0	0	0	0	0	0	0.0
13-jun	3	B	0	0	0	0	0	0	0	0	0	0.0
13-jun	3	C	0	0	0	0	0	0	0	0	0	0.0
13-jun	3	D	0	0	0	0	0	0	0	0	0	0.0
13-jun	3	E	0	0	0	0	0	0	0	0	0	0.0
13-jun	3	F	0	0	0	0	0	0	0	0	0	0.0
13-jun	4	O	0	0	0	0	0	0	0	0	0	0.0
13-jun	4	Pc	4	0	0	4	0	3	5	2	3	2.1
13-jun	4	S	0	0	0	0	0	0	0	*	*	0.0
13-jun	4	A	0	0	0	0	0	0	0	0	0	0.0
13-jun	4	B	0	0	0	0	0	0	0	0	0	0.0
13-jun	4	C	0	0	0	0	0	0	0	0	0	0.0
13-jun	4	D	0	0	0	0	0	0	0	4	0	0.4
13-jun	4	E	0	0	0	0	0	0	0	0	*	0.0
13-jun	4	F	0	0	0	0	0	0	0	0	*	0.0
21-jun	1	O	0	0	0	0	0	0	0	0	0	0.0
21-jun	1	Pc	3	3	4	4	3	4	3	4	3	3.4
21-jun	1	S	0	0	0	0	0	0	0	0	0	0.0
21-jun	1	A	0	0	0	0	0	0	0	0	0	0.0
21-jun	1	B	0	0	0	0	0	0	0	0	0	0.0
21-jun	1	C	0	0	0	0	0	0	0	0	0	0.0
21-jun	1	D	0	2	0	0	5	4	5	4	0	2.0
21-jun	1	E	0	0	0	0	0	0	0	0	0	0.0
21-jun	1	F	0	0	0	0	0	0	0	0	0	0.0
21-jun	2	O	0	0	0	0	0	0	0	0	0	0.0
21-jun	2	Pc	4	3	4	2	4	4	4	4	5	3.8
21-jun	2	S	0	0	0	0	0	0	0	0	0	0.0
21-jun	2	A	0	0	0	0	0	0	0	0	0	0.0
21-jun	2	B	0	0	0	0	0	0	0	0	0	0.0
21-jun	2	C	0	0	0	0	0	0	0	0	0	0.0
21-jun	2	D	0	0	2	0	0	2	0	0	4	0.8
21-jun	2	E	0	0	0	0	0	0	0	0	0	0.0
21-jun	2	F	0	0	0	0	0	0	0	0	0	0.0
21-jun	3	O	0	0	0	0	0	0	0	0	0	0.0
21-jun	3	Pc	3	4	4	3	4	4	4	3	5	3.8
21-jun	3	S	0	0	0	0	0	0	0	0	0	0.0
21-jun	3	A	0	2	0	0	0	0	0	0	0	0.2
21-jun	3	B	0	0	0	0	0	0	0	0	0	0.0
21-jun	3	C	0	0	0	0	0	0	0	0	0	0.0
21-jun	3	D	0	0	0	0	0	0	0	0	0	0.0
21-jun	3	E	0	0	0	0	0	0	0	0	0	0.0
21-jun	3	F	0	0	0	0	0	0	0	0	0	0.0
21-jun	4	O	0	0	0	0	0	0	0	0	0	0.0
21-jun	4	Pc	5	0	0	5	0	4	5	4	0	2.7
21-jun	4	S	0	0	0	0	0	0	0	*	*	0.0
21-jun	4	A	0	0	0	0	0	0	0	0	0	0.0
21-jun	4	B	0	0	0	0	0	0	0	0	0	0.0
21-jun	4	C	0	0	0	0	0	0	0	0	0	0.0
21-jun	4	D	0	0	0	0	0	0	0	0	0	0.0
21-jun	4	E	0	0	0	0	0	0	0	5	0	0.5
21-jun	4	F	0	0	0	0	0	0	0	0	*	0.0
21-jun	4	F	0	0	0	0	0	0	0	*	*	0.0

Date	Block	Treat. 1	2	3	4	5	6	7	8	9	10	average
27-jun	1	O	0	0	0	0	0	0	0	0	0	0.0
27-jun	1	Pc	4	4	4	4	4	4	5	4	4	4.2
27-jun	1	S	0	0	0	0	0	0	0	0	0	0.0
27-jun	1	A	0	0	0	0	0	0	0	0	0	0.0
27-jun	1	B	0	0	0	0	0	0	0	0	0	0.0
27-jun	1	C	0	0	0	0	0	0	0	0	0	0.0
27-jun	1	D	0	3	0	0	2	5	5	0	0	2.4
27-jun	1	E	0	0	0	0	0	0	0	0	0	0.0
27-jun	1	F	0	0	0	0	0	0	0	0	0	0.0
27-jun	2	O	0	0	0	0	0	0	0	0	0	0.0
27-jun	2	Pc	4	4	3	4	4	4	5	4	5	4.1
27-jun	2	S	0	0	0	0	0	0	0	0	0	0.0
27-jun	2	A	0	0	0	0	0	0	0	0	0	0.0
27-jun	2	B	2	0	0	0	0	0	0	0	0	0.2
27-jun	2	C	0	0	0	0	0	0	0	0	0	0.0
27-jun	2	D	0	0	3	0	0	3	0	2	4	1.2
27-jun	2	E	0	0	0	0	0	0	0	0	0	0.0
27-jun	2	F	0	0	0	0	0	0	0	0	0	0.0
27-jun	3	O	0	0	0	0	0	0	0	0	0	0.0
27-jun	3	Pc	4	5	4	4	4	5	4	4	5	4.3
27-jun	3	S	0	0	0	0	0	0	0	0	0	0.0
27-jun	3	A	0	2	0	0	0	0	0	0	0	0.2
27-jun	3	B	0	0	0	0	0	0	0	0	0	0.0
27-jun	3	C	0	0	0	0	0	0	0	0	0	0.0
27-jun	3	D	0	0	2	0	0	0	0	0	0	0.2
27-jun	3	E	0	0	0	0	0	0	0	0	0	0.0
27-jun	3	F	0	0	0	0	0	0	0	0	0	0.0
27-jun	4	O	0	0	0	0	0	0	0	0	0	0.0
27-jun	4	Pc	5	2	0	5	2	4	5	4	0	3.2
27-jun	4	S	0	0	0	0	0	0	0	0	*	0.0
27-jun	4	A	0	0	0	0	0	0	0	0	0	0.0
27-jun	4	B	0	0	0	0	0	0	0	0	0	0.0
27-jun	4	C	0	0	0	0	0	0	0	0	0	0.0
27-jun	4	D	0	0	0	0	2	0	0	0	5	0.7
27-jun	4	E	0	0	0	0	0	0	0	0	0	0.0
27-jun	4	F	0	0	0	0	0	0	0	0	*	0.0
3-jul	1	O	0	0	0	0	0	0	0	0	0	0.0
3-jul	1	Pc	4	4	5	4	5	4	5	4	4	4.5
3-jul	1	S	0	0	0	0	0	0	0	0	0	0.0
3-jul	1	A	0	0	0	0	0	0	0	0	0	0.0
3-jul	1	B	0	0	0	0	0	0	0	0	0	0.0
3-jul	1	C	0	0	0	0	0	0	0	0	0	0.0
3-jul	1	D	0	3	0	0	2	5	5	0	0	2.5
3-jul	1	E	0	0	0	0	0	0	0	0	0	0.0
3-jul	1	F	0	0	0	0	0	0	0	0	0	0.0
3-jul	2	O	0	0	0	0	0	0	0	0	0	0.0
3-jul	2	Pc	4	4	5	3	4	4	5	4	5	4.2
3-jul	2	S	0	0	0	0	0	0	0	0	0	0.0
3-jul	2	A	0	0	0	0	0	0	0	0	0	0.0
3-jul	2	B	2	0	2	0	0	0	0	0	0	0.4
3-jul	2	C	2	0	0	0	0	0	0	0	0	0.2
3-jul	2	D	0	0	3	0	0	3	0	3	4	1.3
3-jul	2	E	0	0	0	0	0	0	0	0	0	0.0
3-jul	2	F	0	0	0	0	0	0	0	0	0	0.0
3-jul	3	O	0	0	0	0	0	0	0	0	0	0.0
3-jul	3	Pc	4	4	4	4	5	4	5	4	5	4.4
3-jul	3	S	0	0	0	0	0	0	0	0	0	0.0
3-jul	3	A	0	2	0	0	0	0	0	0	0	0.2
3-jul	3	B	0	0	0	0	0	0	0	0	0	0.0
3-jul	3	C	0	0	0	0	0	0	0	0	0	0.0
3-jul	3	D	0	0	0	0	0	0	0	0	0	0.0
3-jul	3	E	0	0	0	0	0	0	0	0	0	0.0
3-jul	3	F	0	0	0	0	0	0	0	0	0	0.0
3-jul	4	O	0	0	0	0	0	0	0	0	0	0.0
3-jul	4	Pc	5	3	2	5	2	4	5	5	2	3.8
3-jul	4	S	0	0	0	0	0	0	0	0	*	0.0
3-jul	4	A	0	0	0	0	0	0	0	0	0	0.0
3-jul	4	B	0	0	0	0	0	0	0	0	0	0.0
3-jul	4	C	0	0	0	0	0	0	0	0	0	0.0
3-jul	4	D	0	0	0	0	0	0	0	0	0	0.0
3-jul	4	E	0	0	0	0	0	0	0	0	0	0.5
3-jul	4	F	0	0	0	0	0	0	0	0	*	0.0
3-jul	4		0	0	0	0	0	0	0	0	*	0.0

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
12-jul	1	O	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	1	Pc	5	5	5	5	5	5	5	5	5	5	5.0
12-jul	1	S	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	1	A	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	1	B	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	1	C	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	1	D	0	2	0	0	0	5	5	5	5	0	2.2
12-jul	1	E	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	1	F	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	2	O	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	2	Pc	5	5	5	4	5	5	5	5	5	5	4.9
12-jul	2	S	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	2	A	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	2	B	2	0	2	0	0	0	0	0	0	0	0.4
12-jul	2	C	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	2	D	2	0	5	0	0	0	4	0	2	5	1.8
12-jul	2	E	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	2	F	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	3	O	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	3	Pc	5	5	5	5	5	5	5	5	5	5	5.0
12-jul	3	S	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	3	A	2	3	2	0	0	0	0	0	0	0	0.7
12-jul	3	B	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	3	C	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	3	D	0	0	2	0	0	0	0	0	0	3	0.5
12-jul	3	E	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	3	F	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	4	O	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	4	Pc	5	4	3	5	4	5	5	5	5	2	4.3
12-jul	4	S	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	4	A	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	4	B	0	0	0	0	0	0	0	0	0	0	0.0
12-jul	4	C	0	0	0	0	0	0	0	0	0	*	0.0
12-jul	4	D	0	0	0	0	0	0	0	0	5	0	1.0
12-jul	4	E	0	0	0	0	3	2	0	0	0	*	0.0
12-jul	4	F	0	0	0	0	0	0	0	0	0	*	0.0

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
26-jul	1	O	0	0	0	0	0	0	0	0	0	0	0.0
26-jul	1	Pc	4	5	5	5	4	5	4	5	5	4	4.6
26-jul	1	S	0	0	0	0	0	0	0	0	0	0	0.0
26-jul	1	A	0	0	0	0	0	0	0	3	0	0	0.3
26-jul	1	B	0	0	0	0	0	0	0	0	0	0	0.0
26-jul	1	C	0	0	0	0	0	0	0	0	0	0	0.0
26-jul	1	D	2	4	4	0	2	5	5	5	5	0	3.2
26-jul	1	E	0	2	0	0	0	2	0	0	0	4	0.8
26-jul	1	F	2	0	0	0	0	0	2	0	0	0	0.4
26-jul	2	O	0	0	0	0	0	0	0	0	0	0	0.0
26-jul	2	Pc	5	5	5	4	5	5	5	5	5	5	4.9
26-jul	2	S	0	0	0	0	0	0	0	0	0	0	0.0
26-jul	2	A	0	0	0	0	0	0	0	2	0	0	0.2
26-jul	2	B	0	0	4	0	0	2	0	2	0	0	0.8
26-jul	2	C	0	0	0	0	0	3	0	0	0	0	0.3
26-jul	2	D	0	4	5	4	4	3	4	4	5	5	3.8
26-jul	2	E	3	4	0	0	4	2	0	2	0	0	1.5
26-jul	2	F	0	0	0	0	0	0	0	0	0	2	0.2
26-jul	3	O	0	0	0	0	0	0	0	0	0	0	0.0
26-jul	3	Pc	4	5	5	4	5	4	5	5	5	5	4.7
26-jul	3	S	0	0	0	0	0	3	0	0	0	0	0.3
26-jul	3	A	4	4	4	0	0	0	0	4	0	0	2.0
26-jul	3	B	4	0	0	0	0	0	0	4	0	0	0.8
26-jul	3	C	0	0	0	0	0	0	0	0	0	0	0.0
26-jul	3	D	4	3	2	2	0	0	0	0	0	4	1.5
26-jul	3	E	0	0	0	0	2	0	0	4	0	0	0.6
26-jul	3	F	0	0	0	0	0	0	0	2	0	0	0.2
26-jul	4	O	0	0	0	0	0	0	0	0	0	0	0.0
26-jul	4	Pc	5	5	4	5	4	5	5	5	5	5	4.8
26-jul	4	S	0	0	2	3	0	0	0	2	0	0	0.7
26-jul	4	A	0	2	2	2	0	0	0	0	4	0	1.0
26-jul	4	B	0	0	0	0	0	0	0	0	0	0	0.3
26-jul	4	C	0	0	0	0	0	0	0	0	*	*	0.0
26-jul	4	D	0	2	0	0	0	0	0	0	5	0	1.2
26-jul	4	E	0	0	0	0	3	0	0	0	0	*	0.7
26-jul	4	F	2	3	0	0	3	0	0	4	2	*	1.8

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
1-aug	1	O	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	1	Pc	5	5	5	5	5	5	5	5	5	5	5.0
1-aug	1	S	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	1	A	0	0	0	0	0	0	3	0	0	2	0.8
1-aug	1	B	0	0	0	0	0	2	0	0	0	0	0.4
1-aug	1	C	0	2	0	0	0	0	0	0	0	0	0.2
1-aug	1	D	4	5	4	0	2	5	5	5	0	0	3.5
1-aug	1	E	0	3	3	0	0	2	0	0	0	4	1.2
1-aug	1	F	4	0	0	2	0	0	2	3	0	0	1.1
1-aug	2	O	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	2	Pc	5	5	5	4	5	5	5	5	5	5	4.9
1-aug	2	S	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	2	A	0	0	2	3	0	0	0	4	0	0	0.9
1-aug	2	B	4	0	5	0	2	3	0	3	0	0	1.7
1-aug	2	C	5	0	2	0	2	3	0	0	0	0	1.2
1-aug	2	D	4	4	5	4	5	5	5	4	4	5	4.5
1-aug	2	E	4	5	0	0	4	4	0	3	0	0	2.0
1-aug	2	F	0	0	0	0	3	2	0	0	0	5	1.2
1-aug	3	O	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	3	Pc	4	5	5	5	5	5	5	5	5	5	4.9
1-aug	3	S	0	0	0	0	0	4	0	0	0	0	0.4
1-aug	3	A	5	3	4	4	3	2	0	4	0	0	2.5
1-aug	3	B	4	0	2	2	0	0	0	4	3	0	1.5
1-aug	3	C	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	3	D	4	3	3	4	2	2	2	2	0	4	2.6
1-aug	3	E	2	0	2	2	3	0	2	4	0	0	1.5
1-aug	3	F	0	0	0	3	2	0	2	3	2	0	1.2
1-aug	4	O	0	0	0	2	0	0	0	0	0	0	0.2
1-aug	4	Pc	5	5	4	5	5	5	5	5	5	5	4.9
1-aug	4	S	0	0	4	4	0	0	0	2	0	0	1.0
1-aug	4	A	0	3	2	3	0	2	0	0	4	0	1.4
1-aug	4	B	0	0	0	0	0	2	0	3	0	0	0.7
1-aug	4	C	0	0	0	0	0	2	0	0	0	*	0.3
1-aug	4	D	0	2	0	0	3	2	0	3	5	0	1.8
1-aug	4	E	2	0	0	3	2	0	0	2	5	0	1.1
1-aug	4	F	3	4	0	0	4	0	5	0	*	*	2.6

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
1-aug	1	O	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	1	Pc	5	5	5	5	5	5	5	5	5	5	5.0
1-aug	1	S	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	1	A	0	0	0	0	0	0	0	3	0	0	0.3
1-aug	1	B	0	0	0	0	0	0	2	0	0	0	0.2
1-aug	1	C	0	2	0	0	0	0	0	0	0	0	0.2
1-aug	1	D	4	5	4	0	2	5	5	5	0	0	3.5
1-aug	1	E	0	3	2	0	0	2	0	0	0	4	1.1
1-aug	1	F	4	0	0	2	0	0	3	0	0	0	0.9
1-aug	2	O	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	2	Pc	5	5	5	5	5	5	5	5	5	5	5.0
1-aug	2	S	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	2	A	0	0	2	0	0	0	0	4	0	0	0.6
1-aug	2	B	4	0	5	0	2	3	0	3	0	0	1.4
1-aug	2	C	5	0	0	0	2	3	0	0	0	0	1.0
1-aug	2	D	4	4	5	4	5	4	5	4	5	5	4.5
1-aug	2	E	4	5	0	0	4	4	0	3	0	0	2.0
1-aug	2	F	0	0	0	0	0	0	0	0	0	4	0.4
1-aug	3	O	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	3	Pc	5	5	5	5	5	5	5	5	5	5	5.0
1-aug	3	S	0	0	0	0	0	3	0	0	0	0	0.3
1-aug	3	A	4	4	4	4	0	0	0	4	0	0	2.0
1-aug	3	B	4	0	2	2	0	0	0	4	0	0	1.2
1-aug	3	C	0	0	0	0	0	0	0	0	0	0	0.0
1-aug	3	D	4	3	2	4	2	0	0	2	0	4	2.1
1-aug	3	E	0	0	0	0	3	0	2	4	0	0	0.9
1-aug	3	F	0	0	0	2	0	0	0	2	2	0	0.8
1-aug	4	O	0	0	0	2	0	0	0	0	0	0	0.2
1-aug	4	Pc	5	5	4	5	5	5	5	5	5	5	4.9
1-aug	4	S	0	0	3	3	0	0	0	2	0	0	0.8
1-aug	4	A	0	3	2	2	0	3	0	0	4	0	1.4
1-aug	4	B	0	0	0	0	0	2	0	3	0	0	0.5
1-aug	4	C	0	0	0	0	0	2	0	0	*	*	0.3
1-aug	4	D	0	2	0	0	3	2	0	3	5	0	1.5
1-aug	4	E	2	0	0	3	2	0	0	2	5	0	1.3
1-aug	4	F	3	4	0	0	4	0	5	0	*	*	2.5

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
15-aug	1	O	0	0	0	0	0	0	0	0	0	0	0.0
15-aug	1	Pc	5	5	5	5	5	5	5	5	5	5	5.0
15-aug	1	S	0	0	0	0	0	0	0	0	0	0	0.0
15-aug	1	A	2	0	2	0	0	3	3	0	2	1.2	1.2
15-aug	1	B	2	0	0	0	2	0	2	0	0	0.6	0.6
15-aug	1	C	0	3	0	0	0	0	0	0	0	0.3	0.3
15-aug	1	D	4	5	4	0	2	5	5	5	0	3.5	3.5
15-aug	1	E	0	3	2	0	0	3	0	0	4	1.2	1.2
15-aug	1	F	4	0	0	2	0	0	4	3	0	1.3	1.3
15-aug	2	O	0	0	0	0	0	0	0	0	0	0.0	0.0
15-aug	2	Pc	5	5	5	4	5	5	5	5	5	4.9	4.9
15-aug	2	S	0	0	0	0	0	0	0	0	0	0.0	0.0
15-aug	2	A	0	0	2	3	2	0	0	4	0	1.1	1.1
15-aug	2	B	4	0	5	0	2	3	0	3	0	1.7	1.7
15-aug	2	C	5	0	2	0	3	4	0	0	0	1.4	1.4
15-aug	2	D	5	4	5	5	5	5	5	5	5	4.8	4.8
15-aug	2	E	4	5	0	0	4	4	0	3	0	2.0	2.0
15-aug	2	F	2	0	2	0	3	3	0	0	5	1.5	1.5
15-aug	3	O	0	0	0	0	0	0	0	0	0	0.0	0.0
15-aug	3	Pc	5	5	5	5	5	5	5	5	5	5.0	5.0
15-aug	3	S	0	0	0	0	0	4	0	0	0	0.4	0.4
15-aug	3	A	5	2	4	4	3	0	0	4	0	2.2	2.2
15-aug	3	B	4	0	2	2	0	0	0	4	2	1.4	1.4
15-aug	3	C	0	0	2	0	0	2	0	2	0	0.6	0.6
15-aug	3	D	4	3	4	4	2	3	2	2	0	2.8	2.8
15-aug	3	E	2	0	2	0	3	0	2	4	0	1.3	1.3
15-aug	3	F	0	0	0	3	2	0	2	3	2	1.2	1.2
15-aug	4	O	0	0	0	3	0	0	0	0	0	0.3	0.3
15-aug	4	Pc	5	5	4	5	5	5	5	5	5	4.9	4.9
15-aug	4	S	0	0	4	4	0	0	0	4	0	1.2	1.2
15-aug	4	A	2	3	2	3	0	2	0	0	4	1.6	1.6
15-aug	4	B	0	0	2	0	0	3	0	4	0	0.9	0.9
15-aug	4	C	0	0	0	0	0	3	0	0	*	0.4	0.4
15-aug	4	D	2	3	0	0	4	2	0	3	5	1.9	1.9
15-aug	4	E	2	2	0	4	2	0	3	5	0	2.0	2.0
15-aug	4	F	3	4	0	0	4	0	5	4	*	2.5	2.5

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
29-aug	1	O	0	0	0	0	0	0	0	0	0	0	0.0
29-aug	1	Pc	5	5	5	5	5	5	5	5	5	5	5.0
29-aug	1	S	0	0	0	0	0	0	0	0	0	0	0.0
29-aug	1	A	2	0	2	0	0	3	3	0	3	1.3	1.3
29-aug	1	B	3	2	0	0	3	2	0	0	0	1.0	1.0
29-aug	1	C	0	3	0	2	0	0	0	0	0	0.5	0.5
29-aug	1	D	5	5	4	0	2	5	5	5	0	3.6	3.6
29-aug	1	E	0	4	3	3	0	2	0	0	4	1.6	1.6
29-aug	1	F	4	0	0	3	2	0	4	3	0	1.6	1.6
29-aug	2	O	0	0	0	0	0	0	0	0	0	0.0	0.0
29-aug	2	Pc	5	5	5	4	5	5	5	5	5	4.9	4.9
29-aug	2	S	0	2	0	0	0	0	0	0	0	0.2	0.2
29-aug	2	A	0	0	2	3	3	0	2	4	2	1.6	1.6
29-aug	2	B	4	0	5	0	3	4	0	3	0	2.1	2.1
29-aug	2	C	5	0	3	0	3	4	0	0	0	1.5	1.5
29-aug	2	D	4	4	5	4	5	4	5	4	4	4.4	4.4
29-aug	2	E	5	5	2	2	4	4	0	3	0	2.7	2.7
29-aug	2	F	2	0	2	0	3	3	0	0	2	1.7	1.7
29-aug	3	O	0	0	0	0	0	0	0	0	0	0.0	0.0
29-aug	3	Pc	5	5	5	5	5	5	5	5	5	5.0	5.0
29-aug	3	S	0	0	0	0	0	4	0	0	0	0.4	0.4
29-aug	3	A	5	3	4	4	3	0	0	4	2	2.5	2.5
29-aug	3	B	4	0	3	3	2	0	0	4	3	2.1	2.1
29-aug	3	C	0	2	2	0	0	3	0	2	0	0.9	0.9
29-aug	3	D	4	4	4	5	3	2	2	3	0	3.1	3.1
29-aug	3	E	3	2	2	2	3	0	2	3	0	1.9	1.9
29-aug	3	F	0	0	0	3	2	0	2	4	3	1.4	1.4
29-aug	4	O	3	0	0	3	0	0	0	0	0	0.6	0.6
29-aug	4	Pc	5	5	4	5	5	5	5	5	5	4.9	4.9
29-aug	4	S	0	0	3	4	0	0	0	3	0	1.0	1.0
29-aug	4	A	2	3	2	3	2	3	2	0	4	2.3	2.3
29-aug	4	B	0	0	2	0	0	3	0	4	0	0.9	0.9
29-aug	4	C	0	0	2	0	0	3	0	0	*	0.6	0.6
29-aug	4	D	3	3	0	0	4	2	0	3	5	2.0	2.0
29-aug	4	E	2	3	0	4	2	0	3	5	0	2.7	2.7
29-aug	4	F	4	5	0	4	3	4	3	5	0	3.1	3.1

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
5-sep	1	O	0	0	0	0	0	0	0	0	0	0	0.0
5-sep	1	Pc	5	5	5	5	5	5	5	5	5	5	5.0
5-sep	1	S	0	0	0	0	0	0	0	0	0	0	0.0
5-sep	1	A	2	0	2	0	0	0	3	3	0	2	1.2
5-sep	1	B	3	2	0	0	2	0	2	0	0	0	0.9
5-sep	1	C	0	3	0	2	0	0	0	0	0	0	0.5
5-sep	1	D	5	5	4	0	2	5	5	5	5	0	3.6
5-sep	1	E	2	4	3	2	0	3	0	0	0	0	1.4
5-sep	1	F	4	0	0	3	2	0	4	3	2	0	1.8
5-sep	2	O	0	0	0	0	2	0	0	0	0	0	0.2
5-sep	2	Pc	5	5	5	4	5	5	4	5	5	5	4.8
5-sep	2	S	0	2	0	0	0	0	0	0	0	0	0.2
5-sep	2	A	0	0	2	3	3	0	2	4	2	0	1.6
5-sep	2	B	4	0	5	0	3	4	0	4	0	2	2.2
5-sep	2	C	5	0	3	0	3	4	0	0	2	2	1.9
5-sep	2	D	4	4	5	4	5	4	4	4	4	5	4.3
5-sep	2	E	5	5	2	2	4	4	0	3	0	2	2.7
5-sep	2	F	2	0	2	0	3	3	0	2	3	5	2.0
5-sep	3	O	0	0	0	3	0	0	0	0	0	0	0.3
5-sep	3	Pc	4	5	5	4	5	5	4	5	4	5	4.6
5-sep	3	S	0	0	0	0	4	0	0	0	0	0	0.4
5-sep	3	A	5	3	4	4	2	2	0	4	2	0	2.6
5-sep	3	B	4	0	3	3	2	0	0	4	2	2	2.0
5-sep	3	C	0	2	3	0	2	0	2	0	2	0	0.9
5-sep	3	D	4	5	4	4	2	3	2	2	0	4	3.0
5-sep	3	E	3	2	2	2	3	0	2	3	0	2	1.9
5-sep	3	F	0	2	0	3	2	0	2	4	3	0	1.6
5-sep	4	O	2	0	0	3	0	0	0	0	0	0	0.5
5-sep	4	Pc	5	5	4	5	5	5	5	5	5	5	4.9
5-sep	4	S	0	0	3	4	0	0	0	3	2	0	1.2
5-sep	4	A	2	3	3	3	2	2	2	0	4	3	2.4
5-sep	4	B	0	0	2	0	0	3	0	4	0	0	0.9
5-sep	4	C	0	2	2	0	0	0	0	0	*	*	0.9
5-sep	4	D	2	3	0	0	4	2	0	3	5	0	1.9
5-sep	4	E	2	3	0	4	2	4	3	5	0	*	2.6
5-sep	4	F	4	5	0	2	4	2	4	5	4	*	3.3

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
13-sep	1	O	0	0	0	0	0	0	0	0	0	0	0.0
13-sep	1	Pc	5	5	5	5	5	5	5	5	5	5	5.0
13-sep	1	S	0	0	0	0	0	0	0	0	0	0	0.0
13-sep	1	A	3	0	2	0	2	4	4	0	3	2	2.0
13-sep	1	B	3	3	0	2	0	3	2	0	2	0	1.5
13-sep	1	C	0	3	2	0	0	2	0	0	0	0	0.9
13-sep	1	D	4	5	4	3	2	5	5	5	2	2	4.0
13-sep	1	E	2	4	3	3	0	3	0	0	2	0	1.7
13-sep	1	F	4	0	0	3	2	0	4	3	2	0	1.8
13-sep	2	O	0	0	0	0	2	0	0	0	0	0	0.2
13-sep	2	Pc	5	5	5	5	5	5	5	5	5	5	5.0
13-sep	2	S	0	2	0	0	0	0	0	0	0	0	0.2
13-sep	2	A	0	0	3	3	2	0	2	4	2	0	1.6
13-sep	2	B	4	0	5	0	4	4	0	3	0	2	2.2
13-sep	2	C	5	0	3	0	3	4	0	0	2	2	1.9
13-sep	2	D	5	4	5	4	5	4	5	5	5	5	4.7
13-sep	2	E	4	5	2	3	4	4	2	3	2	2	3.1
13-sep	2	F	2	0	2	0	3	3	0	0	3	5	1.8
13-sep	3	O	0	0	0	3	0	0	0	0	0	0	0.3
13-sep	3	Pc	5	5	5	5	5	5	5	5	5	5	5.0
13-sep	3	S	0	0	0	0	4	0	0	0	0	0	0.4
13-sep	3	A	5	3	4	4	3	2	0	4	2	0	2.7
13-sep	3	B	4	0	3	3	2	0	0	2	3	2	1.9
13-sep	3	C	2	2	2	0	0	3	0	2	0	0	1.1
13-sep	3	D	4	4	4	5	3	3	2	2	0	4	3.1
13-sep	3	E	3	2	2	3	0	3	0	4	2	2	2.3
13-sep	3	F	0	2	0	3	2	0	2	4	3	2	1.8
13-sep	4	O	3	0	0	3	0	0	0	0	0	0	0.6
13-sep	4	Pc	5	5	5	5	5	5	5	5	5	5	5.0
13-sep	4	S	0	0	4	4	0	0	0	4	2	0	1.4
13-sep	4	A	3	3	2	3	2	2	2	0	4	3	2.4
13-sep	4	B	0	0	2	0	0	3	0	4	0	0	1.1
13-sep	4	C	0	2	3	0	0	0	0	0	*	*	1.0
13-sep	4	D	3	0	0	4	2	0	4	5	0	0	2.1
13-sep	4	E	2	3	0	4	2	4	3	5	2	*	2.8
13-sep	4	F	4	5	0	2	4	2	4	4	*	*	3.1

Date	Block	Treat. 1	2	3	4	5	6	7	8	9	10	average
19-sep	1	O	0	0	0	0	0	0	0	0	0	0.0
19-sep	1	Pc	5	5	5	5	5	5	5	5	5	5.0
19-sep	1	S	0	0	0	0	0	0	0	0	0	0.0
19-sep	1	A	3	0	2	0	2	4	4	0	3	2.0
19-sep	1	B	3	3	0	2	3	3	0	2	0	1.6
19-sep	1	C	0	4	2	3	0	2	0	0	0	1.1
19-sep	1	D	4	4	3	2	5	5	5	2	3	3.9
19-sep	1	E	2	4	3	2	0	3	0	0	0	1.4
19-sep	1	F	4	0	0	4	3	0	4	2	0	2.1
19-sep	2	O	0	0	0	0	0	0	0	0	0	0.0
19-sep	2	Pc	5	5	4	4	5	5	5	5	5	4.8
19-sep	2	S	0	2	0	0	0	0	0	0	0	0.2
19-sep	2	A	0	2	3	4	3	0	2	4	3	2.1
19-sep	2	B	4	0	5	0	4	4	0	4	0	2.3
19-sep	2	C	5	2	3	0	3	4	0	2	2	2.1
19-sep	2	D	4	4	5	4	4	4	5	5	5	4.5
19-sep	2	E	5	5	2	3	4	4	2	4	2	3.3
19-sep	2	F	3	0	2	0	4	3	2	3	5	2.4
19-sep	3	O	0	0	0	3	0	0	0	0	0	0.3
19-sep	3	Pc	4	5	5	5	5	5	5	5	5	4.9
19-sep	3	S	0	0	0	0	4	0	0	0	0	0.4
19-sep	3	A	5	2	4	4	3	0	0	4	2	2.4
19-sep	3	B	4	0	4	3	0	0	2	3	2	2.1
19-sep	3	C	2	3	3	0	3	4	3	0	4	1.5
19-sep	3	D	4	4	4	4	3	4	4	3	0	3.4
19-sep	3	E	2	3	2	2	4	0	2	4	3	2.4
19-sep	3	F	0	2	0	3	0	2	4	3	2	1.8
19-sep	4	O	3	0	0	3	0	0	0	0	0	0.6
19-sep	4	Pc	5	5	4	5	4	5	5	5	5	4.8
19-sep	4	S	0	0	4	5	0	0	4	2	0	1.5
19-sep	4	A	2	4	3	3	2	3	4	0	4	2.7
19-sep	4	B	0	2	3	3	2	3	0	4	0	1.7
19-sep	4	C	0	2	2	0	0	3	2	0	*	1.1
19-sep	4	D	2	3	0	0	4	2	0	4	5	2.0
19-sep	4	E	2	3	0	4	3	4	3	5	3	3.0
19-sep	4	F	4	5	0	3	4	3	5	4	*	3.5

Date	Block	Treat. 1	2	3	4	5	6	7	8	9	10	average
26-sep	1	O	0	0	0	0	0	0	0	0	0	0.0
26-sep	1	Pc	5	5	5	5	5	5	5	5	5	5.0
26-sep	1	S	0	0	0	0	0	0	0	0	0	0.0
26-sep	1	A	2	0	3	0	2	0	4	0	3	1.8
26-sep	1	B	3	2	0	3	0	3	0	2	0	1.5
26-sep	1	C	0	4	2	3	0	2	0	0	0	1.1
26-sep	1	D	5	5	4	2	2	5	5	5	2	4.0
26-sep	1	E	2	4	4	2	0	2	0	0	0	1.4
26-sep	1	F	5	2	0	4	3	0	5	4	3	2.8
26-sep	2	O	0	0	0	0	0	0	0	0	0	0.0
26-sep	2	Pc	5	5	5	5	5	5	5	5	5	5.0
26-sep	2	S	0	2	0	0	0	0	0	0	0	0.2
26-sep	2	A	0	2	3	4	3	0	2	4	2	2.0
26-sep	2	B	4	0	5	2	5	4	0	4	2	2.8
26-sep	2	C	5	2	3	0	4	4	0	2	3	2.3
26-sep	2	D	4	4	5	4	5	4	5	5	5	4.6
26-sep	2	E	5	5	2	3	4	4	0	4	0	2.9
26-sep	2	F	3	0	2	0	4	3	2	2	3	2.4
26-sep	3	O	0	0	0	3	0	0	0	0	0	0.3
26-sep	3	Pc	5	5	5	5	5	5	5	5	5	5.0
26-sep	3	S	0	0	0	0	4	0	0	0	0	0.4
26-sep	3	A	5	2	4	4	3	0	0	4	2	2.4
26-sep	3	B	4	0	4	4	2	0	4	4	2	2.4
26-sep	3	C	2	2	3	0	3	4	2	0	0	1.4
26-sep	3	D	4	5	4	5	3	4	4	2	4	3.5
26-sep	3	E	2	2	2	4	0	3	4	3	2	2.4
26-sep	3	F	0	2	0	3	2	0	2	4	3	2.0
26-sep	4	O	3	0	0	3	2	0	2	0	0	1.0
26-sep	4	Pc	5	5	5	5	5	5	5	5	5	5.0
26-sep	4	S	0	0	4	5	0	0	4	2	0	1.5
26-sep	4	A	2	4	3	4	2	3	4	0	4	2.8
26-sep	4	B	0	2	3	3	2	3	0	4	0	1.7
26-sep	4	C	0	2	2	0	0	3	2	0	*	1.5
26-sep	4	D	2	3	0	0	4	2	0	4	5	2.2
26-sep	4	E	2	3	0	4	3	4	3	5	3	3.2
26-sep	4	F	4	5	0	3	4	3	5	4	*	3.4

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
24-okt	1	O	0	0	0	0	0	0	0	0	0	0	0.0
24-okt	1	Pc	5	5	5	5	5	5	5	5	5	5	5.0
24-okt	1	S	0	0	0	0	0	0	0	0	0	0	0.0
24-okt	1	A	3	3	3	2	2	2	4	4	0	4	2.6
24-okt	1	B	3	3	0	0	0	2	3	0	2	2	1.5
24-okt	1	C	2	4	3	3	0	0	2	2	0	2	1.8
24-okt	1	D	5	5	3	3	2	5	5	5	3	3	4.1
24-okt	1	E	3	4	4	3	2	3	0	2	0	4	2.5
24-okt	1	F	4	2	3	4	3	2	5	4	3	2	3.2
24-okt	2	O	0	0	0	0	0	0	0	0	0	0	0.0
24-okt	2	Pc	5	5	5	4	5	5	5	5	5	5	4.9
24-okt	2	S	0	2	0	0	0	0	0	0	0	0	0.2
24-okt	2	A	2	2	4	4	3	2	2	4	3	0	2.6
24-okt	2	B	4	0	5	2	4	5	0	4	2	3	2.9
24-okt	2	C	5	0	4	0	4	4	0	0	2	3	2.2
24-okt	2	D	5	4	5	4	5	4	5	5	5	5	4.7
24-okt	2	E	4	5	3	3	4	4	2	5	2	3	3.5
24-okt	2	F	3	0	2	0	4	3	2	2	3	5	2.4
24-okt	3	O	0	0	0	3	0	0	3	0	0	0	0.6
24-okt	3	Pc	4	5	5	4	5	4	5	5	4	5	4.6
24-okt	3	S	0	0	0	0	0	4	2	0	0	0	0.6
24-okt	3	A	5	2	4	4	4	0	0	4	2	2	2.7
24-okt	3	B	4	0	4	4	3	0	2	4	5	3	2.9
24-okt	3	C	3	3	3	0	0	3	2	2	0	2	1.8
24-okt	3	D	4	4	4	5	3	3	2	3	0	5	3.3
24-okt	3	E	3	3	2	2	4	0	3	4	3	3	2.7
24-okt	3	F	2	3	0	4	3	0	2	4	4	3	2.5
24-okt	4	O	3	0	0	3	3	0	2	0	0	0	1.1
24-okt	4	Pc	5	5	4	5	5	5	5	5	5	5	4.9
24-okt	4	S	0	0	4	5	0	0	0	4	2	0	1.5
24-okt	4	A	3	4	3	4	2	3	4	2	4	0	3.2
24-okt	4	B	0	2	3	2	2	3	0	4	0	0	1.6
24-okt	4	C	0	3	3	2	0	3	2	0	*	*	1.6
24-okt	4	D	2	4	0	4	2	0	4	5	0	0	2.1
24-okt	4	E	2	3	2	4	3	4	4	5	3	*	3.3
24-okt	4	F	4	5	2	3	4	2	5	4	*	*	3.6

Date	Block	Treat.	1	2	3	4	5	6	7	8	9	10	average
10-okt	1	O	0	0	0	0	0	0	0	0	0	0	0.0
10-okt	1	Pc	5	5	5	5	5	5	5	5	5	5	5.0
10-okt	1	S	0	0	0	0	0	0	0	0	0	0	0.0
10-okt	1	A	3	3	3	2	2	2	4	4	0	3	2.6
10-okt	1	B	3	3	0	2	0	3	0	3	0	2	1.8
10-okt	1	C	2	4	3	2	0	0	3	0	0	2	1.6
10-okt	1	D	5	4	4	3	3	5	5	5	3	3	4.2
10-okt	1	E	3	4	4	3	2	3	0	2	0	0	2.1
10-okt	1	F	4	2	0	4	3	0	4	4	3	3	2.7
10-okt	2	O	0	0	0	0	0	0	0	0	0	0	0.0
10-okt	2	Pc	5	5	5	4	5	5	5	5	5	5	4.9
10-okt	2	S	0	3	0	0	0	0	0	0	0	0	0.3
10-okt	2	A	0	3	4	4	3	0	3	4	2	0	2.3
10-okt	2	B	4	0	5	2	4	5	0	4	2	3	2.9
10-okt	2	C	5	2	4	0	4	4	2	0	3	3	2.7
10-okt	2	D	4	4	5	4	5	4	4	5	5	5	4.5
10-okt	2	E	5	5	3	3	4	4	0	4	2	3	3.3
10-okt	2	F	3	0	2	0	4	3	3	2	3	5	2.5
10-okt	3	O	0	0	0	3	0	0	2	0	0	0	0.5
10-okt	3	Pc	5	5	5	4	5	4	4	5	5	5	4.7
10-okt	3	S	0	0	0	2	0	3	2	0	0	0	0.7
10-okt	3	A	5	3	4	4	4	0	0	4	2	0	2.6
10-okt	3	B	4	0	4	4	3	0	0	4	4	3	2.6
10-okt	3	C	3	3	3	0	0	3	2	3	0	0	1.7
10-okt	3	D	4	4	4	5	3	4	3	3	0	4	3.4
10-okt	3	E	4	3	2	2	4	0	3	4	3	2	2.7
10-okt	3	F	2	3	0	4	2	0	3	4	4	3	2.5
10-okt	4	O	3	2	0	3	3	0	3	0	0	0	1.4
10-okt	4	Pc	5	5	4	5	5	5	4	5	5	5	4.8
10-okt	4	S	0	0	4	5	2	0	0	4	3	0	1.8
10-okt	4	A	3	4	3	4	3	3	4	0	4	3	3.1
10-okt	4	B	0	3	3	2	3	3	0	4	2	0	2.0
10-okt	4	C	0	3	3	3	2	3	3	0	*	*	2.1
10-okt	4	D	3	4	0	4	2	0	4	5	0	0	2.2
10-okt	4	E	3	3	2	4	3	4	4	5	3	*	3.4
10-okt	4	F	4	5	2	3	4	3	4	5	4	*	3.8

Appendix 3. Anova

3.1 Analysis of variance, overall analysis

Variate: gemziek overall

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
Blok stratum	3	4.4719	1.4906	0.50	
Blok.Plot stratum					
Behandel	8	878.7656	109.8457	36.95	<.001
Residual	24	71.3559	2.9732	26.24	
Blok.Plot.Datplot stratum					
Datum	19	497.8587	26.2031	231.24	<.001
Lin	1	483.9387	483.9387	4270.75	<.001
Quad	1	0.0247	0.0247	0.22	0.641
Deviations	17	13.8952	0.8174	7.21	<.001
Behandel.Datum	152	188.7572	1.2418	10.96	<.001
Behandel.Lin	8	104.8803	13.1100	115.70	<.001
Behandel.Quad	8	60.6486	7.5811	66.90	<.001
Deviations	136	23.2282	0.1708	1.51	<.001
Residual	513	58.1305	0.1133		
Total	719	1699.3398			

Message: the following units have large residuals.

Blok 1 Plot 7	0.781	s.e.	0.315
Blok 4 Plot 34	-0.893	s.e.	0.315
Blok 2 Plot 16 Datplot 2	-0.927	s.e.	0.284
Blok 2 Plot 16 Datplot 11	0.897	s.e.	0.284

Tables of means

Grand mean 1.243

Behandel	A	B	C	D	E	F	O
	1.064	0.853	0.582	2.132	1.151	1.104	0.115
Behandel	Pc	S					
	3.941	0.247					
Datum	09/05/06	16/05/06	23/05/06	06/06/06	13/06/06	21/06/06	27/06/06
	0.081	0.169	0.217	0.358	0.397	0.478	0.575
Datum	03/07/06	12/07/06	26/07/06	01/08/06	08/08/06	15/08/06	29/08/06
	0.611	0.717	1.153	1.438	1.589	1.697	1.920
Datum	05/09/06	13/09/06	19/09/06	26/09/06	10/10/06	24/10/06	
	1.947	2.103	2.192	2.275	2.484	2.466	

Behandel	Datum	09/05/06	16/05/06	23/05/06	06/06/06	13/06/06	21/06/06
A		0.000	0.000	0.000	0.050	0.000	0.050
B		0.000	0.000	0.000	0.000	0.000	0.000
C		0.000	0.000	0.000	0.000	0.000	0.000
D		0.125	0.425	0.575	0.625	0.725	0.825
E		0.000	0.000	0.000	0.000	0.000	0.000
F		0.000	0.000	0.000	0.000	0.000	0.000
O		0.000	0.000	0.000	0.000	0.000	0.000
Pc		0.600	1.100	1.375	2.550	2.850	3.425
S		0.000	0.000	0.000	0.000	0.000	0.000

Behandel	Datum	27/06/06	03/07/06	12/07/06	26/07/06	01/08/06	08/08/06
A		0.050	0.050	0.175	0.875	1.075	1.400
B		0.050	0.100	0.100	0.475	0.825	1.075
C		0.000	0.050	0.000	0.075	0.363	0.413
D		1.125	1.075	1.375	2.425	2.900	3.100
E		0.000	0.000	0.000	0.892	1.333	1.453
F		0.000	0.000	0.000	0.638	1.150	1.531
O		0.000	0.000	0.000	0.000	0.050	0.050
Pc		3.950	4.225	4.800	4.750	4.975	4.925
S		0.000	0.000	0.000	0.250	0.275	0.350

Behandel	Datum	15/08/06	29/08/06	05/09/06	13/09/06	19/09/06	26/09/06
A		1.525	1.925	1.950	2.175	2.300	2.250
B		1.150	1.525	1.500	1.675	1.925	2.100
C		0.669	0.881	1.044	1.225	1.456	1.575
D		3.250	3.275	3.200	3.475	3.450	3.575
E		1.625	2.217	2.139	2.469	2.525	2.481
F		1.625	1.956	2.163	2.131	2.450	2.644
O		0.075	0.150	0.250	0.275	0.225	0.325
Pc		4.950	4.950	4.825	5.000	4.875	5.000
S		0.400	0.400	0.450	0.500	0.525	0.525

Behandel	Datum	10/10/06	24/10/06
A		2.650	2.775
B		2.325	2.225
C		2.031	1.856
D		3.575	3.550
E		2.886	3.008
F		2.863	2.931
O		0.475	0.425
Pc		4.850	4.850
S		0.700	0.575

Standard errors of means

Table	Behandel	Datum	Behandel Datum
rep.	80	36	4
e.s.e.	0.1928	0.0561	0.2531
d.f.	24	513	69.64
Except when comparing means with the same level(s) of Behandel			0.1683
d.f.			513

Standard errors of differences of means

Table	Behandel	Datum	Behandel Datum
rep.	80	36	4
s.e.d.	0.2726	0.0793	0.3580
d.f.	24	513	69.64
Except when comparing means with the same level(s) of Behandel			0.2380
d.f.			513

Least significant differences of means (5% level)

Table	Behandel	Datum	Behandel Datum
rep.	80	36	4
l.s.d.	0.5627	0.1559	0.7140
d.f.	24	513	69.64
Except when comparing means with the same level(s) of Behandel			0.4676
d.f.			513

Least significant differences of means (10% level)

Table	Behandel	Datum	Behandel Datum
rep.	80	36	4
l.s.d.	0.4664	0.1307	0.5968
d.f.	24	513	69.64
Except when comparing means with the same level(s) of Behandel			0.3922
d.f.			513

3.3 Analysis of variance, growth

Variate: Groei

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
Blok stratum	3	70.30	23.43	0.37	
Blok.*Units* stratum					
Behandel	8	1138.75	142.34	2.24	0.061
Residual	24	1527.86	63.66		
Total	35	2736.91			

Message: the following units have large residuals.

Blok 1 *units* 2	21.4	s.e. 6.5
Blok 1 *units* 3	-21.1	s.e. 6.5
Blok 2 *units* 3	14.3	s.e. 6.5

Tables of means

Grand mean 20.2

Behandel	A	B	C	D	E	F	O
	19.9	21.8	25.1	12.6	19.5	21.0	30.1
Behandel	Pc	S					
	10.2	21.3					

Standard errors of means

Table	Behandel
rep.	4
d.f.	24
e.s.e.	3.99

Standard errors of differences of means

Table	Behandel
rep.	4
d.f.	24
s.e.d.	5.64

Least significant differences of means (5% level)

Table	Behandel
rep.	4
d.f.	24
l.s.d.	11.64

Least significant differences of means (10% level)

Table	Behandel
rep.	4
d.f.	24
l.s.d.	9.65

3.4 Analysis of variance, roots

Variate: wortel

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
Blok stratum	3	0.36111	0.12037	1.68	
Blok.*Units* stratum					
Behandel	8	18.71222	2.33903	32.66	<.001
Residual	24	1.71889	0.07162		
Total	35	20.79222			

Message: the following units have large residuals.

Blok 1 *units* 3	-0.536	s.e.	0.219
Blok 1 *units* 7	0.464	s.e.	0.219
Blok 4 *units* 1	0.461	s.e.	0.219
Blok 4 *units* 7	-0.514	s.e.	0.219

Tables of means

Grand mean 1.672

Behandel	A	B	C	D	E	F	O
	1.800	1.600	1.675	2.175	1.950	1.800	0.400
Behandel	Pc	S					
	2.975	0.675					

Standard errors of means

Table	Behandel
rep.	4
d.f.	24
e.s.e.	0.1338

Standard errors of differences of means

Table	Behandel
rep.	4
d.f.	24
s.e.d.	0.1892

Least significant differences of means (5% level)

Table	Behandel
rep.	4
d.f.	24
l.s.d.	0.3906

Least significant differences of means (10% level)

Table	Behandel
rep.	4
d.f.	24
l.s.d.	0.3238

3.5 Analysis of variance, 190906

Variate: gem

Source of variation	d.f.	s.s.	m.s.	v.r.	F pr.
Blok stratum	3	1.9426	0.6475	1.51	
Blok.*Units* stratum					
formulering	1	4.8375	4.8375	11.30	0.004
dosering	2	3.5026	1.7513	4.09	0.038
formulering.dosering	2	0.3876	0.1938	0.45	0.644
Residual	15	6.4204	0.4280		
Total	23	17.0906			

Message: the following units have large residuals.

Blok 4 *units* 4	-1.44	s.e.	0.52
Blok 4 *units* 6	1.06	s.e.	0.52

Tables of means

Grand mean 2.37

formulering	1	2		
	1.92	2.82		
dosering	0.50	0.75	1.00	
	2.88	2.27	1.95	
formulering	dosering	0.50	0.75	1.00
1		2.30	2.00	1.46
2		3.45	2.55	2.45

Standard errors of means

Table	formulering	dosering	formulering dosering
rep.	12	8	4
d.f.	15	15	15
e.s.e.	0.189	0.231	0.327

Standard errors of differences of means

Table	formulering	dosering	formulering dosering
rep.	12	8	4
d.f.	15	15	15
s.e.d.	0.267	0.327	0.463

Least significant differences of means (5% level)

Table	formulering	dosering	formulering dosering
rep.	12	8	4
d.f.	15	15	15
l.s.d.	0.569	0.697	0.986

