

Consumer Perception of “Recycled Content” and “Organic” Claims



Joint Staff Report of the Bureau of Economics and Bureau of Consumer Protection

Federal Trade Commission

A Report on a Study Co-funded by the U.S. Department of Agriculture

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EXECUTIVE SUMMARY

In 2015, the Federal Trade Commission (FTC) and the U.S. Department of Agriculture's (USDA) National Organic Program (NOP) co-funded an Internet-based study to examine consumer understanding of "recycled content" and "organic" claims. FTC staff initiated the study to determine whether to recommend updates to the FTC's Guides for the Use of Environmental Marketing Claims ("Green Guides" or "Guides").¹ This report provides FTC staff's analysis of the study results.

During its last Guide review in 2012, the Commission stated that it lacked a sufficient basis, including consumer perception evidence, upon which to provide guidance on certain recycled content claims and on organic claims. Nonetheless, the Commission reminded marketers that Section 5 of the FTC Act still prohibits unfair or deceptive practices using these terms.

To determine whether we could provide more specific advice, staff conducted this study of the views of more than 8,000 consumers to examine how consumers perceive recycled content and organic claims. Because NOP provides comprehensive regulation of organic claims for agricultural products, we studied items consisting either partially or entirely of non-agricultural components (*e.g.*, mattresses), which the NOP generally does not address. As discussed below, the study's recycled content results do not support any additional guidance; however, the organic claims results merit further consideration.

Recycled Content Claims

The Commission's Green Guides currently advise marketers to make recycled content claims based only on materials that have been recovered or diverted from the waste stream during the manufacturing process (pre-consumer) or after consumer use (post-consumer).² The Guides further advise marketers that in making these claims, they need not distinguish between pre- and post-consumer materials. Because "diversion from the waste stream" in a pre-consumer context is subject to individual interpretation, and the record lacked any consumer perception evidence, the Commission declined to provide new guidance at the last Guide review.

To try to fill in this consumer perception gap, we asked study respondents whether they agreed that an unqualified "Made with Recycled Content" claim accurately describes products (storage bins, floor tiles, or bowls) made from pre-consumer material. To render the results more generalizable, we varied details regarding the nature of this material (*e.g.*, plastic, rubber, or glass) and the manufacturing process used to make the product (*e.g.*, whether the material came from within the same process used to make the product or from making another product). To ensure reliable results, we included a control question, that asked respondents whether a recycled

¹ 16 CFR Part 260. The Guides, which help marketers avoid making unfair or deceptive environmental claims, specifically address recycled content, but not "organic" claims.

² Section 260.13(b).

content claim would be accurate if the material used to make the advertised good came from post-consumer sources.³

After accounting for the control question, the percentage of respondents who thought recycled content claims inaccurately describe products made with pre-consumer materials slightly exceeded the percentage of respondents who had the same belief about products made with post-consumer materials, but the difference was too small to be practically significant.⁴

The study also included a question testing whether qualified recycled content claims (*e.g.*, claims qualified with the terms “pre-consumer” or “post-industrial”) changed the results. These qualifications did not change respondents’ views of the claims’ accuracy. This result may be due, in part, to the fact that a large proportion of the respondents (39% and 47%, respectively) reported having little to no understanding of what these terms meant.

Based on these results, FTC staff has concluded that the study provides no basis for modifying the Commission’s advice on recycled content claims.

Organic Claims

While marketers can make organic claims for food outside the coverage of the National Organic Program, the USDA certification is so ubiquitous that any potentially inconsistent or duplicative advice provided by the Commission in this area may be confusing to the public. Therefore, the study focused solely on organic claims for shampoos, mattresses, or dry cleaning services that generally fall outside of the NOP program.

To test consumer understanding of unqualified organic claims in this context, we asked respondents whether an organic claim accurately describes a product containing a small percentage of non-organic material. Specifically, we asked respondents about a product that contained a small, but varying, percentage (*i.e.*, less than 1%; 1% to 5%; and 5% to 10%) of materials “made by a man-made, chemical process.” For all three percentage categories, a significant minority of respondents disagreed that the organic claims accurately describe the product.⁵ Moreover, informing respondents that the non-organic materials in the product “pose no health or safety hazard to consumers” did not significantly affect their views.⁶

³ By using a control question that provided the most accepted form of recycled content, we could screen out response bias based on nay-saying (*i.e.*, those respondents who would not find a recycled content claim accurate regardless of the facts presented). A control question also controls for other possible sources of measurement error, such as inattention and random guessing, that may result from the use of a closed-ended question format.

⁴ The proportion of respondents that disagree that a “made with recycled content” claim accurately describes a product in a pre-consumer scenario exceeds the proportion that disagree in the post-consumer control scenario by 6 to 14 percentage points, depending on the pre-consumer scenario.

⁵ The proportion of respondents that disagree that an organic claim accurately describes a product that contains <1%, 1-5%, or 5-10% non-organic content exceeds the proportion that disagree in a control scenario (*i.e.*, when the product does not contain non-organic content) by 22, 24, and 29 percentage points, respectively.

⁶ The results demonstrated slightly more agreement, and slightly less disagreement, than when the question did not describe these products as safe. However, the effect is too small (between 3 and 8 percentage points) to indicate that agreement with the organic claim depends on this information to a substantial proportion of consumers.

The study also examined the effect of qualifying language on consumer perception of an organic claim. We found that qualifications could make a significant difference. For example, when we qualified an organic claim for shampoo by limiting the organic materials to the cleansing ingredients, the percentage of respondents identifying the product as all organic dropped from 52% to 22%.

There are two additional findings of note. First, respondents were roughly equally split between those who believe that organic claims have the same meaning for non-food products and food products, and those who believe they have different meanings. Second, roughly 35% of respondents believed that organic claims for shampoos or mattresses imply that the product meets some government standard. About 30% of respondents believed that USDA certifies organic claims for these products.

Study Limitations

For the types of products and claims tested in the study, the results provide valuable insight into consumers' views and expectations regarding recycled content and organic claims. However, readers should consider several limitations when weighing the study's results. These limitations include:

- Internet panels do not provide a true probability sample. Therefore, while our methodology allowed us to build sample demographics to match U.S. Census targets, the results are not specifically projectable to the general population;
- The survey's low response rate (4.6%) may, or may not, indicate some non-response bias;
- Unexpected distributions of responses to some control questions could indicate measurement error due to respondent yea-saying, inattention, or confusion; and
- Due to the form of the questions, the results may reflect consumers' personal views of how recycled content or organic claims should be used, rather than whether they would be deceived by such claims in the marketplace.

Due to these limitations, readers should regard the exact response percentages and quantitative differences between scenarios with some caution. However, FTC staff sees no reason to expect that any resulting biases would affect some scenarios significantly more than others. For example, if a response bias exists, it should exist for both the question and the control. Thus, substantial differences in responses between scenarios appear to indicate an important qualitative difference in consumers' views.

Finally, staff notes two additional limitations of the organic survey:

- The questionnaire defined non-organic content as material "made by a man-made chemical process." Some consumers may have interpreted this description to

exclude agricultural materials commonly understood to be non-organic (*e.g.*, plants grown with the aid of pesticides or herbicides, but otherwise free of chemicals). Thus, the study's results may not apply to products that contain such non-organic material (*e.g.*, a shampoo containing small amounts of lavender grown with pesticides). While consumers may not consider such products to be organic, the survey would not have captured those responses; and

- The study did not test the term "USDA Organic." Therefore, the survey results should not be applied to the USDA label, which consumers may interpret very differently from the claim presented in the survey.

Conclusion

The study's recycled content results do not support any additional guidance. However, considering the organic survey results in light of the study's limitations, FTC staff concludes that the results are sufficiently robust to consider these organic issues further. Thus, the FTC and USDA plan to hold a public roundtable on October 20 to explore organic claims for non-food products, and how we can work together to reduce deceptive organic claims. The roundtable discussion will bring together industry members, environmental groups, government agencies, and academics to fully explore how to convey organic claims non-deceptively.

1. INTRODUCTION

In 2015, the FTC and the USDA commissioned an internet-based study to explore consumer perceptions of “organic” and “recycled content” claims related to the Commission’s Guides for the Use of Environmental Marketing Claims (“Green Guides” or “Guides”) (16 CFR Part 260),⁷ and the USDA’s National Organic Program (“NOP”). Although NOP regulates organic claims for agricultural products, products either partially or entirely consisting of non-agricultural components do not generally fall within the core of the USDA’s program, and the FTC’s Guides currently do not provide guidance regarding organic claims for such products.⁸ When issuing revised Green Guides in 2012, the Commission noted that it lacked sufficient evidence regarding how consumers perceive organic claims to provide generally applicable advice.⁹

In addition, although the current Guides address recycled content claims, they focus on waste stream diversion as a proxy for determining whether consumers would consider a material recycled content. While determining whether waste stream diversion has occurred is relatively simple for post-consumer materials, the Guides do not provide concrete factors for marketers to consider when trying to determine whether pre-consumer or post-industrial materials (e.g., materials recovered from a manufacturing process) have been diverted. In 2012, the Commission stated that consumer perception of recycled content claims for pre-consumer materials is an area ripe for testing.¹⁰ This report details the results of the FTC/USDA study, which should aid the FTC staff in considering recommendations for potential revisions to the Green Guides.

To explore consumer interpretation of recycled content and organic claims, the FTC staff designed the study to allow us to compare participant responses regarding the meaning of these

⁷ The Commission issued the Green Guides in 1992 (57 FR 36363) and subsequently revised them in 1996 (61 FR 53311), 1998 (63 FR 24240), and 2012 (77 FR 62121). The Guides help marketers avoid making unfair or deceptive environmental claims. The Guides address several categories of green claims including: general environmental benefit claims such as “environmentally friendly;” degradable claims; compostable claims; recyclable claims; recycled content claims; source reduction claims; refillable claims; and “free-of” claims. The Green Guides explain how reasonable consumers are likely to interpret claims within these categories. The Guides also describe the basic elements necessary to substantiate claims and present options for qualifying them to avoid deception. The Guides do not, however, establish standards for environmental performance or prescribe testing protocols.

The Commission’s industry guides, such as the Green Guides, are administrative interpretations of the application of Section 5 of the FTC Act, 15 U.S.C. 45(a), to advertising claims. The Commission issues industry guides to provide guidance for the public to conform with legal requirements. These guides provide the basis for voluntary abandonment of unlawful practices by industry members. 16 CFR Part 17. The Guides do not have the force and effect of law and are not independently enforceable. However, the Commission can take action under the FTC Act if a business makes environmental marketing claims inconsistent with the Guides. In any such enforcement action, the Commission must prove that the act or practice at issue is unfair or deceptive.

⁸ USDA regulations define “agricultural product” to mean “any agricultural commodity or product . . . that is marketed in the United States for human or livestock consumption.” 7 C.F.R. 205.2; and 7 U.S.C. 6502.

⁹ See p. 263 of The Green Guides Statement of Basis and Purpose, <https://www.ftc.gov/sites/default/files/attachments/press-releases/ftc-issues-revised-green-guides/greenguidesstatement.pdf>.

¹⁰ *Id.* at 193-194.

claims across different variations in the claim, product, and description of ingredients or materials used to make the product. Ipsos, the research firm the FTC commissioned to conduct the study, obtained responses to the research questionnaire from 8,015 respondents. In the questionnaire, we asked respondents viewing such claims whether they believe that these products have particular environmental benefits or attributes. We randomly assigned respondents to different “scenarios,” or specifications of the product description or context. For recycled content claims, we asked respondents questions about products produced with materials sourced under different pre-consumer scenarios for the purposes of comparing participant responses between these scenarios. For organic claims, we asked how respondents understand the term “organic” in a variety of contexts, focusing on products that may fall outside of USDA’s existing National Organic Program requirements, in particular, non-food products with non-agricultural components, such as an “organic” mattress.

This report details the study’s basic structure, including its methodology, sample frame and questionnaire design, as well as the study results for both recycled content and organic claims. Appendices present the survey questionnaire and the demographic profile of the respondents.

2. STUDY METHODOLOGY AND SAMPLE FRAME

2.1 Overview of Study Methodology

To gain understanding of consumer perception of the claims, we generally compared consumer responses to questions regarding various scenarios in which the claims may be used. In general, each respondent saw only one of the many scenario variations for a given claim. The study design also used different product framings and versions of the claim (unqualified or qualified), with each respondent seeing only one of the possible products and claims for each question. Our analysis focuses on comparing responses between groups of respondents who viewed different versions of each question, where each version has a unique product, claim, and scenario combination. The key results focus on differences in responses between question versions. These differences indicate the net effect of certain details of the given scenarios, in comparison to other scenarios with different details.

With all of the combinations of claim, product framing, and scenarios used, we randomly assigned respondents to one of 42 different cells in the recycled content part of the study (Part I) and then randomly and independently assigned each respondent to one of 31 different cells in the organic part of the study (Part II). In addition to the main research questions, for which a different version was given to each respondent cell, a number of other questions were also included in the questionnaire, some of which also have different variations to which respondents were randomly assigned. We provide a detailed description of the questionnaire structure in Section 3.

2.2 Sample Frame and Methodology

To most efficiently meet the research objectives within a feasible budget, the study employed an Internet panel with nationwide coverage. We contracted with Ipsos to implement the study

through its Ipsos Interactive Services online portal using its iSay Internet panel, supplemented with responses from other similar panels as needed. This panel consists of more than 800,000 individuals drawn from throughout the country, derived from a series of convenience sampling procedures, rather than true probability sampling. Panel members typically receive up to 4 email invitations per month to participate in research projects.

To be eligible for participation, respondents had to be enrolled in the Internet panel and be 18 years of age or older. Ipsos recruited respondents according to demographic targets approximately reflective of the gender, age, race, education level, and state population percentages in the 2010 U.S. Census. Ipsos's method of balancing the sample according to these targets was to set demographic quotas, send invitations, gradually send additional invitations targeted at slower-filling demographic quotas, and screen out respondents when quotas have been filled. All respondents received a standard panel incentive in the form of rewards points and entry in a monthly prize sweepstakes.

Considering the available funds, the cost of different sample sizes, the number of claim, product and scenario cells into which the sample was divided, and a power analysis, we determined that 8,000 consumers was an appropriate sample size. With the volume of responses needed, and to assist in reaching hard-to-reach groups who have lower than average response rates to online surveys, Ipsos supplemented its iSay panel with participants from two other Internet panels: Global Market Insite, Inc. (1,070 responses) and Research Now (214 responses). Ipsos selected and monitored the performance of these vendors.

Ipsos sent 173,422 invitation emails to a combination of i-Say, Research Now, and Global Market Insite, Inc., panelists to collect a final sample of 8,015 completed responses, for a completed response rate of 4.6%.¹¹ Because the study received a relatively low response rate, the results may exhibit non-response bias. However, the sample's demographic makeup is approximately consistent with U.S. Census targets for gender, age, race, education level, and state of residence. Appendix B provides tables summarizing the sample's demographic makeup. While the study did not use a probability sample, and thus is not representative of the nation as a whole, the sample nonetheless reflects the views of a broad population.

Ipsos fielded the study between January 28 and February 26, 2015.¹² Ipsos randomly allocated each respondent to one of the 42 cells in Part I (approximately 190 respondents per cell), and one of the 31 cells in Part II (approximately 260 respondents per cell). The random assignments in the two parts were independent of one another.

¹¹ The total number of initiated responses was 8,573, for an initiated response rate of 4.9%. Initiated responses include respondents screened out for being underage (16 responses), falling into a full demographic quota (2), or abandoning the survey (365). Ipsos dropped an additional 175 responses not meeting basic data quality criteria, such as those clicking through the survey as quickly as possible. A total of 558 responses were dropped for these reasons.

¹² Prior to fielding the study, we conducted a pretest through the same Ipsos Interactive Services portal with 100 respondents to test the questions for clarity and difficulty. The pretest questionnaire included additional open-ended questions asking respondents to report any confusion or other issues they experienced when answering the questions. Based on our review of these comments, we did not find changes to the questionnaire to be necessary.

Because we drew the sample of respondents from convenience panels and it is not a nationally representative probability sample, we recognize that the study results are not projectable to the general population. Accordingly, our analysis in this report and interpretation of the results focuses on comparing responses between various claim and scenario combinations to detect qualitative differences in respondents' perceptions between them. Where we discuss quantitative results, we do not seek to project the percentages to the population at large. We instead focus our analysis on how respondents' views differ between scenarios with various combinations of product, claim, and product details presented, in comparison to control scenarios. Where we find quantitative differences in responses between these scenarios, we interpret them not as quantitative predictions of the general population's views, but as qualitative evidence that consumers' views depend meaningfully on certain attributes of the scenario presented. We regard these results as part of a broader policy analysis considering information from this as well as other relevant sources.

3. QUESTIONNAIRE DESIGN

Because the study collected consumer perception evidence regarding two specific types of environmental marketing claims, the questionnaire consisted of two separate parts, one for each type of claim. Part I included questions regarding recycled content claims for products made from material recovered from a manufacturing process ("pre-consumer" material). Part II included questions on organic claims for non-food products, which may contain some agricultural components, but also contain substantial non-agricultural components. All consumers surveyed responded to both parts of the questionnaire in this order.

Both parts of the questionnaire asked respondents a series of questions about a specific claim in the context of a specific product the consumer might encounter bearing that claim (e.g., floor tiles with a "Made with Pre-Consumer Recycled Content" claim). Some questions asked whether they would agree or disagree with the claim in a given scenario. Each scenario provided details about how the product was manufactured or the type and quantity of materials it contained. In each Part of the questionnaire, we randomly assigned respondents to one of several cells, independent of their cell assignment in the other part of the questionnaire. In each part, each cell of respondents was presented with only one product, claim, and scenario combination. This design allows us to compare responses across cells to determine whether responses are sensitive to differences in the product, claim, and scenario presented.

In the remainder of this Section, we explain the design of Parts I and II of the questionnaire. We provide more detail on the design in the results discussion in later sections. Following Parts I and II of the questionnaire, a battery of supplementary questions asked respondents about their level of awareness of environmental issues, the environmental costs and benefits of products they consider purchasing, and their demographic characteristics. Appendix A contains the questionnaire itself, including all of the product, claim and scenario variations.

3.1 Part I: Recycled Content Claims

Part I's primary purpose was to determine whether consumers think that labeling a product with a "Made with Recycled Content," or related qualified, claim would be accurate if the product was made with materials that were recycled before they reached the final consumer ("pre-consumer"). Following an introductory question asking respondents to rate their familiarity with the given claim (Q1) and an open-ended question asking them to explain what that claim means (Q2), we posed the main research question (Q3).

In Q3, we informed respondents that a product was made in a certain way, and we asked whether they agree or disagree that one of the three claims tested – "Made with Recycled Content," "Made with Pre-Consumer Recycled Content," or "Made with Post-Industrial Recycled Content" – accurately describes the product given the information provided. Response options included "strongly agree," "somewhat agree," "neither agree nor disagree," "somewhat disagree," and "strongly disagree." We included a "not sure" option to avoid biasing the results with forced answers. We used six manufacturing scenarios, consisting of one in which the product was made entirely from post-consumer material, one in which the product was made entirely from virgin material, and four in which the product was made from pre-consumer material, with varying details about the manufacturing scenario.

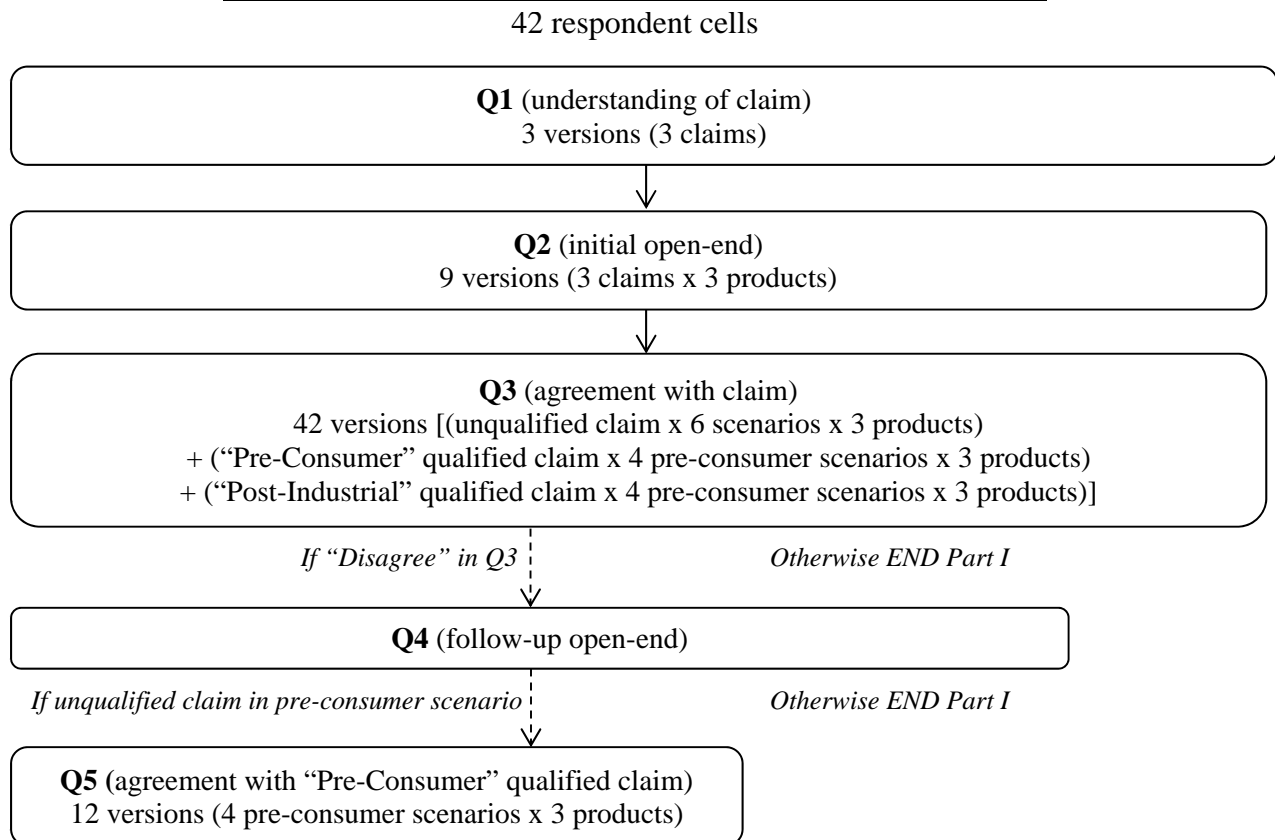
In the analysis of the results, we compared the responses to Q3 in each scenario using pre-consumer material to the responses to the control scenario, where the product is made entirely from post-consumer material and carries the unqualified "Made with Recycled Content" claim. The latter scenario is appropriate to serve as the control because consumers are highly familiar with such products and should have highly consistent views that a "Made with Recycled Content" claim accurately describes a product made from post-consumer material. Comparing responses between the control and other scenarios reveals differences between scenarios, if any, in the proportion of consumers who perceive the claim to be accurate. In addition to the unqualified claim, we presented some respondent cells with the pre-consumer material scenarios with a qualified "Made with Pre-Consumer Recycled Content" or "Made with Post-Industrial Recycled Content" claim to test whether respondents viewed these claims differently from the unqualified claim.

We included six manufacturing scenarios with the unqualified claim and four pre-consumer scenarios with each of the two qualified claims, for a total of 14 claim/scenario combinations in Q3. We presented each of these claim/scenario combinations with three different products, bowls, floor tiles, and storage bins, to determine whether responses are sensitive to the particular product considered. This yielded a total of 42 product/claim/scenario cells. In all other questions in Part I, we presented each respondent with the same product and claim as in Q3 (with the exception of Q5 below), so there are a total of 42 respondent cells in Part I.

Following Q3, Part I included two follow-up questions conditional on certain responses to Q3. If the respondent disagreed with the claim in Q3, then an open-ended question (Q4) asked the respondent to explain why she disagreed. If the respondent was shown the unqualified claim in Q3 and disagreed, then a closed-ended question (Q5) asked whether she agrees or disagrees that the claim accurately describes the product, using the same product and scenario, but with the

qualified “Made with Pre-Consumer Recycled Content” claim instead. See Figure 3.1 for a diagram of the structure of Part I of the questionnaire.

Figure 3.1: Questionnaire Design – Part I: Recycled Content



3.2 Part II: Organic Claims

Part II of the study addressed claims for products advertised or labeled as organic that may fall outside of USDA’s existing NOP requirements, such as non-food products with non-agricultural components (e.g., an “organic” mattress). This part of the study involved two main research questions testing consumer perception of what an organic claim implies about a product’s content, as well as several other questions testing consumer beliefs about the meaning and regulation of organic claims for these products.

Before presenting one of the two main questions in Part II, we asked respondents to rate their familiarity with an organic claim without any product framing (Q6), and then presented an open-ended question asking them to explain what that claim means if used in reference to one of three products: a dry cleaning service, a mattress, or a shampoo (Q7). We then asked whether respondents think an organic claim in reference to the same product means the same as an organic claim in reference to an apple, with response options “Yes,” “No,” and “Not Sure” (Q8). Conditional on answering “No” to Q8, an open-ended follow-up question (Q9) asked respondents to explain the difference in the meaning of “organic” between the two contexts.

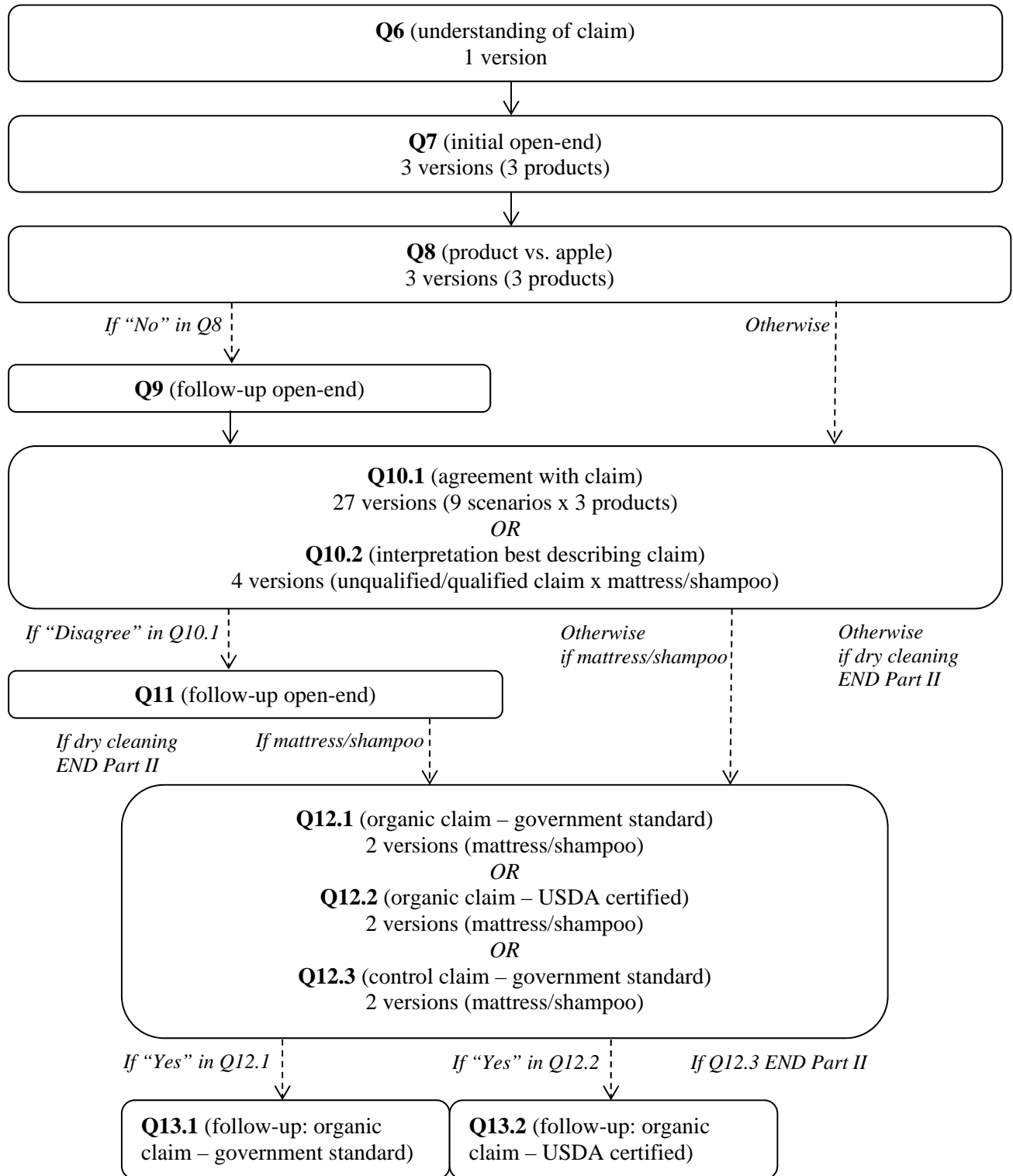
We then asked each respondent one of the two main research questions in Part II. The first main question (Q10.1) presented a product with an organic claim and a simple description of the types of materials the product contains and in what proportion. We then asked respondents whether they agree or disagree that the organic claim accurately describes that product, using the same response options used for the recycled content claims in Part I. Again, we also included a “Not sure” option to avoid biasing the results with forced answers. The question included one of three possible products (the same product presented in Q7-Q9), each with one of nine possible descriptions of the product composition that vary in the proportions of organic and non-organic material and how those types of material are described. The scenario in which 100% of the materials in the product satisfy a simple definition of “organic” (“obtained from plants or animals, which were grown or raised without any substances that do not occur in nature”) serves as a control for comparison with scenarios with lower proportions of organic material and alternative descriptions of the materials. We included a total of 27 cells of respondents with this question, each with only one of the above products and scenarios. We also presented respondents who disagreed in Q10.1 with a follow-up open-ended question (Q11) asking them to explain why they disagreed.

The alternative main question in Part II (Q10.2) asked about products with either an unqualified organic claim or a qualified claim specifying that certain parts or ingredients are organic. This closed-ended question asked respondents to choose the interpretation that best describes the product with the given claim from several answer options, including that the entire product is organic, or several options indicating the product may contain other non-organic materials. Responses to the unqualified and qualified claims for a given product can be compared to determine whether consumers perceive any difference in their meaning regarding the product’s composition. This question used only two different product framings (mattress and shampoo), each with a different qualified claim, to determine whether responses are sensitive to the specific product and claim used, yielding a total of 4 cells of respondents presented with this question. Across both Q10.1 and Q10.2, there were a total of 31 respondent cells in Part II of the study.

For respondents in a cell with mattress or shampoo product framings (22 of the 31 Part II cells), the next question asked respondents whether they believe organic claims for the products are regulated by the government (Q12). Respondents saw either a version asking specifically whether the USDA regulates these products, a version that asked more generally whether the products meet some government standard, or a version that asked whether a different claim (e.g., “refreshing scent”) implies that the products meet some government standard. The last version of the question, using an alternative claim, provides a control, allowing us to determine whether organic claims are more likely to imply government regulation than other product claims.

We presented respondents answering “Yes” to Q12, that either the USDA specifically or the government generally does regulate organic claims for the given product, with a follow-up question (Q13) asking whether the given entity regulates the manufacturing process, inspects the final product, neither, or both (a “not sure” option was also included). Respondents in cells in which the product was a dry cleaning service were not asked questions Q12 and Q13. See Figure 3.2 for a diagram of the structure of Part II of the questionnaire.

Figure 3.2: Questionnaire Design – Part II: Organic
31 respondent cells (independent of Part I cells)



4. RESULTS

4.1 Part I: Recycled Content Claims

4.1.1 Familiarity with Recycled Content Claims

Part I of the questionnaire first asked respondents to state how well they understand the meaning of the given claim (Q1). The claim displayed to a respondent was the same as the claim displayed in subsequent questions, including the main research question (Q3). Of the 42 respondent cells in Part I, we presented 18 cells of respondents with the unqualified “Made with Recycled Content” claim, while 12 cells of respondents viewed the “Pre-Consumer” and another 12 cells of respondents viewed the “Post-Industrial” qualified claims. Figure 4.1.1 and Table 4.1.1 summarize the results.

Figure 4.1.1: Self-Reported Understanding of Claim

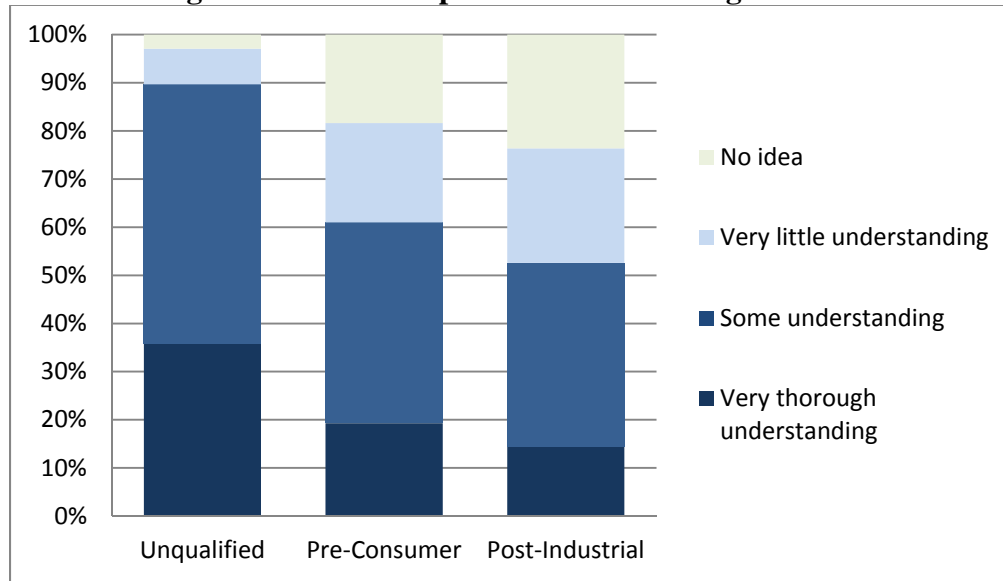


Table 4.1.1: Self-Reported Understanding of Claim

	Unqualified	Pre-Consumer	Post-Industrial
Very thorough or some understanding	90%	61%	53%
Very little or no understanding	10%	39%	47%
N	3,433	2,289	2,293

The vast majority of consumers surveyed are confident that they have at least some understanding of what an unqualified recycled content claim means, with 90% reporting a “very thorough” or “some” understanding. A smaller majority of respondents also report at least some understanding of “Pre-Consumer” or “Post-Industrial” qualified claims, but a large minority

report having “very little understanding” or “no understanding” of these claims (39% and 47%, respectively, compared to 10% for the unqualified claim).¹³

4.1.2 Meaning of Recycled Content Claims: Open-Ended Responses

Before proceeding to closed-ended questions investigating consumer perception of claim meaning, the questionnaire included an open-ended question (Q2) asking respondents to explain what the claim suggests or implies about the product. Table 4.1.2 below summarizes IPSOS staff’s coding of the verbatim responses, which followed coding guidelines we provided. “Recycled” and “Recyclable” categories count responses that explain the claim meaning using those words. Other categories count responses in which the consumer describes the source material or, for the “Green” category, the environmental benefits of the product.

Table 4.1.2: Coding of Open-Ended Responses on Claim Meaning¹⁴

Coding Category	Recycled	Pre-Consumer Recycled	Post-Industrial Recycled
Recycled	42%	43%	47%
Reuse	18%	11%	10%
Green	13%	9%	9%
Post-Consumer	2%	3%	1%
Pre-Consumer	2%	10%	6%
Waste	2%	1%	2%
Recyclable	1%	1%	1%
Other	14%	10%	11%
Nothing	11%	17%	18%
Total	3,433	2,289	2,293

Overall, responses to this question are not very revealing. Across all three claims presented, nearly half of responses provide uninformative answers by simply repeating back the word “recycled” in some form, with little additional explanation. Between 10 and 20 percent of respondents state in some way that the material is reused, without further specifying whether the source is pre-consumer or post-consumer. Roughly 10% across all three claims mention some environmental benefits. Very few responses describe the material as waste or describe it specifically as pre-consumer or post-consumer, though the qualifying language increases such responses slightly.

4.1.3 Consumer Agreement with Unqualified Recycled Content Claims

The main research question in Part I of the study attempted to determine what types of pre-consumer material are consistent with consumer perception of a “Made with Recycled Content” claim. To address this question, we developed four brief descriptions of manufacturing scenarios using pre-consumer material. All four scenarios describe the product carrying the claim as “made entirely from pieces of [the material]” that came from a given production process but were not

¹³ Differences in response distributions between all three claims are statistically significant at the .05 level according to a chi-squared test.

¹⁴ Responses may be coded under multiple categories.

used in the final product of that process. These four scenarios vary on two dimensions that we hypothesized as potentially meaningful determinants of whether a material should be considered “recycled” or not. The first dimension is whether the material comes from within the same process of manufacturing the product in question (hereafter labeled “same”), or from the process of making some other product (hereafter labeled “different”). For example, we describe storage bins as made from pieces of plastic that came from the process of making other storage bins (same), or from the process of making milk containers (different). The second dimension is whether making the product from this reused material costs more (hereafter labeled “cost+”) or less (hereafter labeled “cost-”) than making the product from virgin, or “new,” material. We identified these as general criteria that consumers might recognize as proxies for whether the material is actually diverted from the waste stream, or whether it is simply reused as part of a regular production process that does not necessarily involve recycling.

In addition to the four pre-consumer scenarios, we included two control scenarios to provide benchmarks for comparison. The Post-Consumer scenario describes the product as made from materials “recovered after consumers dispose of them in collection bins.” The Not Recycled scenario describes the material as made from a raw material harvested from a domestic natural resource (e.g., storage bins made from “wood pulp harvested from domestic forests”).¹⁵ We used three product framings, storage bins, floor tiles, and bowls, with each of the six scenarios, yielding a total of 18 cells of approximately 190 respondents each.

Within each scenario and product framing, we asked respondents whether they agreed or disagreed that the recycled content claim accurately describes the product. Figure 4.1.3 and Table 4.1.3a, below, present pooled responses across the three products for each scenario. We pool responses for each scenario because, with the exception of one scenario,¹⁶ we do not find a statistically significant difference in responses across products.

¹⁵ See Q3 in Appendix A for the full wording of the scenarios presented to respondents.

¹⁶ In the Pre-Consumer (same/cost+) scenario, response distributions differ significantly between products, as the proportion agreeing ranges from 56% for bowls to 66% for storage bins, while the proportion disagreeing ranges from 12% for floor tiles to 20% for storage bins.

Figure 4.1.3: Agreement with “Made with Recycled Content” Claim, by Scenario

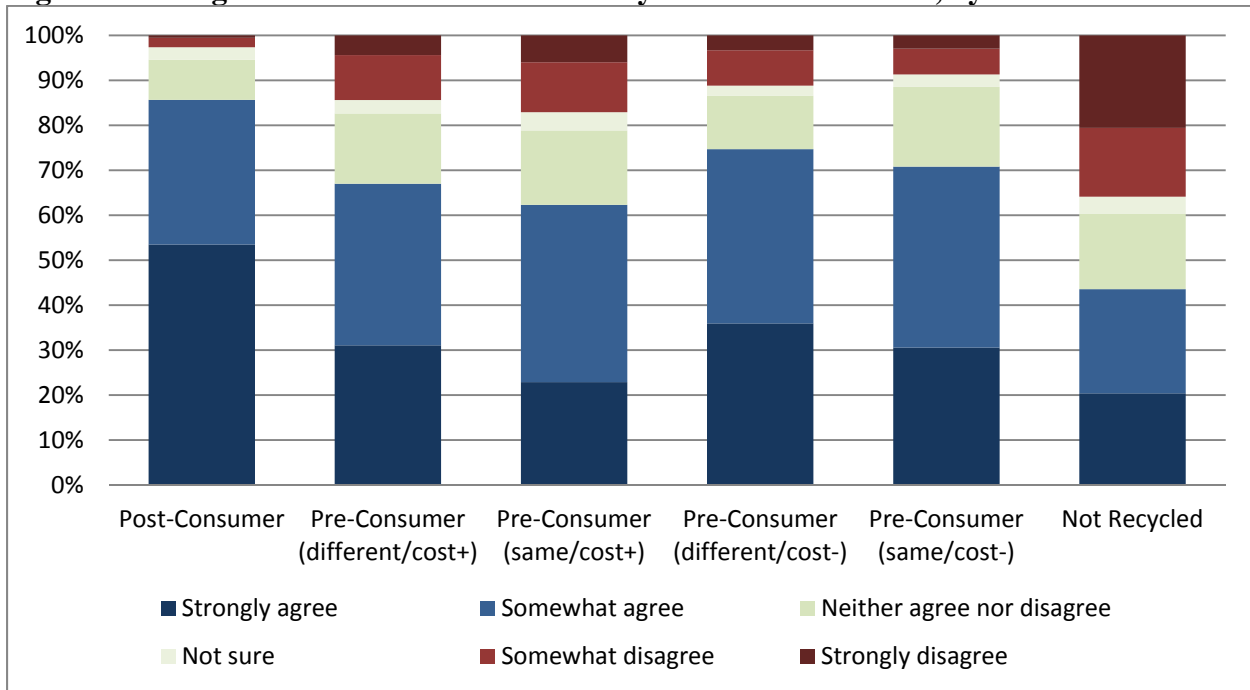


Table 4.1.3a: Agreement with “Made with Recycled Content” Claim, by Scenario

	Post-Consumer	Pre-Consumer (different/cost+)	Pre-Consumer (same/cost+)	Pre-Consumer (different/cost-)	Pre-Consumer (same/cost-)	Not Recycled
Strongly or somewhat agree	86%	67%	62%	75%	71%	44%
Neither agree nor disagree/Not sure	12%	19%	21%	14%	20%	21%
Strongly or somewhat disagree	3%	14%	17%	11%	9%	36%
N	572	570	568	573	576	574

For the Post-Consumer control scenario, the proportion of respondents agreeing with the claim is high (86%), and the proportion disagreeing is low (6%), as expected. We anticipated that, conversely, a low proportion of respondents would agree and a high proportion would disagree with the claim in the Not Recycled scenario. However, the observed percentage agreeing (44%) and disagreeing (36%) in this scenario indicate either a large measurement error (possibly due to yea-saying, inattention, or respondent confusion/ misunderstanding of the question), or that respondents are confused about the definition of recycling. Because all of the scenarios presented in this question were rather complicated, some bias due to measurement error might affect responses to the other scenarios as well. However, note the large differences between the Not Recycled scenario and the Pre-Consumer scenarios in percent agreeing (18 to 31 percentage points) and disagreeing (19 to 27 percentage points). These appear to indicate that consumers recognize an important qualitative difference between materials that are clearly not recycled, and materials in pre-consumer scenarios.

The main results of interest from this question are the differences in responses between the Pre-Consumer scenarios and the Post-Consumer control for the unqualified claim. For each Pre-Consumer scenario, the difference in the percent of the sample disagreeing with the claim between that scenario and the Post-Consumer control is reported in Table 4.1.3b below. The Table also reports 95% confidence interval estimates for this difference. Assuming a random sample of the population, we could be 95% certain that the true population difference between these scenarios in the percentage disagreeing lies somewhere within that interval.¹⁷ However, because we have a non-probability sample, we cannot rely on these estimates as an unbiased projection to the general population. Also, note that these intervals reflect the sampling error involved in the study, but do not account for any measurement error. They also do not account for the likely non-response bias due to the study's low response rate. Hence, these ranges likely underestimate the true margin of error, which we are unable to quantify precisely.

Table 4.1.3b: Difference in Percentage Disagreeing between Post-Consumer Control and Pre-Consumer Scenarios

Pre-Consumer Scenario	Sample Difference (% points) (95% Confidence Interval)
different/cost+	11.8 (8.6, 14.9)
same/cost+	14.5 (11.1, 17.8)
different/cost-	8.5 (5.7, 11.4)
same/cost-	6.1 (3.4, 8.7)

We find statistically significant differences between Pre-consumer responses and that of the Post-consumer control.¹⁸ However, the proportion disagreeing in Pre-Consumer scenarios exceeds the proportion disagreeing in the Post-Consumer control by an amount too small to be practically significant (less than 10 percentage points in some pre-consumer scenarios, and less than 15 percentage points in all of them). Notice also that, for some scenarios, values as low as 3.4 percentage points fall within the confidence intervals. We also find that differences in responses between the four Pre-Consumer scenarios are too small in magnitude (all less than 10 percentage points) to indicate that disagreement with an unqualified Recycled claim depends meaningfully on the details of the manufacturing scenario.¹⁹

¹⁷ Technically, the meaning of a 95% confidence interval is that if we elicited responses from a large number of repeated random samples of consumers, 95% of the confidence intervals estimated from these response samples would contain the true percentage of the population holding a particular view. This survey, however, is not based on a random sample of consumers.

¹⁸ Differences in response distributions between Pre-Consumer scenarios and both control scenarios are statistically significant at the .05 level according to a chi-squared test.

¹⁹ Differences in response distributions between same/cost+ and same/cost- scenarios and between different/cost- and same/cost- scenarios are statistically significant at the .05 level according to a chi-squared test. However, we do not interpret the differences in the proportions agreeing and disagreeing between these scenarios as practically meaningful.

4.1.4 *Consumer Agreement with Qualified Recycled Content Claims*

In addition to presenting respondents with an unqualified recycled content claim as described in the previous section, we presented other respondents with one of two qualified claims, either “Made with Pre-Consumer Recycled Content” or “Made with Post-Industrial Recycled Content.” We also presented each of these two qualified claims within each of the four Pre-Consumer scenarios and three product framings described above for the unqualified claim²⁰ for a total of 24 cells, each with approximately 190 respondents. Responses to these qualified claims can be compared to those with the unqualified claim in each scenario to determine whether the qualification affects consumers’ agreement with the claim. Figure 4.1.4 and Table 4.1.4, below, present results for each of the four Pre-Consumer scenarios.²¹

²⁰ The Post-Consumer and Not Recycled control scenarios used with the unqualified claim were not repeated here with the qualified claims.

²¹ As in the results presented, above, for the unqualified claim, the results here are pooled across the three product framings.

Figure 4.1.4: Unqualified vs. Qualified Claims in Pre-Consumer Scenarios

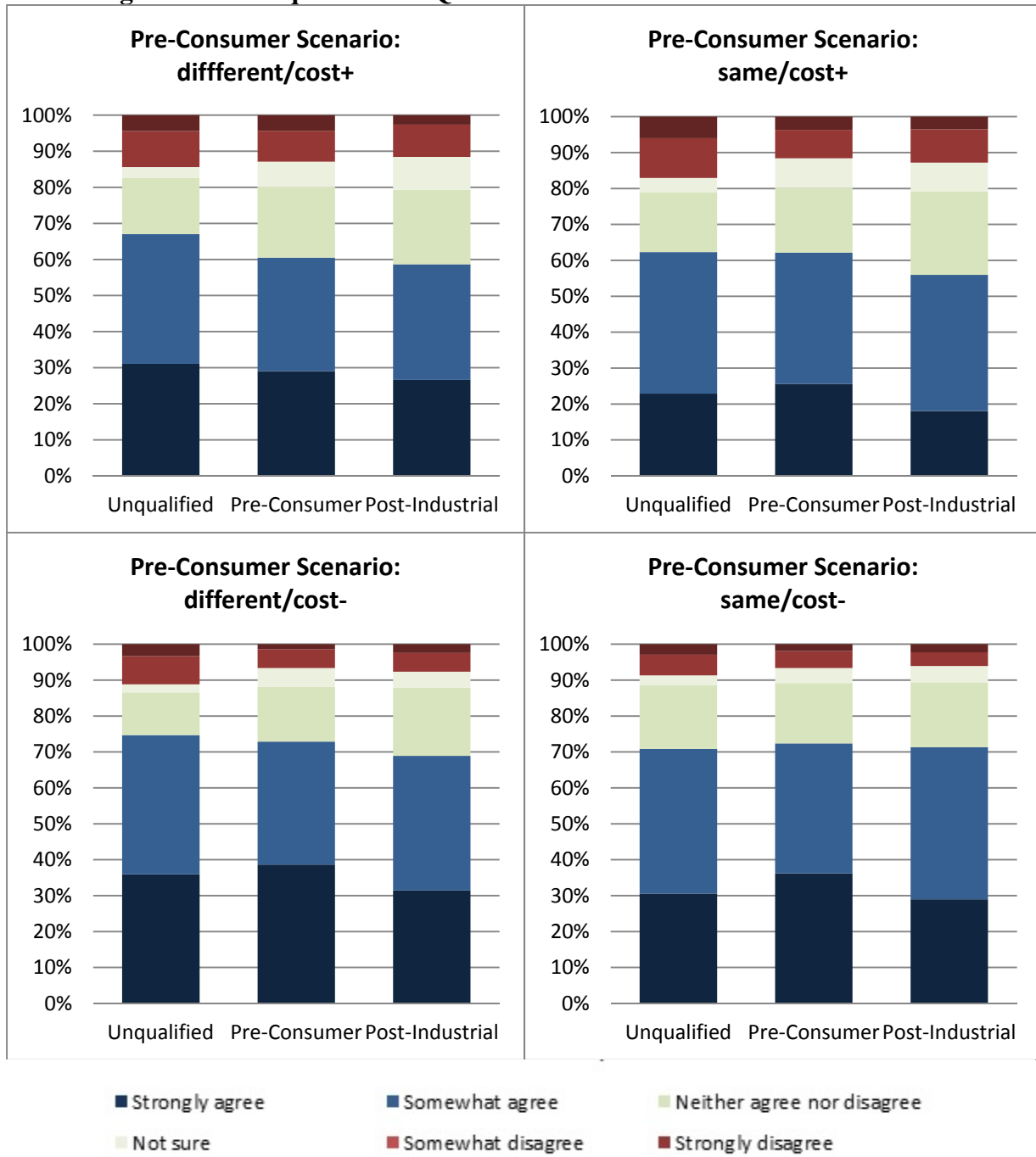


Table 4.1.4: Unqualified vs. Qualified Claims in Pre-Consumer Scenarios²²

	different/cost+			same/cost+			different/cost-			same/cost-		
	Unqual.	Pre-Cons.	Post-Ind.	Unqual.	Pre-Cons.	Post-Ind.	Unqual.	Pre-Cons.	Post-Ind.	Unqual.	Pre-Cons.	Post-Ind.
Strongly or somewhat agree	67%	61%	59%	62%	62%	56%	75%	73%	69%	71%	72%	71%
Neither agree nor disagree/ Not sure	19%	27%	30%	21%	26%	31%	14%	20%	23%	20%	21%	23%
Strongly or somewhat disagree	14%	13%	12%	17%	12%	13%	11%	7%	8%	9%	7%	6%
N	570	575	571	568	570	570	573	572	576	576	572	576

Distributions of responses for the Pre-Consumer scenarios with the qualified claims are largely similar to those with the unqualified claim. Notice that, in most cases, the proportion disagreeing with the claims declines slightly (less than 5 percentage points in all cases) when qualifying language is added, but the proportion agreeing with the claim also declines, and the proportion giving an indecisive response increases. These results suggest that “Pre-Consumer” and “Post-Industrial” qualifying language does not significantly affect consumer agreement or disagreement with a recycled content claim among consumers surveyed. The results on respondents’ self-reported understanding of these claims, reported in Section 4.1.1 above, suggest that this lack of an effect may be due to respondents’ uncertainty about the meaning of the qualified claims.

4.1.5 Follow-Up Questions for Respondents Disagreeing with Recycled Content Claim

In an open-ended follow-up question (Q4), we asked respondents who disagreed with the recycled content claim presented in Q3 to explain why they disagreed that the claim accurately describes the given product. Tables 4.1.5a and 4.1.5b below summarize IPSOS staff’s coding of the verbatim responses, by scenario, for the unqualified and qualified claims, respectively. IPSOS staff’s coding of the responses followed coding guidelines we provided. For each category, the tables report the proportion of respondents whose open-ended response was coded in that category, as a percentage of all responses to the scenario including those agreeing, disagreeing, or indecisive. The last row in each table reports the total percent disagreeing in Q3 (the sum of each column).

²² Columns labeled “Unqual.,” “Pre-Cons.,” and “Post-Ind.” present results for unqualified recycled content, pre-consumer recycled content, and post-industrial recycled content claims, respectively.

Table 4.1.5a: Reasons for Disagreeing as a Percentage of All Responses, All Scenarios with Unqualified Claim ²³

Coding Category	Post-Consumer	Pre-Consumer (different/cost+)	Pre-Consumer (same/cost+)	Pre-Consumer (different/cost-)	Pre-Consumer (same/cost-)	Not Recycled
Not previously used/new material/scraps	0%	6%	8%	8%	6%	19%
Not recycled/not recycled material	<1%	1%	1%	1%	1%	5%
Made from trees/local forests	0%	0%	0%	0%	0%	8%
Made from sand/sand pits	0%	0%	0%	0%	0%	2%
Made from tires/rubber	0%	0%	0%	0%	0%	<1%
Expensive	0%	2%	2%	<1%	0%	0%
Cost/price	0%	<1%	<1%	0%	0%	0%
Poor quality	0%	0%	0%	<1%	<1%	0%
Hard to understand/confusing	0%	1%	<1%	<1%	<1%	1%
Not believable	<1%	1%	1%	<1%	1%	1%
Not informative	1%	1%	<1%	1%	1%	1%
Other	1%	2%	2%	1%	<1%	2%
Nothing	<1%	2%	3%	1%	1%	2%
Total Disagreeing	3%	14%	17%	11%	9%	36%

²³ Responses may be coded under multiple categories.

Table 4.1.5b: Reasons for Disagreeing as a Percentage of All Responses, Pre-Consumer Scenarios with “Pre-Consumer” and “Post-Industrial” Qualified Claims ²⁴

Coding Category	Pre-Consumer				Post-Industrial			
	different/ cost+	same/ cost+	different/ cost-	same/ cost-	different/ cost+	same/ cost+	different/ cost-	same/ cost-
Not previously used/new material/scrap	3%	4%	3%	3%	3%	5%	3%	2%
Not recycled/not recycled material	2%	1%	1%	<1%	0%	1%	<1%	<1%
Made from trees/local forests	0%	0%	0%	0%	0%	0%	0%	0%
Made from sand/sand pits	0%	0%	0%	0%	0%	0%	0%	0%
Made from tires/rubber	0%	0%	0%	0%	<1%	0%	0%	0%
Expensive	1%	1%	0%	0%	2%	1%	<1%	0%
Cost/price	1%	1%	0%	0%	<1%	<1%	0%	0%
Poor quality	0%	<1%	<1%	0%	0%	0%	0%	0%
Hard to understand/confusing	1%	1%	2%	1%	1%	1%	1%	1%
Not believable	1%	<1%	1%	0%	1%	1%	<1%	0%
Not informative	<1%	1%	1%	<1%	1%	1%	1%	<1%
Other	2%	1%	1%	<1%	1%	<1%	1%	1%
Nothing	3%	2%	1%	2%	2%	2%	2%	1%
Total Disagreeing	13%	12%	7%	7%	12%	13%	8%	6%

The most frequent reason for disagreeing with the unqualified claim in pre-consumer scenarios is that the material is “not previously used” or “new.” This response was given by 6-8% of all respondents, out of the 9%-17% of total respondents disagreeing in these scenarios. These consumers appear to believe that an unqualified recycled content claim implies post-consumer material. Note that this remains a frequently-cited reason for disagreeing (3-5% of all respondents out of a total of 6%-13% disagreeing) even when the claim is qualified. However, while these responses represent a large proportion of respondents who disagreed with the claim, they are only a very small proportion of all respondents who viewed the claim.

We observe a slightly higher percentage of respondents disagreeing in “cost+” pre-consumer scenarios than in “cost-” scenarios. Some of this difference is explained by open-ended responses referring to the fact that using the material is more expensive in the cost+ scenarios. An example typical of responses in this category states, “Recycled material should cost less than new material, but this material costs more, so it can’t be recycled.” Hence, some consumers appear to believe that recycled material is defined by a lower input cost to the firm, even though the firm would likely still use such material absent a recycled content claim. However, no more than 2% of consumers viewing the claim held this view in any version of the claim or scenario.

²⁴ Responses may be coded under multiple categories.

For respondents who were shown the unqualified “Made with Recycled Content” claim with a pre-consumer scenario in Q3 and disagreed that the claim accurately describes the given product, we asked a second follow-up question, Q5. This question gave the same product and scenario, but asked whether they would agree or disagree if the product were instead labeled with the qualified claim, “Made with Pre-Consumer Recycled Content.” Table 4.1.5c present the results of this question. As with the results presented for Q4, above, we express responses to Q5 in terms of the percentage of all respondents in the given scenario in Q3.

Table 4.1.5c: Responses to “Pre-Consumer” Qualified Claim among Respondents who Disagreed with an Unqualified Claim in the Same Scenario

	Pre-Consumer (different/cost+)	Pre-Consumer (same/cost+)	Pre-Consumer (different/cost-)	Pre-Consumer (same/cost-)
Strongly or somewhat agree (Q5)	5%	7%	4%	3%
Neither agree nor disagree/Not sure (Q5)	7%	8%	5%	5%
Strongly or somewhat disagree (Q5)	3%	2%	2%	1%
Total (% Disagreeing in Q3)	14%	17%	11%	9%
N	570	568	573	576

In all four pre-consumer manufacturing scenarios, only a minority of those who disagreed in Q3 that the unqualified claim accurately describes the product would agree that a “Pre-Consumer” qualified claim would accurately describe the same product. The proportion of all respondents in this category is low, between 3% and 7% depending on the scenario.²⁵ Between this result and the results of Q3 scenarios with the qualified claims, we find little evidence that such qualifying language substantially affects consumer agreement or disagreement with recycled content claims according to consumers surveyed.

4.2 Part II: Organic Claims

4.2.1 *Familiarity with Organic Claims*

Part II of the questionnaire began with a question (Q6) asking respondents to state how well they understand the meaning of the claim, “Organic,” before specifying a specific product framing. We asked this question without product framing because other questions asked for comparisons in claim meaning between different products, so it seems useful to know how well consumers think they understand the claim in general. Figure 4.2.1 and Table 4.2.1, below, summarize responses to this question, along with responses to the self-reported understanding of the unqualified recycled content claim for comparison.

²⁵ Differences between Q5 response distributions are not statistically significant at the .05 level according to a chi-squared test

Figure 4.2.1: Self-Reported Understanding of Claim

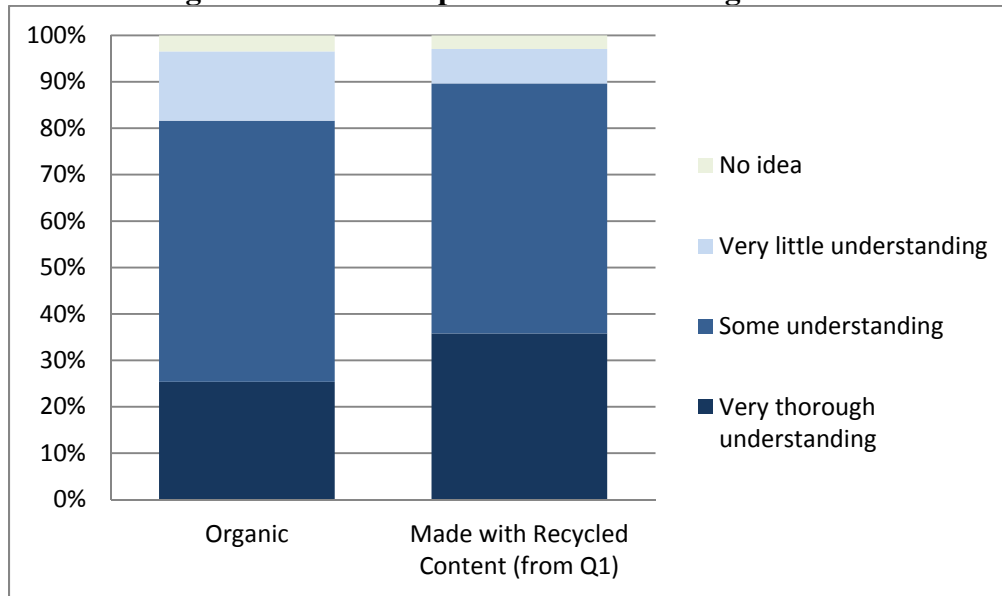


Table 4.2.1: Self-Reported Understanding of Claim

	Organic	Made with Recycled Content (from Q1)
Very thorough or some understanding	82%	90%
Very little or no understanding	18%	10%
N	8,015	3,433

We find that more than 4 out of 5 consumers surveyed believe that they have at least some understanding of what an organic claim means, but they report somewhat less understanding of this claim than “Made with Recycled Content” (82% vs. 90%). This suggests that fewer consumers may understand organic claims. Hence, this part of this study aims to explore when consumers would consider an organic claim appropriate and when they would not.

4.2.2 *Meaning of Organic Claims: Open-Ended Responses*

Before proceeding to closed-ended questions investigating consumer agreement with organic claims made in various scenarios, we included an open-ended question (Q7) asking respondents to explain what the claim suggests or implies about either a dry cleaning service, a mattress, or a shampoo. This part of the study used the same product framing as in subsequent questions, including the main research questions (Q10.1 and Q10.2). Of the 31 respondent cells in Part II, we used the dry cleaning service framing for 9 cells (all Q10.1), while we used the mattress and shampoo framings for 11 cells each (9 for Q10.1 and 2 for Q10.2). Table 4.2.2 summarizes IPSOS staff’s coding of the verbatim responses, which followed coding guidelines we provided.

Table 4.2.2: IPSOS Coding of Open-Ended Responses on Meaning of Organic Claim ²⁶

Coding Category	Dry Cleaning Service	Shampoo	Mattress
Natural/natural materials	25%	42%	31%
No/less chemicals/additives	25%	31%	28%
Organic/organic materials	7%	6%	7%
Contains no/less toxic/harmful materials/chemicals	7%	4%	2%
Plant/plant based	1%	2%	2%
Expensive	1%	3%	2%
Healthy/good for you/your hair	1%	3%	1%
Environmentally friendly/ecological	6%	1%	2%
Good/quality product	1%	2%	2%
No GMO/genetically modified organism	<1%	2%	2%
Non/less processed	1%	1%	2%
Food	1%	1%	1%
Safe to use	1%	1%	<1%
Ground/growth	1%	1%	1%
Contains chemicals/non-toxic/ecological chemical material	2%	<1%	<1%
No hormones	1%	<1%	1%
Certified/follows federal guidelines	<1%	1%	1%
Not convincing/wouldn't buy/use	<1%	1%	1%
Living material/organism	<1%	<1%	1%
Fresh/fresh materials	<1%	<1%	1%
Recycled/recycled materials	<1%	<1%	1%
Clean	1%	<1%	<1%
Contains animal material	<1%	<1%	1%
Unique/unusual	<1%	<1%	<1%
Irrelevant to product	<1%	<1%	<1%
Not effective/doesn't work	<1%	<1%	0%
Poor quality	<1%	<1%	<1%
No antibiotics	<1%	<1%	<1%
Man-made/not natural	<1%	<1%	<1%
Contains no animal byproducts	<1%	1%	<1%
Unappealing	<1%	<1%	<1%
Convincing	<1%	<1%	<1%
New/new materials	<1%	<1%	<1%
Dumb/silly/stupid	<1%	<1%	<1%
No animal testing	0%	1%	0%
Home grown	<1%	<1%	<1%
Not organic	<1%	<1%	<1%
Carbon/carbon based	<1%	<1%	<1%
Gentle	<1%	<1%	0%
Contains no plastics	<1%	0%	<1%
Nice	<1%	<1%	<1%
Not unique/unusual	<1%	<1%	<1%
Believable	<1%	<1%	<1%
Edible	0%	<1%	<1%
Environmentally conscience individuals	<1%	0%	<1%
Cool/hip	<1%	0%	<1%
Affordable/inexpensive	0%	<1%	<1%
Germ free	0%	0%	<1%
Hard to understand/confusing	2%	<1%	1%
Not believable	3%	1%	2%
Not informative	1%	<1%	1%
Not familiar with/never heard of product	<1%	<1%	1%
Other	<1%	1%	1%
Nothing	24%	15%	22%
N	2333	2840	2842

²⁶ Responses may be coded in multiple categories.

The most frequent responses say that the materials are “natural,” or that they contain no or less chemicals or additives. Combined, these categories account for 44% of responses for dry cleaning, 63% of responses for shampoo, and 52% of responses for mattress.²⁷ The results show that the next most frequent categories of responses across products described the product as “organic” or made from “organic materials” (a circular definition), or explained that the product contains no or less “toxic” or “harmful” chemicals or materials. Other categories including at least 100 responses in the shampoo and mattress framings combined (between 1% and 3% of responses for each product) include “expensive,” “plant-based” material, or “healthy.” For the dry cleaning framing, 6% of responses interpreted the claim to mean environmentally or ecologically friendly.²⁸

Between 25% and 31% of responses fell into the “No/less chemicals/additives” category, depending on the product. In a supplementary analysis, FTC staff analyzed a randomly selected 10% subsample of the responses in this category for whether the response states that the product has “no” chemicals or additives, “less” chemicals or additives, or is indeterminate. Of the 227 responses in this subsample, 87% of these say “no” chemicals or additives, 5% say “less,” and 8% are indeterminate. This is consistent with the findings in other questions that many consumers perceive organic claims to mean that the product has no non-organic content whatsoever (see Section 4.2.4).²⁹

4.2.3 *Meaning of Organic Claim for Non-Food vs. Food Products*

Before investigating how specific details of the product relate to consumer agreement with organic claims, we included a more general question (Q8) about the claim’s meaning for non-food products compared to food products. We asked respondents whether or not an organic claim for the given product (dry cleaning service, mattress or shampoo) has the same meaning as an organic claim for an apple. Figure 4.2.3 and Table 4.2.3, below, present these results.

²⁷ The proportion of responses coded in both the “natural/natural materials” and the “no/less chemicals/additives” categories is 6% for dry cleaning, 10% for shampoo, and 7% for mattress.

²⁸ Aside from the coding categories listed in Table 4.2.2, searches for keywords of interest reveal that the word plant appears in only 190 responses (2%), while the word animal appears in only 74 responses (1%). Conversely, the words “man made,” “man-made,” or “manmade” appear in 271 responses (3%).

²⁹ Only 75 (<1%) out of all 8,015 responses include the words “entirely,” “completely,” or “100%”, but 697 responses (9%) include the word “all.” Other responses define “organic” by what it does not include, e.g., “no” or “less” chemicals or additives.

Figure 4.2.3: Does the word “Organic” have the same meaning for this product as it does for an apple?

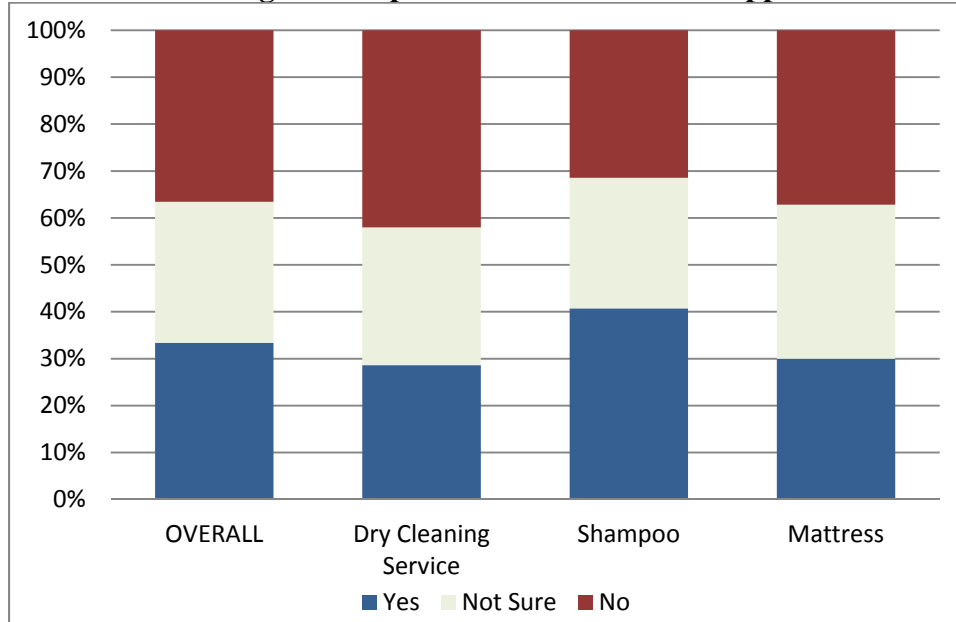


Table 4.2.3a: Does the word “Organic” have the same meaning for this product as it does for an apple?

	Overall	Dry Cleaning Service	Shampoo	Mattress
Yes	33%	29%	41%	30%
No	37%	42%	31%	37%
Not Sure	30%	29%	28%	33%
N	8015	2333	2840	2842

Overall, responses to this question are fairly evenly split between “yes,” “no,” and “not sure.” However, we can reject the hypothesis that respondents guessed randomly,³⁰ and we do observe some differences across product framings. We observe more “no” than “yes” responses (approx. ratio of 4:3) for dry cleaning, slightly less “no” than “yes” responses for shampoo (approx. ratio of 3:4), and roughly equal “no” and “yes” responses for mattress.³¹ Therefore, although it is possible to rank these three products according to their consistency in claim meaning with a food product, for all three there is substantial heterogeneity among consumers in their beliefs about whether the meaning differs between non-food and food products.³²

³⁰ Response distributions for all three products are significantly different from 33.33%/33.33%/33.33% at the .05 level according to a chi-squared test.

³¹ Differences in response distributions between all three products are statistically significant at the .05 level according to a chi-squared test.

³² For respondents who answered “No” to this closed-ended question, we ask for an open-ended explanation of how the meaning of “Organic” differs between products (Q9). Table C.2 in Appendix C summarizes the contractor’s coding of the verbatim responses, which followed coding guidelines we provided, but overall the responses proved very difficult to classify in a meaningful way. The most frequent reasons either differentiate between the products by describing one of them as something like “made from natural materials” or by referring to the materials, ingredients

4.2.4 Consumer Agreement with Organic Claims

This part of the study involved the main research questions on consumer perception of organic claims, with each individual respondent seeing only one of the two questions. The first of these (Q10.1) was a controlled study of whether surveyed consumers believe an organic claim accurately describes a non-food product given certain details of the materials it contains and their proportions. These details varied across nine different possible scenarios, each with three different product framings (dry cleaning service, mattress or shampoo), for a total of 27 cells of approximately 260 respondents each.

In five of the nine scenarios, we described the product as made up of two different types of materials and gave the proportions of each that the product contains. Scenarios described the product as containing a specific proportion of materials “obtained from plants or animals, which were grown or raised without any substances that do not occur in nature,” with the given proportion specified as 100%, over 99% (but not all), 95-99%, 90-95%, or 5%. We described “the rest” (or, in the 100% organic control scenario, “none”) of the materials in the product as “made by a man-made chemical process.” These descriptions were our best attempt to provide definitions of organic and non-organic material that are both simple enough to be easily read and comprehended by surveyed consumers, and general enough to apply to wide range of products with non-agricultural components.³³ For purposes of the analysis below, we denote these scenarios by the proportion of non-organic material (“No Non-Organic,” “<1% Non-Organic,” “1-5% Non-Organic,” “5-10% Non-Organic,” and “95% Non-Organic”) in the product. We included “No Non-Organic” and “95% Non-Organic” as control scenarios to provide useful benchmarks for comparison with the others.

Three of the nine scenarios alternatively stated that the non-organic materials in the product were “made by a man-made chemical process, but they pose no health or safety hazard to consumers.” Across these three scenarios, we varied the proportion of such materials between <1%, 1-5% and 5-10%. We also included an additional scenario (“Hydrocarbons”) with a somewhat different description, which stated that 100% of the materials were “obtained from plants or animals or from the process of refining petroleum or natural gas,” and that no other materials are in the product.

We summarize pooled responses across the three products for each scenario in Figure 4.2.4 and Table 4.2.4a, below. We pool responses for each scenario because we do not find a statistically significant difference in responses between products for any of them.³⁴

or process of making the products. The contractor also coded too few responses in the “food,” “not referring to food,” “edible,” and “not edible” categories. At least 5% of all responses to the open-ended Q9 (out of a total of 31%-42% answering “No” to Q8) differentiate between products based on food vs. non-food.

³³ Because the study is an investigation of organic claims generally, the definition of non-organic material given in the question is not completely exhaustive of all substances the USDA defines as non-organic, e.g., wild harvested products that are uncertified such as certain forest mushrooms and naturally occurring materials, such as mined minerals and atmospheric gases.

³⁴ Although differences in response distributions between products are not statistically significant, we present the results separately by product in Appendix D.

Figure 4.2.4: Agreement with Organic Claim in 9 Scenarios

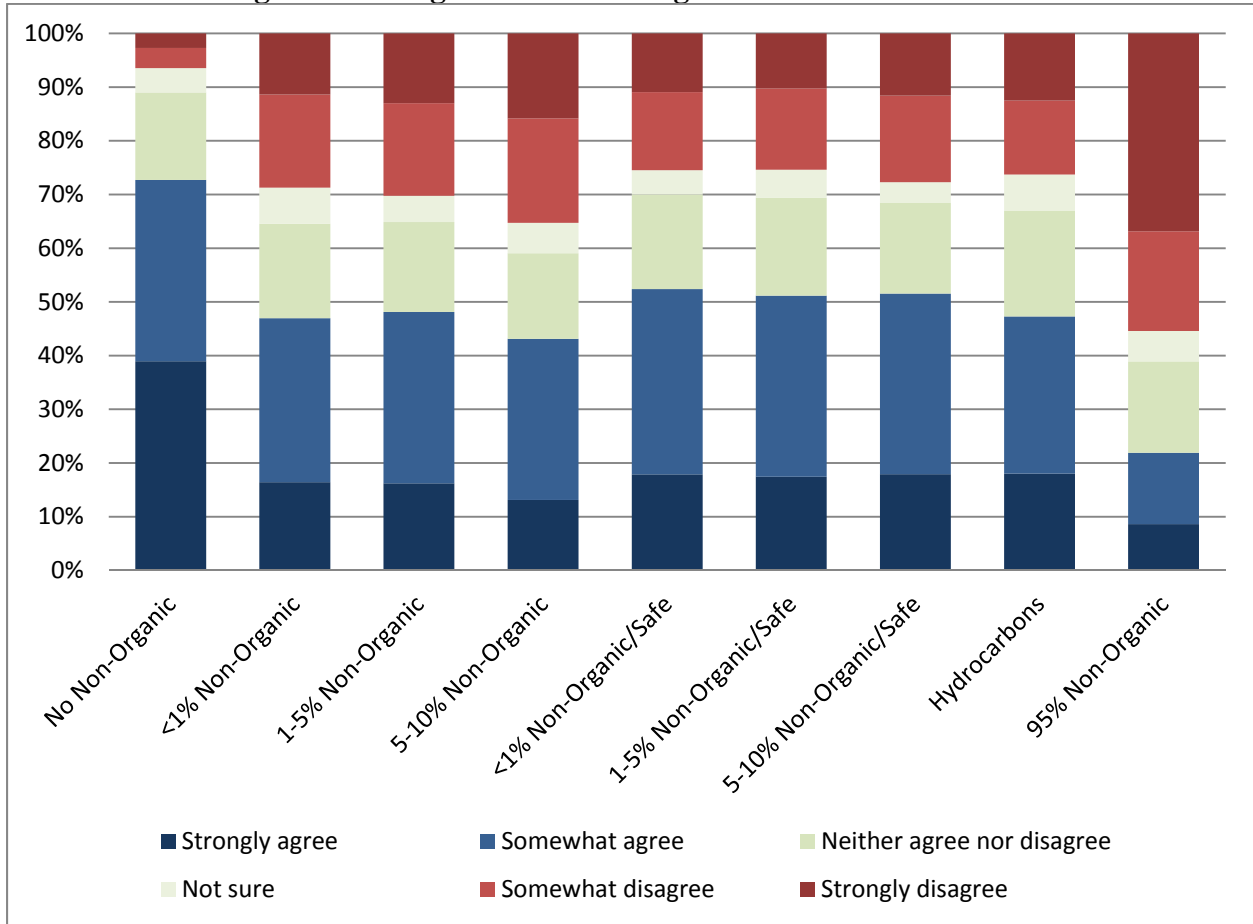


Table 4.2.4a: Agreement with Organic Claim in 9 Scenarios

	No Non-Organic	<1% Non-Organic	1-5% Non-Organic	5-10% Non-Organic	<1% Non-Organic/Safe	1-5% Non-Organic/Safe	5-10% Non-Organic/Safe	Hydrocarbons	95% Non-Organic
Strongly or somewhat agree	73%	47%	48%	43%	52%	51%	52%	47%	22%
Neither agree nor disagree/Not sure	21%	24%	22%	22%	22%	23%	21%	26%	23%
Strongly or somewhat disagree	6%	29%	30%	35%	25%	25%	28%	26%	55%
N	773	773	777	777	777	780	776	776	776

For the No Non-Organic control scenario, the proportion of respondents agreeing with the claim is relatively high (73%), and the proportion disagreeing is low (6%), as expected. However, when the product is described as 95% Non-Organic, 22% of respondents still agree (and only 55% disagree) that an organic claim accurately describes it. The unexpectedly high proportion of respondents agreeing with the claim in this scenario likely indicates some yea-saying bias, and overall the responses to this scenario suggests that respondent inattention, confusion, or

misunderstanding of the question may contribute some measurement error to the results in this as well as the other scenarios.³⁵

The main results of interest from this question are the differences in responses between the No Non-Organic control scenario, and the scenarios where the product contains some non-organic content or hydrocarbons. For each of the latter scenarios, Table 4.2.4b below reports the difference in the percentage of respondents disagreeing with the claim compared to the percentage disagreeing in the No Non-Organic control.³⁶ The table also reports the 95% confidence intervals for these differences. Assuming a random sample of the population, we could be 95% certain that the true population difference in the percentage disagreeing between the scenarios lies somewhere within that interval.³⁷ However, because we have a non-probability sample, we cannot rely on these estimates as an unbiased projection to the general population, and include the confidence intervals only for illustrative purposes. Also, note that these intervals reflect the sampling error involved in the study, but do not account for any measurement error. They also do not account for the likely non-response bias due to the study's low response rate. Hence, these ranges likely underestimate the true margin of error, which we are unable to quantify precisely.

³⁵ Among those respondents who agreed with the organic claim in the 95% Non-Organic scenario, a relatively high proportion compared to the rest of the sample (29%) gave a response to open-ended question Q7 that is coded in the "Nothing" category as having no meaningful content. However, a considerable proportion of these respondents did provide meaningful responses to Q7, distributed similarly to the rest of the sample. The next three most common categories for Q7 responses among this group are "Natural/natural materials" (26%), "No/less chemicals/additives" (20%) and "Organic/organic materials" (7%).

³⁶ According to a chi-squared test at the .05 significance level, we find significant differences in response distributions between No Non-Organic and all other scenarios, between the 95% Non-Organic and all other scenarios, between 5-10% Non-Organic and 5-10% Non-Organic/Safe scenarios, between the Hydrocarbons and the 5-10% Non-Organic scenarios, and between the Hydrocarbons and the 5-10% Non-Organic/Safe scenarios. All other differences between scenarios are statistically insignificant.

³⁷ Technically, the meaning of a 95% confidence interval is that if we elicited responses from a large number of repeated random samples of consumers, 95% of the confidence intervals estimated from these response samples would contain the true percentage of the population holding a particular view. This survey, however, is not based on a random sample of consumers.

Table 4.2.4b: Difference in Percentage Disagreeing between No Non-Organic Control and Other Scenarios

Scenario	Sample Difference (% points) (95% Confidence Interval)
<1% Non-Organic	22.3 (18.6, 25.9)
1-5% Non-Organic	23.8 (20.1, 27.4)
5-10% Non-Organic	28.8 (25.0, 32.6)
<1% Non-Organic/Safe	19.0 (15.5, 22.5)
1-5% Non-Organic/Safe	18.9 (15.4, 22.4)
5-10% Non-Organic/Safe	21.2 (17.6, 24.8)
Hydrocarbons	19.8 (16.3, 23.4)

The results suggest that a significant proportion of consumers believe that if a non-food product contains even a small amount of material from a man-made chemical process (as opposed to from plants or animals), even less than 1%, then an unqualified organic claim does not accurately describe that product. The proportion disagreeing in the scenarios with some non-organic material exceeds the proportion disagreeing in the control by at least 22.3 percentage points when the non-organic material is not described as safe for consumers, and by at least 18.9 percentage points when it is described as safe. In addition, none of the confidence intervals include values lower than 15.4 percentage points.

These results are compelling, but there are several limitations to their interpretation. Note that this survey question asks respondents whether they agree with the claim, not how they interpret the claim. Accordingly, the results do not provide a direct measure of deception because respondents might disagree with the claim due to their opinions on what the term should mean compared to how it is actually used in the marketplace. Therefore, they may not be deceived by the claim.³⁸ Another limitation is that the scenarios define non-organic content as material “made by a man-made chemical process.” Some consumers may not interpret this description to include some non-organic agricultural materials (e.g., a plant grown with the aid of pesticides or

³⁸ A consumer may respond, “disagree,” to a Q10.1 scenario because the way the “Organic” claim is applied there is inconsistent with her understanding of what the claim means in the marketplace, the understanding she relies on in making actual purchase decisions. This would signal deception. Alternatively, a consumer may respond, “disagree,” even if the way the claim is applied here is consistent with her understanding of what it means in the marketplace, or her understanding of how it is defined by regulatory authorities, if the consumer believes the way the claim is commonly used or defined is wrong. In that case, the claim does not actually deceive the consumer, but we register a “disagree” response anyway.

herbicides, but otherwise free of chemicals). Thus, this definition may limit the study results as applied to products that contain such non-organic material (e.g., a shampoo containing small amounts of lavender grown with pesticides). Finally, note that we did not test the term “USDA Organic.” Therefore, the results may not apply to products bearing the USDA’s certification seal, if this seal signals something different to the consumer than a simple use of the word “organic.”

Although our primary results compare various scenarios to the No Non-Organic control, described above, other comparisons between the various scenarios are also of interest. For example, compared to the 5-10% Non-Organic scenario, the level of agreement is slightly higher (and the level of disagreement slightly lower) for the <1% and 1-5% Non-Organic scenarios, though the difference is not statistically significant. There is virtually no difference in responses between the <1% and 1-5% Non-Organic scenarios. This suggests that a small proportion of consumers surveyed may be sensitive to the 95% cutoff used in USDA regulations, but the effect is insignificant for the products tested here.

When we describe the non-organic materials in the product as, “made by a man-made chemical process, but they pose no health or safety hazard to consumers,” we observe slightly more agreement (and slightly less disagreement) than when we describe these materials without the safety clause. However, the effect is too small (between 3 and 8 percentage points) to indicate that agreement with the claim depends on this information to a substantial proportion of consumers.

When we describe the materials in the product as 100% “obtained from plants or animals or from the process of refining petroleum or natural gas,” we observe responses comparable to the <1% or 1-5% Non-Organic scenarios that did not mention petroleum or natural gas. The proportion agreeing (47%) in this scenario is higher, and the proportion disagreeing (26%) is lower, than anticipated, suggesting either that respondents did not understand the question or claim, or that many respondents interpret the word “organic” according to the scientific definition, i.e., any material containing carbon. Nevertheless, the proportion disagreeing in this scenario exceeds the proportion disagreeing in the No Non-Organic control by 19.8 percentage points, suggesting that to a significant proportion of consumers, an organic claim does not accurately describe such products.

In an open-ended follow-up question (Q11), we asked respondents who disagree that the organic claim accurately describes the product in the given scenario to explain why they disagreed. Table 4.2.4c below summarizes IPSOS staff’s coding of the verbatim responses, by scenario, which followed coding guidelines we provided. For each category, the tables report the proportion whose open-ended response was coded in that category, as a percentage of all responses to the scenario including those agreeing, disagreeing, or indecisive. The last row in each table reports the total percent disagreeing for each scenario.

Table 4.2.4c: Reasons for Disagreeing as a Percentage of All Responses³⁹

	No Non-Organic	<1% Non-Organic	1-5% Non-Organic	5-10% Non-Organic	<1% Non-Organic/Safe	1-5% Non-Organic/Safe	5-10% Non-Organic/Safe	Hydrocarbons	95% Non-Organic
Man made/contains non-natural materials	1%	9%	10%	14%	10%	9%	11%	2%	17%
Contains chemicals/uses a chemical process	1%	7%	6%	7%	3%	5%	5%	7%	10%
Not 100 percent natural/fully organic/percentage of product not enough to be organic	0%	9%	10%	11%	8%	7%	9%	0%	25%
Contains petroleum products/hydrocarbon materials	0%	0%	0%	0%	0%	0%	0%	9%	0%
Contains refined materials/uses a refining/mechanical process	0%	0%	0%	0%	0%	0%	0%	5%	0%
Not organic/contains inorganic materials	0%	0%	1%	1%	0%	1%	1%	2%	2%
Not referring to food/something edible	1%	1%	0%	0%	0%	1%	1%	1%	0%
Contains animal material	0%	0%	1%	0%	1%	0%	0%	1%	0%
Irrelevant to product	0%	0%	0%	0%	1%	0%	0%	1%	1%
The word 'Organic' is overused	0%	0%	0%	0%	0%	0%	0%	0%	0%
Use of word 'process'/processed	0%	0%	1%	0%	0%	0%	0%	1%	0%
Materials have been altered/had natural composition changed	0%	0%	1%	0%	0%	0%	0%	0%	0%
Not plant based	0%	0%	0%	0%	0%	0%	0%	0%	0%
Materials/ingredients	0%	0%	0%	0%	0%	0%	0%	0%	0%
Not animal based	0%	0%	0%	0%	0%	0%	0%	0%	0%
Not environmentally friendly/ecological	0%	0%	0%	0%	0%	0%	0%	0%	0%
Not informative	0%	1%	1%	1%	1%	1%	0%	2%	1%
Not believable	0%	1%	1%	1%	1%	1%	1%	0%	2%
Hard to understand/confusing	0%	0%	1%	0%	1%	0%	0%	1%	0%
Other	0%	0%	1%	0%	1%	0%	0%	1%	1%
Nothing	2%	3%	3%	4%	2%	4%	2%	4%	4%
Total Disagreeing	6%	28%	30%	34%	25%	25%	27%	26%	54%

The most common reasons for disagreeing that that an organic claim accurately describes the given product refer to the type of content the product contains, either that it contains “man made” materials or materials that are not “natural,” or that the product “contains chemicals” or “uses a chemical process.” Responses of this type explain about half of the observed disagreement. In addition, about one-third of respondents disagreeing with the claim emphasize percentage as the

³⁹ Responses may be coded under multiple categories.

key factor, explaining that the product is not “100 percent natural,” not “fully organic,” or that the percentage of organic material in the product is not enough to justify the claim. The results are somewhat different for the Hydrocarbons scenario. The product content unique to this scenario, “Contains petroleum products/hydrocarbon materials” or “Contains refined materials/uses a refining/mechanical process,” as well as the more general category, “Contains chemicals/uses a chemical process,” are the most frequently cited reasons for disagreeing in this scenario.

In addition to gleaning information by organizing verbatim responses into categories, we gained interesting insights on consumer perception of organic claims from individual responses. Although we did not ask respondents to suggest a more accurate claim for the product, some of them nevertheless suggest a qualified claim that would better describe the product. Among those disagreeing in the <1%, 1-5%, and 5-10% Non-Organic scenarios, some responses suggest labeling a product that is 5% non-organic as “95% Organic” instead. Other respondents suggest that respondents see organic as an all-or-nothing concept, and that the product must not contain any non-organic content if it carries an organic label.

4.2.5 Consumer Perception of Organic Claims: Qualified vs. Unqualified Claims

The other main research question in Part II of the study (Q10.2) investigated the effect of qualifying language on consumer perception of an organic claim, specifically when the claim refers to specific components or ingredients of the product. This closed-ended question used two different product framings (mattress and shampoo), each with either an unqualified organic claim or a qualified claim referring only to a specific part of the product (“Organic Fabric and Fill” for mattress, and “Organic Cleansing Ingredients” for shampoo).⁴⁰ This yielded 4 cells (2 products x 2 claims), each with around 260 respondents, presented with this question. Respondents then selected from the closed-ended answer options that best describe what part of the product, if any, the claim implies to be organic. Figure 4.2.5 and Table 4.2.5, below, present these results.

⁴⁰ The dry cleaning framing was not used for this question or subsequent questions due to sample size constraints and the greater prevalence of organic claims for furniture and personal care products on the marketplace.

Figure 4.2.5: Unqualified vs. Qualified Organic Claims

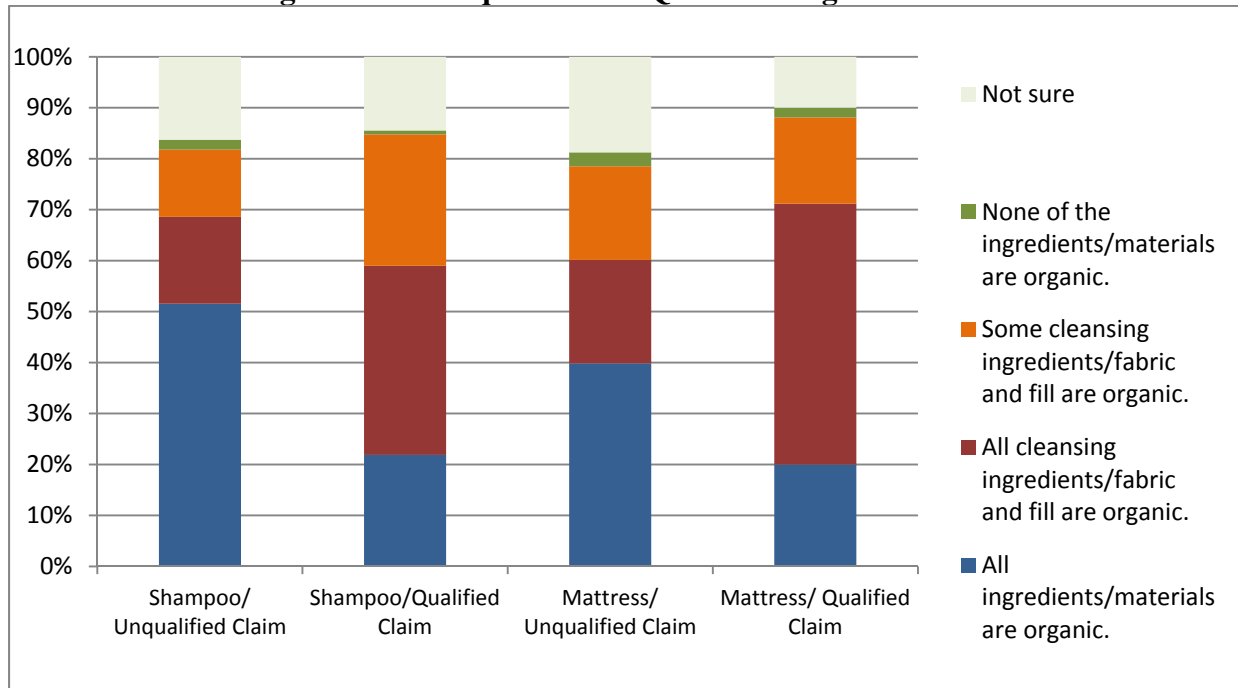


Table 4.2.5: Unqualified vs. Qualified Organic Claims

	Shampoo/ Unqualified Claim	Shampoo/ Qualified Claim	Mattress/ Unqualified Claim	Mattress/ Qualified Claim
All ingredients/materials are organic.	52%	22%	40%	20%
All cleansing ingredients/fabric and fill are organic.	17%	37%	20%	51%
Some cleansing ingredients/fabric and fill are organic.	13%	26%	18%	17%
None of the ingredients/materials are organic.	2%	1%	3%	2%
Not sure	16%	14%	19%	10%
N	258	256	256	260

Consistent with the results of the other main question in Part II, when we asked respondents to choose between possible interpretations of an unqualified organic claim, the most common response (52% of responses for shampoo, and 40% for mattress) is that all ingredients or materials in the product are organic. However, when we replaced the unqualified claim with a qualified claim specifying which parts are organic, there is a significant decrease in the proportion of respondents who believe that all ingredients or materials in the product are

organic.⁴¹ Nevertheless, when told that the product was made with organic cleansing ingredients or with organic fabric and fill, about one-fifth of respondents still answer that this means that all ingredients or materials are organic. This is consistent with results of previous questions that indicate a similar amount of respondent inattention or misunderstanding of the question or claim.

These results suggest that for products with less than 100% organic content, qualified claims stating which parts of the product are organic are significantly less likely to mislead consumers than unqualified organic claims. Alternatively, a percentage qualification may also make the claim less misleading, as suggested by some open-ended responses to discussed in Section 4.2.4, though we have not directly tested claims with such a qualification in this study.

4.2.6 Consumer Beliefs about How Organic Claims are Regulated

Following the main research questions, we included questions probing consumer beliefs about the regulation of organic claims for two of the three products (mattress and shampoo). Within each product framing, we divided respondents into three groups, and asked each group a different question. One of these questions (Q12.1) asked whether the claim suggests or implies that the product “meets some government standard.” Alternatively, another version of the question (Q12.1) asked whether the claim suggests or implies that the product “is certified as ‘organic’ by the U.S. Department of Agriculture.” A third version of this question (Q12.3) asked whether an alternative claim (“Refreshing Scent” for shampoo and “Soft and Comfortable” for mattress) suggests or implies that the product “meets some government standard.” This last version with an alternative claim provides a control, allowing us to test whether organic claims are more likely to imply government regulation than claims about other product attributes. We presented this question only to respondents who were given the shampoo or mattress product framings in previous questions, and we randomly assigned these respondents to one of these three possible versions of the question, keeping the same product framing.

Respondents given the organic claim instead of the control claim in Q12 and answering “Yes,” that the claim is regulated, were then presented with a follow-up question (Q13) asking them to choose which of several options best describes how they believe the claim is regulated. The options included that the given entity (either “the government” or “the USDA”) “regulates the process used for making the product, but does not necessarily inspect the final product,” that it “inspects the final product to ensure that it contains only approved ingredients/materials, but does not necessarily regulate the process used for making the product,” or that it “regulates the process used for making the product and inspects the final product to ensure that it contains only approved ingredients/materials.” We also included a “not sure” option. Because respondents were only asked Q13 conditional on a “Yes” response to Q12, we combine results of Q12 and Q13 in Figures 4.2.6a/4.2.6b and Table 4.2.6 below.

⁴¹ Differences in response distributions between unqualified and qualified claims are statistically significant at the .05 level according to a chi-squared test. Differences in response distributions between products is statistically significant for qualified claim but not for unqualified claim.

Figure 4.2.6a: Beliefs about Government Regulation of Claims for a Shampoo

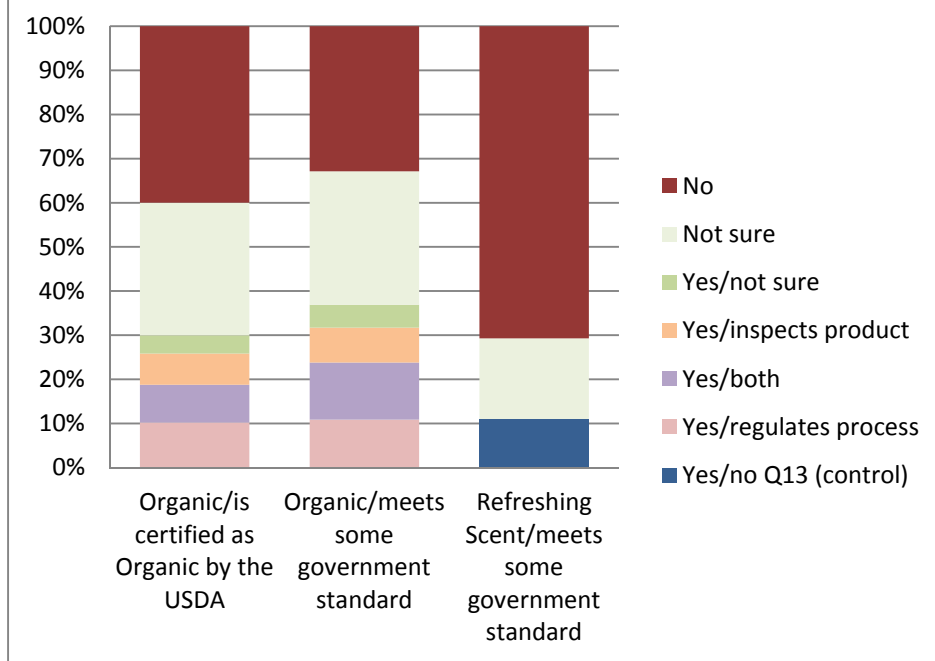


Figure 4.2.6b: Beliefs about Government Regulation of Claims for a Mattress

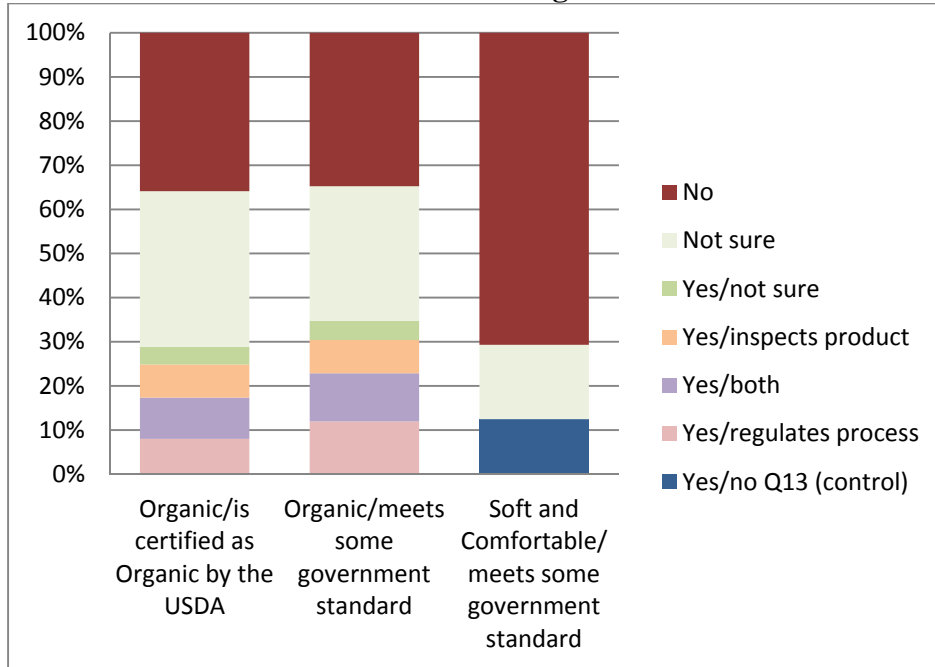


Table 4.2.6: Q12 and Q13 Responses

Claim	Shampoo			Mattress		
	Organic	Organic	Refreshing Scent	Organic	Organic	Soft and Comfortable
Regulator	USDA	government	government	USDA	government	government
Yes/regulates process	10%	11%		8%	12%	
Yes/inspects product	7%	8%		8%	7%	
Yes/both	9%	13%		9%	11%	
Yes/not sure	4%	5%		4%	4%	
Yes	30%	37%	11%	29%	34%	12%
No	40%	33%	71%	36%	35%	71%
Not sure	30%	30%	18%	35%	31%	17%
N	948	949	943	950	944	948

Roughly 35% of consumers surveyed believe that organic claims for a shampoo or mattress imply that the product meets some government standard, compared to about 12% for a control claim regarding subjective product qualities. Roughly one-third of consumers surveyed believe that organic claims for these products do not imply that the product meets a government standard, with the remainder answering “not sure.” In comparison, about 30% of consumers surveyed believe that organic claims for a shampoo or mattress are certified by the USDA. A slightly higher percentage (36%-40%) believe that such claims are not certified by the USDA, with the remainder responding “not sure.”⁴²

Respondents whose answer to Q12 is “Yes,” that the organic claim is regulated, are nearly as likely to believe that the given regulator inspects the final product as they are to believe that they regulate the process by which it is made. Across variations of questions Q12 and Q13, between 17% and 24% of all respondents report believing that the given entity either only regulates the process or both regulates the process and inspects the product. Between 16% and 21% of all respondents report believing that the regulator either only inspects the product or both inspects the product and regulates the process.⁴³

5. LIMITATIONS

Several limitations should be considered when weighing the study results. These limitations include the use of an internet panel that does not provide a probability sample (and therefore does not yield results that are projectable to the general population), a low response rate (meaning that results may exhibit some non-response bias), unexpected distributions of responses to some control questions (possibly indicating measurement error), and the fact that

⁴² For both products, differences in Q12 response distributions between scenarios are statistically significant at the .05 level according to a chi-squared test. Difference between products for Organic/USDA scenario is also statistically significant.

⁴³ Differences in Q13 response distributions between scenarios and products are not statistically significant.

results do not necessarily provide a direct measure of deception (*i.e.*, the results may indicate that consumers disagree with the definition of organic used in the study for policy reasons, rather than that they are deceived by the claims). Due to these possible biases, the exact response percentages and quantitative differences between scenarios should be regarded with some caution. However, we see no reason to believe that these biases would affect certain scenarios significantly more than others, so we interpret substantial differences in responses between scenarios to indicate an important qualitative difference in how consumers perceive them.

For the types of products and claims tested in the study, the results provide valuable insight into consumers' tolerance and expectations regarding non-organic material in a product bearing an unqualified organic claim. However, there are some notable limitations to the scope of the results. The study defines non-organic content as material "made by a man-made chemical process." Some consumers may not interpret this description to include some non-organic agricultural materials (*e.g.*, a plant grown with the aid of pesticides or herbicides, but otherwise free of chemicals). Thus, this definition may limit the study results as applied to products that contain such non-organic material (*e.g.*, a shampoo containing small amounts of lavender grown with pesticides). Note also that in testing perceptions of organic claims, the study did not test the term "USDA Organic."

APPENDIX A: QUESTIONNAIRE

Part I. Recycled Content Claims

SORT RESPONDENTS RANDOMLY INTO 42 CELLS [(1 CLAIM x 6 SCENARIOS + 2 CLAIMS x 4 SCENARIOS) x 3 PRODUCTS]

CLAIMS = "Recycled", "Pre-Consumer Recycled", "Post-Industrial Recycled"

PRODUCTS = storage bins, floor tiles, bowls

SCENARIOS: see Q3

Q1. The claim "Made with Made with Recycled/Pre-Consumer Recycled/Post-Industrial Recycled Content," may appear on some product labels or in advertisements. How well do you understand the meaning of this claim?

- (1) I have a very thorough understanding of what "Made with Recycled/Pre-Consumer Recycled/Post-Industrial Recycled Content" means.
- (2) I have some understanding of what "Made with Recycled/Pre-Consumer Recycled/Post-Industrial Recycled Content" means.
- (3) I have very little understanding of what "Made with Recycled/Pre-Consumer Recycled/Post-Industrial Recycled Content" means.
- (4) I have no idea what "Made with Recycled/Pre-Consumer Recycled/Post-Industrial Recycled Content" means.

Q2. If you see storage bins/floor tiles/bowls labeled as “Made with Recycled/Pre-Consumer Recycled/Post-Industrial Recycled Content,” what does that make you think about the storage bins/floor tiles/bowls?

[TEXT BOX]

Q3. Please consider the following scenario:

[INSERT 1 OF SCENARIOS A-F]

Suppose the storage bins/floor tiles/bowls are labeled as “Made with Recycled/Pre-Consumer Recycled/Post-Industrial Recycled Content.” Would you agree or disagree that this statement, as you understand it, accurately describes the storage bins/floor tiles/bowls?

- (1) Strongly agree
- (2) Somewhat agree
- (3) Neither agree nor disagree
- (4) Somewhat disagree
- (5) Strongly disagree
- (6) Not sure

IF Q3 RESPONSE IS (1) OR (2), SKIP TO Q5

IF Q3 RESPONSE IS (3) OR (6), SKIP TO Q4

Scenarios for Q3:

A. *Post-Consumer – “Recycled” Claim Only*

- Some storage bins/floor tiles/bowls are made entirely from pieces of plastic/rubber/glass recovered after consumers dispose of them in collection bins.
- After being collected, the plastic/rubber/glass is processed into a usable form, and then used to produce storage bins/floor tiles/bowls.

B. *Different product, costs more – All Claims*

- Some storage bins/floor tiles/bowls are made entirely from pieces of plastic/rubber/glass that came from the process of making milk containers/bicycle tires/juice bottles. These pieces were not used in the milk containers/bicycle tires/juice bottles.
- Using this plastic/rubber/glass to make the storage bins/floor tiles/bowls costs more than using new plastic/rubber/glass because this plastic/rubber/glass must be broken down and reformed before it can be fed into the storage bin/floor tile/bowl production line.

C. *Same product, costs more – All Claims*

- Some storage bins/floor tiles/bowls are made entirely from pieces of plastic/rubber/glass that came from the process of making other storage bins/floor

tiles/bowls. These pieces were not used in the first set of storage bins/floor tiles/bowls.

- Using this plastic/rubber/glass to make the storage bins/floor tiles/bowls costs more than using new plastic/rubber/glass because this plastic/rubber/glass must undergo a separate manufacturing process before it can be fed into the storage bin/floor tile/bowl production line.

D. *Same product, costs less – All Claims*

- Some storage bins/floor tiles/bowls are made entirely from pieces of plastic/rubber/glass that came from the process of making other storage bins/floor tiles/bowls. These pieces were not used in the first set of storage bins/floor tiles/bowls.
- Using this plastic/rubber/glass to make the storage bins/floor tiles/bowls costs less than using new plastic/rubber/glass because this plastic/rubber/glass only needs to be cleaned before it can be fed directly into the storage bin/floor tile/bowl production line.

E. *Different product, costs less – All Claims*

- Some storage bins/floor tiles/bowls are made entirely from pieces of plastic/rubber/glass that came from the process of making milk containers/bicycle tires/juice bottles. These pieces were not used in the milk containers/bicycle tires/juice bottles.
- Using this plastic/rubber/glass to make the storage bins/floor tiles/bowls costs less than using new plastic/rubber/glass because this plastic/rubber/glass only needs to be shipped to the factory and fed directly into the storage bin/floor tile/bowl production line.

F. *Not Recycled – “Recycled” Claim Only*

- Some storage bins/floor tiles/bowls are made entirely from wood pulp/rubber/silica harvested from domestic forests/rubber trees/sand pits.
- This wood pulp/rubber/silica is processed into a usable form and then used to produce the storage bins/floor tiles/bowls, which are made entirely from this material.

Q4. Please briefly explain why you disagreed that the statement “Made with Recycled/Pre-Consumer Recycled/Post-Industrial Recycled Content” accurately describes the storage bins/floor tiles/bowls:

[TEXT BOX]

IF SCENARIO=A OR SCENARIO=F OR CLAIM=”Pre-Consumer Recycled” OR CLAIM=”Post-Industrial Recycled”, SKIP TO Q6

Q5. Suppose the storage bins/floor tiles/bowls are instead labeled as “Made with Pre-Consumer Recycled Content.” Would you agree or disagree that this statement, as you understand it, accurately describes the storage bins/floor tiles/bowls?

- (1) Strongly agree
- (2) Somewhat agree
- (3) Neither agree nor disagree
- (4) Somewhat disagree
- (5) Strongly disagree
- (6) Not sure

Part II. Organic Claims

SORT RESPONDENTS RANDOMLY INTO 31 CELLS [(3 PRODUCTS x 9 Q10.1 SCENARIOS) + (2 PRODUCTS x 2 Q10.2 CLAIMS)]

PRODUCTS = dry cleaning service; shampoo, mattress

CLAIMS = “Organic”, “Organic Cleansing Ingredients” (shampoo only), “Organic Fabric and Fill” (mattress only)

SCENARIOS: see Q10.1

Q6. The claim “Organic” may appear on some product labels or in advertisements. How well do you understand the meaning of this claim?

- (1) I have a very thorough understanding of what “Organic” means.
- (2) I have some understanding of what “Organic” means.
- (3) I have very little understanding of what “Organic” means.
- (4) I have no idea what “Organic” means.

Q7. If you see a dry cleaning service advertised/shampoo labeled/mattress labeled as “Organic,” what does that make you think about the dry cleaning service/shampoo/mattress?

[TEXT BOX]

Q8. Suppose you see a dry cleaning service advertised/shampoo labeled/mattress labeled as “Organic.” Suppose you also see some apples labeled as “Organic.” Does the word “Organic” have the same meaning for both products?

- (1) Yes
- (2) No
- (3) Not sure

IF Q8 RESPONSE IS (1) OR (3), SKIP TO NOTE BEFORE Q10.1

Q9. Please briefly explain how the meaning of the word “Organic” in reference to a dry cleaning service/shampoo/mattress differs from the meaning of the word “Organic” in reference to an apple:

[TEXT BOX]

NOTE: 27 Cells see Q10.1 [(3 Products x 9 Q10.1 Scenarios]. 4 Cells see Q10.2 (2 Products x 2 Q10.2 Claims).

Q10.1. Please consider the following scenario:

[INSERT 1 OF SCENARIOS A-I]

Suppose the dry cleaning service is advertised/shampoo is labeled/mattress is labeled as “Organic.” Would you agree or disagree that the word “Organic,” as you understand it, accurately describes the dry cleaning service/shampoo/mattress?

- (1) Strongly agree
- (2) Somewhat agree
- (3) Neither agree nor disagree
- (4) Somewhat disagree
- (5) Strongly disagree
- (6) Not sure

IF Q10.1 RESPONSE IS (4) OR (5), SKIP TO Q11. ELSE SKIP TO NOTE BEFORE Q12.1.

Scenarios for Q10.1:

A. *No Non-organic*

- 100% of the substances used by a dry cleaning service/ingredients in a shampoo/materials in a mattress were obtained from plants or animals, which were grown or raised without any substances that do not occur in nature.
- None of the substances used by the dry cleaning service/ingredients in the shampoo/materials in the mattress were made by a man-made chemical process.

B. *Hydrocarbons*

- 100% of the substances used by a dry cleaning service/ingredients in a shampoo/materials in a mattress were obtained from plants or animals or from the process of refining petroleum or natural gas.
- No other substances are used by the dry cleaning service/ingredients are in the shampoo/materials are in the mattress.

C. *<1% Non-organic*

- Over 99% (but not all) of the substances used by a dry cleaning service/ingredients in a shampoo/materials in a mattress were obtained from plants or animals, which were grown or raised without any substances that do not occur in nature.
- The rest of the substances used by the dry cleaning service/ingredients in the shampoo/materials in the mattress were made by a man-made chemical process.

D. *<1% Non-organic, Safe*

- Over 99% (but not all) of the substances used by a dry cleaning service/ingredients in a shampoo/materials in a mattress were obtained from plants or animals, which were grown or raised without any substances that do not occur in nature.
- The rest of the substances used by the dry cleaning service/ingredients in the shampoo/materials in the mattress were made by a man-made chemical process, but they pose no health or safety hazard to consumers.

E. 1%-5% Non-organic

- 95% - 99% of the substances used by a dry cleaning service/ingredients in a shampoo/materials in a mattress were obtained from plants or animals, which were grown or raised without any substances that do not occur in nature.
- The rest of the substances used by the dry cleaning service/ingredients in the shampoo/materials in the mattress were made by a man-made chemical process.

F. 1%-5% Non-organic, Safe

- 95% - 99% of the substances used by a dry cleaning service/ingredients in a shampoo/materials in a mattress were obtained from plants or animals, which were grown or raised without any substances that do not occur in nature.
- The rest of the substances used by the dry cleaning service/ingredients in the shampoo/materials in the mattress were made by a man-made chemical process, but they pose no health or safety hazard to consumers.

G. 5%-10% Non-organic

- 90% - 95% of the substances used by a dry cleaning service/ingredients in a shampoo/materials in a mattress were obtained from plants or animals, which were grown or raised without any substances that do not occur in nature.
- The rest of the substances used by the dry cleaning service/ingredients in the shampoo/materials in the mattress were made by a man-made chemical process.

H. 5%-10% Non-organic, Safe

- 90% - 95% of the substances used by a dry cleaning service/ingredients in a shampoo/materials in a mattress were obtained from plants or animals, which were grown or raised without any substances that do not occur in nature.
- The rest of the substances used by the dry cleaning service/ingredients in the shampoo/materials in the mattress were made by a man-made chemical process, but they pose no health or safety hazard to consumers.

I. 95% Non-organic

- 5% of the substances used by a dry cleaning service/ingredients in a shampoo/materials in a mattress were obtained from plants or animals, which were grown or raised without any substances that do not occur in nature.
- The rest of the substances used by the dry cleaning service/ingredients in the shampoo/materials in the mattress were made by a man-made chemical process.

NOTE: For Q10.2, if Product = shampoo, then Claim = “Organic” or “Organic Cleansing Ingredients.” If Product = mattress, then Claim = “Organic or “Organic Fabric and Fill.”

Q10.2. Suppose you see a shampoo/mattress labeled as “Organic/Organic Cleansing Ingredients/Organic Fabric and Fill.” Which of the following best describes the shampoo/mattress?

- (1) All ingredients/materials in the shampoo/mattress are organic. It contains no ingredients/materials that are not organic.
- (2) All cleansing ingredients/fabric and fill in the shampoo/mattress are organic, but the shampoo/mattress may contain other ingredients/materials (such as preservatives/thread) that are not organic.
- (3) Some cleansing ingredients/fabric and fill in the shampoo/mattress are organic, but the shampoo/mattress may contain other cleansing ingredients/fabric and fill that are not organic.
- (4) None of the ingredients in the shampoo/mattress are organic.
- (5) Not sure

IF Q10.1, PROCEED TO Q11. IF Q10.2, SKIP TO NOTE BEFORE Q12.1.

Q11. Please briefly explain why you disagreed that the word “Organic” accurately describes the dry cleaning service/shampoo/mattress:

[TEXT BOX]

IF PRODUCT=“dry cleaning service”, SKIP TO Q14

NOTE: Respondents who see Product = “mattress” or Product = “shampoo” are sorted randomly such that one-third see Q12.1 and Q13.1, one-third see Q12.2 and Q13.2, and one-third see Q12.3. Respondents who see Product = “dry cleaning service” skip Q12 and Q13.

Q12.1

Suppose you see a shampoo/mattress labeled as “Organic.” Does this statement suggest or imply that the shampoo/mattress meets some government standard?

- (1) Yes
- (2) No
- (3) Not sure

IF Q12.1 RESPONSE IS (2) OR (3), SKIP TO Q14

Q12.2. Suppose you see a shampoo/mattress labeled as “Organic.” Does this statement suggest or imply that the product is certified as “Organic” by the U.S. Department of Agriculture (“USDA”)?

- (1) Yes
- (2) No
- (3) Not sure

IF Q12.2 RESPONSE IS (2) OR (3), SKIP TO Q14

Q13.1. Which of the following most accurately describes what the word “Organic” implies about the shampoo/mattress?

- (1) The government regulates the process used for making the product, but does not necessarily inspect the final product.
- (2) The government inspects the final product to ensure that it contains only approved ingredients/materials, but does not necessarily regulate the process used for making the product.
- (3) The government regulates the process used for making the product and inspects the final product to ensure that it contains only approved ingredients/materials.
- (4) Not sure

Q13.2. Which of the following most accurately describes what the word “Organic” implies about the shampoo/mattress?

- (1) The USDA regulates the process used for making the product, but does not necessarily inspect the final product.
- (2) The USDA inspects the final product to ensure that it contains only approved ingredients/materials, but does not necessarily regulate the process used for making the product.
- (3) The USDA regulates the process used for making the product and inspects the final product to ensure that it contains only approved ingredients/materials.
- (4) Not sure

Q12.3 Suppose you see a shampoo/mattress labeled as “Refreshing Scent/Soft and Comfortable.” Does this statement suggest or imply that the shampoo/mattress meets some government standard?

- (1) Yes
- (2) No
- (3) Not sure

Part III. Environmental Interest and Demographics

Q14. How would you describe your awareness of environmental issues?

- (1) Not at all aware
- (2) Somewhat aware
- (3) Fairly aware
- (4) Very aware
- (5) Extremely aware

Q15. How would you describe your awareness of the environmental costs and benefits of products you consider purchasing?

- (1) Not at all aware
- (2) Somewhat aware
- (3) Fairly aware
- (4) Very aware
- (5) Extremely aware

Q16. How often do environmental costs and benefits affect your decisions of which products to purchase?

- (1) Never
- (2) Rarely
- (3) Sometimes
- (4) Often
- (5) Always

Q17. Are you...?

- (1) Male
- (2) Female

Q18. In what state or territory do you currently reside?

[LIST STATES]

Q19. What is your age?

- (1) 18-29
- (2) 30-39
- (3) 40-49
- (4) 50-59
- (5) 60-69
- (6) 70+

Q20. What is the highest level of education you have completed or the highest degree you have received?

- (1) Less than high school
- (2) Some high school
- (3) High school diploma
- (4) Some college
- (5) Associate degree
- (6) Bachelor's degree
- (7) Some graduate school
- (8) Master's degree
- (9) Professional degree
- (10) Doctoral degree

Q21. Are you of Hispanic or Latino origin?

- (1) Yes, of Hispanic origin
- (2) No, not of Hispanic origin
- (3) Decline to answer

Q22. Please choose one or more categories to indicate your race. Are you...?

- (1) White
- (2) Black or African American
- (3) Asian
- (4) American Indian or Alaska Native
- (5) Native Hawaiian or Other Pacific Islander
- (6) Decline to answer

APPENDIX B: DEMOGRAPHICS

Gender	2010 Census	Study Sample
Male	48.5%	48.5%
Female	51.5%	51.5%

Race	2010 Census	Study Sample
White	74.8%	82.5%
Black	13.6%	10.0%
Asian	5.6%	4.9%
American Indian/Alaskan Native	1.7%	1.9%
Native Hawaiian/Pacific Islander	0.4%	0.4%
Hispanic/Latino	16.3%	11.2%

Age	2010 Census	Study Sample
18 to 24 years	13.1%	12.5%
25 to 34 years	17.5%	17.3%

35 to 44 years	17.5%	17.5%
45 to 54 years	19.2%	19.5%
55 to 64 years	15.6%	15.6%
65 to 74 years	9.3%	13.7%
75 to 84 years	5.6%	3.5%
85 years and over	2.3%	0.4%

Education	2014 CPS	Study Sample
Less than H.S.	4.3%	0.54%
Some H.S.	8.0%	3.22%
H.S. Grad	29.6%	25.64%
Some College	19.4%	25.08%
Associates	9.4%	9.89%
Bachelors	18.9%	24.14%
Masters	7.5%	8.66%
Professional	1.3%	1.55%
Doctoral	1.6%	1.29%

State	2010 Census	Study Sample
Alabama	1.5%	1.4%
Alaska	0.2%	0.1%
Arizona	2.1%	2.1%
Arkansas	0.9%	0.9%
California	12.1%	10.8%
Colorado	1.6%	1.9%
Connecticut	1.2%	1.1%
Delaware	0.3%	0.5%
District of Columbia	0.2%	0.2%
Florida	6.1%	6.7%
Georgia	3.1%	3.2%
Hawaii	0.4%	0.3%
Idaho	0.5%	0.6%
Illinois	4.2%	4.1%
Indiana	2.1%	1.9%
Iowa	1.0%	1.2%
Kansas	0.9%	0.6%
Kentucky	1.4%	1.8%
Louisiana	1.5%	1.1%
Maine	0.4%	0.4%
Maryland	1.9%	1.9%
Massachusetts	2.1%	1.6%
Michigan	3.2%	3.1%
Minnesota	1.7%	1.8%
Mississippi	1.0%	0.6%
Missouri	1.9%	1.9%
Montana	0.3%	0.3%

Nebraska	0.6%	0.6%
Nevada	0.9%	1.0%
New Hampshire	0.4%	0.3%
New Jersey	2.8%	3.3%
New Mexico	0.7%	0.5%
New York	6.3%	7.1%
North Carolina	3.1%	3.0%
North Dakota	0.2%	0.1%
Ohio	3.7%	4.2%
Oklahoma	1.2%	0.9%
Oregon	1.2%	1.7%
Pennsylvania	4.1%	4.4%
Rhode Island	0.3%	0.3%
South Carolina	1.5%	1.6%
South Dakota	0.3%	0.3%
Tennessee	2.1%	2.3%
Texas	8.1%	7.3%
Utah	0.9%	0.9%
Vermont	0.2%	0.1%
Virginia	2.6%	2.7%
Washington	2.2%	2.5%
West Virginia	0.6%	0.5%
Wisconsin	1.8%	2.3%
Wyoming	0.2%	0.2%

APPENDIX C: ADDITIONAL TABLES

Table C.1: General Open-ended Response Length and Time Spent on Survey

	Mean	Min	Max	10th%	25th%	50th%	75th%	90th%
Q2 Response Length (characters)	45	1	244	7	18	38	61	92
Q7 Response Length (characters)	41	1	244	7	13	31	56	87
Time Spent (minutes:seconds)	10:25	1:09	544:11	3:24	4:42	6:47	10:25	16:49

Table C.2: Coded explanations for why the word “Organic” does not have the same meaning for this product as it does for an apple

	Dry cleaning	Shampoo	Mattress
Materials/ingredients/process of being made	26%	20%	23%
Natural	25%	20%	21%
No/less chemicals/additives/gmo's	11%	10%	10%
Natural ingredients/materials	1%	2%	1%
Edible	0%	0%	0%
Not edible	0%	0%	0%
Food	0%	0%	1%
Healthy/good for you	0%	0%	0%
Clean	0%	0%	0%

Environmentally friendly	0%	0%	0%
Good/quality product	0%	0%	0%
Not referring to food	0%	0%	0%
Fresh	0%	0%	0%
Poor quality product	0%	0%	0%
Other	1%	1%	1%
Nothing	8%	5%	8%
Total Q8 No's	42%	31%	37%

Table C.3: (Q14) How would you describe your awareness of environmental issues?

	#	%
Not at all aware	401	5%
Somewhat aware	3622	45%
Fairly aware	2587	32%
Very aware	1033	13%
Extremely aware	372	5%
Total	8015	100%

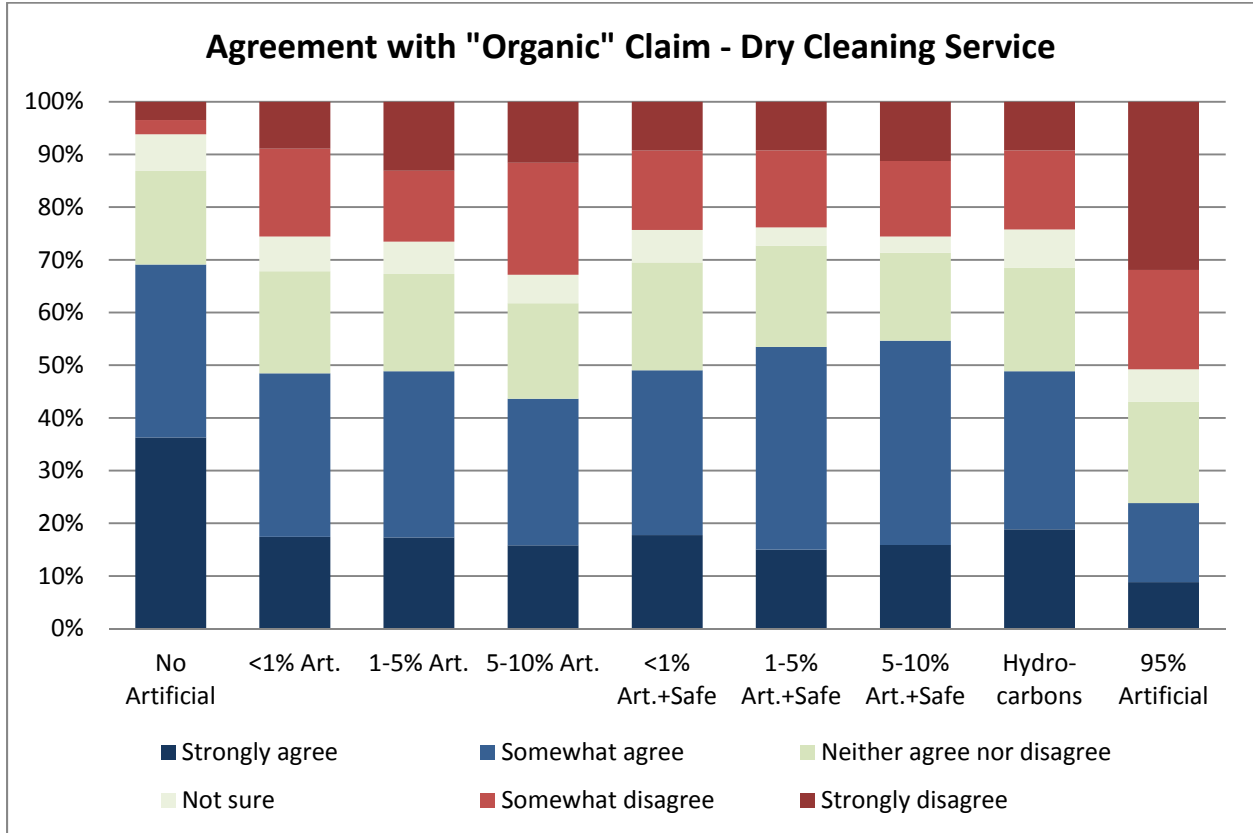
Table C.4: (Q15) How would you describe your awareness of the environmental costs and benefits of products you consider purchasing?

	#	%
Not at all aware	1201	15%
Somewhat aware	3224	40%
Fairly aware	2459	31%
Very aware	822	10%
Extremely aware	309	4%
Total	8015	100%

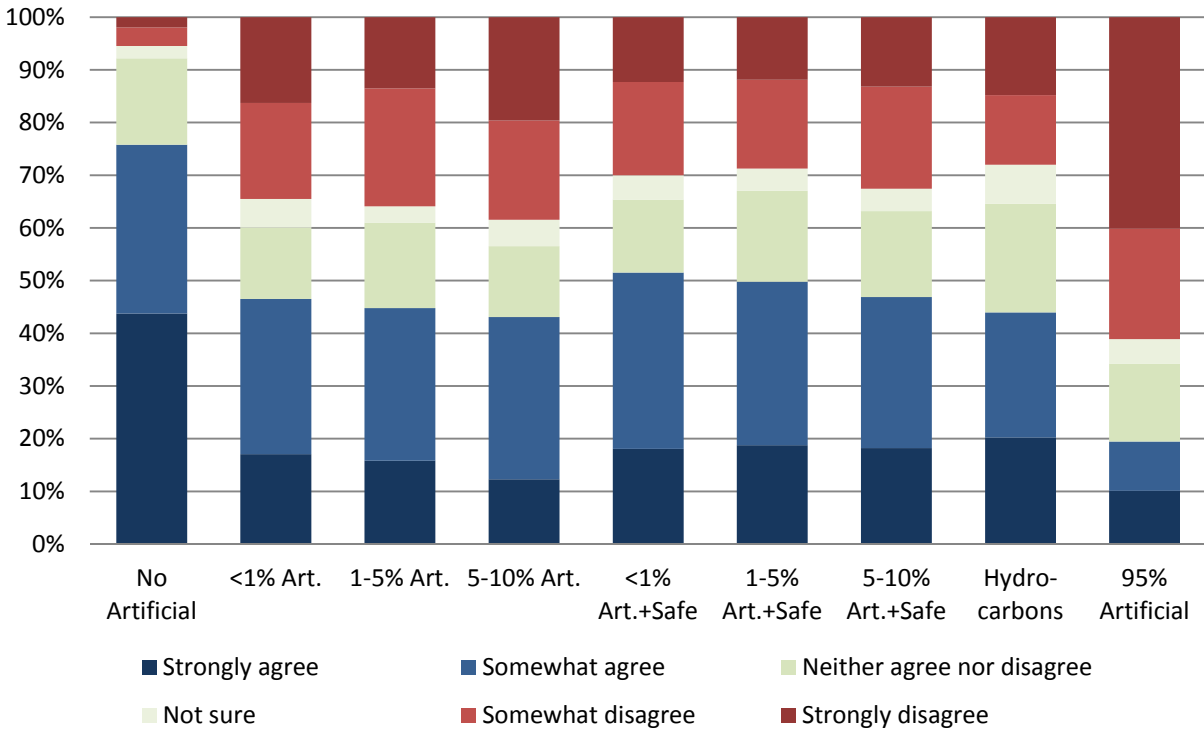
Table C.5: (Q16) How often do environmental costs and benefits affect your decisions of which products to purchase?

	#	%
Never	860	11%
Rarely	2012	25%
Sometimes	3661	46%
Often	1181	15%
Always	301	4%
Total	8015	100%

APPENDIX D: Q10.1 RESULTS FOR INDIVIDUAL PRODUCTS



Agreement with "Organic" Claim - Shampoo



Agreement with "Organic" Claim - Mattress

