

**The Difference and Similarities Between Three Lab Reports About the  
Consumption and Carbon Dioxide Content in Dairy Products**

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### Abstract

This essay will analyze three separate published lab reports from a reader's perspective. The three lab reports were sourced from a scientific journal, and they all reference the broad topic, dairy. This essay will analyze the lab reports by discussing the separate sections of each lab report and comparing and contrasting them with the other reports. The first section analyzed will be the Abstract and Introductions, then the Materials and Methods, followed by the Results and ultimately the Conclusion sections of all three lab reports. This essay will analyze the content of each report, and how relevant and useful this information was for the reader while using the lab's format as a guide for comparison.

### **The Difference and Similarities Between Three Lab Reports About Dairy Products**

This essay provides a rhetorical analysis of three different lab reports about the same topic. The topic of the lab reports chosen are the consumption and carbon dioxide content of dairy products. These lab reports use different methods and techniques to evaluate their data and results. The first lab report mentioned, *Functional food, uncertainty and consumer's choices: A lab experiment with enriched yogurts for lowering cholesterol*; will be referred to as Lab 1. Lab 1 conducts an experiment to test the impact of valuable health information on the consumer's choice of yogurt. This is a well written lab report that follows the standard format, but contains an abundance of unnecessary information. The second lab report, *Investigation of solubility of carbon dioxide in anhydrous milk fat by lab-scale manometric method*; will be referred to as Lab 2. Lab 2 is a study that addresses the solubility of carbon dioxide in anhydrous milk fat. This was overall the best report out of the selection; it is very clear and concise, and is written in the standard format. The third lab report, *Culture-independent bacterial community profiling of carbon dioxide treated raw milk*; this report will be referred to as Lab 3 in this analysis. The third lab conducts an assortment of experiments to test the impact of the addition of carbon dioxide in raw milk to help increase shelf life. Lab 3 is a strong lab report that contains useful information, but often it mentions facts that detract the reader from the main purpose of the lab report.

#### **ABSTRACT AND INTRODUCTION**

Every lab report used in this analysis contains an Abstract and an Introduction section. An abstract is a brief summary to help the reader quickly ascertain the paper's purpose. In the first lab the Abstract section is informative and states a lot of useful information to help the reader understand what the lab will be about. However, the introduction section is very cluttered

and contains unnecessary information, the first paragraph of this section is quite misleading and should be removed because it mentions information that has no evidence to back it up. The first paragraph states that generic and faulty advertisements attract consumers that are willing to pay a premium for their health, yet this is never mentioned later in the report. The third paragraph of the introduction section contains information that should have been included in the abstract, and here they should have mentioned the tests they were going to use for the lab. This information should have been placed here instead of the Methods section, as that section is divided into multiple different components that explain the procedures of the lab report. The introduction section contains a specific sub section called cholesterol reduction and scientific uncertainty that contains a lot of extra information that isn't needed in the introduction, and should be relocated to the Abstract section. This section discusses the cardiovascular diseases that cause numerous deaths yearly, and their economic and hereditary factors that cause these deaths. If the authors wanted to include this section, they should have condensed it into one or two paragraphs. The issue of extraneous information arises again with the 13th paragraph of the sub section of the introduction section. This paragraph informs the reader about the ambiguous position food safety authorities have taken when recommending the use of plant sterols to lower cholesterol, this detracts them from the main purpose of the lab. The second lab report is the most concise and informative lab report of the selection. The abstract of this lab informs the reader of what the lab is about and what they would use to conduct the experiments. This introduction section is by far the most excellently organized out of the collection of chosen labs. This introduction states information about the usage of carbon dioxide in foods prior to this report, the data sets used to model the report, the various methods that were tested to conduct the lab and the aim of this

report. The third lab is a combination of the previous labs; the abstract section contains plenty of useful facts for the reader that will help them assess what the goal of the lab report is. However, the introduction section is similar to the first lab in that it contains a lot of not useful information. The first paragraph of the introduction section should be removed, because it discusses the growth of bacteria in spoiling milk. This information was not useful for the reader, as it did not pertain any relevant information about the lab; this section should begin with the second paragraph, this will help keep all of the information much more organized and prevent it from being drawn-out excessively.

## MATERIALS AND METHODS

The second lab's materials and methods section is divided into many sub sections, these different sections allow this part of the lab to be organized and easy to understand. The materials portion informs the reader of where the materials were sourced and how they were stored to achieve the most accurate results. The next section, the Methods section, mentioned the apparatus used in the experiment, this topic covered how the home made apparatus used in the experiment worked. The sub section of experimental design is not necessary , it mentions how the methods for this lab were developed, however, all of these aspects are covered in the previous subsections. The following sections follow the same pattern, they aren't completely necessary since they mention information that has been covered previously in the lab. The third lab is lacking in the materials and methods section; this section needs more details when describing the methods used, because this left the reader a bit uncertain, and the uncertainties were not covered later in the lab. Despite its lack of other information, the author's of Lab 3 included where they source their materials, like the previous lab did. Table 1, in lab 3, includes

the details of the raw milk samples; this table is very beneficial in analyzing this lab. The method section in Lab 3 was well written, however, it should include more information about the methods used, and how the data would be analyzed to help clarify some details for the reader, that are not mentioned further in the report. Lab 1 had the best methods section out of the three labs, this section was divided into small paragraphs and graphs that provided a lot of information. Short paragraphs don't make a lab report good, but instead the content these paragraphs contained is what made this section informative for the reader. The experimental design section had a useful and concise explanation of the control groups used and why they were used. The following paragraphs of this section explain the control groups that are being used in the lab with great detail, this helps the reader better grasp how this lab works. This lab also provides a timeline of how the experiment was conducted, this further helps the reader. This helps the reader as it provides a visual representation of when each control group was used for the experiment, and how the experiment was conducted.

## RESULTS

All three of the labs had faulty Results sections. The three labs have long results sections that include an enormous amount of information that was not needed. If these sections include less information that was not needed, it would make the labs better overall. Out of all of the labs, Lab 2's Results section was the most drawn out, and included information that was completely not necessary. In the Results section of Lab 2, it mentions the results of a hypothetical experiment that was not conducted, and the findings of different lab reports using different variables. Yet, the graphs used were effective in helping the reader analyze the data, since these graphs were included, the authors should have removed some of the paragraphs containing the

same information as the graphs, and only include the ones that were explaining the graphs, as this made this section redundant. Lab 3, also had a long Results section, however, this section was much more concise and the information wasn't as redundant. Figure 1, of this section describes the inhibition of bacterial growth caused by carbon dioxide from five raw milk sources at a specific temperature. The placement of this figure would make more sense at the beginning of the lab as it is a depiction of all of the results from the experiment. The following subsections of this lab should have been more succinct, however, they contained information that pertained to the lab and provided the reader with more evidence. The paragraphs under the 4th figure provide an insightful summation after the long Results section. The Results section of Lab 1 is also very confusing and contains a substantial amount of data that should have been omitted. This section mentioned the target audience for the brand of yogurt used during the experiment, and the results of previous experiments not tested throughout this report. The first two paragraphs of this section provided the most useful information about the results of the experiment. The graphs also included much information and were helpful to the reader, if it would have been more concise it would have been more beneficial for the reader.

## CONCLUSIONS

Compared to the results sections, all three of the labs had very well written Conclusions. Lab 1's Conclusion section was written in a manner that allowed the reader to fully understand everything mentioned without having to refer back to any other sections, it summarized the entire lab in just three paragraphs and it also provided information about how the results of the lab are beneficial to the consumers' health. The second and third lab reports had far shorter conclusions, likewise, they both were well written summations of the entire lab report. Lab 3's

conclusion contained the ideal amount of information, and it even included a supplementary link in which more extensive data about the lab could be found. The Conclusion portion of Lab 2 was also very well written; this conclusion contained more data than the prior lab reports, nonetheless it was still a strong summation of the entire lab.

All three of the labs were all adequately written, and clearly stated their purpose and aim for their report. The three reports were written in the standard format. For this analysis, I often mentioned brevity, this does not signify that one lab is better than the other, but that the information was effectively summarized yet contained all aspects of the experiments; the second lab did this most accurately allowing the reader to fully understand the lab report's purpose and methods. From the analysis, Lab 2 was most satisfactory for the reader, it was clear, concise and included all of the details about the lab. The other two lab reports were also informative. If the author's would have adjusted some points, such as including excessive material, the other reports would have been excellent as well.



### References

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