

# Zincoseb® shampoo

## **Efficacy and tolerability of Zincoseb® shampoo against canine keratoseborrhoeic disorders**

(clinical study of 20 cases)

Authors of clinical study:

**Giovanni Ghibaudò** Dr. Med. Vet.

**Lisa Graziano** Dr. Med. Vet.

text and graphics

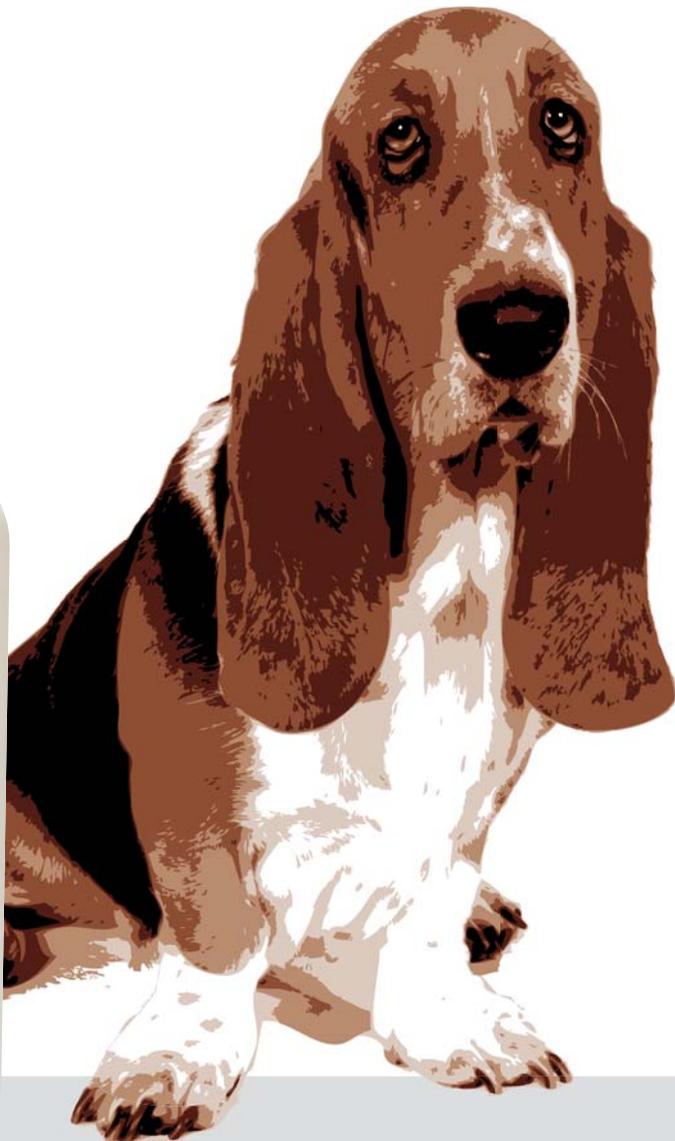
**Giovanni Ghibaudò**

Photos

**Lisa Graziano**

Reserved for Veterinarians and Pharmacists





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### Composition

Salicylic acid 2%

Colloidal sulphur 0,25%

Chlorhexidine digluconate 0,3%

Lanolin 2%

Zinc Gluconate 2%

**Flacone da 250 ml**

### Caratteristiche

- **Colloidal sulphur** has a keratolytic and keratoplastic action, it acts on mitotic activity of the epithelial basal cells and it promotes removal of surface layers.
- **Chlorhexidine digluconate** antimicrobial action (bacteria and yeast) ; it is not inactivated by pus and debris, and at low concentration it is not irritating.
- **Salicylic acid** acts as a keratolytic, breaking selectively the keratinic proteic chain present in the corneocytes, for this reason it is well tolerated by the underlying cells. Moreover it penetrates in the inflammatory lesions where it has astringent, antibacterial and anti-inflammatory activities.
- **Lanolin** has softening and moisturizing activity.
- **Zinc Gluconate** has anti-inflammatory , lenitive and softening properties.

### Purpose of the study

The aim of this study was to assess the efficacy and tolerability of a shampoo composed by salicylic acid 2%, colloidal sulphur 0,25%, chlorhexidine digluconate 0,3%, lanolin 2% and zinc Gluconate 2% against canine keratoseborrhoeic disorders (clinical study of 20 cases).

### Material and methods

20 dogs with seborrheic dermatitis were selected; for each animal were recorded the signalment, the primary disease, treatment in course (which were not changed during the test).

At the day 0 (D0) –inclusion day- clinical examination, cytology and dermatology were performed, these examinations were repeated at day 14 (D14) and day 28 (D28); dogs were treated with shampoo-therapy\* twice a week for 1 month.

\*

- wet the coat with tepid water
- apply 0,5 ml/kg of shampoo and massage all over the body
- Wait for 10 minutes rinse with tepid water
- finally dry well



At D0, D14 e D28 ratings and scores for clinical and cytological parameters were determined.

### Clinical presentation

Scale : 5 – 15 – 30 – 50 – 70 – 85 - 100%

### Cytology

Scale: 0 - 1 – 2 – 3– 4

Bacteria, corneocytes, leukocytes:

mean of 5 fields 100x

0- absent 1- present < 5 /HPF 2- present 5/10 /HPF 3- present 10/25 /HPF 4- present > 25 /HPF.

### Malassezia:

mean of 5 fields 40x

0 - absent

1 - present < 1 /HPF

2- present 2-4 /HPF

3- present 4-8 /HPF

4- present > 8 /HPF

So the authors assigned scores to the following clinical parameters : alopecia, erythema, itching, scales, lichenification, hyperpigmentation, oily, smell and opacity mantle, and to the following cytological parameters: keratinocytes, bacteria, Malassezia, leukocytes. Were also assessed the tolerability of the product in animals, the degree of satisfaction and compliance with owner.

### Results:

11 males and 9 females, the age range was from 1 year to 15 years, with an mean of 7.5 years. 6 dogs were mongrels, three German shepherds, 3 Labrador, 3 Pitbulls, two Golden retrievers, a West Highland white terrier, a Boxer and a Beagle.

The primary diseases were diagnosed: allergic dermatitis (10), hypothyroidism (4), non-epidermolytic ichthyosis (2), while in 4 cases it was not possible to identify a precise cause underlying the seborrheic dermatitis.

The clinical parameters were improved by 35.1% to 56.2% and G14 to G28. Cytological parameters are improved by 41.6% to 57.8% and G14 to G28. In particular, the reduction of clinical parameters was already high in the first two weeks in that the scales (46.7%), smell (46.2%), oiliness (44.8%) opacity mantle (41.2%). Cytological parameters had a significant decrease after 2 weeks: 62.3% of the leukocytes, keratinocytes of 48.1%, 43.2% of the Malassezia and bacteria by 27.7%. After 4 weeks there was a further improvement of the parameters although to a lesser extent the first two weeks: the scales (67.1%), smell (69.9%), oiliness (65.5%) opacity mantle (61.6%). Cytological parameters after 28 days of therapy showed a reduction of 81.3% in leukocytes, 55.8%, in keratinocytes, 70.5% in Malassezia and 41.8% in bacteria. Compliance was maintained at 85% of both G14 to G28. Only 1 out of 20 dog discontinued treatment after 1 week because of a rise of the itch in the hours following the shampoo; in all other cases were not reported any adverse reactions, with a tolerability and safety of 100% is that a G14 to G28.

## Results

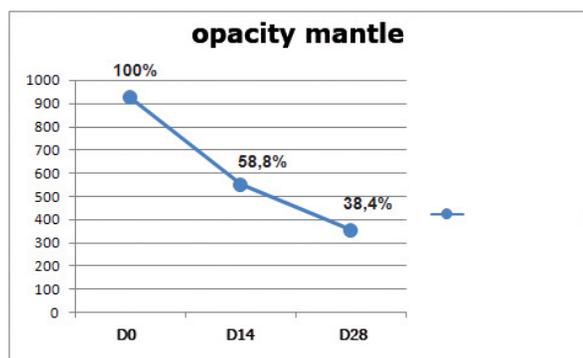
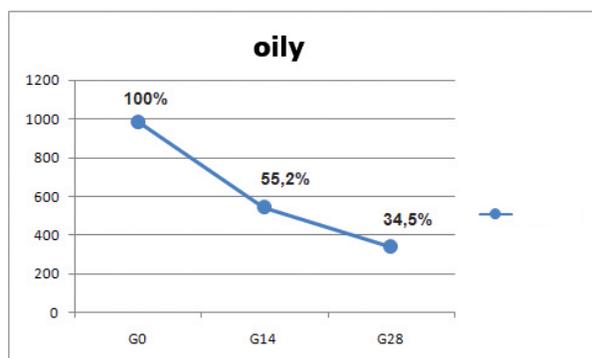
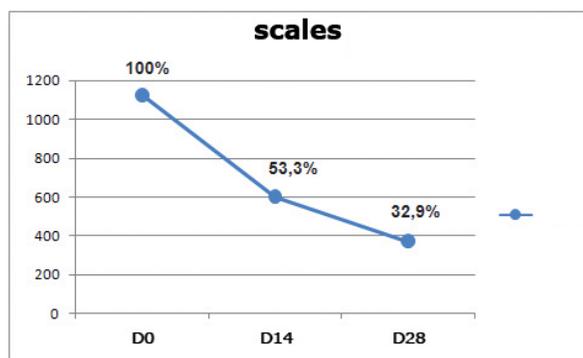
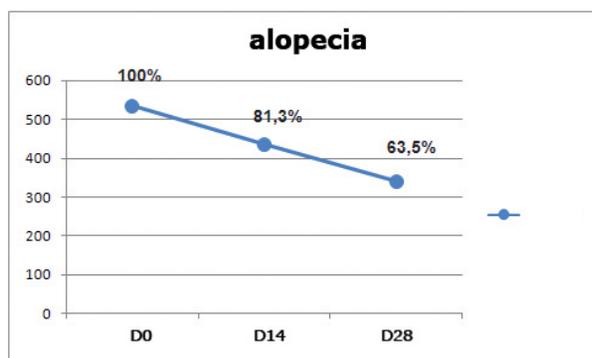
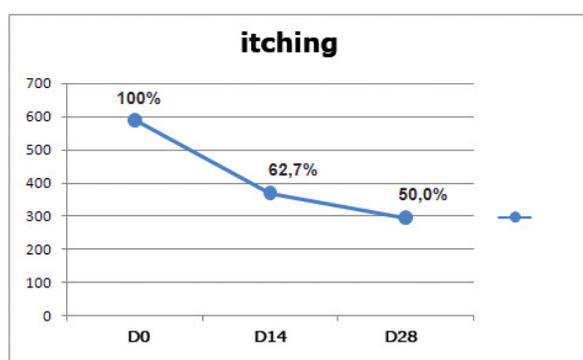
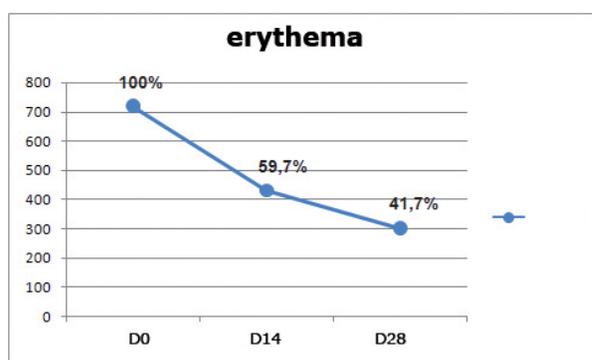
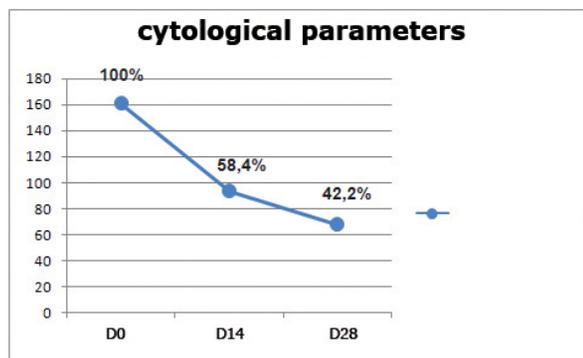
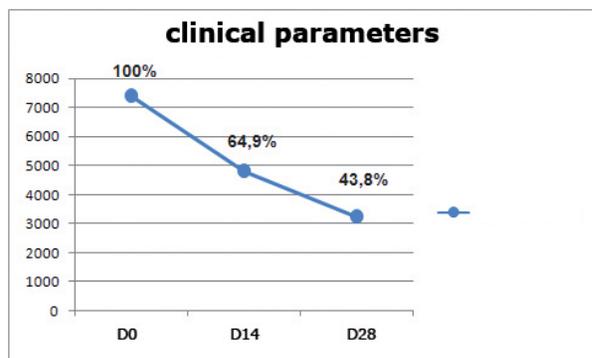
The percentage of satisfaction to the G14 was 100% and 80% after 4 weeks with explanations of no further apparent clinical improvement in comparison to the commitment of time necessary to make the shampoo from the owner.

### Risultati:

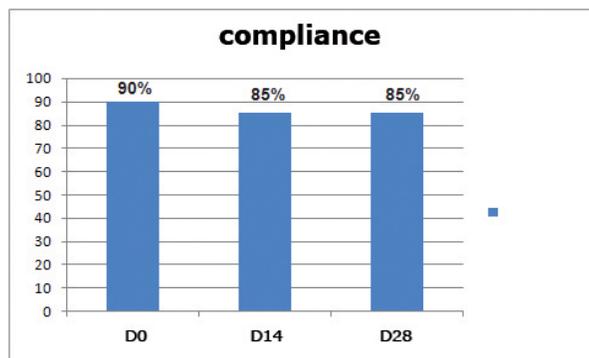
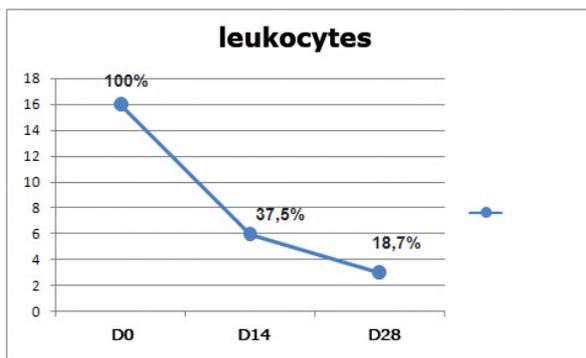
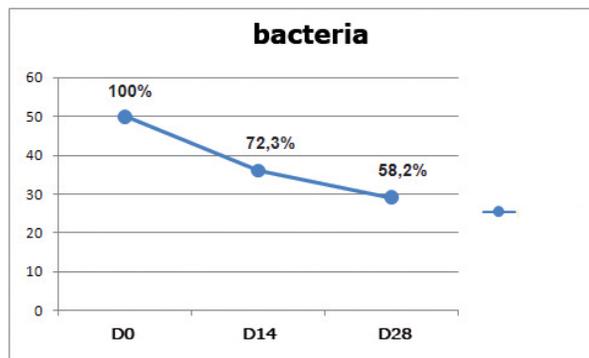
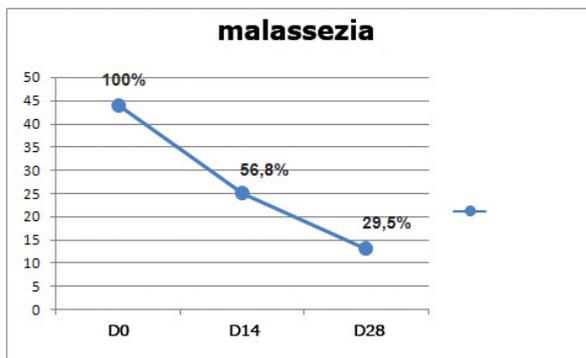
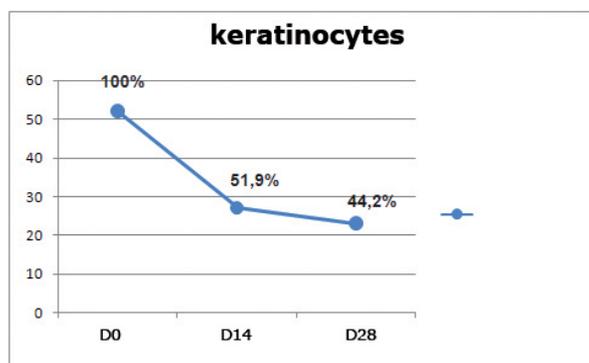
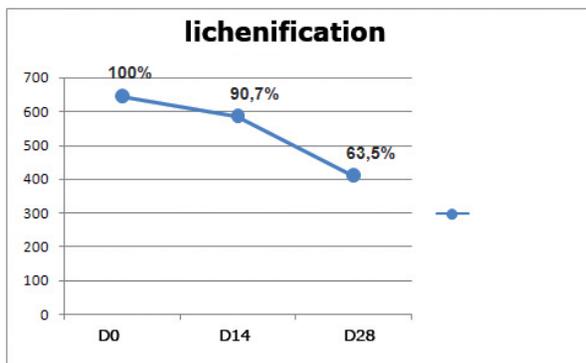
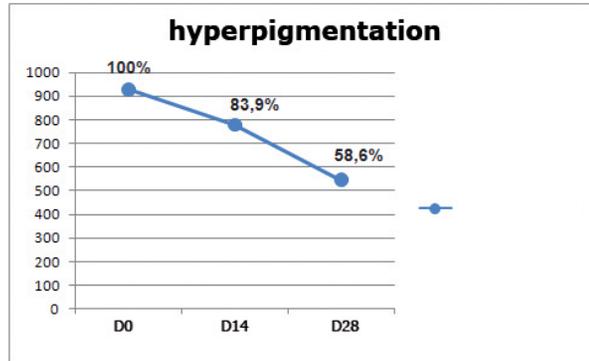
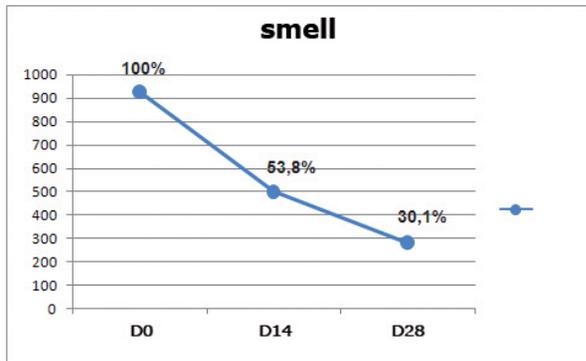
In table 1 are summarized in the signalment of the dogs included in the work, the type of seborrheic dermatitis and the primary causes diagnosed (AD: atopic dermatitis, ARF: adverse reaction to food, ND: not detected).

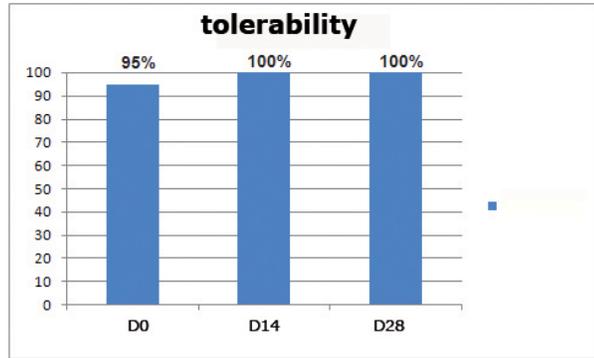
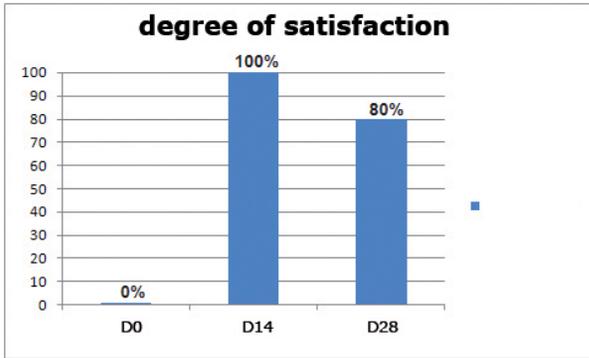
<i>number</i>	<i>Canine breed</i>	<i>age</i>	<i>sex</i>	<i>Seborrhea</i>	<i>diagnosis</i>	<i>Terapy</i>
Case 1	GERMAN SHEPHERDS	1 yo	M	greasy	AD	YES
Case 2	GOLDEN RETRIEVER	10 yo	FS	dry	ICHTHYOSIS	YES
Case 3	PITBULL	14 yo	FS	greasy	ND	NO
Case 4	LABRADOR	11 yo	M	dry	HYPOTHYROIDISM	YES
Case 5	MONGREL	9 yo	FS	dry	ND	YES
Case 6	AMERICAN STAFF	8 yo	FS	dry	AD	YES
Case 7	MONGREL	12 yo	M	dry	HYPOTHYROIDISM	YES
Case 8	PITBULL	12 yo	M	dry	HYPOTHYROIDISM	YES
Case 9	MONGREL	4 yo	FS	dry	AD+ ARF	YES
Case 10	MONGREL	6 yo	M	dry	ND	YES
Case 11	MONGREL	5 yo	FS	dry	ARF	YES
Case 12	GERMAN SHEPHERDS	12 yo	M	greasy	ND	YES
Case 13	LABRADOR	4 yo	M	dry	ARF	YES
Case 14	MONGREL	2 yo	F	greasy	AD	YES
Case 15	LABRADOR	10 yo	M	dry	HYPOTHYROIDISM	YES
Case 16	WHWT	3 yo	FS	greasy	AD	YES
Case 17	GERMAN SHEPHERDS	5 yo	M	greasy	ARF	YES
Case 18	BOXER	3 yo	M	greasy	AD	YES
Case 19	BEAGLE	12 yo	M	dry	AD	YES
Case 20	GOLDEN RETRIEVER	2 yo	M	dry	ICHTHYOSIS	YES

## Curva dei valori dei punteggi ottenuti:



## Curva dei valori dei punteggi ottenuti:





Male mongrel dog of 12 years suffer from dry seborrhea. You notice the dull coat and scales to D0, while to D14 the hair is more compact and sleek; shiny coat is finally visible and without seborrhea to the D28.



D0



D14



D28



Mutt sterilized female aged 15 suffering from dry seborrhea (atopy). You notice the dull coat and do not compact to D0, while to D14 the hair is more compact and sleek, and finally you see a shiny coat and without seborrhea to D28



D0



D14



D28

## Conclusion:

The results of this study show high effectiveness of shampoo therapy using Zincoseb ©: in fact, this shampoo is particularly indicated for the treatment of seborrheic conditions associated with dry skin, oily and with the scaling (dandruff), which are often observed in cases of dermatitis caused by the yeast *Malassezia pachydermatis* and / or bacterial overgrowth. The presence of lanolin and zinc gluconate makes the wording is not as aggressive as these agents have anti-inflammatory properties, soothing and softening properties. The synergistic action of sulfur associated with salicylic acid, in addition to the functions keratolytic (removal of excess flakes on the skin surface) and keratoplastic (normalization of cell turnover in the basal layer of the epidermis), exerts an antibacterial, antifungal and antiparasitic activity. The antimicrobial action is mainly attributed to the in situ conversion of sulfur in hydrogen sulfide and pentatonic acid, besides the presence of chlorhexidine at low doses. Recent in vitro studies of the same shampoo made at the Institute of Microbiology, University of Copenhagen by Prof. Guardabassi (see ICF Bulletin results Zincoseb - Guardabassi Cod. DP0137/0) have confirmed the excellent efficacy against *Malassezia* and major bacterial pathogens associated with skin infections of dogs (including *Staphylococcus pseudintermedius*), with the sole exception of *Pseudomonas aeruginosa*.

Shampoo-therapy should always be recommended in the course of these skin diseases associated with the management of the underlying primary causes. Compliance in skin diseases is crucial: it must be remembered that one of the most common and important reasons that leads the owner to visit the dog is linked to smell bad, "rancid" and the presence of opaque and / or greasy animal's coat.

The killing of these parameters by this anti-seborrheic shampoo even after the first two weeks are extremely important because they allow a rapid delivery from the owner that the next time you have positive clinical control. Finally, in view of the results obtained in the reduction of microorganisms by this shampoo, we can say that the rational use of antiseptic shampoos and other products may have positive effects on the prevention of antimicrobial resistance by reducing the use of broad-spectrum antibiotics in dermatology Veterinary and consequently reducing antibiotic selective pressure.

## Bibliography

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- 4) Olivry T et coll. *Treatment of canine atopic dermatitis: 2010 clinical practice guidelines from the International Task Force on Canine Atopic Dermatitis Veterinary Dermatology DOI 11.1111/j 2010*
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## Shampoo therapy

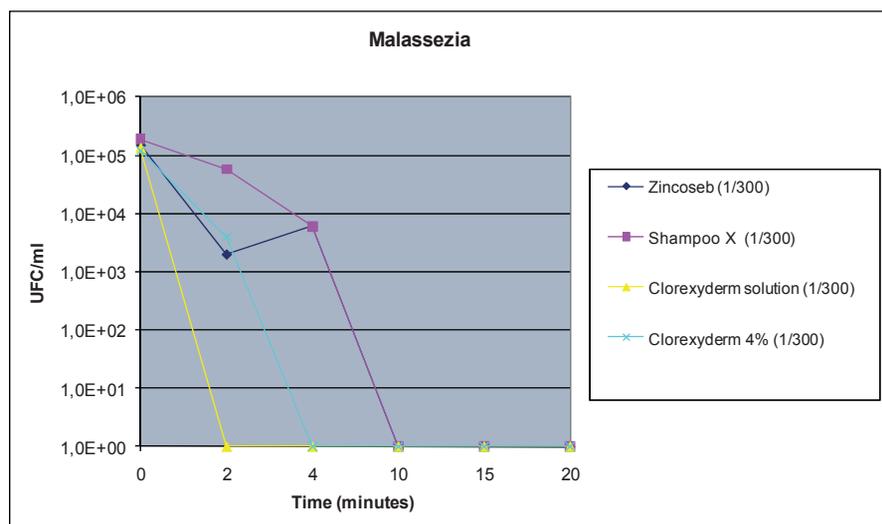


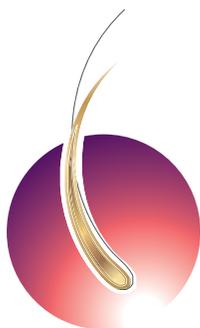
Photo © G.Ghibaudo

### Coming soon:

Comparative analysis of the in vitro killing effects of different veterinary shampoos on relevant pathogens in small animal dermatology.

Confronto efficacia contro la Malassezia per Zincoseb shampoo, Clorexyderm soluzione, Clorexyderm 4% e Shampoo X (2% clorexidina + 2% miconazolo).





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