

**MIX 557: A TOPICAL REMEDY WITH REPELLENT, BIOCIDAL AND HEALING PROPERTIES FOR TREATING MYIASIS BOTH IN MAMMAL AS IN HUMAN**

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**Aim:** Myiasis is an infestation of necrotic and living tissue of mammals and humans by parasitic dipterous larvae. Although wound myiasis is infrequent it has been a serious complication of war wounds in tropical areas and is sometimes observed in neglected ulcers. This study aims to demonstrate that the topical remedy MIX 557 (Patent PCT/IT2005/000454) consisting of plant derived substances (Neem (*Azadirachta indica*) and St John Wort (*Hypericum perforatum* L.)) has repellent (adult flies) and biocidal (maggots) properties both *in vitro* as *in vivo* and healing properties *in vivo*.

**Method:** *In vivo* the myiasis (hooves, vulvar and penal foreskin) were of production animals (sheep, goats, pigs) in field conditions. Animals were treated daily and the presence/absence of maggots and the healing progress was registered. The *in vitro* tests were carried out with artificially reared *Calliphora vicina* flies. Both the single components Neem oil (NO) and Oleolite of Hypericum (HO) as MIX 557 itself were tested for biocidal and repellent effects.

**Results:** *In vivo*. MIX 557 was applied daily on *Wolphartia magnifica* infested wounds until resolution. MIX 557 demonstrates a repellent effect against myiasigenic flies for 24 hours as no new generations of maggots are found in wounds when applied daily. The wound healing process presents a normal physiological time course without complications (animals treated N = 33). *In vitro*: repellency is due to mechanical factor while biocidal activity towards maggots is due to the NO component (100% mortality by day 5).

**Conclusion:** All biological activities (biocidal, repellency and wound healing) of MIX 557 have been demonstrated. This indicates that it could be a useful topical remedy to be used under unfavourable hygienic conditions (war, natural catastrophe) avoiding insurgence of myiasis and permitting a normal physiological healing process without further complications.