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Activation of rabbit's fibroblast to acceleration of wound healing by St. John's Wort extract (Hypiran®)

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This study was carried out for evaluation of *Hypericum perforatum* extract (Hypiran®) on open wound healing in rabbits. 40 white – German rabbits were selected from both sexes in mean weight of 2850 grams (2750 - 3000 grams rang). The rabbits were divided into 4 same size groups, (No. 1 to 3 test groups as well as No. 4 control). Full-thickness skin wounds (2.5 in 2.5 cm) were created on the dorsal aspect of skin in animals. In test groups (groups 1 to 3) wounds were treated by cream standardized with 0.75%, 1.5% and 3% Hypiran® respectively in comparison to the corresponding vehicle (control or group 4) and a bandage hold in place with a surgifix and re-banded for 35 days everyday. Wounds were photographed and biopsied every week (five times). All photographs were analyzed by Scion Image software and total wound surface, granulation tissue and re-epithelialized area were calculated. Specimens of normal skin and final scar tissue of all of wounds were assayed for hydroxy proline content. Sequential wound biopsies were evaluated histopathologically for fibrin, collagen, crimp, myofibroblast, leukocytes and tissue damage status. Measured wound areas were analyzed, using ANOVA test. Qualitative evaluation of histopathological values was shown a better condition in test groups. Findings obtained in the present study indicated that *Hypericum perforatum* extract exhibited a wound-healing activity mainly due to the increase in the stimulation of fibroblast collagen production, the activation of fibroblast cells and regulation of these cells which plays a role in wound repair by closing damaged area. But suggests that to use higher concentrations of *Hypericum perforatum* extract (Hypiran®) to find better results in next experiments.

Keywords: *Hypericum perforatum*, Hypiran®, wound healing, rabbit, fibroblast, collagen

Acaricidal effects of extract and oils of *Cedrus* against *Cnemidocoptes gallinae* comparing with a chemical drug

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Mites are one of important parasitic agents of avian, among them is genus *Cnemidocoptes*. It belongs to family sarcoptidae which contains three species such as *Cnemidocoptes mutans*, *C. pilae* and *C. gallinae*, which is a burrowing mite that can cause feather loss. In this field trial extract and essential oil of *Cedrus* compared with a chemical acaricide called Lambda-salothrin (an organophosphorus compound). For this purpose 12 local hens which were naturally infested with *C. gallinae* were collected and randomly assigned to four treatments. Each treatment contained 3 local hens. Treatment 1 was treated with normal saline as negative control and 2 and 3 treated with extract and oil of *Cedrus*, respectively. Group 4 was treated with lambda-salothrin as well. Obtained results showed that in groups treated with *Cedrus* oil and lambda-salothrin 75% and 95% gaining in health were obtained, respectively. And Mite scrapings after topical application of *Cedrus* oil caused complete recovery after 10 days in severe infestation with regrowth of feather on days 14 post treatment. According to above mentioned results *Cedrus* oil may be considered as potential candidates for biocontrol of *Cnemidocoptes gallinae* in the field.

Keywords: *Cnemidocoptes*, extract and essential oil, *Cedrus*, Lambda-salothrin, biocontrol