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The discovery of anti-parasitic benefits of olive leaf for goats infected with intestinal parasites: Seeking novel strategies to manage intestinal worms from the plant pharmacy

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The discovery of anti-parasitic benefits of olive leaf for goats infected with intestinal parasites-olive leaf was screened for anti-parasitic activity to a major intestinal nematode that infects goats, often causing mortality, *Haemonchus contortus*. Intestinal parasites are arguably the biggest constraint to goat production internationally. Chemical drugs are no longer the sustainable solution for controlling nematode infections due to drug resistance. Instead management plans are recommended to be tailor-made to individual goat farms utilizing the toolbox of strategies available. The use of plants and their medicinal compounds is an important component of this toolbox. Olive leaf extract was isolated as a novel plant for screening against goat nematodes, having shown medicinal activity in human medicine. The use of *in vitro* bioassays determined anti-parasitic activity to the larval stages of *H. contortus*. Consequently, during a preference test research trial, goats were offered a choice between olive leaf and wheaten chaffs. The goats exhibited an ability to learn the anti-parasitic ability of olive leaf. They increased their consumption of olive leaf in response to infection with *H. contortus*. They decreased their consumption of olive leaf following the termination of infection. This evidence of self-medication is valuable to goat farmers, particularly to those seeking to make use of the pharmacological capabilities of plants and highlights there remains much to discover in nature's pharmacy. As more plants are screened, those endemic to particular regions can be isolated for anti-parasitic benefits and incorporated as a sustainable worm management strategy for goat farmers.

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