

## THE APIPHYTOTHERAPY WITH PROACTIVATOR IN THE VETERINARY DERMATOLOGY AND SURGERY

### APIFITOTERAPIA CU PROACTIVATOR IN DERMATOLOGIA VETERINARA SI IN AFECTIUNI CHIRURGICALE

SICEANU A. \*, SAPCALIU AGRIPINA \*, RADOI I. \*\*\*, CONDUR D. \*\*, CAUIA ELIZA \*, PAVEL CRENGUTA\*

\*Institute for Research and Development in Apiculture - Bucharest,

\*\*Spiru Haret University

\*\*\*Agronomical Sciences and Veterinary Medicine Bucharest

*The main objective of this clinical study consisted in evaluation of the therapeutic effects of the propolis extract used in different disorders at company animals, thus being improved the palette of the apitherapeutical products used in veterinary purposes. The experiments were carried out on company animals (two experimental groups) during the 2007-2008 period, in the frame of the Veterinary Medicine Faculty – Bucharest and the University - Spiru Haret, at the veterinary departments: Parasitology, Dermatology and Surgery. The raw propolis was collected from the bee colonies belonging to the Institute of the Beekeeping Research & Development–Bucharest and the apiphytotherapeutical product based on propolis was obtained in the Apitherapy sector of the same Institute. In a first stage were obtained the anti-parasite, dermatological and surgical veterinary product PROACTIVATOR based on propolis alcoholic extract and Aloe vera gel. The experiments consisted in administration of the obtained preparation in different disorders on the experimental groups as: dermatological (plagues, chemical and physical burns), parasitological (extern parasites: scabies supra infected or not) and in veterinary surgery (as a protective layer applied on the sutured plague). In dermatologic disorders the effects of the PROACTIVATOR product were established by way of clinical periodical examinations until the total recover were done. In external parasites and connected disorders it was established the repellent or killing effect of the preparation on the infestation with parasites and the degree of control in the correlated infections. In skin tissue surgery it was established the cicatrising effect in sutured plagues and the anaesthetic local effect. The established of the studied preparation efficiency was similar as those used in classical treatments with synthesis products. The advantage of the utilization of PROACTIVATOR eliminates the toxic and cumulative effects of the chemical substances as it is well known.*

**Key word:** propolis, company animals, surgery, dermatology

## Introduction

Veterinary apitherapy is an integral part of unconventional therapies and, respectively, of alternative and complementary medicine. The growing interest in the use within veterinary medicine field of api-phyto-therapeutical products made us perform research to obtain new products and establish their therapeutical effects in various diseases: *dermatological*, *parasitological* and in dog's veterinary surgery.

## Materials and Methods

*Studied product:* "PRO-ACTIVATOR"

*Object of research:* clinical evaluation of administered product.

*Beneficiary of the study:* The Institute of Research and Development in Apiculture -Bucharest. *Origin of the raw material:* the propolis came from the bee colonies of THE INSTITUTE OF RESEARCH AND DEVELOPMENT IN APICULTURE, and the api-therapeutical product was obtained in the APITHERAPY SECTION of the Institute.

*Location of experiment:* Veterinary Medicine Faculty – Bucharest and Spiru-Haret University in Bucharest;

*Calendar of pre-clinical study:* July 2007 – December 2007

*Calendar of clinical study:* December 2007 - April 2008.

Stages of experiment:

- obtaining the api-phyto-therapeutical product: "PRO-ACTIVATOR"
- pre-clinical testing on lab animals
- clinical testing on pets, as destination of the products

The biological material that made up the witness and experimental lots was represented by:

- experimental lot (E1): 30 pets with various skin diseases–treated with PROACTIVATOR ; The Witness Lot (MI) – 15 dogs treated by medication;
- experimental lot (E2): 14 dogs, aged 3-14 years – treated with PROACTIVATOR in surgical protocol;

The experiment consisted in administering the api-phyto-therapeutical product in various diseases in animals:

- 1) *dermatological diseases* (wounds, chemical and physical burns);
- 2) *parasitological diseases* (external parasites – in pets: sarcoptic scab, superinfected or not);
- 3) surgical diseases (local applications on surgical wounds).

The researched api-phyto-therapeutical PROACTIVATOR has in its composition: propolis extract and aloe purified extract.

The cases selected by the Veterinary Clinic of "Spiru Haret" University in Bucharest and by the Veterinary Clinics - FMV Bucharest were investigated after clinical and laboratory examinations (determinations: microscopic examination of

hairs, microscopic examination of skin scrapes, cytological and hysto-pathologic examination of lesions). Research was performed on dogs of various ages and breeds.

*Skin diseases diagnosed in dogs and the therapeutic protocol applied*

Table 1

Disease	Lot EI (no. of cases)	M1 (no. of cases)	Applied treatment Lot EI
Scrape wounds	5	3	PROACTIVATOR
Allergy with flea sting	12	3	PROACTIVATOR
Sarcoptic scab	3	3	PROACTIVATOR
Surgical wounds	10	6	PROACTIVATOR
TOTAL	20	15	

Lot M1 – 15 dogs treated with medication that had the same diseases

### 1) Samples of populace

#### Experimental lot I (E1)

- 30 pets between 1-7 years old having the following diseases: *dermatological* (wounds, chemical and physical burns), *parasitological* (external parasites in pets: sarcoptic scabs, superinfected or not) and in veterinary surgery (protecting layer applied to the surgical wounds)

#### Experimental lot II (E2)

- 14 dogs between 3-14 years old treated with PROACTIVATOR in surgery protocol

### 2) Medication and therapy

- active treatment “PRO-ACTIVATOR” – apiphytoterapeutical product
- witness lots were treated in the standard way for surgical wounds, external and dermatological dressings

### 3) Mode of administration

**Experimental lot I (E1):** apply 2 times/day the product PROACTIVATOR based on propolis until complete healing of the wound

**Experimental lot II (E2):** apply 1 time/day the product PROACTIVATOR

*Results of the utilization of product PROACTIVATOR in certain pets*

Table 2

Disease	Nr. cases treated	Healed Lot E1	Nr. cases treated standard	Healed Lot M1
Scrape wounds	5	5	3	2
Allergy with flea sting	12	10	3	2
Sarcoptic scab	3	2	3	2
Surgical wounds	10	10	6	4

From the analysis of data in table no. 2 we note that the efficiency of the api-phyto-therapeutic treatment with PROACTIVATOR is equal or even higher to the standard treatments and the healing antibacterial effects need to deepen in surgical wounds.

*Therapeutic protocol applied in surgical wounds and results of PROACTIVATOR product utilisation*

Table 3

<b>It.</b>	<b>Breed, age</b>	<b>Diagnosis</b>	<b>Treatment</b>	<b>Number of applications</b>	<b>Observations</b>
1	Crossbreeding, 12 years old	Infected bite wound,	PROACTIVATOR, 1 application /24 hours	10	Total recuperation
2	German shepherd, 3 years old	Cut wound	PROACTIVATOR, 1 application /24 hours	4	Application is tolerated
3	German shepherd, 6 years old	Allergic dermatitis with abundant exsudate	PROACTIVATOR, 1 application /24 hours	6	Associating with antiallergic treatment and test meal
4	Crossbreeding, 3 years old	Neurotrophic ulcer in carpal region, radial paralysis	PROACTIVATOR, 1 application /24 hours	12, below the bandage	Total recuperation. Recurrence in 30 days
5	Crossbreeding, 4 years old	Traumatic gangrene of tail	Amputation and post-surgical treatment of the wound with PROACTIVATOR	3	Total recuperation
6	Collie, 6 years old	Atopic dermatitis	Treatment with PROACTIVATOR in filmy uniform coat	20	After 14 days – regeneration of hair follicle
7	Schnautzer, 7 years old	Atonic wound in left flank	Wound toilet and daily applications with PROACTIVATOR	12	The first signs of recuperation – after 2 days by means of transformation of the appearance
8	Crossbreeding, 10 years old	Suppurating wound in left thigh	Wound toilet and daily applications with PROACTIVATOR	6	Total recuperation
9	Mioritic	Callosity in	Surgical treatment	12	Transformatio

	shepherd, 11 years old	funny bone and jarrets with infected ulcers	of the callosities and applications with PROACTIVATOR		n of the appearance and protecting role
10	Crossbreeding, 4 years old	Phlegmon of the tail base	Extensive debridation and painting with PROACTIVATOR. Antibiotic protection	3	Total recuperation
11	Imperial caniche, 12 years old	Open infected old fracture	Mechanical asepsis, osteosynthesis, applications with PROACTIVATOR	14	recuperation
12	Crossbreeding, 2 years old	Auricular ulcer	Rigorous toilet and daily painting with PROACTIVATOR	9	Recuperation and recurrence after 30 days
13	Terra Nova, 4 years old	Recent cut wound in metacarpal and interdigital regions	PROACTIVATOR application /24 hours	8	recuperation
14	Doberman, 7 years old	Wound in buttock region, self-inflicted wound	Immobilization, PROACTIVATOR, 1 application /24 hours	10	Suppuration is stepping down. Recuperation in 10 days

## Results and Discussions

### ***Preclinical testing***

*Preclinical testing* consisted in performing, monitoring and interpreting the evolution of the preclinical tests as regards acute and chronic toxicity, tolerance, embriotoxicity and mutagenesis on lab animals of the api-phyto-therapeutic product PRO-ACTIVATOR.

### ***Preliminary clinical testing***

In the *dermatological field* the effects of the administration of the product in various dermatitis were followed (atopic, contact, allergy to fleas), scrape wounds and lesions caused by skin parasites (*Sarcoptes scabiae* var. *Canis*). *Determinations*: periodical clinical examination until total disappearance of symptoms; lab tests to establish the type of dermatological disease; biopsy to establish the degree of regeneration and healing of the wounds.

In *external parasitological diseases* it was determined the anti-parasitological effect and the role of the product PROACTIVATOR in the prevention and combat of added bacterial infections. *Determinations*: clinical, microbiological and parasitological periodical examinations.

In the *surgery of skin tissue* we followed the healing effect on wounds, the vulnerary effect and local anaesthetic effect of the product PROACTIVATOR. *Determinations:* clinical examination under treatment of the lesion; reducing the edema and inflammation; start and develop the regeneration phenomenon; redo the structure of the affected tissue structure; samples collected from wounds for microbiological examination; biopsy to establish the degree of healing and regeneration of wounds.

### Conclusions

- 1) The main purpose of the experiment consists in a better valorizing of propolis in our country and in the developing of veterinary apitherapy (the propolis extract is obtained through a technology that will make the object of a trade mark).
- 2) The apiphytotherapy method with PROACTIVATOR (propolis extract 20% and *Aloe vera* gel) in dermatology and surgery show almost the same efficiency as classical treatment.
- 3) PRO-ACTIVATOR (an api-phyto-therapeutical product destined to dermatology and veterinary surgery)
- 4) Tolerance – because a bee nutritional product was designed and tested, that does not cause irritations, the tests on tolerance are not part of the rigor of testing medication products.
- 5) The efficiency of PROACTIVATOR was demonstrated by its superior effect in the healing of wounds and the vulnerary effect (higher speed of healing reduced the healing time by at least 50%) as well as the anti-microbial and anti-parasitological effect.

### Bibliography

1. **Cristina Mateescu** (2005)- *Apiterapia sau cum sa folosim produsele stupului pentru sanatate* – Ed. Fiat Lux, Bucuresti
2. **Calcaianu, Gh.** (1989)- *Propolisul. Proprietăți terapeutice. Apiterapia azi.* Ed. Apomondia, București
3. **Leau, T.** (2003)- *Patologia chirurgicală veterinară*, Ed. Fundației România de Mâine, București
4. **Rădoi, I.** (2001)- *Principii generale de terapie alternativă și complementară.* Ed. Material didactic USAMV, București