

ภาคผนวก ก

ข้อมูลสภาพอากาศของจังหวัดเชียงใหม่ปี พ.ศ. 2557

ตารางผนวกที่ 1 ข้อมูลอุตุนิยมวิทยาเฉลี่ยรายเดือนของจังหวัดเชียงใหม่ปี พ.ศ. 2557

| เดือน | อุณหภูมิเฉลี่ย (องศาเซลเซียส) | ความชื้นสัมพัทธ์เฉลี่ย (เปอร์เซ็นต์) | ปริมาณน้ำฝน (มิลลิเมตร) |
|------------|----------------------------------|---|----------------------------|
| มกราคม | 21.32 | 71.7 | 0.00 |
| กุมภาพันธ์ | 24.27 | 59.0 | 0.00 |
| มีนาคม | 27.71 | 52.5 | 0.19 |
| เมษายน | 29.58 | 60.2 | 1.16 |
| พฤษภาคม | 29.09 | 70.3 | 7.62 |
| มิถุนายน | 28.81 | 73.9 | 1.96 |
| กรกฎาคม | 27.99 | 76.8 | 5.97 |
| สิงหาคม | 27.44 | 79.3 | 7.46 |
| กันยายน | 27.63 | 78.1 | 5.92 |
| ตุลาคม | 27.27 | 73.7 | 4.17 |
| พฤศจิกายน | 25.75 | 73.6 | 0.53 |
| ธันวาคม | 23.48 | 70.5 | 0.00 |
| เฉลี่ย | 26.70±2.50 | 69.97±8.35 | 2.92±3.09 |

แหล่งข้อมูล: ฝ่ายสารสนเทศอุตุนิยมวิทยา ศูนย์อุตุนิยมวิทยาภาคเหนือ อ. เมือง จ. เชียงใหม่

ภาคผนวก ข

การวิเคราะห์ข้อมูลทางสถิติ

ตารางผนวกที่ 2 การวิเคราะห์ข้อมูลทางสถิติสำหรับการทดสอบประสิทธิภาพของสารชีวภัณฑ์ และ
สารเคมีในการควบคุมด้วงหมัดผักแถบลายในระดับห้องปฏิบัติการ

Statistix 8.0
23:21:35

21/4/2014,

Randomized Complete Block AOV Table for done

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 200.000 | 66.6667 | | |
| Treatment | 6 | 135.714 | 22.6190 | 1.16 | 0.3681 |
| Error | 18 | 350.000 | 19.4444 | | |
| Total | 27 | 685.714 | | | |

Grand Mean 4.2857 CV 102.89

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 32.895 | 32.8947 | 1.76 | 0.2017 |
| Remainder | 17 | 317.105 | 18.6533 | | |

Relative Efficiency, RCB 1.25

Means of done for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 0.0000 |
| 2 | 5.0000 |
| 3 | 2.5000 |
| 4 | 7.5000 |
| 5 | 5.0000 |
| 6 | 5.0000 |
| 7 | 5.0000 |

Observations per Mean 4

Standard Error of a Mean 2.2048

Std Error (Diff of 2 Means) 3.1180

Randomized Complete Block AOV Table for dtwo

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 513.24 | 171.081 | | |
| Treatment | 6 | 409.15 | 68.192 | 1.66 | 0.1879 |
| Error | 18 | 738.61 | 41.034 | | |
| Total | 27 | 1661.00 | | | |

Grand Mean 6.5079 CV 98.43

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 235.812 | 235.812 | 7.97 | 0.0117 |
| Remainder | 17 | 502.794 | 29.576 | | |

Relative Efficiency, RCB 1.33

Means of dtwo for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 0.0000 |
| 2 | 5.0000 |
| 3 | 5.0000 |
| 4 | 7.7775 |
| 5 | 5.0000 |
| 6 | 12.778 |
| 7 | 10.000 |

Observations per Mean 4
 Standard Error of a Mean 3.2029
 Std Error (Diff of 2 Means) 4.5296

Randomized Complete Block AOV Table for dthree

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 662.65 | 220.883 | | |
| Treatment | 6 | 2534.73 | 422.456 | 4.64 | 0.0051 |
| Error | 18 | 1640.03 | 91.113 | | |
| Total | 27 | 4837.41 | | | |

Grand Mean 14.007 CV 68.15

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 22.14 | 22.1412 | 0.23 | 0.6357 |
| Remainder | 17 | 1617.89 | 95.1698 | | |

Relative Efficiency, RCB 1.14

Means of dthree for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 0.0000 |
| 2 | 13.055 |
| 3 | 10.555 |
| 4 | 13.610 |
| 5 | 7.5000 |
| 6 | 21.110 |
| 7 | 32.220 |

Observations per Mean 4
 Standard Error of a Mean 4.7726
 Std Error (Diff of 2 Means) 6.7495

Randomized Complete Block AOV Table for dfour

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|-------|--------|
| Rep | 3 | 914.1 | 304.68 | | |
| Treatment | 6 | 7867.0 | 1311.17 | 12.43 | 0.0000 |
| Error | 18 | 1898.3 | 105.46 | | |
| Total | 27 | 10679.4 | | | |

Grand Mean 32.879 CV 31.23

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 81.51 | 81.508 | 0.76 | 0.3947 |
| Remainder | 17 | 1816.83 | 106.872 | | |

Relative Efficiency, RCB 1.19

Means of dfour for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 0.0000 |
| 2 | 29.513 |
| 3 | 28.415 |
| 4 | 34.375 |
| 5 | 32.638 |
| 6 | 46.530 |
| 7 | 58.683 |

Observations per Mean 4
 Standard Error of a Mean 5.1348
 Std Error (Diff of 2 Means) 7.2617

Randomized Complete Block AOV Table for dfive

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|-------|--------|
| Rep | 3 | 161.4 | 53.80 | | |
| Treatment | 6 | 15329.5 | 2554.92 | 17.33 | 0.0000 |
| Error | 18 | 2654.0 | 147.44 | | |
| Total | 27 | 18144.9 | | | |

Grand Mean 51.324 CV 23.66

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 7.45 | 7.452 | 0.05 | 0.8294 |
| Remainder | 17 | 2646.55 | 155.680 | | |

Relative Efficiency, RCB 0.92

Means of dfive for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 0.0000 |
| 2 | 47.110 |
| 3 | 51.042 |
| 4 | 60.418 |
| 5 | 52.082 |
| 6 | 69.792 |
| 7 | 78.820 |

Observations per Mean 4
 Standard Error of a Mean 6.0713
 Std Error (Diff of 2 Means) 8.5862

Randomized Complete Block AOV Table for dsix

| Source | DF | SS | MS | F | P |
|--------|----|------|-------|---|---|
| Rep | 3 | 78.8 | 26.27 | | |

| | | | | | |
|-----------|----|---------|---------|-------|--------|
| Treatment | 6 | 22920.6 | 3820.10 | 23.19 | 0.0000 |
| Error | 18 | 2964.9 | 164.71 | | |
| Total | 27 | 25964.3 | | | |

Grand Mean 67.219 CV 19.09

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 37.47 | 37.470 | 0.22 | 0.6468 |
| Remainder | 17 | 2927.40 | 172.200 | | |

Relative Efficiency, RCB 0.89

Means of dsix for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 0.0000 |
| 2 | 67.858 |
| 3 | 70.535 |
| 4 | 80.803 |
| 5 | 74.108 |
| 6 | 83.482 |
| 7 | 93.750 |

Observations per Mean 4
Standard Error of a Mean 6.4171
Std Error (Diff of 2 Means) 9.0751

Randomized Complete Block AOV Table for dseven

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|-------|--------|
| Rep | 3 | 101.5 | 33.82 | | |
| Treatment | 6 | 31680.3 | 5280.05 | 58.91 | 0.0000 |
| Error | 18 | 1613.2 | 89.62 | | |
| Total | 27 | 33395.0 | | | |

Grand Mean 81.441 CV 11.62

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 12.75 | 12.7483 | 0.14 | 0.7174 |
| Remainder | 17 | 1600.46 | 94.1448 | | |

Relative Efficiency, RCB 0.92

Means of dseven for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 0.0000 |
| 2 | 93.750 |
| 3 | 85.715 |
| 4 | 100.00 |
| 5 | 90.625 |
| 6 | 100.00 |
| 7 | 100.00 |

Observations per Mean 4
Standard Error of a Mean 4.7335
Std Error (Diff of 2 Means) 6.6941

Randomized Complete Block AOV Table for deight

| Source | DF | SS | MS | F | P |
|-----------|----|-----------|-----------|---------|--------|
| Rep | 3 | 5.142E-28 | 1.714E-28 | | |
| Treatment | 6 | 34285.7 | 5714.29 | 1.2E+33 | 0.0000 |
| Error | 18 | 8.570E-29 | 4.761E-30 | | |
| Total | 27 | 34285.7 | | | |

Grand Mean 85.714

WARNING: The model error mean square is too small to continue.
The model may fit the data exactly.

Randomized Complete Block AOV Table for dnine

| Source | DF | SS | MS | F | P |
|-----------|----|-----------|-----------|---------|--------|
| Rep | 3 | 5.142E-28 | 1.714E-28 | | |
| Treatment | 6 | 34285.7 | 5714.29 | 1.2E+33 | 0.0000 |
| Error | 18 | 8.570E-29 | 4.761E-30 | | |
| Total | 27 | 34285.7 | | | |

Grand Mean 85.714

WARNING: The model error mean square is too small to continue.
The model may fit the data exactly.

Statistix 8.0
23:22:17

21/4/2014,

LSD All-Pairwise Comparisons Test of done for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 4 | 7.5000 | A |
| 2 | 5.0000 | AB |
| 5 | 5.0000 | AB |
| 6 | 5.0000 | AB |
| 7 | 5.0000 | AB |
| 3 | 2.5000 | AB |
| 1 | 0.0000 | B |

Alpha 0.05 Standard Error for Comparison 3.1180
Critical T Value 2.101 Critical Value for Comparison 6.5508
Error term used: Rep*Treatment, 18 DF
There are 2 groups (A and B) in which the means
are not significantly different from one another.

LSD All-Pairwise Comparisons Test of dtwo for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 12.778 | A |
| 7 | 10.000 | A |
| 4 | 7.7775 | AB |
| 2 | 5.0000 | AB |
| 3 | 5.0000 | AB |
| 5 | 5.0000 | AB |
| 1 | 0.0000 | B |

Alpha 0.05 Standard Error for Comparison 4.5296
Critical T Value 2.101 Critical Value for Comparison 9.5162

Error term used: Rep*Treatment, 18 DF
 There are 2 groups (A and B) in which the means
 are not significantly different from one another.

LSD All-Pairwise Comparisons Test of dthree for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 7 | 32.220 | A |
| 6 | 21.110 | AB |
| 4 | 13.610 | BC |
| 2 | 13.055 | BC |
| 3 | 10.555 | BC |
| 5 | 7.5000 | BC |
| 1 | 0.0000 | C |

Alpha 0.05 Standard Error for Comparison 6.7495
 Critical T Value 2.101 Critical Value for Comparison 14.180
 Error term used: Rep*Treatment, 18 DF
 There are 3 groups (A, B, etc.) in which the means
 are not significantly different from one another.

LSD All-Pairwise Comparisons Test of dfour for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 7 | 58.683 | A |
| 6 | 46.530 | AB |
| 4 | 34.375 | BC |
| 5 | 32.638 | BC |
| 2 | 29.513 | C |
| 3 | 28.415 | C |
| 1 | 0.0000 | D |

Alpha 0.05 Standard Error for Comparison 7.2617
 Critical T Value 2.101 Critical Value for Comparison 15.256
 Error term used: Rep*Treatment, 18 DF
 There are 4 groups (A, B, etc.) in which the means
 are not significantly different from one another.

LSD All-Pairwise Comparisons Test of dfive for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 7 | 78.820 | A |
| 6 | 69.792 | AB |
| 4 | 60.418 | BC |
| 5 | 52.082 | BC |
| 3 | 51.042 | C |
| 2 | 47.110 | C |
| 1 | 0.0000 | D |

Alpha 0.05 Standard Error for Comparison 8.5862
 Critical T Value 2.101 Critical Value for Comparison 18.039
 Error term used: Rep*Treatment, 18 DF
 There are 4 groups (A, B, etc.) in which the means
 are not significantly different from one another.

LSD All-Pairwise Comparisons Test of dsix for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 7 | 93.750 | A |

| | | |
|---|--------|----|
| 6 | 83.482 | AB |
| 4 | 80.803 | AB |
| 5 | 74.108 | B |
| 3 | 70.535 | B |
| 2 | 67.858 | B |
| 1 | 0.0000 | C |

Alpha 0.05 Standard Error for Comparison 9.0751
 Critical T Value 2.101 Critical Value for Comparison 19.066
 Error term used: Rep*Treatment, 18 DF
 There are 3 groups (A, B, etc.) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of dseven for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 4 | 100.00 | A |
| 6 | 100.00 | A |
| 7 | 100.00 | A |
| 2 | 93.750 | AB |
| 5 | 90.625 | AB |
| 3 | 85.715 | B |
| 1 | 0.0000 | C |

Alpha 0.05 Standard Error for Comparison 6.6941
 Critical T Value 2.101 Critical Value for Comparison 14.064
 Error term used: Rep*Treatment, 18 DF
 There are 3 groups (A, B, etc.) in which the means are not significantly different from one another.

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ตารางผนวกที่ 3 การวิเคราะห์ข้อมูลทางสถิติสำหรับการทดสอบประสิทธิภาพของสารชีวภัณฑ์ และ
สารเคมีในการควบคุมด้วงหมัดผักแถบลาย ในสภาพแปลงปลูกภายใต้โรงเรือน

ความสูงต้น

Statistix 8.0
19:45:28

25/4/2014,

Randomized Complete Block AOV Table for wone

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 12.0288 | 4.00961 | | |
| Treatment | 5 | 2.2347 | 0.44694 | 1.69 | 0.1979 |
| Error | 15 | 3.9694 | 0.26463 | | |
| Total | 23 | 18.2329 | | | |

Grand Mean 8.0217 CV 6.41

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.02416 | 0.02416 | 0.09 | 0.7740 |
| Remainder | 14 | 3.94526 | 0.28180 | | |

Relative Efficiency, RCB 2.80

Means of wone for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 7.6100 |
| 2 | 8.6175 |
| 3 | 7.9250 |
| 4 | 7.8775 |
| 5 | 8.0850 |
| 6 | 8.0150 |

Observations per Mean 4
Standard Error of a Mean 0.2572
Std Error (Diff of 2 Means) 0.3637

Randomized Complete Block AOV Table for wtwo

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 31.4114 | 10.4705 | | |
| Treatment | 5 | 0.5823 | 0.1165 | 0.29 | 0.9094 |
| Error | 15 | 5.9634 | 0.3976 | | |
| Total | 23 | 37.9571 | | | |

Grand Mean 9.9717 CV 6.32

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.00001 | 0.00001 | 0.00 | 0.9957 |
| Remainder | 14 | 5.96335 | 0.42595 | | |

Relative Efficiency, RCB 4.23

Means of wtwo for Treatment

| Treatment | Mean |
|-----------|------|
|-----------|------|

1 9.893
 2 10.090
 3 9.732
 4 10.125
 5 10.142
 6 9.848

Observations per Mean 4
 Standard Error of a Mean 0.3153
 Std Error (Diff of 2 Means) 0.4458

Randomized Complete Block AOV Table for wthree

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 1.5817 | 0.52724 | | |
| Treatment | 5 | 2.5501 | 0.51001 | 0.99 | 0.4573 |
| Error | 15 | 7.7440 | 0.51627 | | |
| Total | 23 | 11.8758 | | | |

Grand Mean 13.508 CV 5.32

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.32883 | 0.32883 | 0.62 | 0.4439 |
| Remainder | 14 | 7.41518 | 0.52966 | | |

Relative Efficiency, RCB 0.99

Means of wthree for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 13.150 |
| 2 | 13.915 |
| 3 | 13.417 |
| 4 | 13.732 |
| 5 | 13.783 |
| 6 | 13.050 |

Observations per Mean 4
 Standard Error of a Mean 0.3593
 Std Error (Diff of 2 Means) 0.5081

Randomized Complete Block AOV Table for wfour

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 1.1467 | 0.38225 | | |
| Treatment | 5 | 1.4450 | 0.28900 | 0.49 | 0.7759 |
| Error | 15 | 8.7760 | 0.58507 | | |
| Total | 23 | 11.3678 | | | |

Grand Mean 15.924 CV 4.80

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.37128 | 0.37128 | 0.62 | 0.4447 |
| Remainder | 14 | 8.40475 | 0.60034 | | |

Relative Efficiency, RCB 0.94

Means of wfour for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 15.447 |
| 2 | 16.253 |
| 3 | 16.058 |
| 4 | 16.002 |
| 5 | 15.900 |
| 6 | 15.882 |

Observations per Mean 4
Standard Error of a Mean 0.3824
Std Error (Diff of 2 Means) 0.5409

Statistix 8.0
19:47:39

25/4/2014,

LSD All-Pairwise Comparisons Test of wone for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 2 | 8.6175 | A |
| 5 | 8.0850 | AB |
| 6 | 8.0150 | AB |
| 3 | 7.9250 | AB |
| 4 | 7.8775 | AB |
| 1 | 7.6100 | B |

Alpha 0.05 Standard Error for Comparison 0.3637
Critical T Value 2.131 Critical Value for Comparison 0.7753
Error term used: Rep*Treatment, 15 DF
There are 2 groups (A and B) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wtwo for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 5 | 10.142 | A |
| 4 | 10.125 | A |
| 2 | 10.090 | A |
| 1 | 9.893 | A |
| 6 | 9.848 | A |
| 3 | 9.732 | A |

Alpha 0.05 Standard Error for Comparison 0.4458
Critical T Value 2.131 Critical Value for Comparison 0.9503
Error term used: Rep*Treatment, 15 DF
There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wthree for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 2 | 13.915 | A |
| 5 | 13.783 | A |
| 4 | 13.732 | A |
| 3 | 13.417 | A |
| 1 | 13.150 | A |
| 6 | 13.050 | A |

Alpha 0.05 Standard Error for Comparison 0.5081
Critical T Value 2.131 Critical Value for Comparison 1.0829
Error term used: Rep*Treatment, 15 DF

There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wfour for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 2 | 16.253 | A |
| 3 | 16.058 | A |
| 4 | 16.002 | A |
| 5 | 15.900 | A |
| 6 | 15.882 | A |
| 1 | 15.447 | A |

Alpha 0.05 Standard Error for Comparison 0.5409
 Critical T Value 2.131 Critical Value for Comparison 1.1528
 Error term used: Rep*Treatment, 15 DF
 There are no significant pairwise differences among the means.

ความกว้างทรงพุ่ม

Statistix 8.0
 19:49:02

25/4/2014,

Randomized Complete Block AOV Table for wone

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 5.9122 | 1.97073 | | |
| Treatment | 5 | 0.9671 | 0.19341 | 0.48 | 0.7834 |
| Error | 15 | 6.0014 | 0.40009 | | |
| Total | 23 | 12.8806 | | | |

Grand Mean 7.7325 CV 8.18

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.17535 | 0.17535 | 0.42 | 0.5268 |
| Remainder | 14 | 5.82606 | 0.41615 | | |

Relative Efficiency, RCB 1.49

Means of Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 7.4925 |
| 2 | 7.8675 |
| 3 | 8.0950 |
| 4 | 7.5700 |
| 5 | 7.6425 |
| 6 | 7.7275 |

Observations per Mean 4
 Standard Error of a Mean 0.3163
 Std Error (Diff of 2 Means) 0.4473

Randomized Complete Block AOV Table for wtwo

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 2.7371 | 0.91238 | | |
| Treatment | 5 | 1.2641 | 0.25283 | 0.28 | 0.9166 |
| Error | 15 | 13.5230 | 0.90153 | | |
| Total | 23 | 17.5243 | | | |

Grand Mean 11.511 CV 8.25

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.0031 | 0.00313 | 0.00 | 0.9554 |
| Remainder | 14 | 13.5199 | 0.96570 | | |

Relative Efficiency, RCB 0.98

Means of wtwo for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 11.478 |
| 2 | 11.185 |
| 3 | 11.843 |
| 4 | 11.732 |
| 5 | 11.290 |
| 6 | 11.540 |

Observations per Mean 4
Standard Error of a Mean 0.4747
Std Error (Diff of 2 Means) 0.6714

Randomized Complete Block AOV Table for wthree

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 2.2370 | 0.74566 | | |
| Treatment | 5 | 3.7316 | 0.74633 | 1.11 | 0.3964 |
| Error | 15 | 10.0929 | 0.67286 | | |
| Total | 23 | 16.0615 | | | |

Grand Mean 16.567 CV 4.95

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.51857 | 0.51857 | 0.76 | 0.3986 |
| Remainder | 14 | 9.57437 | 0.68388 | | |

Relative Efficiency, RCB 1.00

Means of wthree for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 15.915 |
| 2 | 17.133 |
| 3 | 16.703 |
| 4 | 16.615 |
| 5 | 16.802 |
| 6 | 16.233 |

Observations per Mean 4
Standard Error of a Mean 0.4101
Std Error (Diff of 2 Means) 0.5800

Randomized Complete Block AOV Table for wfour

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 5.8225 | 1.94084 | | |
| Treatment | 5 | 2.7744 | 0.55487 | 0.74 | 0.6027 |
| Error | 15 | 11.1881 | 0.74587 | | |

Total 23 19.7850

Grand Mean 19.715 CV 4.38

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 1.61173 | 1.61173 | 2.36 | 0.1471 |
| Remainder | 14 | 9.57639 | 0.68403 | | |

Relative Efficiency, RCB 1.19

Means of wfour for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 19.690 |
| 2 | 19.440 |
| 3 | 19.792 |
| 4 | 19.432 |
| 5 | 20.418 |
| 6 | 19.520 |

Observations per Mean 4
Standard Error of a Mean 0.4318
Std Error (Diff of 2 Means) 0.6107

Statistix 8.0
19:49:20

25/4/2014,

LSD All-Pairwise Comparisons Test of wone for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 3 | 8.0950 | A |
| 2 | 7.8675 | A |
| 6 | 7.7275 | A |
| 5 | 7.6425 | A |
| 4 | 7.5700 | A |
| 1 | 7.4925 | A |

Alpha 0.05 Standard Error for Comparison 0.4473
Critical T Value 2.131 Critical Value for Comparison 0.9533
Error term used: Rep*Treatment, 15 DF
There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wtwo for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 3 | 11.843 | A |
| 4 | 11.732 | A |
| 6 | 11.540 | A |
| 1 | 11.478 | A |
| 5 | 11.290 | A |
| 2 | 11.185 | A |

Alpha 0.05 Standard Error for Comparison 0.6714
Critical T Value 2.131 Critical Value for Comparison 1.4310
Error term used: Rep*Treatment, 15 DF
There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wthree for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 2 | 17.133 | A |
| 5 | 16.802 | A |
| 3 | 16.703 | A |
| 4 | 16.615 | A |
| 6 | 16.233 | A |
| 1 | 15.915 | A |

Alpha 0.05 Standard Error for Comparison 0.5800
 Critical T Value 2.131 Critical Value for Comparison 1.2363
 Error term used: Rep*Treatment, 15 DF
 There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wfour for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 5 | 20.418 | A |
| 3 | 19.792 | A |
| 1 | 19.690 | A |
| 6 | 19.520 | A |
| 2 | 19.440 | A |
| 4 | 19.432 | A |

Alpha 0.05 Standard Error for Comparison 0.6107
 Critical T Value 2.131 Critical Value for Comparison 1.3016
 Error term used: Rep*Treatment, 15 DF
 There are no significant pairwise differences among the means.

การทำลาย

Statistix 8.0
 19:51:40

25/4/2014,

Randomized Complete Block AOV Table for wone

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.22245 | 0.07415 | | |
| Treatment | 5 | 0.34978 | 0.06996 | 0.76 | 0.5928 |
| Error | 15 | 1.38215 | 0.09214 | | |
| Total | 23 | 1.95438 | | | |

Grand Mean 1.4758 CV 20.57

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.23999 | 0.23999 | 2.94 | 0.1084 |
| Remainder | 14 | 1.14216 | 0.08158 | | |

Relative Efficiency, RCB 0.96

Means of wone for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 1.5975 |
| 2 | 1.3175 |
| 3 | 1.4050 |
| 4 | 1.4000 |

5 1.4675
 6 1.6675
 Observations per Mean 4
 Standard Error of a Mean 0.1518
 Std Error (Diff of 2 Means) 0.2146

Randomized Complete Block AOV Table for wtwo

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 1.5159 | 0.50532 | | |
| Treatment | 5 | 1.6480 | 0.32960 | 0.42 | 0.8282 |
| Error | 15 | 11.7953 | 0.78635 | | |
| Total | 23 | 14.9592 | | | |

Grand Mean 5.2225 CV 16.98

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.5197 | 0.51972 | 0.65 | 0.4352 |
| Remainder | 14 | 11.2756 | 0.80540 | | |

Relative Efficiency, RCB 0.94

Means of wtwo for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 5.2850 |
| 2 | 5.0100 |
| 3 | 5.3675 |
| 4 | 5.0200 |
| 5 | 4.9525 |
| 6 | 5.7000 |

Observations per Mean 4
 Standard Error of a Mean 0.4434
 Std Error (Diff of 2 Means) 0.6270

Randomized Complete Block AOV Table for wthree

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|-------|--------|
| Rep | 3 | 0.03950 | 0.01317 | | |
| Treatment | 5 | 5.37235 | 1.07447 | 10.23 | 0.0002 |
| Error | 15 | 1.57495 | 0.10500 | | |
| Total | 23 | 6.98680 | | | |

Grand Mean 5.0500 CV 6.42

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.09592 | 0.09592 | 0.91 | 0.3568 |
| Remainder | 14 | 1.47903 | 0.10564 | | |

Relative Efficiency, RCB 0.87

Means of wthree for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 4.7700 |
| 2 | 4.7500 |
| 3 | 5.4000 |

4 4.8875
 5 4.5575
 6 5.9350

Observations per Mean 4
 Standard Error of a Mean 0.1620
 Std Error (Diff of 2 Means) 0.2291

Randomized Complete Block AOV Table for wfour

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|-------|--------|
| Rep | 3 | 0.5577 | 0.18592 | | |
| Treatment | 5 | 10.2219 | 2.04438 | 10.34 | 0.0002 |
| Error | 15 | 2.9659 | 0.19773 | | |
| Total | 23 | 13.7456 | | | |

Grand Mean 4.6221 CV 9.62

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.00597 | 0.00597 | 0.03 | 0.8690 |
| Remainder | 14 | 2.95996 | 0.21143 | | |

Relative Efficiency, RCB 0.97

Means of wfour for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 4.5775 |
| 2 | 4.0850 |
| 3 | 4.8675 |
| 4 | 4.4675 |
| 5 | 3.8525 |
| 6 | 5.8825 |

Observations per Mean 4
 Standard Error of a Mean 0.2223
 Std Error (Diff of 2 Means) 0.3144

Statistix 8.0
 19:52:14

25/4/2014,

LSD All-Pairwise Comparisons Test of wone for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 1.6675 | A |
| 1 | 1.5975 | A |
| 5 | 1.4675 | A |
| 3 | 1.4050 | A |
| 4 | 1.4000 | A |
| 2 | 1.3175 | A |

Alpha 0.05 Standard Error for Comparison 0.2146
 Critical T Value 2.131 Critical Value for Comparison 0.4575
 Error term used: Rep*Treatment, 15 DF
 There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wtwo for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 5.7000 | A |

| | | |
|---|--------|---|
| 3 | 5.3675 | A |
| 1 | 5.2850 | A |
| 4 | 5.0200 | A |
| 2 | 5.0100 | A |
| 5 | 4.9525 | A |

Alpha 0.05 Standard Error for Comparison 0.6270
 Critical T Value 2.131 Critical Value for Comparison 1.3365
 Error term used: Rep*Treatment, 15 DF
 There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wthree for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 5.9350 | A |
| 3 | 5.4000 | B |
| 4 | 4.8875 | C |
| 1 | 4.7700 | C |
| 2 | 4.7500 | C |
| 5 | 4.5575 | C |

Alpha 0.05 Standard Error for Comparison 0.2291
 Critical T Value 2.131 Critical Value for Comparison 0.4884
 Error term used: Rep*Treatment, 15 DF
 There are 3 groups (A, B, etc.) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wfour for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 5.8825 | A |
| 3 | 4.8675 | B |
| 1 | 4.5775 | BC |
| 4 | 4.4675 | BCD |
| 2 | 4.0850 | CD |
| 5 | 3.8525 | D |

Alpha 0.05 Standard Error for Comparison 0.3144
 Critical T Value 2.131 Critical Value for Comparison 0.6702
 Error term used: Rep*Treatment, 15 DF
 There are 4 groups (A, B, etc.) in which the means are not significantly different from one another.

จำนวนแมลงต่อต้น

Statistix 8.0
 19:53:12

25/4/2014,

Randomized Complete Block AOV Table for wone

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.37603 | 0.12534 | | |
| Treatment | 5 | 0.13875 | 0.02775 | 0.58 | 0.7126 |
| Error | 15 | 0.71362 | 0.04757 | | |
| Total | 23 | 1.22840 | | | |

Grand Mean 0.3550 CV 61.44

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.03232 | 0.03232 | 0.66 | 0.4287 |
| Remainder | 14 | 0.68129 | 0.04866 | | |

Relative Efficiency, RCB 1.19

Means of wone for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 0.3600 |
| 2 | 0.3150 |
| 3 | 0.2075 |
| 4 | 0.4050 |
| 5 | 0.4175 |
| 6 | 0.4250 |

Observations per Mean 4
 Standard Error of a Mean 0.1091
 Std Error (Diff of 2 Means) 0.1542

Randomized Complete Block AOV Table for wtwo

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.48378 | 0.16126 | | |
| Treatment | 5 | 5.12904 | 1.02581 | 6.51 | 0.0021 |
| Error | 15 | 2.36215 | 0.15748 | | |
| Total | 23 | 7.97496 | | | |

Grand Mean 1.7437 CV 22.76

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.22681 | 0.22681 | 1.49 | 0.2428 |
| Remainder | 14 | 2.13534 | 0.15252 | | |

Relative Efficiency, RCB 0.99

Means of wtwo for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 1.9300 |
| 2 | 1.4225 |
| 3 | 2.1300 |
| 4 | 1.9975 |
| 5 | 0.8575 |
| 6 | 2.1250 |

Observations per Mean 4
 Standard Error of a Mean 0.1984
 Std Error (Diff of 2 Means) 0.2806

Randomized Complete Block AOV Table for wthree

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.32155 | 0.10718 | | |
| Treatment | 5 | 1.49674 | 0.29935 | 2.34 | 0.0929 |
| Error | 15 | 1.92038 | 0.12803 | | |
| Total | 23 | 3.73866 | | | |

Grand Mean 1.1913 CV 30.04

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.03631 | 0.03631 | 0.27 | 0.6116 |
| Remainder | 14 | 1.88407 | 0.13458 | | |

Relative Efficiency, RCB 0.96

Means of wthree for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 1.0900 |
| 2 | 1.2100 |
| 3 | 1.2675 |
| 4 | 1.4425 |
| 5 | 0.7050 |
| 6 | 1.4325 |

Observations per Mean 4
 Standard Error of a Mean 0.1789
 Std Error (Diff of 2 Means) 0.2530

Randomized Complete Block AOV Table for wfour

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.50137 | 0.16712 | | |
| Treatment | 5 | 2.43758 | 0.48752 | 5.20 | 0.0058 |
| Error | 15 | 1.40658 | 0.09377 | | |
| Total | 23 | 4.34553 | | | |

Grand Mean 0.9283 CV 32.99

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.15340 | 0.15340 | 1.71 | 0.2116 |
| Remainder | 14 | 1.25319 | 0.08951 | | |

Relative Efficiency, RCB 1.08

Means of wfour for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 1.1225 |
| 2 | 0.5150 |
| 3 | 1.2250 |
| 4 | 0.9250 |
| 5 | 0.4975 |
| 6 | 1.2850 |

Observations per Mean 4
 Standard Error of a Mean 0.1531
 Std Error (Diff of 2 Means) 0.2165

Statistix 8.0
 19:53:38

25/4/2014,

LSD All-Pairwise Comparisons Test of wone for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 0.4250 | A |

| | | |
|---|--------|---|
| 5 | 0.4175 | A |
| 4 | 0.4050 | A |
| 1 | 0.3600 | A |
| 2 | 0.3150 | A |
| 3 | 0.2075 | A |

Alpha 0.05 Standard Error for Comparison 0.1542
 Critical T Value 2.131 Critical Value for Comparison 0.3287
 Error term used: Rep*Treatment, 15 DF
 There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wtwo for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 3 | 2.1300 | A |
| 6 | 2.1250 | A |
| 4 | 1.9975 | AB |
| 1 | 1.9300 | AB |
| 2 | 1.4225 | BC |
| 5 | 0.8575 | C |

Alpha 0.05 Standard Error for Comparison 0.2806
 Critical T Value 2.131 Critical Value for Comparison 0.5981
 Error term used: Rep*Treatment, 15 DF
 There are 3 groups (A, B, etc.) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wthree for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 4 | 1.4425 | A |
| 6 | 1.4325 | A |
| 3 | 1.2675 | A |
| 2 | 1.2100 | AB |
| 1 | 1.0900 | AB |
| 5 | 0.7050 | B |

Alpha 0.05 Standard Error for Comparison 0.2530
 Critical T Value 2.131 Critical Value for Comparison 0.5393
 Error term used: Rep*Treatment, 15 DF
 There are 2 groups (A and B) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wfour for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 1.2850 | A |
| 3 | 1.2250 | A |
| 1 | 1.1225 | A |
| 4 | 0.9250 | AB |
| 2 | 0.5150 | B |
| 5 | 0.4975 | B |

Alpha 0.05 Standard Error for Comparison 0.2165
 Critical T Value 2.131 Critical Value for Comparison 0.4615
 Error term used: Rep*Treatment, 15 DF
 There are 2 groups (A and B) in which the means are not significantly different from one another.

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Statistix 8.0
10:20:35

28/3/2016,

Randomized Complete Block AOV Table for before

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 1077.31 | 359.104 | | |
| Treatment | 5 | 2309.84 | 461.968 | 2.63 | 0.0667 |
| Error | 15 | 2629.98 | 175.332 | | |
| Total | 23 | 6017.13 | | | |

Grand Mean 89.291 CV 14.83

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 127.94 | 127.938 | 0.72 | 0.4117 |
| Remainder | 14 | 2502.04 | 178.717 | | |

Relative Efficiency, RCB 1.12

Means of before for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 86.25 |
| 2 | 90.58 |
| 3 | 80.75 |
| 4 | 90.75 |
| 5 | 108.75 |
| 6 | 78.67 |

Observations per Mean 4
Standard Error of a Mean 6.6206
Std Error (Diff of 2 Means) 9.3630

Randomized Complete Block AOV Table for after

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 250.45 | 83.484 | | |
| Treatment | 5 | 1993.51 | 398.701 | 8.28 | 0.0006 |
| Error | 15 | 722.55 | 48.170 | | |
| Total | 23 | 2966.51 | | | |

Grand Mean 46.006 CV 15.09

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 251.119 | 251.119 | 7.46 | 0.0162 |
| Remainder | 14 | 471.430 | 33.674 | | |

Relative Efficiency, RCB 1.08

Means of after for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 44.668 |
| 2 | 47.002 |

| | |
|---|--------|
| 3 | 41.500 |
| 4 | 44.918 |
| 5 | 64.083 |
| 6 | 33.867 |

Observations per Mean 4
Standard Error of a Mean 3.4702
Std Error (Diff of 2 Means) 4.9076

การวิเคราะห์ค่า LSD

Statistix 8.0
10:22:41

28/3/2016,

LSD All-Pairwise Comparisons Test of before for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 5 | 108.75 | A |
| 4 | 90.75 | AB |
| 2 | 90.58 | AB |
| 1 | 86.25 | B |
| 3 | 80.75 | B |
| 6 | 78.66 | B |

Alpha 0.05 Standard Error for Comparison 9.3630
Critical T Value 2.131 Critical Value for Comparison 19.957
Error term used: Rep*Treatment, 15 DF
There are 2 groups (A and B) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of after for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 5 | 64.082 | A |
| 2 | 47.003 | B |
| 4 | 44.918 | B |
| 1 | 44.668 | B |
| 3 | 41.500 | BC |
| 6 | 33.867 | C |

Alpha 0.05 Standard Error for Comparison 4.9076
Critical T Value 2.131 Critical Value for Comparison 10.460
Error term used: Rep*Treatment, 15 DF
There are 3 groups (A, B, etc.) in which the means are not significantly different from one another.

ตารางผนวกที่ 4 การวิเคราะห์ข้อมูลทางสถิติสำหรับการทดสอบประสิทธิภาพของสารชีวภัณฑ์ และ
สารเคมีในการควบคุมด้วงหมัดผักแถบลาย ในสภาพแปลงปลูกนอกระบบโรงเรียน

ความสูงต้น

Statistix 8.0
21:42:43

27/3/2016,

Randomized Complete Block AOV Table for wone

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 5.23015 | 1.74338 | | |
| Treatment | 5 | 1.51038 | 0.30208 | 2.30 | 0.0973 |
| Error | 15 | 1.97265 | 0.13151 | | |
| Total | 23 | 8.71318 | | | |

Grand Mean 7.9992 CV 4.53

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.04803 | 0.04803 | 0.35 | 0.5639 |
| Remainder | 14 | 1.92462 | 0.13747 | | |

Relative Efficiency, RCB 2.55

Means of wone for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 7.6375 |
| 2 | 8.3150 |
| 3 | 8.1325 |
| 4 | 8.2500 |
| 5 | 7.7625 |
| 6 | 7.8975 |

Observations per Mean 4
Standard Error of a Mean 0.1813
Std Error (Diff of 2 Means) 0.2564

Randomized Complete Block AOV Table for wtwo

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 10.4080 | 3.46932 | | |
| Treatment | 5 | 4.2789 | 0.85577 | 1.37 | 0.2894 |
| Error | 15 | 9.3555 | 0.62370 | | |
| Total | 23 | 24.0423 | | | |

Grand Mean 10.028 CV 7.88

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.01779 | 0.01779 | 0.03 | 0.8726 |
| Remainder | 14 | 9.33766 | 0.66698 | | |

Relative Efficiency, RCB 1.57

Means of wtwo for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 9.550 |
| 2 | 9.868 |
| 3 | 10.063 |
| 4 | 10.875 |
| 5 | 9.723 |
| 6 | 10.088 |

Observations per Mean 4
 Standard Error of a Mean 0.3949
 Std Error (Diff of 2 Means) 0.5584

Randomized Complete Block AOV Table for wthree

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.35568 | 0.11856 | | |
| Treatment | 5 | 3.88848 | 0.77770 | 2.04 | 0.1308 |
| Error | 15 | 5.71762 | 0.38117 | | |
| Total | 23 | 9.96178 | | | |

Grand Mean 13.704 CV 4.51

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.04466 | 0.04466 | 0.11 | 0.7448 |
| Remainder | 14 | 5.67296 | 0.40521 | | |

Relative Efficiency, RCB 0.89

Means of wthree for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 13.118 |
| 2 | 13.658 |
| 3 | 14.042 |
| 4 | 14.237 |
| 5 | 13.900 |
| 6 | 13.270 |

Observations per Mean 4
 Standard Error of a Mean 0.3087
 Std Error (Diff of 2 Means) 0.4366

Randomized Complete Block AOV Table for wfour

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.44051 | 0.14684 | | |
| Treatment | 5 | 1.23827 | 0.24765 | 0.83 | 0.5475 |
| Error | 15 | 4.47081 | 0.29805 | | |
| Total | 23 | 6.14960 | | | |

Grand Mean 16.102 CV 3.39

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.01650 | 0.01650 | 0.05 | 0.8231 |
| Remainder | 14 | 4.45431 | 0.31816 | | |

Relative Efficiency, RCB 0.92

Means of wfour for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 15.688 |
| 2 | 16.328 |
| 3 | 16.375 |
| 4 | 16.120 |
| 5 | 16.110 |
| 6 | 15.992 |

Observations per Mean 4
 Standard Error of a Mean 0.2730
 Std Error (Diff of 2 Means) 0.3860

Statistix 8.0
 21:47:30

27/3/2016,

LSD All-Pairwise Comparisons Test of wone for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 2 | 8.3150 | A |
| 4 | 8.2500 | AB |
| 3 | 8.1325 | ABC |
| 6 | 7.8975 | ABC |
| 5 | 7.7625 | BC |
| 1 | 7.6375 | C |

Alpha 0.05 Standard Error for Comparison 0.2564
 Critical T Value 2.131 Critical Value for Comparison 0.5466
 Error term used: Rep*Treatment, 15 DF
 There are 3 groups (A, B, etc.) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wtwo for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 4 | 10.875 | A |
| 6 | 10.088 | AB |
| 3 | 10.063 | AB |
| 2 | 9.867 | AB |
| 5 | 9.723 | AB |
| 1 | 9.550 | B |

Alpha 0.05 Standard Error for Comparison 0.5584
 Critical T Value 2.131 Critical Value for Comparison 1.1903
 Error term used: Rep*Treatment, 15 DF
 There are 2 groups (A and B) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wthree for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 4 | 14.237 | A |
| 3 | 14.043 | AB |
| 5 | 13.900 | AB |
| 2 | 13.658 | AB |

| | | |
|---|--------|---|
| 6 | 13.270 | B |
| 1 | 13.117 | B |

Alpha 0.05 Standard Error for Comparison 0.4366
 Critical T Value 2.131 Critical Value for Comparison 0.9305
 Error term used: Rep*Treatment, 15 DF
 There are 2 groups (A and B) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wfour for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 3 | 16.375 | A |
| 2 | 16.328 | A |
| 4 | 16.120 | A |
| 5 | 16.110 | A |
| 6 | 15.993 | A |
| 1 | 15.688 | A |

Alpha 0.05 Standard Error for Comparison 0.3860
 Critical T Value 2.131 Critical Value for Comparison 0.8228
 Error term used: Rep*Treatment, 15 DF
 There are no significant pairwise differences among the means.

ความกว้างทรงพุ่ม

Statistix 8.0
 21:49:38

27/3/2016,

Randomized Complete Block AOV Table for wone

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 4.2312 | 1.41042 | | |
| Treatment | 5 | 0.1281 | 0.02562 | 0.07 | 0.9962 |
| Error | 15 | 5.7131 | 0.38088 | | |
| Total | 23 | 10.0725 | | | |

Grand Mean 7.7496 CV 7.96

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.02497 | 0.02497 | 0.06 | 0.8078 |
| Remainder | 14 | 5.68816 | 0.40630 | | |

Relative Efficiency, RCB 1.33

Means of wone for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 7.6500 |
| 2 | 7.7750 |
| 3 | 7.6900 |
| 4 | 7.8425 |
| 5 | 7.7050 |
| 6 | 7.8350 |

Observations per Mean 4
 Standard Error of a Mean 0.3086
 Std Error (Diff of 2 Means) 0.4364

Randomized Complete Block AOV Table for wtwo

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 1.5949 | 0.53165 | | |
| Treatment | 5 | 4.4832 | 0.89663 | 1.81 | 0.1716 |
| Error | 15 | 7.4347 | 0.49565 | | |
| Total | 23 | 13.5128 | | | |

Grand Mean 11.595 CV 6.07

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.19140 | 0.19140 | 0.37 | 0.5528 |
| Remainder | 14 | 7.24328 | 0.51738 | | |

Relative Efficiency, RCB 0.99

Means of wtwo for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 11.535 |
| 2 | 11.325 |
| 3 | 10.998 |
| 4 | 12.398 |
| 5 | 11.790 |
| 6 | 11.522 |

Observations per Mean 4
 Standard Error of a Mean 0.3520
 Std Error (Diff of 2 Means) 0.4978

Randomized Complete Block AOV Table for wthree

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 2.2219 | 0.74064 | | |
| Treatment | 5 | 3.8782 | 0.77564 | 2.41 | 0.0854 |
| Error | 15 | 4.8236 | 0.32157 | | |
| Total | 23 | 10.9237 | | | |

Grand Mean 16.692 CV 3.40

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.65513 | 0.65513 | 2.20 | 0.1601 |
| Remainder | 14 | 4.16849 | 0.29775 | | |

Relative Efficiency, RCB 1.15

Means of wthree for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 15.980 |
| 2 | 16.995 |
| 3 | 16.892 |
| 4 | 17.207 |
| 5 | 16.630 |
| 6 | 16.445 |

Observations per Mean 4
 Standard Error of a Mean 0.2835

Std Error (Diff of 2 Means) 0.4010

Randomized Complete Block AOV Table for wfour

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 12.1183 | 4.03943 | | |
| Treatment | 5 | 6.5923 | 1.31847 | 1.80 | 0.1740 |
| Error | 15 | 11.0035 | 0.73357 | | |
| Total | 23 | 29.7142 | | | |

Grand Mean 19.214 CV 4.46

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.0318 | 0.03178 | 0.04 | 0.8433 |
| Remainder | 14 | 10.9718 | 0.78370 | | |

Relative Efficiency, RCB 1.56

Means of wfour for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 18.697 |
| 2 | 19.285 |
| 3 | 20.258 |
| 4 | 19.175 |
| 5 | 19.188 |
| 6 | 18.680 |

Observations per Mean 4
Standard Error of a Mean 0.4282
Std Error (Diff of 2 Means) 0.6056

Statistix 8.0
21:50:54

27/3/2016,

LSD All-Pairwise Comparisons Test of wone for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 4 | 7.8425 | A |
| 6 | 7.8350 | A |
| 2 | 7.7750 | A |
| 5 | 7.7050 | A |
| 3 | 7.6900 | A |
| 1 | 7.6500 | A |

Alpha 0.05 Standard Error for Comparison 0.4364
Critical T Value 2.131 Critical Value for Comparison 0.9301
Error term used: Rep*Treatment, 15 DF
There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wtwo for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 4 | 12.398 | A |
| 5 | 11.790 | AB |
| 1 | 11.535 | AB |
| 6 | 11.522 | AB |
| 2 | 11.325 | B |
| 3 | 10.998 | B |

Alpha 0.05 Standard Error for Comparison 0.4978
 Critical T Value 2.131 Critical Value for Comparison 1.0611
 Error term used: Rep*Treatment, 15 DF
 There are 2 groups (A and B) in which the means
 are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wthree for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 4 | 17.207 | A |
| 2 | 16.995 | A |
| 3 | 16.892 | A |
| 5 | 16.630 | AB |
| 6 | 16.445 | AB |
| 1 | 15.980 | B |

Alpha 0.05 Standard Error for Comparison 0.4010
 Critical T Value 2.131 Critical Value for Comparison 0.8547
 Error term used: Rep*Treatment, 15 DF
 There are 2 groups (A and B) in which the means
 are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wfour for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 3 | 20.258 | A |
| 2 | 19.285 | AB |
| 5 | 19.188 | AB |
| 4 | 19.175 | AB |
| 1 | 18.697 | B |
| 6 | 18.680 | B |

Alpha 0.05 Standard Error for Comparison 0.6056
 Critical T Value 2.131 Critical Value for Comparison 1.2909
 Error term used: Rep*Treatment, 15 DF
 There are 2 groups (A and B) in which the means
 are not significantly different from one another.

การทำลาย

Statistix 8.0 27/3/2016,
 21:52:25

Randomized Complete Block AOV Table for wone

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.01028 | 0.00343 | | |
| Treatment | 5 | 0.63357 | 0.12671 | 1.50 | 0.2476 |
| Error | 15 | 1.26555 | 0.08437 | | |
| Total | 23 | 1.90940 | | | |

Grand Mean 1.4579 CV 19.92

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.07598 | 0.07598 | 0.89 | 0.3604 |
| Remainder | 14 | 1.18957 | 0.08497 | | |

Relative Efficiency, RCB 0.86

Means of wone for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 1.5800 |
| 2 | 1.3125 |
| 3 | 1.4375 |
| 4 | 1.2800 |
| 5 | 1.3875 |
| 6 | 1.7500 |

Observations per Mean 4
Standard Error of a Mean 0.1452
Std Error (Diff of 2 Means) 0.2054

Randomized Complete Block AOV Table for wtwo

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 2.62262 | 0.87421 | | |
| Treatment | 5 | 1.48798 | 0.29760 | 0.76 | 0.5890 |
| Error | 15 | 5.83538 | 0.38903 | | |
| Total | 23 | 9.94598 | | | |

Grand Mean 5.4892 CV 11.36

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.57371 | 0.57371 | 1.53 | 0.2370 |
| Remainder | 14 | 5.26167 | 0.37583 | | |

Relative Efficiency, RCB 1.14

Means of wtwo for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 5.3825 |
| 2 | 5.6575 |
| 3 | 5.6000 |
| 4 | 5.0375 |
| 5 | 5.4325 |
| 6 | 5.8250 |

Observations per Mean 4
Standard Error of a Mean 0.3119
Std Error (Diff of 2 Means) 0.4410

Randomized Complete Block AOV Table for wthree

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.02717 | 0.00906 | | |
| Treatment | 5 | 0.02225 | 0.00445 | 0.58 | 0.7131 |
| Error | 15 | 0.11458 | 0.00764 | | |
| Total | 23 | 0.16400 | | | |

Grand Mean 4.9300 CV 1.77

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.00289 | 0.00289 | 0.36 | 0.5569 |

Remainder 14 0.11169 0.00798

Relative Efficiency, RCB 1.01

Means of wthree for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 4.9575 |
| 2 | 4.9100 |
| 3 | 4.8900 |
| 4 | 4.9050 |
| 5 | 4.9425 |
| 6 | 4.9750 |

Observations per Mean 4
Standard Error of a Mean 0.0437
Std Error (Diff of 2 Means) 0.0618

Randomized Complete Block AOV Table for wfour

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 2.00658 | 0.66886 | | |
| Treatment | 5 | 1.79479 | 0.35896 | 3.06 | 0.0423 |
| Error | 15 | 1.76030 | 0.11735 | | |
| Total | 23 | 5.56166 | | | |

Grand Mean 4.8213 CV 7.11

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.03126 | 0.03126 | 0.25 | 0.6227 |
| Remainder | 14 | 1.72903 | 0.12350 | | |

Relative Efficiency, RCB 1.58

Means of wfour for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 4.6250 |
| 2 | 4.5500 |
| 3 | 4.7250 |
| 4 | 4.7100 |
| 5 | 4.9500 |
| 6 | 5.3675 |

Observations per Mean 4
Standard Error of a Mean 0.1713
Std Error (Diff of 2 Means) 0.2422

การวิเคราะห์ค่า LSD

Statistix 8.0
21:53:12

27/3/2016,

LSD All-Pairwise Comparisons Test of wone for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 1.7500 | A |
| 1 | 1.5800 | AB |
| 3 | 1.4375 | AB |
| 5 | 1.3875 | AB |

| | | |
|---|--------|----|
| 2 | 1.3125 | AB |
| 4 | 1.2800 | B |

Alpha 0.05 Standard Error for Comparison 0.2054
 Critical T Value 2.131 Critical Value for Comparison 0.4378
 Error term used: Rep*Treatment, 15 DF
 There are 2 groups (A and B) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wtwo for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 5.8250 | A |
| 2 | 5.6575 | A |
| 3 | 5.6000 | A |
| 5 | 5.4325 | A |
| 1 | 5.3825 | A |
| 4 | 5.0375 | A |

Alpha 0.05 Standard Error for Comparison 0.4410
 Critical T Value 2.131 Critical Value for Comparison 0.9400
 Error term used: Rep*Treatment, 15 DF
 There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wthree for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 4.9750 | A |
| 1 | 4.9575 | A |
| 5 | 4.9425 | A |
| 2 | 4.9100 | A |
| 4 | 4.9050 | A |
| 3 | 4.8900 | A |

Alpha 0.05 Standard Error for Comparison 0.0618
 Critical T Value 2.131 Critical Value for Comparison 0.1317
 Error term used: Rep*Treatment, 15 DF
 There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wfour for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 5.3675 | A |
| 5 | 4.9500 | AB |
| 3 | 4.7250 | B |
| 4 | 4.7100 | B |
| 1 | 4.6250 | B |
| 2 | 4.5500 | B |

Alpha 0.05 Standard Error for Comparison 0.2422
 Critical T Value 2.131 Critical Value for Comparison 0.5163
 Error term used: Rep*Treatment, 15 DF
 There are 2 groups (A and B) in which the means are not significantly different from one another.

จำนวนแมลงต่อต้น

Statistix 8.0
21:54:23

27/3/2016,

Randomized Complete Block AOV Table for wone

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.26458 | 0.08819 | | |
| Treatment | 5 | 0.16898 | 0.03380 | 0.91 | 0.4990 |
| Error | 15 | 0.55562 | 0.03704 | | |
| Total | 23 | 0.98918 | | | |

Grand Mean 0.3558 CV 54.09

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.03673 | 0.03673 | 0.99 | 0.3364 |
| Remainder | 14 | 0.51889 | 0.03706 | | |

Relative Efficiency, RCB 1.16

Means of wone for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 0.4250 |
| 2 | 0.2900 |
| 3 | 0.4375 |
| 4 | 0.2025 |
| 5 | 0.3725 |
| 6 | 0.4075 |

Observations per Mean 4
Standard Error of a Mean 0.0962
Std Error (Diff of 2 Means) 0.1361

Randomized Complete Block AOV Table for wtwo

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.51851 | 0.17284 | | |
| Treatment | 5 | 0.25694 | 0.05139 | 0.25 | 0.9351 |
| Error | 15 | 3.12531 | 0.20835 | | |
| Total | 23 | 3.90076 | | | |

Grand Mean 1.8838 CV 24.23

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.00353 | 0.00353 | 0.02 | 0.9017 |
| Remainder | 14 | 3.12179 | 0.22298 | | |

Relative Efficiency, RCB 0.96

Means of wtwo for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 1.8250 |
| 2 | 2.0125 |
| 3 | 1.7525 |
| 4 | 1.8000 |

5 1.8875
 6 2.0250
 Observations per Mean 4
 Standard Error of a Mean 0.2282
 Std Error (Diff of 2 Means) 0.3228

Randomized Complete Block AOV Table for wthree

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.22397 | 0.07466 | | |
| Treatment | 5 | 0.99133 | 0.19827 | 2.00 | 0.1374 |
| Error | 15 | 1.48863 | 0.09924 | | |
| Total | 23 | 2.70393 | | | |

Grand Mean 1.2783 CV 24.64

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.07288 | 0.07288 | 0.72 | 0.4102 |
| Remainder | 14 | 1.41575 | 0.10113 | | |

Relative Efficiency, RCB 0.95

Means of wthree for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 1.0625 |
| 2 | 1.1750 |
| 3 | 1.3800 |
| 4 | 1.0475 |
| 5 | 1.3875 |
| 6 | 1.6175 |

Observations per Mean 4
 Standard Error of a Mean 0.1575
 Std Error (Diff of 2 Means) 0.2228

Randomized Complete Block AOV Table for wfour

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 0.21528 | 0.07176 | | |
| Treatment | 5 | 4.25617 | 0.85123 | 8.24 | 0.0006 |
| Error | 15 | 1.54965 | 0.10331 | | |
| Total | 23 | 6.02110 | | | |

Grand Mean 1.1404 CV 28.18

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 0.00557 | 0.00557 | 0.05 | 0.8255 |
| Remainder | 14 | 1.54408 | 0.11029 | | |

Relative Efficiency, RCB 0.94

Means of wfour for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 1.2475 |
| 2 | 0.5125 |
| 3 | 1.5375 |

| | |
|---|--------|
| 4 | 0.8600 |
| 5 | 0.9300 |
| 6 | 1.7550 |

Observations per Mean 4
Standard Error of a Mean 0.1607
Std Error (Diff of 2 Means) 0.2273

การวิเคราะห์ค่า LSD

Statistix 8.0
21:55:19

27/3/2016,

LSD All-Pairwise Comparisons Test of wone for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 3 | 0.4375 | A |
| 1 | 0.4250 | A |
| 6 | 0.4075 | A |
| 5 | 0.3725 | A |
| 2 | 0.2900 | A |
| 4 | 0.2025 | A |

Alpha 0.05 Standard Error for Comparison 0.1361
Critical T Value 2.131 Critical Value for Comparison 0.2901
Error term used: Rep*Treatment, 15 DF
There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wtwo for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 2.0250 | A |
| 2 | 2.0125 | A |
| 5 | 1.8875 | A |
| 1 | 1.8250 | A |
| 4 | 1.8000 | A |
| 3 | 1.7525 | A |

Alpha 0.05 Standard Error for Comparison 0.3228
Critical T Value 2.131 Critical Value for Comparison 0.6880
Error term used: Rep*Treatment, 15 DF
There are no significant pairwise differences among the means.

LSD All-Pairwise Comparisons Test of wthree for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 1.6175 | A |
| 5 | 1.3875 | AB |
| 3 | 1.3800 | AB |
| 2 | 1.1750 | AB |
| 1 | 1.0625 | B |
| 4 | 1.0475 | B |

Alpha 0.05 Standard Error for Comparison 0.2228
Critical T Value 2.131 Critical Value for Comparison 0.4748
Error term used: Rep*Treatment, 15 DF
There are 2 groups (A and B) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of wfour for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 6 | 1.7550 | A |
| 3 | 1.5375 | AB |
| 1 | 1.2475 | BC |
| 5 | 0.9300 | CD |
| 4 | 0.8600 | CD |
| 2 | 0.5125 | D |

Alpha 0.05 Standard Error for Comparison 0.2273
 Critical T Value 2.131 Critical Value for Comparison 0.4844
 Error term used: Rep*Treatment, 15 DF
 There are 4 groups (A, B, etc.) in which the means are not significantly different from one another.

หน้าหลักผลผลิต

Statistix 8.0
 21:56:37

27/3/2016,

Randomized Complete Block AOV Table for Befor

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|------|--------|
| Rep | 3 | 879.67 | 293.224 | | |
| Treatment | 5 | 1446.84 | 289.369 | 2.25 | 0.1028 |
| Error | 15 | 1930.25 | 128.684 | | |
| Total | 23 | 4256.77 | | | |

Grand Mean 90.743 CV 12.50

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 9.37 | 9.374 | 0.07 | 0.7976 |
| Remainder | 14 | 1920.88 | 137.206 | | |

Relative Efficiency, RCB 1.15

Means of Befor for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 87.65 |
| 2 | 94.48 |
| 3 | 105.08 |
| 4 | 84.24 |
| 5 | 91.73 |
| 6 | 81.28 |

Observations per Mean 4
 Standard Error of a Mean 5.6719
 Std Error (Diff of 2 Means) 8.0213

Randomized Complete Block AOV Table for After

| Source | DF | SS | MS | F | P |
|-----------|----|---------|---------|-------|--------|
| Rep | 3 | 235.70 | 78.568 | | |
| Treatment | 5 | 2287.22 | 457.444 | 11.13 | 0.0001 |
| Error | 15 | 616.52 | 41.101 | | |

Total 23 3139.44

Grand Mean 47.767 CV 13.42

Tukey's 1 Degree of Freedom Test for Nonadditivity

| Source | DF | SS | MS | F | P |
|---------------|----|---------|---------|------|--------|
| Nonadditivity | 1 | 160.821 | 160.821 | 4.94 | 0.0432 |
| Remainder | 14 | 455.700 | 32.550 | | |

Relative Efficiency, RCB 1.10

Means of After for Treatment

| Treatment | Mean |
|-----------|--------|
| 1 | 45.388 |
| 2 | 49.253 |
| 3 | 67.175 |
| 4 | 44.083 |
| 5 | 45.995 |
| 6 | 34.708 |

Observations per Mean 4
Standard Error of a Mean 3.2055
Std Error (Diff of 2 Means) 4.5333

การวิเคราะห์ค่า LSD

Statistix 8.0
21:57:23

27/3/2016,

LSD All-Pairwise Comparisons Test of Befor for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 3 | 105.08 | A |
| 2 | 94.48 | AB |
| 5 | 91.73 | AB |
| 1 | 87.65 | B |
| 4 | 84.24 | B |
| 6 | 81.28 | B |

Alpha 0.05 Standard Error for Comparison 8.0213
Critical T Value 2.131 Critical Value for Comparison 17.097
Error term used: Rep*Treatment, 15 DF
There are 2 groups (A and B) in which the means are not significantly different from one another.

LSD All-Pairwise Comparisons Test of After for Treatment

| Treatment | Mean | Homogeneous Groups |
|-----------|--------|--------------------|
| 3 | 67.175 | A |
| 2 | 49.253 | B |
| 5 | 45.995 | B |
| 1 | 45.388 | B |
| 4 | 44.083 | BC |
| 6 | 34.708 | C |

Alpha 0.05 Standard Error for Comparison 4.5333
Critical T Value 2.131 Critical Value for Comparison 9.6625
Error term used: Rep*Treatment, 15 DF
There are 3 groups (A, B, etc.) in which the means are not significantly different from one another.

ประวัติผู้เขียน

| | |
|------------------|---|
| ชื่อ-นามสกุล | นายนาวิน สุขเลิศ |
| วัน เดือน ปีเกิด | 11 ธันวาคม 2523 |
| ประวัติการศึกษา | ปีการศึกษา 2541 มัธยมศึกษาตอนปลาย สายวิทย์-คณิต โรงเรียนสามง่ามชนูปถัมภ์ ปีการศึกษา 2545 ปริญญาตรี วิทยาศาสตร์บัณฑิต (เกษตรศาสตร์) สาขาวิชากีฏวิทยา คณะเกษตรศาสตร์ มหาวิทยาลัยเชียงใหม่ |



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
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