```
Analysis of variance. One-way ANOVA.

Investigated experimental factor:  Cd Concentration
Factors name: Control; 0.5 mg/L; 1.0 mg/L; 1.5 mg/L;
Investigated experimental response:  Dry biomass

*  - The components of observed variance:
          df type I SS mean square  F value     p>F
treatments  3   445.5286    148.5095 214.8827 <0.001
Residuals  24    16.5869      0.6911      -       -

*  - Distribution of variables in variance classes:
   treatment    mean     sd    sem tukey snk duncan NA. scott_knott
1   Control 22.8857 1.3656 0.3142    a   a      a   a            a
2  0.5 mg/L 16.6600 0.6997 0.3142    b   b      b   b            b
3  1.0 mg/L 13.8086 0.3587 0.3142    c   c      c   c            c
4  1.5 mg/L 12.5500 0.5305 0.3142    d   d      d   d            d

*  - The raw multiple comparisons test:
                 pair contrast p(tukey) p(snk) p(duncan)     NA
1  Control - 0.5 mg/L   6.2257   0.0000 0.0000    0.0000 0.0000
2  Control - 1.0 mg/L   9.0771   0.0000 0.0000    0.0000 0.0000
3  Control - 1.5 mg/L  10.3357   0.0000 0.0000    0.0000 0.0000
4 0.5 mg/L - 1.0 mg/L   2.8514   0.0000 0.0000    0.0000 0.0000
5 0.5 mg/L - 1.5 mg/L   4.1100   0.0000 0.0000    0.0000 0.0000
6 1.0 mg/L - 1.5 mg/L   1.2586   0.0427 0.0092    0.0092 0.0092

*  - Normality (Shapiro-Wilk) and homogeneity (Bartlett) tests applied to residuals:
                          values
p.value Shapiro-Wilk test   0.4367
p.value Bartlett test       0.0126
coefficient of variation (%) 5.0500
first value most discrepant  7.0000
second value most discrepant 1.0000
third value most discrepant  4.0000


*   - The estimated marginal means (EMMs) of factors values:
 Concentration emmean    SE df lower.CL upper.CL
 Control         22.9 0.314 24     22.2     23.5
 0.5 mg/L        16.7 0.314 24     16.0     17.3
 1.0 mg/L        13.8 0.314 24     13.2     14.5
 1.5 mg/L        12.6 0.314 24     11.9     13.2

Confidence level used: 0.95

*   - The contrasts between factors in terms of estimated marginal mMeans (EMMs):
 contrast                estimate    SE df t.ratio p.value
 Control - (0.5 mg/L)        6.23 0.444 24  14.010  <.0001
 Control - (1.0 mg/L)        9.08 0.444 24  20.427  <.0001
 Control - (1.5 mg/L)       10.34 0.444 24  23.259  <.0001
 (0.5 mg/L) - (1.0 mg/L)     2.85 0.444 24   6.417  <.0001
 (0.5 mg/L) - (1.5 mg/L)     4.11 0.444 24   9.249  <.0001
 (1.0 mg/L) - (1.5 mg/L)     1.26 0.444 24   2.832  0.0092

P value adjustment: fdr method for 6 tests

*   - Calculated p values of pair factor contrasts:
                      contrasts.vals       p.vals
Control - (0.5 mg/L)        6.225714 9.506409e-13
Control - (1.0 mg/L)        9.077143 3.324637e-16
Control - (1.5 mg/L)       10.335714 3.404996e-17
(0.5 mg/L) - (1.0 mg/L)     2.851429 1.480639e-06
(0.5 mg/L) - (1.5 mg/L)     4.110000 3.310632e-09
(1.0 mg/L) - (1.5 mg/L)     1.258571 9.210695e-03
```

```
*    - Benjamini-Krieger-Yekutieli multiple-stages comparison procedure
*      and the decision to reject the null hypothesis of equal means.
                        contrasts.vals        p.vals     BYK.pvals BYK.rejection
Control - (0.5 mg/L)          6.225714 9.506409e-13 1.267521e-12          TRUE
Control - (1.0 mg/L)          9.077143 3.324637e-16 8.311593e-16          TRUE
Control - (1.5 mg/L)         10.335714 3.404996e-17 2.042998e-16          TRUE
(0.5 mg/L) - (1.0 mg/L)       2.851429 1.480639e-06 5.922566e-07          TRUE
(0.5 mg/L) - (1.5 mg/L)       4.110000 3.310632e-09 2.482974e-09          TRUE
(1.0 mg/L) - (1.5 mg/L)       1.258571 9.210695e-03 1.549387e-03          TRUE
```