Tab: Female longevity with no hosts

This is the longevity of females provided with 4 different diets: No

water or diet, Water only, Undiluted honey & water, Honey agar

diet. These females werent provided with any hosts to parasitise

(codling moth larvae)

We want to determine:

1. The mean (±SE) longevity (days) of females provided with the

different diets.

                       Diet      mean       sem  N

1 Honey agar diet and water 48.780000 1.9062282 50

2          No diet or water  5.392157 0.1880309 51

3 Undiluted honey and water 16.529412 0.8560525 51

4                Water only  6.196078 0.1899837 51

2. Is there a significant difference in longevity when provided with

the different diets?

Comparing No diet or water  with  Water only

              Diet     mean       sem  N

1 No diet or water 5.392157 0.1880309 51

2       Water only 6.196078 0.1899837 51

water makes a tiny but significant difference. P = 0.00333

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Diets including Honey:

                       Diet     mean       sem  N

1 Honey agar diet and water 48.78000 1.9062282 50

2 Undiluted honey and water 16.52941 0.8560525 51

Agar makes a highly significant difference to longevity (P << 0.001)

3.            Does female size effect longevity? (i.e. Do larger females live longer?)

No: F = 0.0669; df = 1, 201; P = 0.7961

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Tab: Female longevity with hosts

This is the longevity of females (virgin vs mated) provided with 3

different diets: Water only, Undiluted honey & water, Honey agar

diet. These females were provided with hosts to parasitise (codling

moth larvae)

We want to determine:

1. The mean (±SE) longevity (days) of females (virgin vs mated

females) provided with the different diets.

                       Diet Virgin      mean       sem  N

1 Honey agar diet and water  Mated 44.000000 3.9126833 11

2 Honey agar diet and water Virgin 47.300000 6.1986558 10

3 Undiluted honey and water  Mated 32.600000 4.1020320 10

4 Undiluted honey and water Virgin 34.300000 4.5167589 10

5                Water only  Mated  5.181818 0.2263618 11

6                Water only Virgin  5.900000 0.5044249 10

2. Is there a significant difference in longevity of females (virgin

vs mated females) when provided with the different diets?

Anova shows no significant differece between mated and virgin.

Virgin v mated, non-significant difference (P = 0.538)

                    Diet     mean       sem

1 Honey agar diet and water 45.57143 3.5183677

2 Undiluted honey and water 33.45000 2.9757573

3                Water only  5.52381 0.2727204

No diet very obviously different, so looking at other two:

Honey w/wo agar quite different - P = 0.01253

3. Is there a significant difference in the number of offspring

produced by females (virgin vs mated females) when provided with the

different diets?

Only Diet makes a difference:

Significant when water is included, not so when omitted (P = 0.575)

                       Diet      mean       sem  N

1 Honey agar diet and water 36.000000 3.7511903 21

2 Undiluted honey and water 32.600000 4.7386429 20

3                Water only  1.666667 0.5448168 21

4. Is there a significant difference in the daily fecundity of females

(virgin vs mated females) when provided with the different diets?

Only Diet makes a difference:

Significant when water is included, not so when omitted (P = 0.5137)

                       Diet      mean       sem  N

1 Honey agar diet and water 0.8890476 0.1077826 21

2 Undiluted honey and water 1.0130000 0.1560079 20

3                Water only 0.3004762 0.1026517 21

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Tab: Male longevity

This is the longevity of males provided with 3 different diets: Water

only, Undiluted honey & water, Honey agar diet. These females were

provided with hosts to parasitise (codling moth larvae)

We want to determine:

1. The mean (±SE) longevity (days) of females provided with the

different diets.

Assuming that's a copy/paste error and you want male longevity .....

                       Diet      mean      sem

1 Honey agar diet and water 28.777778 3.654441

2 Undiluted honey and water 22.222222 4.383611

3                Water only  4.545455 0.312283

2. Is there a significant difference in longevity when provided with

the different diets?

Only Diet makes a difference:

Significant when water is included, not so when omitted (P = 0.2676)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Tab: Offspring produced

This is the offspring produced by females (virgin vs mated) provided

with 3 different diets: Water only, Undiluted honey & water, Honey

agar diet. These females were provided with codling moth larvae as

hosts.

We want to determine:

1. The mean (±SE) developmental time (days) of offspring produced by

females (virgin vs mated) fed on the different diets.

                       Diet Virgin    Sex     mean        sem

1 Honey agar diet and water  Mated Female 29.49261 0.12693788

2 Honey agar diet and water  Mated   Male 27.19481 0.11324249

3 Honey agar diet and water Virgin   Male 26.15663 0.11651459

4 Undiluted honey and water  Mated Female 28.35789 0.12242034

5 Undiluted honey and water  Mated   Male 25.66667 0.08320361

6 Undiluted honey and water Virgin   Male 26.07904 0.10638921

7                Water only  Mated Female 30.64286 0.98676485

8                Water only  Mated   Male 25.71429 0.56544486

9                Water only Virgin   Male 23.85714 0.37588201

2. Is there a significant difference in developmental time?

Lots of interactions

Analysis of Variance Table

Response: Development

              Df Sum Sq Mean Sq  F value    Pr(>F)

Diet           2  425.2  212.62  68.4378 < 2.2e-16

Virgin         1  717.5  717.49 230.9400 < 2.2e-16

Sex            1 1305.6 1305.55 420.2235 < 2.2e-16

Diet:Virgin    2  207.7  103.85  33.4253 6.727e-15

Diet:Sex       2   33.4   16.68   5.3684   0.00476

Residuals   1365 4240.8    3.11

... but slightly less when water is excluded

Analysis of Variance Table

Response: Development

              Df Sum Sq Mean Sq  F value    Pr(>F)

Diet           1  424.8  424.77 140.6946 < 2.2e-16

Virgin         1  612.7  612.74 202.9572 < 2.2e-16

Sex            1 1177.3 1177.27 389.9440 < 2.2e-16

Diet:Virgin    1  132.5  132.53  43.8971 5.009e-11

Diet:Sex       1    6.0    6.01   1.9922    0.1583

Residuals   1333 4024.4    3.02

## Virgin only (only male offspring)

all diets:        P = 0.0001256

excluding water:  P = 0.6266

## Mated only

More interactions:

all diets:

           Df  Sum Sq Mean Sq  F value    Pr(>F)

Diet        2  856.27  428.14 177.0147 < 2.2e-16

Sex         1 1048.34 1048.34 433.4375 < 2.2e-16

Diet:Sex    2   33.36   16.68   6.8959  0.001079

excluding water:  can ignore interactions (P = 0.09986)

                       Diet    Sex     mean        sem

1 Honey agar diet and water Female 29.49261 0.12693788

2 Honey agar diet and water   Male 27.19481 0.11324249

3 Undiluted honey and water Female 28.35789 0.12242034

4 Undiluted honey and water   Male 25.66667 0.08320361

(main effects significant)

3. The there a significant difference in the size of offspring

produced by females (virgin vs mated) fed on the different diets.

                       Diet Virgin    Sex     mean         sem   N

1 Honey agar diet and water  Mated Female 1.435468 0.008365450 203

2 Honey agar diet and water  Mated   Male 1.298377 0.012407187 154

3 Honey agar diet and water Virgin   Male 1.381024 0.007550803 332

4 Undiluted honey and water  Mated Female 1.378947 0.013869875  95

5 Undiluted honey and water  Mated   Male 1.291098 0.008250756 264

6 Undiluted honey and water Virgin   Male 1.330928 0.007967116 291

7                Water only  Mated Female 1.403571 0.046723493  14

8                Water only  Mated   Male 1.435714 0.043252148   7

9                Water only Virgin   Male 1.360714 0.023544773  14

More interactions:

Response: Size

              Df  Sum Sq Mean Sq  F value    Pr(>F)

Diet           2  1.1397 0.56984  30.9397 7.223e-14

Virgin         1  0.0268 0.02678   1.4540  0.228090

Sex            1  1.9929 1.99292 108.2069 < 2.2e-16

Diet:Virgin    2  0.0495 0.02473   1.3426  0.261516

Diet:Sex       2  0.1927 0.09634   5.2307  0.005457

Residuals   1365 25.1401 0.01842

Male offspring only

Response: Size

              Df  Sum Sq Mean Sq F value    Pr(>F)

Diet           2  0.5352 0.26762 14.0216 9.771e-07

Virgin         1  0.7735 0.77346 40.5239 2.891e-10

Diet:Virgin    2  0.1910 0.09549  5.0029  0.006879

Residuals   1056 20.1552 0.01909

i.e. different effect of mating depending on diet (or vice versa).

                       Diet Virgin     mean         sem   N

1 Honey agar diet and water  Mated 1.298377 0.012407187 154

2 Honey agar diet and water Virgin 1.381024 0.007550803 332

3 Undiluted honey and water  Mated 1.291098 0.008250756 264

4 Undiluted honey and water Virgin 1.330928 0.007967116 291

5                Water only  Mated 1.435714 0.043252148   7

6                Water only Virgin 1.360714 0.023544773  14

====

Female offspring only:

Response: Size

           Df Sum Sq  Mean Sq F value   Pr(>F)

Diet        2 0.2093 0.104656  6.4874 0.001738

Residuals 309 4.9848 0.016132

omitting water only:

Response: Size

           Df Sum Sq  Mean Sq F value    Pr(>F)

Diet        1 0.2067 0.206736  13.339 0.0003073

Residuals 296 4.5875 0.015498

undiluted honey shows significantly less

                       Diet      mean        sem   N

1 Honey agar diet and water  1.435468 0.00836545 203

2 Undiluted honey and water  1.378947 0.01386987  95

3                Water only  1.403571 0.04672349  14

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Tab: Hosts parasitised per day

This is the number of hosts parasitised per female per day (Mated

female provided with hosts and honey agar + water diet).  Exclude

females 1 & 3 from analysis

We want to determine:

1.            The mean (±SE) number of hosts successfully parasitised per day. Graph?

2.            Does female age (days) effect number of hosts successfully parasitised?

Plots already done

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Tab: Offspring produced per day

This is the number of offspring produced per female per day (Mated

female provided with hosts and honey agar + water diet).  Exclude

females 1 & 3 from analysis

1.            The mean (±SE) number of offspring produced per day. Graph?

2.            Does female (days) effect number of offspring produced?

Plots already done

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Tab: Combined

This is the first two tabs combined= Female longevity with no hosts +

Tab: Female longevity with hosts

1. Are we able to determine if there a significant difference in

longevity of females (virgin vs mated females and hosts vs no hosts)

when provided with the different diets? I know that sample sizes are

different..just wondering if its possible to compare?

                       Diet Virgin    Hosts      mean       sem  N

1 Honey agar diet and water  Mated    Hosts 44.000000 3.9126833 11

2 Honey agar diet and water Virgin No hosts 48.780000 1.9062282 50

3 Honey agar diet and water Virgin    Hosts 47.300000 6.1986558 10

4 Undiluted honey and water  Mated    Hosts 32.600000 4.1020320 10

5 Undiluted honey and water Virgin No hosts 16.529412 0.8560525 51

6 Undiluted honey and water Virgin    Hosts 34.300000 4.5167589 10

7                Water only  Mated    Hosts  5.181818 0.2263618 11

8                Water only Virgin No hosts  6.196078 0.1899837 51

9                Water only Virgin    Hosts  5.900000 0.5044249 10

Then omitting obviously different "Water only"-- interaction city

Response: Longevity

             Df Sum Sq Mean Sq  F value    Pr(>F)

Diet          2  63975   31987 338.2820 < 2.2e-16

Virgin        1    141     141   1.4894 0.2237047

Hosts         1    716     716   7.5721 0.0064590

Diet:Virgin   2   1544     772   8.1663 0.0003869

Diet:Hosts    2   1945     973  10.2850 5.539e-05

Residuals   205  19384      95

Dividing into host and no host already done...

Comparing Virgins only for host and no host:

Response: Longevity

            Df  Sum Sq Mean Sq  F value    Pr(>F)

Diet         1 25597.9 25597.9 186.4217 < 2.2e-16

Hosts        1  1111.9  1111.9   8.0974  0.005235

Diet:Hosts   1  1546.6  1546.6  11.2636  0.001066

Residuals  117 16065.5   137.3

interaction still obvious -- minimal difference with agar, heaps without.

                       Diet    Hosts     mean       sem  N

1 Honey agar diet and water No hosts 48.78000 1.9062282 50

2 Honey agar diet and water    Hosts 47.30000 6.1986558 10

3 Undiluted honey and water No hosts 16.52941 0.8560525 51

4 Undiluted honey and water    Hosts 34.30000 4.5167589 10