

# Food preferences in the sow bug (porcellio laevis) essay sample

[Food & Diet](#)



**ASSIGN  
BUSTER**

## Purpose

The purpose of this experiment is to determine what kind of food the sow bug prefers; decaying leaves, potatoes, grapes, or sow bug food.

## Hypothesis

If a sow bug is placed in a choice tray, and has access to decaying leaves, potatoes, grapes, and sow bug food, the sow bug will choose the decaying leaves over its other options. This hypothesis was based on research stating that a sow bug's main food source is decaying vegetation. This is the food they are accustomed to and therefore will select over the other three options which they rarely if ever would have access to.

## Materials

- Twelve sow bugs
- Bisected grapes
- Chunks of potato
- Decaying leaves
- Pinch of sow bug food
- Choice tray (with cover)
- Five pieces of moist filter paper
- Four small rocks

## Procedure

1. Place moist filter paper in choice tray (one in each section)
2. Place each of the experimental food sources in the outer four sections of the choice tray
3. Position one rock at each of the entrances to the outer sections of the choice tray
4. Place twelve sow bugs in the center section of the choice tray
5. Wait ten seconds
6. Simultaneously remove all four rocks
7. Place cover on choice tray
8. Wait five minutes
9. Uncover choice tray and place rocks at the entrances of the outer sections
10. Count the number of sow bugs in each section
11. Remove rocks and place cover on choice tray
12. Repeat steps 9 through 11 every five minutes

## Results

### Sow Bug Apparent Eating Preferences

## Data Table

<https://assignbuster.com/food-preferences-in-the-sow-bug-porcellio-laevis-essay-sample/>

Time	Leaves	Grapes	Sow Bug Food	Potato	Control	Total
------	--------	--------	--------------	--------	---------	-------

0 Minutes	0	0	0	0	12	12
-----------	---	---	---	---	----	----

5 Minutes	3	1	0	1	7	12
-----------	---	---	---	---	---	----

10 Minutes	6	0	0	1	5	12
------------	---	---	---	---	---	----

15 Minutes	5	1	0	0	6	12
------------	---	---	---	---	---	----

20 Minutes	7	0	0	1	4	12
------------	---	---	---	---	---	----

25 Minutes	7	0	0	0	5	12
------------	---	---	---	---	---	----

The results of the experiment show which kind of food the sow bugs choose over the others. The sow bugs went to the section of the choice tray with the leaves more than any other section. A lot of them, although not as many as in the decaying leaves section, remained in or moved back to the control section. The sow bugs at least entered the sections with the potatoes and grapes. For three of the times the position of the sow bugs was checked, there was one sow bug in the section with the potatoes. For two of the times the position of the sow bugs was checked there was one sow bug in the grapes. None of the sow bugs went into the section that contained the sow bug food during the times at which their position was checked.

## Discussion

The data collected from the experiment on what sow bugs prefer to eat when given the choice of potato, grapes, sow bug food, and decaying leaves was superficially resolute. It was very supportive of the hypothesis that the sow

<https://assignbuster.com/food-preferences-in-the-sow-bug-porcellio-laevis-essay-sample/>

bugs would prefer the section of the choice tray with the decaying leaves. The data collected showed that a greatest number of sow bugs were in that section. If examined with the objective of determining which food the sow bugs preferred, the data indicates that their preference was the decaying leaves.

However, taking other variables into account, this indication is not conclusive. The decaying leaves differed significantly from the other choices the sow bugs were given in that they are not only a food source, but a familiar environment and shelter of darkness for these primarily nocturnal creatures (Lyon 2). They are also usually found under things such as rocks, boards, or decaying vegetation (Luke 1). This introduced the possibility that the greatest number of sow bugs were found in that section for reasons other than food preference.

The data was more illustrative of what sow bugs did not prefer to eat than what they did prefer. The sow bugs, (ironically), never touched the sow bug food. They did, however, at least enter the other two sections. But even this information was not ultimately conclusive because of the factor that there was no control concerning the sow bugs appetite. Directly before the experiment was conducted, the sow bugs were kept in an environment in which they had excessive amounts of their main food source- decaying leaves (Luke 1). This information would suggest that the sow bugs were not especially interested in food at the time the experiment took place.

The data gathered might not have been conclusive in discovering the preferred food source of sow bugs, but it at least showed that the decaying

<https://assignbuster.com/food-preferences-in-the-sow-bug-porcellio-laevis-essay-sample/>

leaves were what they were attracted to for whatever reason. This information could be used in a variety of different ways. It would be helpful in pest control as well as in keeping a sow bug alive. For people who consider sow bugs a nuisance, the data could reduce the population of sow bugs in certain areas by removing the decaying leaves. This would make the habitat less inviting and therefore discourage the presence of sow bugs.

When relating the information to a wider variety of topics, even though the information was not conclusive, it came to attention that the preference of habitat or food source in sow bugs has a major effect on the areas in which they live and on the organisms survival. Whether it is because of food and/or environmental related issues the fact that the sow bugs preferred to reside in and/or eat the decaying leaves shows that areas with significant quantities of decaying leaves have a chance of being affected by sow bugs. Because decaying matter is a main food source for sow bugs it could be assumed that if sow bugs resided in an area containing decaying leaves, they would also be ingesting them. This would have an impact on that environment. When the sow bugs eat the leaves, they are putting back the nutrients into the soil. This would make soil the areas in which sow bugs live more fertile. The other issue that came to attention was the organism itself in relation to the results of the experiment. Because of the fact that the main food source of the sow bug (Luke 1) is found in abundance almost everywhere, sow bugs probably have an increased rate of survival.

Sources of Error

As discussed in previous sections of this report, there were many very significant sources of error. The most important was probably the decaying leaves being many more things than a food source. But this was just one of the many flaws in the experiment. To name a few more, sow bugs are primarily nocturnal, they were put in a high stress situation, there was an obvious age difference in the specimens, and because of the design of the experiment, every time it was time to record the positions of the pill bugs, the whole choice tray and its temporary residents were disturbed.

The observation concerning the decaying leaves presented quite a few errors. The decaying leaves were a place of shelter, not only from the rest of the choice tray but also from the light. This is important because sow bugs are creatures that are used to dark places and are most active at night. The leaves were also a familiar place. Sow bugs usually live in places with an abundance of decaying vegetation. In addition to all these factors that would entice the sow bugs to choose the decaying leaves over the other choices, they are also one of the sow bugs main food sources. If you add up all the other appealing qualities the leaves had besides the diet issue it would seem that the sow bugs may not have preferred this choice because it was appetizing, but for different reasons altogether.

The sow bugs were also put in a very stressful situation. They were in a habitat they had never been in before, under bright fluorescent lights, with unfamiliar noises. All these things would make these animals stressed and even full of panic. In addition, every time the positions of the sow bugs were checked, it was necessary to move everything around. The cover of the

choice tray had to be lifted off, the rocks had to be placed in the entrances of the sections and then removed again, and in order to get an accurate count of the sow bugs in the section with the leaves, the leaves had to be picked up and moved around. All these disturbances may have affected the choices the sow bugs made.

The significance of the age difference in the sow bugs was determined from an observation made while the experiment was being conducted. In the control section there were four or five mature sow bugs grouped around one that was obviously much younger. It was not certain what the cause of this behavior was, but there is a possibility that the age of the sow bug being surrounded was a factor. If this younger sow bug was the cause of the other mature sow bugs staying in the control section, then this was a major source of error.

## Conclusion

The information collected from the experiment conducted that when given a choice of going into sections of a choice tray with potatoes, grapes, sow bug food, or decaying leaves, sow bugs will choose to go into the section containing decaying leaves. The results of the experiment conclude that the given hypothesis was correct.

## References Cited:

1. Luke, Alan. (2001). Sow bugs and Pill bugs. [Online].

Available: [http://www.bug-guy.com/sowbugs\\_and\\_pillbugs.htm](http://www.bug-guy.com/sowbugs_and_pillbugs.htm)

<https://assignbuster.com/food-preferences-in-the-sow-bug-porcellio-laevis-essay-sample/>



2. Lyon, William F. (1991). Sowbugs and Pillbugs. [Online].

Available: <http://ohionline.osu.edu/hyg-fact/2000/2072.html>