

# Comparison Study of Ciderm® SP and Vetericyn ® Topical Antimicrobial Agents.

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Using a standardized antimicrobial inhibition test with 7mm filter paper discs, two topical antimicrobial agents were compared for efficacy based on the inhibition of growth of 3 major animal pathogens. The microorganisms tested included Staphylococcus aureus, Escherichia coli and Pseudomonas aeruginosa. These organisms were isolated from dermal infections in dogs. The following agents were tested

1) Ciderm SP (Frontier Pharmaceutical Inc. Melville NY ) (160ppm Chlorine dioxide complex in aqueous base) (Lot # 2974)

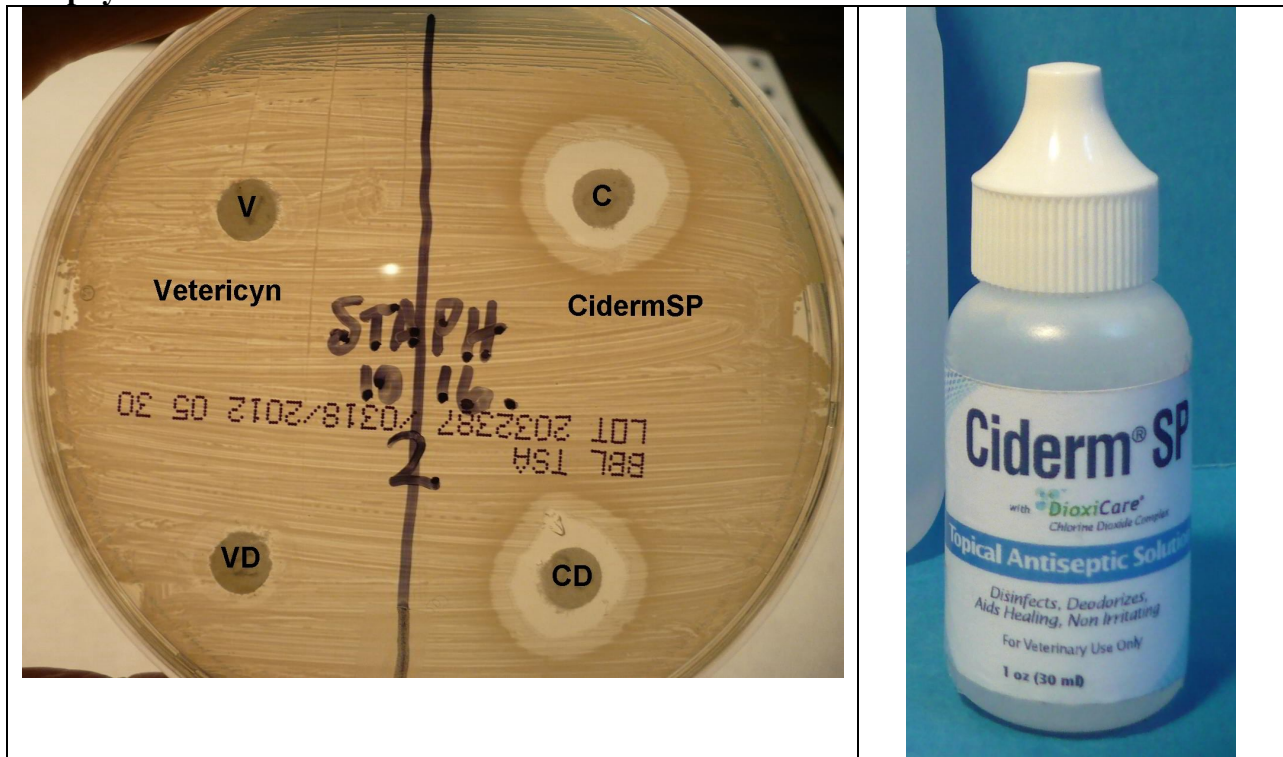
2) Vetericyn (Innoviacyn Inc Rialto CA) (Hypochlorous Acid 0.003%, Sodium hypochlorite 0.004%) (Lot # 032012-01)

The 2 agents were tested a full strength and at half strength using sterile distilled water as diluent.

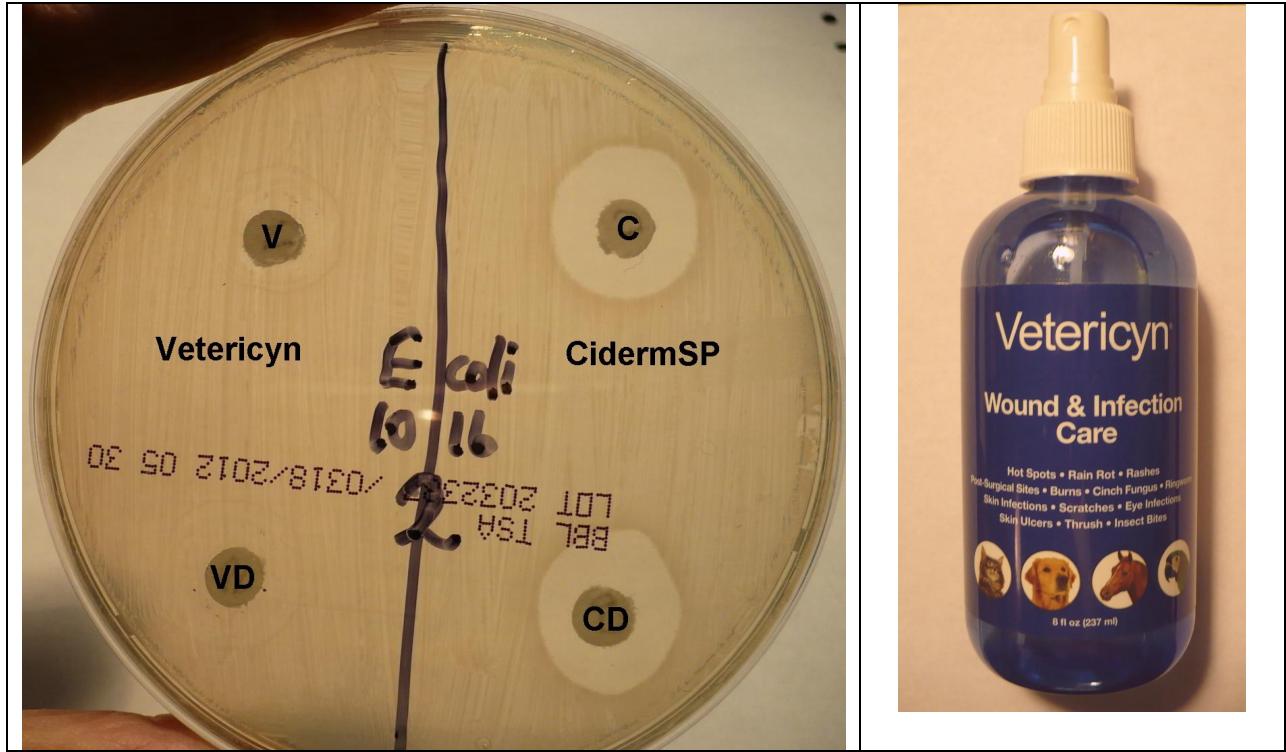
**Method :** Pure cultures of the 3 pathogens were obtained from dogs with superficial dermatitis or otitis externa . The organisms were inoculated onto 9cm sized Trypticase Agar Plates (BBL) by smearing the organism evenly over the media surface using a sterile cotton swab. Discs of filter paper 7mm in diameter were labeled and distributed onto the media. Two drops of undiluted Ciderm SP (C) and Vetericyn (V) were added to the respective disc and allowed to diffuse into the media. Two drops of diluted, (1:1 dilution in sterile water) Ciderm SP (CD) and Vetericyn (VD) were added to the respective discs. Drops were dispensed using a disposable transfer pipette. The plates were incubated at 37<sup>o</sup> C for 24 hours. The plates were inspected and photographed following incubation. A clear zone around the disc indicated inhibition of growth of the organism.

## Results:

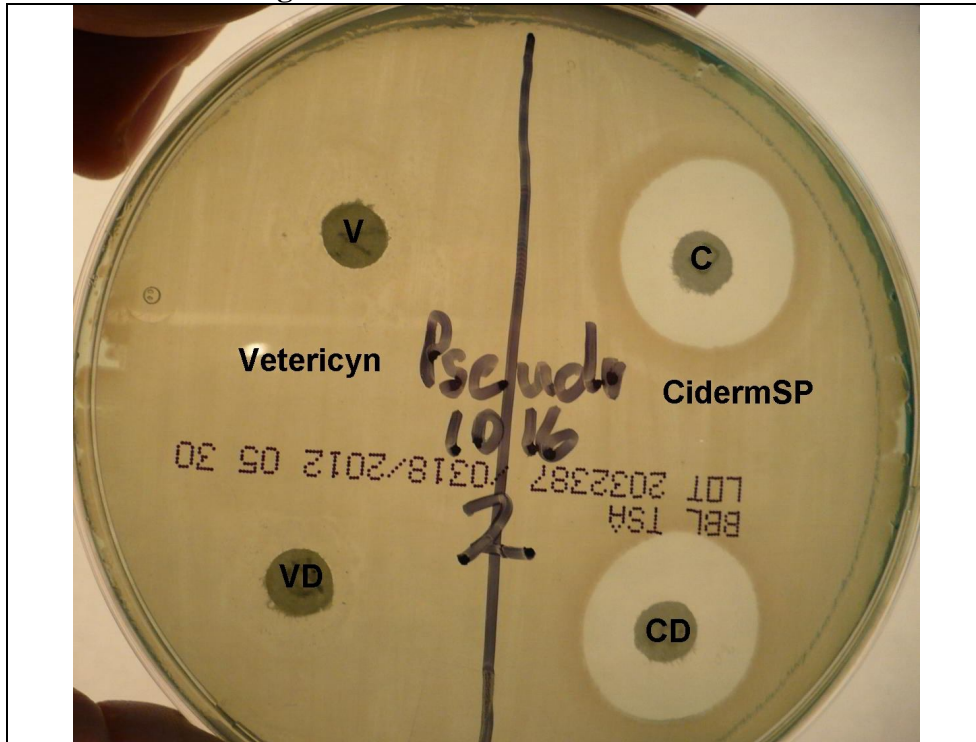
### Staphylococcus aureus:



**Escherichia coli**



**Pseudomonas aeruginosa:**



**Discussion**

Both products showed some efficacy in inhibiting the growth of the specific microorganism around the respective discs of filter paper. Ciderm SP was effective at both undiluted and at diluted strength. The size of the ring of inhibition was variable except for Ciderm SP which displayed a relatively consistent size rim of inhibition for all organisms tested. Vetericyn showed only a thin rim of activity against all organisms undiluted and no activity at the diluted concentration..

**Conclusion:**

Vetericyn displayed poor antimicrobial activity, in vitro, at both undiluted and at diluted concentration. Ciderm SP maintained activity in at both full strength at 50% strength. This may have significance in vivo when the agent is diluted by inflammatory exudate.

Ciderm® SP is a clear colorless liquid containing chlorine dioxide complex in an aqueous base. It is non irritating, effective in antiseptics against all bacteria, yeast, fungi and viral pathogens. The biocidal effects are rapid and the product quickly breaks down to inert ingredients, CO<sub>2</sub> and chloride. Being short acting the leukocytes associated with inflammation repair can be quickly replaced unlike other antiseptics that remain biocidal to both microbes and leukocytes. Chlorine dioxide has also been shown to assist with healing of underlying connective tissue.

Ciderm ® SP is available in 1 oz and 8 oz spray bottle dispensers.

Available from Frontier Pharmaceutical Inc. Melville NY 11747 (631) 367-3400