CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)

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Project Number

J1922

Project Title

Does Soil Matter? Worms in Their World

Abstract

Objectives/Goals

The purpose of this experiment is to determine which type of soil is the best for worms to live in and reproduce. Having this knowledge will help people choose the best soil for their plants. The worms, with their beneficial castings, will take care of the rest.

Methods/Materials

MATERIALS

·4 five gallon buckets / ·¼ inch drill bit / ·1 drill / ·4 plates / ·5 gallons of decomposed granite / ·5 gallons of garden soil / ·5 gallons of peat moss / ·5 gallons of mulch / ·100 worms / ·6 liters of tap water / ·4 black plastic trash bags / ·Thermometer

METHODS

·Drill 4 drainage holes at the bottom of each bucket.
·Place 5 liters of each soil mixture in separate buckets.
·Place the 4 buckets onto the drainage plates, hole sides down.
·Count the worms and ensure that the mixtures are worm and egg free
·Place 25 worms on top of each mixture.
·Maintain a constant temperature of 35C.
·Add 60 ml of water to each bucket and continue this process weekly.
·Cover the buckets with the plastic.
·Place 4 buckets in a controlled environment.
·After 6 weeks determine the number of worms in each bucket.

Results

After six weeks there were 22 worms in decomposed granite soil. This was a decrease of 3 worms. The garden soil mixture showed an increase of 66 worms. The mulch mixture showed an increase of 5 worms. The mixture with the largest population growth was the garden soil. The mixture with the least amount of worms was the peat moss.

Conclusions/Discussion

The data does not support this researcher#s hypothesis. The garden soil mixture increased the worm population the most. Raising worms in a garden soil mixture will ensure a thriving worm population. Decomposed granite, on the other hand, will cause a worm population to decrease. Further research could be done to find the effect of different vegetable and fruit peelings on worm populations. To improve this project the scientist would repeat this experiment at least 20 times.

Summary Statement

My project explores the best soil environment for worms to live and reproduce.

Help Received

None