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Article title	**Acaricidal efficiency of solar 50 % new emulsifiable concentrate formulation against the two-spotted spider mite (TSSM) *Tetranychus urticae* Koch (Acari: Tetranychidae) under laboratory and greenhouse conditions.**
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Abstract

Oils are some of the most efficient and secure alternatives to synthetic fungicides, acaricides and insecticides used as pesticides for decades. Around the world, mineral oils are a potential pesticide against many pests. To provide novel active ingredients and new pesticide formulations to the pesticide industry, the major goal of this research was to formulate one of the petroleum fractions and test its acaricidal efficiency against two-spotted spider mite (TSSM), *Tetranychus urticae* Koch (Acari: Tetranychidae). Solar's physical features were put to the test. Then, it was prepared as an emulsifiable concentrate following the guidelines provided by specialized pesticide organizations for this kind of formulation. The novel formulation was subsequently biologically tested against *T. urticae* adults in the lab, and it demonstrated good acaricidal activity with an LC_{50} of 4548 ppm. Under greenhouse conditions, it was also tested against *T. urticae* immature, adults (males and females) and number of deposited eggs. There was a direct correlation for all stages between concentration, the percentage of immature and adult mortality, and the percentage of egg-hatching inhibition. In the case of the immature, 100% mortality was shown after 7 days of treatment. However, in the case of adult males and females, 100% mortality was shown after 3 days of treatment. Additionally, after 14 days from treatment, it entirely stopped egg depositing. The new formulation might be applied to manage the TSSM.