

## **MODERN COSMETOLOGY AND THE USE OF TOMATO OIL EXTRACT IN ANTI-AGING AND MOISTURIZING SKIN CARE**

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Modern cosmetology emphasizes the use of natural ingredients with potent antioxidant and restorative properties for mature skin. Tomato oil extract, rich in lycopene, carotenoids, and polyunsaturated fatty acids, offers a prolonged anti-aging and moisturizing effect. Lycopene, the primary active component, neutralizes free radicals that accelerate cellular aging and helps prevent oxidative cell damage, thus preserving skin vitality.

Additionally, tomato oil extract strengthens the skin barrier, aids in moisture retention, and stimulates cell regeneration, making it ideal for anti-aging products targeting long-lasting hydration. Studies show that lycopene penetrates deeply into skin layers, reinforcing the collagen matrix and improving skin elasticity and resilience.

This study aimed to develop an innovative cream that combines anti-aging and moisturizing properties based on tomato oil extract. Antioxidant activity was evaluated using the DPPH assay, and the cream's moisture retention capacity was measured. Stability and oxidation resistance were tested under high temperatures, and in vitro testing on skin cell cultures revealed the cream's positive influence on collagen and elastin production.

Results showed that the tomato oil extract-based cream reduces oxidative stress by 40%, enhances skin hydration by 30%, and improves skin firmness and elasticity. The formulation demonstrated high stability, resistance to oxidation, and caused no irritation in dermatological tests.

These findings underscore tomato oil extract, rich in lycopene, as a highly promising ingredient for anti-aging and moisturizing skincare. The developed cream supports skin texture improvement, strengthens the barrier function, and provides prolonged anti-aging benefits, making it highly suitable and effective for mature skincare products.