

The Effect of Essential Oil from Guava (*Psidium guajava*) Leaves on Male Guinea Pig Reproductive Parameters (*Cavia porcellus*)

Alekhya Thirunahari

Department of Biotechnology, Osmania University, Hyderabad, Telangana, India

OPINION

Essential oil is the concentrated hydrophobic liquid of a plant's volatile aromatic compounds (odoriferous) (or occasionally vegetable gas). It is only found in seed coniferous trees and belongs to the Labiatae and Myrtaceae families. Essential oils contain a wide range of effects, including anti-infectious, antifungal, anti-parasitic, antibacterial, anti-inflammatory, and so on, despite some commonalities in their modes of action.

Animals' development is aided by these features. Guava (*Psidium guajava*) is a tropical fruit tree native to South America that belongs to the Myrtaceae family. Traditional medicine treats gastrointestinal and respiratory illnesses, diabetes, cancer, and other ailments by using all parts (roots, fruits, leaves, and so on). Extracts from the leaves of *P. guajava*, as well as the essential oil they contain, have been shown to have anti-inflammatory, antibacterial, analgesic, hepatoprotective, and antioxidant properties in studies.

In the realm of animal production, many studies on the effects of essential oils on growth performance have been conducted, but there is very little information on their effects on reproductive performance. According to experiments, rats fed with leaf extracts from *Psidium guajava* had higher levels of reproductive hormones (testosterone, LH, FSH), testes and epididymis weight, motility, and epididymis sperm concentration.

The main purpose of this study was to see how the essential oil of guava leaves altered some male guinea pig reproduction parameters. On the Dschang University campus, fresh guava leaves were collected, dried in the shade, and pulverised. The oil was extracted

in the Faculty of Agronomy and Agricultural Sciences' Laboratory of Animal Physiology using hydrodistillation. After separation, the oil was filtered through anhydrous sodium sulphate to eliminate any remaining water. The University of DSc hang's Teaching and Research Farm provided thirty-two (32) male guinea pigs (*Cavia porcellus*) weighing between 350 and 400 g for testing. During the trial, the animals were provided ad libitum feed (Table 1) and water.

A heart puncture was conducted under etheranesthesia to take blood from each guinea pig at the end of treatment. Serum was collected and stored at -20°C before to analysis. After the guinea pigs were murdered by an overdose of ether, organs such as the testes, epididymis, vas deferens, and seminal vesicles were methodically removed, free of adipose tissue, wiped dry, and weighed separately. After the guinea pigs were murdered by an overdose of ether, organs such as the testes, epididymis, vas deferens, and seminal vesicles were methodically removed, free of adipose tissue, wiped dry, and weighed separately.

Following that, the left testis was homogenised in a known volume of cold distilled water, and aliquots of the supernatant were maintained at -20°C before biochemical estimates. The percentage of motile spermatozoa was calculated using the following formula: $[\text{Number of mobile spermatozoa} / \text{Total number of counted spermatozoa}] / [\text{Number of mobile spermatozoa} / \text{Total number of counted spermatozoa}] / [\text{Number of mobile spermatozoa} / \text{Total number of counted spermatozoa}] / 100$ times the number of mobile spermatozoa/Total number of counted spermatozoa/[100 times the number of mobile spermatozoa/Total number of counted spermatozoa]. The sperm density in the right cauda epididimidis was measured using a Thoma haemocytometer.

Correspondence to: Alekhya Thirunahari, Department of Biotechnology, Osmania University, Hyderabad, Telangana, India, E-mail: thirunaharialekhyal51315@gmail.com

Received: July 05, 2021; **Accepted:** July 11, 2021; **Published:** July 16, 2021

Citation: Thirunahari A (2021) The Effect of Essential Oil from Guava (*Psidium guajava*) Leaves on Male Guinea Pig Reproductive Parameters (*Cavia porcellus*). J Biol Syst Open Access. 10: 200

Copyright: © 2021 Thirunahari A. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and in any medium, provided the original author and source are credited.