

CREATES Analysis Template

Experimental Test

Figure or Table Number:

1

"Official" title for this figure or table (from the caption):

Phage combinations and incidence of disease

My (simplified, decoded, in regular language) title for this figure or table:

How phage combinations impact disease

The controls in this experiment are:

No phage

They are represented (in which part of the chart or graph, or what figure panels?)

Graph a, labelled control

The experimental conditions are:

Number of phages → disease incidence, pathogen concentration
Type of phages → disease index

They are represented as:

Number(x)/incidence(y): graph a
number(x)/concentration(y): graph b
type(x)/index(y): graph c

We need to compare the controls in

Graph c

with the experimentals in

Graph c

to find out:

Whether there is a negative correlation between the occurrence of disease and the use of phage.

We need to compare the controls in

Graph a/b does not show the disease incidence of the control, but given the information provided it can be safe to assume that all untreated phages had bacterial wilt, so take the control as 100%

with the experimentals in

Graphs A&B

to find out:

Whether increased phage number affects disease incidence and pathogen concentration

When we make these comparisons, we conclude from this figure:

Increased phage number decreases disease

Was the hypothesis supported? Why or why not?

Yes, the hypothesis' logic posited that increased phage=decreased disease, which is what we saw

The following issues are ones of concern to me (these can be things you don't understand, or criticisms of the method, questions for the authors, or anything else that comes to mind):

The researchers should have included the controls in graphs a&b

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Experimental Test

Figure or Table Number:

“Official” title for this figure or table (from the caption):

Resistance evolution to ancestral and coevolved phages

My (simplified, decoded, in regular language) title for this figure or table:

Development of phage resistance as a result of increased phages

The controls in this experiment are:

Ancestral pathogen

They are represented (in which part of the chart or graph, or what figure panels?)

used to determine the resistance developed by evolved pathogen

The experimental conditions are:

Coevolved pathogen

They are represented as:

The number of phages in the charts refers to how many phages were used to select for phage resistance in these pathogens

We need to compare the controls in with the experimentals in

Graph c

to find out:

Whether mean resistance has any effect on mean carrying capacity (this is done for us in graph d)

When we make these comparisons, we conclude from this figure:

Increased phage resistance results in decreased carrying capacity as a trade-off

Was the hypothesis supported? Why or why not?

Yes, the hypothesis that there would be trade-offs that limit success in other areas as a result of developed phage resistance is supported

The following issues are ones of concern to me (these can be things you don't understand, or criticisms of the method, questions for the authors, or anything else that comes to mind):

Graph b is hard to interpret, to be fully honest I do not know whether "ancestral and coevolved" is referring to phages or pathogens and i read the description like 4 times

CREATES Analysis Template

Descriptive Study

Figure or Table Number:

"Official" title for this figure or table (from the caption):

effects of phages on rhizosphere communities

My (simplified, decoded, in regular language) title for this figure or table:

This one is pretty simple any attempt at simplification would be kinda gratuitous; rhizosphere = soil environment

If we compare panel(s)/column(s) and , we learn about:

How increased phages leads to decreased *R. solamanacearum*

If we compare panel(s)/column(s) and , we learn about:

Phage number has a positive correlation with bacterial diversity

When we make these comparisons, we conclude from this figure:

Decreased *R. solamanacearum* leads to increased diversity.

Was the hypothesis supported? Why or why not?

The hypothesis was supported, as there is a noticeable increase in the concentrations of several key taxa.

The following issues are ones of concern to me (these can be things you don't understand, or criticisms of the method, questions for the authors, or anything else that comes to mind):

The big swirly circle is very interesting, but it might be more complex than this study needs. However, because they did it, it is there if any future researchers want to use it to examine the complex effects phage therapy can have on bacterial interactions.

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Experimental Test

Figure or Table Number:

“Official” title for this figure or table (from the caption):

Phage specificity and effects on the suppression of rhizosphere microbiota

My (simplified, decoded, in regular language) title for this figure or table:

Do the phages affect the other bacteria?

The controls in this experiment are:

Bacteria grown in absence of phage or pathogen

They are represented (in which part of the chart or graph, or what figure panels?)

Orange line in graph a, “community” in graph b; the data is used in conjunction to create graph d

The experimental conditions are:

- + Phage
- + Pathogen
- + Phage and pathogen

They are represented as:

a: blue, green, fuschia (respectively)
b: as labelled

We need to compare the controls in with the experimentals in

to find out:

The presence of pathogen in the absence of phage greatly shifts the community makeup in the favor of pathogen, but the presence of phage in the absence of pathogen does not seem to have any effect

We need to compare the controls in with the experimentals in

to find out:

The presence of pathogen in the absence of phage greatly decreases the diversity, but the presence of phage in the absence AND presence of pathogen does not seem to have any effect

When we make these comparisons, we conclude from this figure:

Most genera se a positive increase in population in the presence of phage/absence of pathogen

Was the hypothesis supported? Why or why not?

Yes, the phages have evolved to only infect the pathogen, so they do not have an effect on the other phages in question.

The following issues are ones of concern to me (these can be things you don't understand, or criticisms of the method, questions for the authors, or anything else that comes to mind):

Graph d is correct, but the axes are confusing and I had to examine it very carefully before I fully understood what it was demonstrating. This piece of the figure would benefit from better-labelled axes.

CREATES Analysis Template

Free Response

Figure or Table Number:

“Official” title for this figure or table (from the caption):

Mechanisms underlying phage-mediated effects on bacterial wilt disease

My (simplified, decoded, in regular language) title for this figure or table:

Statistical analysis of the results

Analysis of the figure or table:

This figure takes the results from the study and performs a statistical analysis to show the percentage by which each aspect examined affects the other. This figure serves as a synthesis of all the results of this study.

When we analyze the figure or table, we conclude:

Increased phage number results in decreased disease incidence (main point). This figure shows the positive or negative correlation between each mechanism discussed throughout the paper.

Was the hypothesis supported? Why or why not?

The hypothesis was supported, as the findings were statistically significant and phage therapy is likely a viable option for treatment of bacterial wilt.

The following issues are ones of concern to me (these can be things you don't understand, or criticisms of the method, questions for the authors, or anything else that comes to mind):

The meaning of the numbers and percentages could be much clearer, making it much easier to interpret.