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Olive Oil and Inositol in a Dog Diet: Cause and Effect Chain of Events Welcome to Earth Third Rock from the Sun

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I. INTRODUCTION

A previous recent report detailed the overall safety and possible benefits of copper supplementation in a group of dogs with heart benefits thought to be the most relevant. However, results were not entirely successful particularly in the case of Happy who never achieved "cough free" status as she had briefly in 2019. Finally, this motivated a more detailed examination of the last known working diet which revealed likely contributors to overall health. Extra virgin olive oil had been greatly reduced and also "other" components of the GNC-100 vitamin used earlier were considered as lost contributors as this multi-vitamin was replaced by components. Several suspects were uncovered with inositol considered quite probably important.

Subsequently, 2 of the dogs, Annie and Trixie, have died. Generally all of them appeared a little duller over the past year after moving to a new location.

II. DISCOVERY AND CONSIDERATION OF SUSPECTS

An inability to entirely return Happy to her high-energy cough-free state motivated a more careful examination of the last known working diet from early 2019. The two most obvious suspects were extra virgin olive oil (EVOO) and ignored components of the GNC B-100 supplement. The latter containing all of those considered below except the EVOO, see the picture.

Olive oil is a complex natural product and a perennial suspect with many questions and paradoxes.

Inositol literature was also highly suggestive.

A 2016 report found that inositol was likely safe for dogs and cat but lacking any benefit [1].

Inositol phosphates form a family of signalling molecules which seem to be common in eukaryotic cells [2]. Carefully regulated inositol seems to be needed for proper development of *Drosophila melanogaster* [4] and an inositol hexaphosphate kinase may have an effect on lifespan in mice [3]. ZZ

While inositol is synthesized the overall regulation of synthesis, uptake, and elimination is not well understood [5].

Inconsistent but recurring reports of heart and kidney benefit exist.

PABA was also added but a concern due to possible thyroid issues which have been a problem as described before.

Choline bitartrate has recently been associated with stones in dogs and so an alternative, CDP choline was used. Choline is not considered a likely suspect due to the egg and lecithin content of the background diet but could not be ruled out.

Additional suspects included silicon dioxide. The biology of silicon is not well known and generally "sand" is considered inert at some point sodium metasilicate may be worth testing if it can be done safely (pH control and avoid side reactions). I obtained some food grade silica but never came up with a strategy for feeding to the dogs. Silica appears in the Carlson copper supplement and possibly others.



FIG. 1. Label from a recent version of the product similar to original. The mcg units on inositol is thought to be a mistake although no attempt was made to investigate.

III. RESULTS

Adding inositol, olive oil (EVOO), and incidental CDP choline and PABA appeared to restore energy in everyone and remove minor feeding indifference in Rocky. After a couple weeks, it was noted that Happy would be quiet at time she used to cough.

The final diet is described in the appendix but most notably inositol and olive oil were added to the already comprehensive list of additives including copper.

Happy went through a period of reduced coughing early on the arrival of Daisy. Neither the EVOO nor inositol were considered at that time although incidental consumption could occur through foods or vitamin D which was usually mixed with EVOO.

Its unfortunate that Annie and Trixie died before this diet could be introduced to them.

Thinking outloud

IV. DISCUSSION

The initial motivation was to get Happy back to a cough free high energy state similar to 2019. It became evident however small benefits appeared in the other dogs such as more consistent enthusiasm about eating.

Annie's feeding hesitancy partially resolved with zinc earlier but it's likely she had declining kidney function for sometime. Dexter had been eating mostly consistently but is now completely consistent and more animated. Rocky too eliminated any indifference.

V. ITS THE GREATEST DERIVATIVE CHARLIE BROWN

The literature on nutrition and perhaps medicine in general is filled with confusing or disappointing results. It's possible that a lot of anecdotes about folk remedies have some basis but the critical components are not always identified leading to tests of single nutrients that may not even be given to a population in the right state.

Dose-response curves for entities of interest are going to be have a maximal benefit at some doses while becoming perhaps toxic at high doses. It is often pointed out but not fully appreciated that this "typical" curve applies to specific current states and is just a section of a larger surface. In the right state, the curve could "flat line" or even invert. The result of a randomized trial would depend on the population being explored. For any given state, there is probably only a small number of entities with easily measured positive slopes. In this case, a prior success was identified and the suspects were easy to test.

VI. CONCLUSIONS

Certainly in retrospect both inositol and EVOO should have been considered for potential relevance. Prior work showing inconsistent results often tried to test "one thing" against a random background state consisting of genetics and metabolics. Except for the case where the sample is drawn from a population already replete with a variety of other nutrients neither of these may show much effect. That is, the differential response is not significant in any sense. The present work again illustrates that randomization is not substitute for understanding cause and effect or at least a better defined present state. While great advances have been made with empirical natural products, better solutions may derive from using more of what is known and remembering "we have computers" to sort out difficult data. Certainly again luck provided the opportunity but it still needed to be recognized. Launching into a well controlled trial of a single entity may not have produced even a useful error signal. An incremental approach, staying locked to an error signal, building line upon line and precept upon precept, may make more sense if it can be reduced to a cookbook formula.

VII. SUPPLEMENTAL INFORMATION

VII.1. Computer Code

VIII. BIBLIOGRAPHY

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Appendix A: Statement of Conflicts

No specific funding was used in this effort and there are no relationships with others that could create a conflict of interest. I would like to develop these ideas further and have obvious bias towards making them appear successful. Barbara Cade, the dog owner, has worked in the pet food industry but this does not likely create a conflict. We have no interest in the makers of any of the products named in this work.

Appendix B: About the Authors and Facility

This work was performed at a dog rescue run by Barbara Cade and housed in rural Georgia. The author of this report ,Mike Marchywka, has a background in electrical engineering and has done extensive research using free online literature sources. I hope to find additional people interested in critically examining the results and verify that they can be reproduced effectively to treat other dogs.

Appendix C: Symbols, Abbreviations and Colloquialisms

TERM definition and meaning

Appendix D: General caveats and disclaimer

This document was created in the hope it will be interesting to someone including me by providing information about some topic that may include personal experience or a literature review or description of a speculative theory or idea. There is no assurance that the content of this work will be useful for any particular purpose.

All statements in this document were true to the best of my knowledge at the time they were made and every attempt is made to assure they are not misleading or confusing. However, information provided by others and observations that can be manipulated by unknown causes ("gaslighting") may be misleading. Any use of this information should be preceded by validation including replication where feasible. Errors may enter into the final work at every step from conception and research to final editing.

Documents labelled "NOTES" or "not public" contain substantial informal or speculative content that may be terse and poorly edited or even sarcastic or profane. Documents labelled as "public" have generally been edited to be more coherent but probably have not been reviewed or proof read.

Generally non-public documents are labelled as such to avoid confusion and embarrassment and should be read with that understanding.

Appendix E: Citing this as a tech report or white paper

Note: This is mostly manually entered and not assured to be error free.

This is tech report MJM-2025-004.

Version	Date	Comments
0.01	2025-10-22	Create from empty.tex template
-	October 23, 2025	version 0.00 MJM-2025-004
1.0	20xx-xx-xx	First revision for distribution

Released versions,
build script needs to include empty releases.tex

Version	Date	URL

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Supporting files. Note that some dates,sizes, and md5's will change as this is rebuilt.

This really needs to include the data analysis code but right now it is auto generated picking up things from prior build in many cases