Is the Smell Worth the Risk?

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Introduction

The contaminants used by the scientists were essential oils, candles, and Febreze. Candles are used to help sleep and skin care. When you inhale candles you inhale small amounts of liquid that get into your lungs which can lead to lung and heart problems. 7 out of 10 households use candles. Some side effects of essential oils are headaches, sore muscles, etc. In 2020 1.68% of people in the U.S. used essential oils. Febreze is linked to cancer. 118.05 million people in the U.S. used Febreze in 2020. The scientists want to know how different fresheners affect the borrowing of an earthworm.

Abstract

Due to the negative claims against essential oils, Febreze, and candles, some scientists decided to test how these substances would impact the burrowing time of earthworms. For 15, 30, or 45 minutes, the worms would be placed in an exposure chamber with one of the substances. The scientists would record the burrowing time and compare it to the controlled burrowing time of when the worms were exposed to just air. The scientists concluded that essential oils and candles had a significant effect, while Febreze did not.

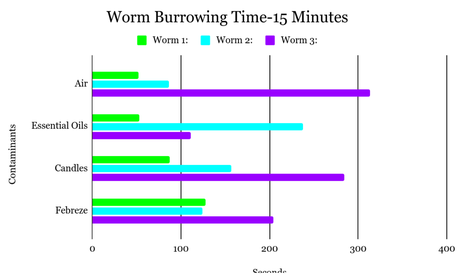
Data Analysis

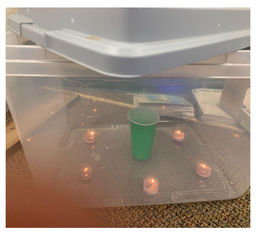
___The data shows that essential oils and candles did have a statistically significant effect on the earthworms burrowing time. Though Febreze has found to not have had a statistically significant effect.

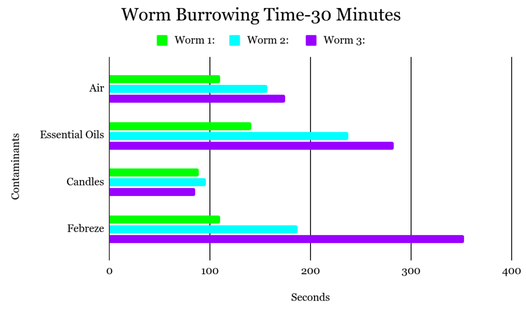
Materials and Methods

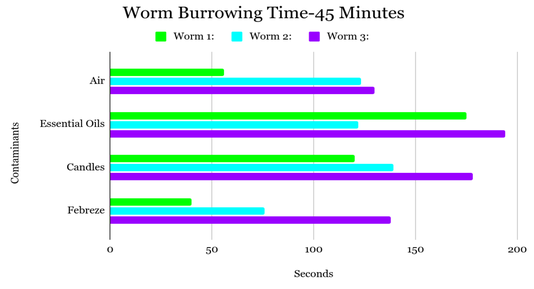
The materials that we used are different kinds of air fresheners essential oils, febreze, and candles. We used the exposure chamber using two storage bins.the essential oil that we used was the lavender scented. The frebreze that we used was lavender. We used all lavender scented air fresheners so they could have similar chemicals.

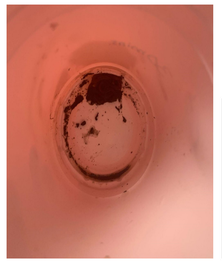
15 minutes	Statistically significant?
Control vs Essential oils	NO
Control vs Candles	NO
Control vs Febreze	NO
30 minutes	
Control vs Essential Oils	YES
Control vs Candles	YES
Control vs Febreze	NO
45 minutes	
Control vs Essential Oils	YES
Control vs Candles	YES
Control vs Febreze	NO











Results

The scientists found their results very interesting because essential oils and candles did have a statistically significant effect, but not Febreze. From observations, the scientists say they observed the worms being “dazed.” After exposure to candles and essential oils, the worms would be clumped and clustered together. While the worms were mostly observed with slow movement, the worms who were exposed to lavender candle were described as moving “abnormally fast.” Of course the scientists were aware of possible outliner harming the accuracy of their results. For example, the scientists were sharing their lab with other scientists who were testing with other contaminants. The same exposure chamber was also used for each contaminant, which means there could have been left over remnants of the contaminant not being tested.

Discussion

The data states that the worm’s reaction was only statistically significant for candles and essential oils. In essential oils, and sometimes candles, there is this chemical called linalool that is linked to have a sedative effect. Some may say this is it’s job, to make you calm. This chemical was in the essential oils used was slowing down the worms natural instinct to burrow. If this chemical is effecting something that worms know to do since birth, it cannot be a good thing. The scents from candles are also used for relaxation, so the scent from the candle possible made the worms slow and relaxed so they burrowed slower. The scientists believe the reason Febreze didn’t have an effect was because the worms didin’t have a direct enough exposure to the substance.

Sources

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https://pubmed.ncbi.nlm.nih.gov/18824339/#:~:text=The%203%25%20linalool%20decreased%20(p.shared%20by%20most%20psycholeptic%20drugs.

Negative effects Essential Oils can do to your body? Medicalnewstoday