



North Mountain  
CONSULTING GROUP

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# New Materials Nomenclature Assessment

Conducted by North Mountain Consulting Group for Material Innovation Initiative

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## Executive Summary

The purpose of the study was to assess nomenclature options for a new category of high performance materials that are more sustainable than their conventional animal-derived counterparts. After collecting and pre-testing potential names, we assessed seven names on three criteria for the overall materials category (appeal, descriptiveness, preference), as well as for appeal across six sub-categories. Our sample of consumers (N = 501) was representative of the U.S. population, with interlocked sampling quotas for age, gender, and region. We reported findings from both the general population and a high purchase interest segment.

For the overall category, we found that consumers selected the terms *next-gen*, *animal-free*, and *eco* as their top choices. The same three terms were also most appealing, but differed in the order: *eco*, *animal-free*, and *next-gen*. For descriptiveness, *animal-free*, *eco*, and *vegan* were highest. For the six sub-categories of animal-replacement materials, the names *next-gen* and *animal-free* were consistently among the top in appeal. Overall, we found *next-gen* and *animal-free* to be most suitable from an appeal standpoint, while *animal-free* stood out as both appealing and descriptive. However, from a purely consumer-focused perspective, *next-gen* was overall preferred: about 1 out of 3 consumers preferred the term *next-gen* and 1 out of 5 preferred the term *animal-free*. These findings were generally consistent for both the general population and the high purchase interest segment.

An additional criterion to consider is differentiation, or whether the term effectively differentiates these new materials from other material types. The term *next-gen* cues innovation, and may better describe a new category of materials which has multiple characteristics (i.e., sustainable, animal-free, and high performance). In contrast, the term *eco* could describe environmentally-friendly products that are not necessarily high performance or vegan, and *animal-free* could describe vegan products that are not necessarily high performance or environmentally-friendly. Considering this study's findings and each term's differentiation potential, we recommend *next-gen* as an overarching, consumer-friendly category term, which can be used in conjunction with product- and technology-specific names.

However, nomenclature choices should be highly context-dependent. The relative importance of each of these criteria (appeal, descriptiveness, preference, differentiation, and suitability for sub-categories) will need to be weighed in order to determine appropriate nomenclature in each context.

## Table of Contents

<b>Executive Summary</b>	<b>1</b>
<b>Introduction</b>	<b>4</b>
<b>Method</b>	<b>5</b>
Pre-testing	5
Materials and Procedure	5
Sample	5
<b>Results</b>	<b>6</b>
Purchase Interest	6
Nomenclature: Overall Category	6
Overall Category: Appeal	7
Overall Category: Descriptiveness	8
Overall Category: Preference	9
Overall Category: Reason for Preference	9
Nomenclature: Sub-categories	10
Leather: Appeal	11
Silk: Appeal	12
Fur: Appeal	13
Wool: Appeal	14
Down: Appeal	15
Crocodile Skin: Appeal	16
<b>Conclusion</b>	<b>17</b>
<b>About North Mountain Consulting Group</b>	<b>18</b>
<b>Funding</b>	<b>18</b>
<b>Appendix A: Brief Technology Description</b>	<b>19</b>
<b>Appendix B: Phase 1 Results</b>	<b>19</b>
<b>Appendix C: Sociodemographic Tables</b>	<b>28</b>
<b>Appendix D: Appeal and Descriptiveness Assessments of Category Names</b>	<b>31</b>

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## Introduction

A new category of high performance and more sustainable materials are emerging as an alternative to materials traditionally sourced from animals, including leather, silk, fur, wool, down, and ‘exotic’ skins. A previous exploratory study of consumer attitudes and behavior toward ‘alternative leather’ in the U.S. ([Szejda & Urbanovich, 2021](#)) found a high degree of interest toward this emerging category of materials — more than half of the sample indicated a preference for ‘alternative’ leather over animal leather. These U.S. consumers were open to different production technologies, willing to pay more, and preferred messages focused on animals, sustainability, or material performance.

Building on this past exploratory study, the current study focused on U.S. consumers’ perception and preferences for nomenclature used to describe these ‘new’ materials. Currently, a variety of terms are in use among stakeholders in this emerging industry, and to our knowledge, no data are currently available to guide decision-making about naming choices.

A variety of criteria will need to be assessed in order to determine an optimal name in various contexts, however consumer perspectives are key to consider. The purpose of this study is to obtain data from the viewpoint of the U.S. consumer, both among the general U.S. population and among those who report a high interest in purchasing new materials.

The study assessed consumers’ preferences for nomenclature for the overall category of new materials and for six sub-categories (including leather, silk, fur, wool, down, and crocodile skin). Our research questions were as follows:

- RQ<sub>1</sub>: What is the level of purchase interest in this new materials category?
- RQ<sub>2</sub>: To what degree is each of the category names appealing?
- RQ<sub>3</sub>: To what degree is each of the category names descriptive?
- RQ<sub>4a</sub>: Which category name is most preferred?
- RQ<sub>4a</sub>: What are the reasons for category name preferences?
- RQ<sub>5</sub>: To what degree is each of the sub-category names appealing?

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# Method

## Pre-testing

Prior to conducting the main study, we took two steps to ensure we were considering a full list of potential names. First, we collected names by 1) sending a survey to key stakeholders and 2) locating names currently in use on material company websites. To reduce the long list to a number realistic for testing, we applied a global assessment to each proposed name, considering its degree of current use, appeal, descriptiveness, and differentiation from other material types. This assessment reduced the list to 20 in the overall category and 6-10 in each of the six sub-categories.

To assess this preliminary list of names, we conducted a pre-testing survey. We recruited 200 U.S. consumers on Positly, recruiting the sample to match the U.S. population of Gen Z, Millennials, and Gen X adults (18-54 years) by age (in four-year ranges) and gender. In this survey, participants first read a brief technology description (see [Appendix A](#)) and indicated their level of purchase interest. Then, for the overall category and for each sub-category, participants engaged in a sorting task, grouping names as either ‘appealing’, ‘neutral’, or ‘unappealing’. The consumer assessments for each of the names in the overall category and six sub-categories can be found in [Appendix B](#). Appendix B reports the general population’s assessment; we did not find meaningful differences between the overall population and those most interested in purchasing.

Finally, we used the name assessments from the pre-test as a tool to select a consistent list of seven names to be used in the main study. Again we applied a global assessment, considering the names most frequently considered appealing by consumers, names already in use, level of descriptiveness, and differentiation from other material types. In the main study, these seven selected names were used in the overall category and in each sub-category. We then added up to two additional names specific to each sub-category.

## Materials and Procedure

In the first section of the survey, participants read a brief description of the technology (see [Appendix A](#)) and then reported their level of purchase interest. In the second section of the survey, participants rated seven overall category names (*next-gen*, *animal-free*, *eco*, *alternative*, *bio-based*, *vegan*, and *bio*) in terms of each name’s level of appeal and descriptiveness. Participants then selected their preferred name and, in an open-ended format, explained the reason for their name preference. The third section asked participants to provide appeal ratings for a list of terms specific to each of the six sub-categories (leather, silk, fur, wool, down, crocodile skin). We used a 5-point scale (*1 = not at all*, *2 = somewhat*, *3 = moderately*, *4 = very*, and *5 = extremely*) for the purchase interest, appeal, and descriptiveness measures. In the fourth section, participants provided their sociodemographic information.

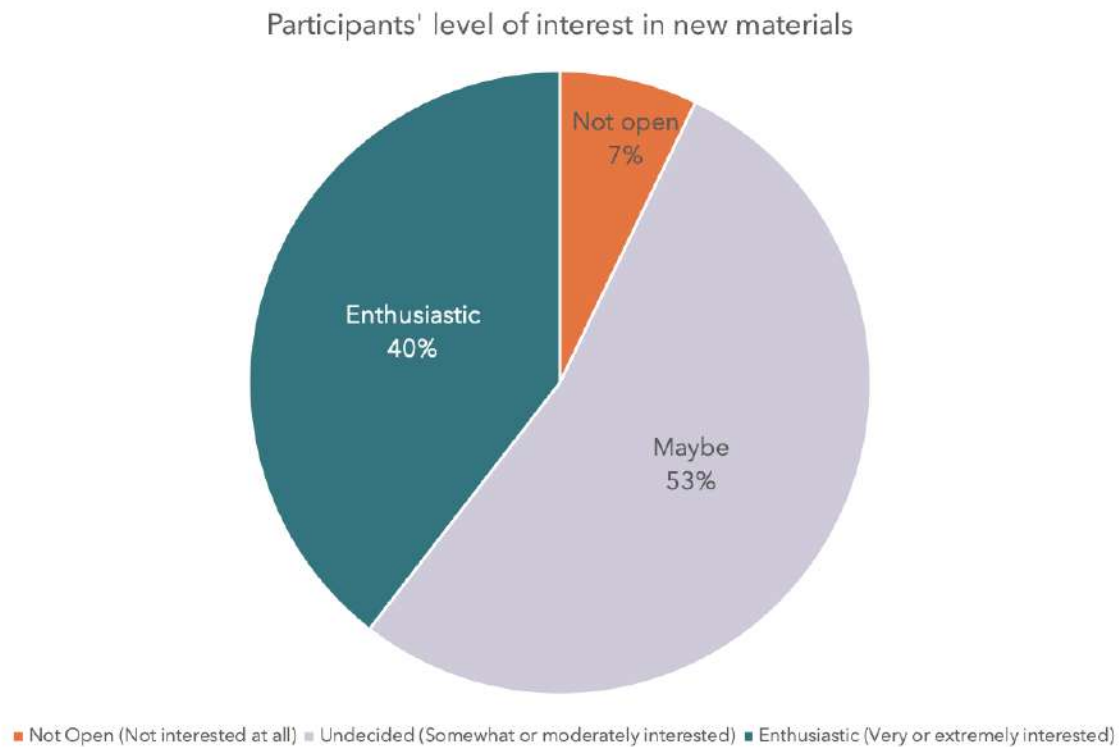
## Sample

Participants (N = 501) were recruited from CINT panels via Positly. We used a tight sampling protocol to recruit the U.S. population ages 15-74 by interlocked age (four year ranges), gender, and geographic region groups. Age, sex, and region quotas were established in accordance with 2019 population projections from the U.S. Census Bureau. The final sample closely matched the sampling goal, though there was underrepresentation in the Southern region. Additionally, the sample was representative by race, but underrepresented by Hispanic ethnicity. Sociodemographic tables, including a comparison of the sample and population, can be found in [Appendix C](#).

# Results

## Purchase Interest

Nearly all (93%) of participants were open to purchasing new materials, and 40% reported a high level of purchase interest. In subsequent analyses, we report findings for the general population (n = 501) and for this 'enthusiastic' group, who reported they were very or extremely interested in purchasing (n = 198).



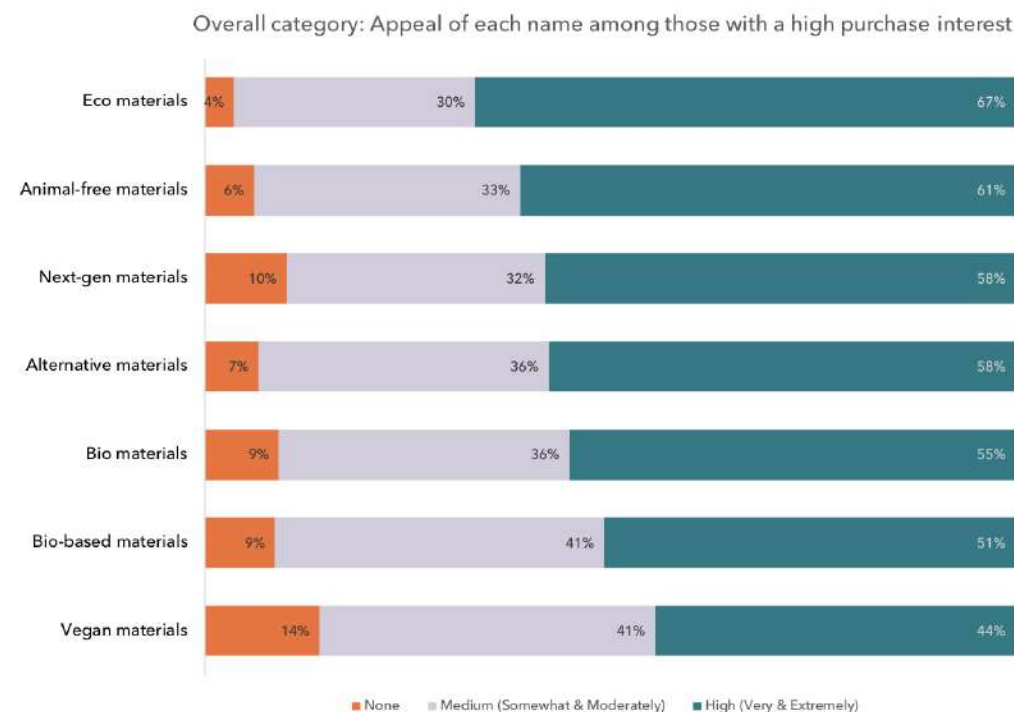
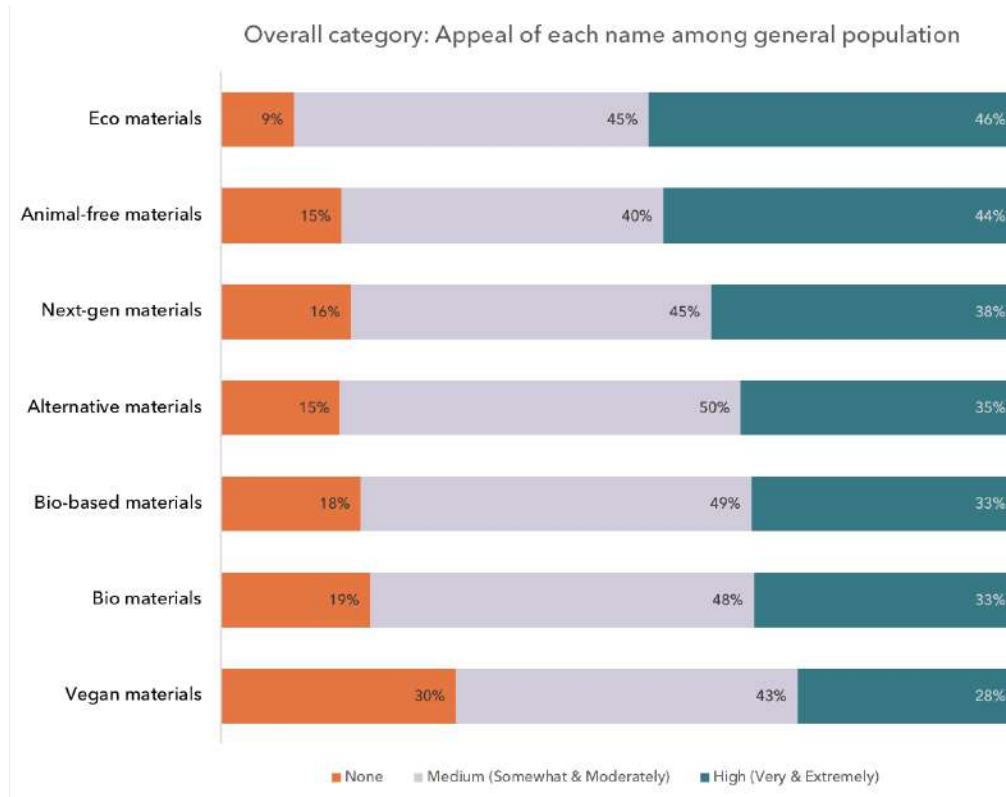
In the following sections, we report findings for two groups: the general population, and the 'enthusiastic' group, who are likely to be early adopters.

## Nomenclature: Overall Category

For each of the category terms, consumers first rated each name in terms of perceived [appeal](#) and [descriptiveness](#). They then selected their [preferred term](#), and provided an explanation for their choice.

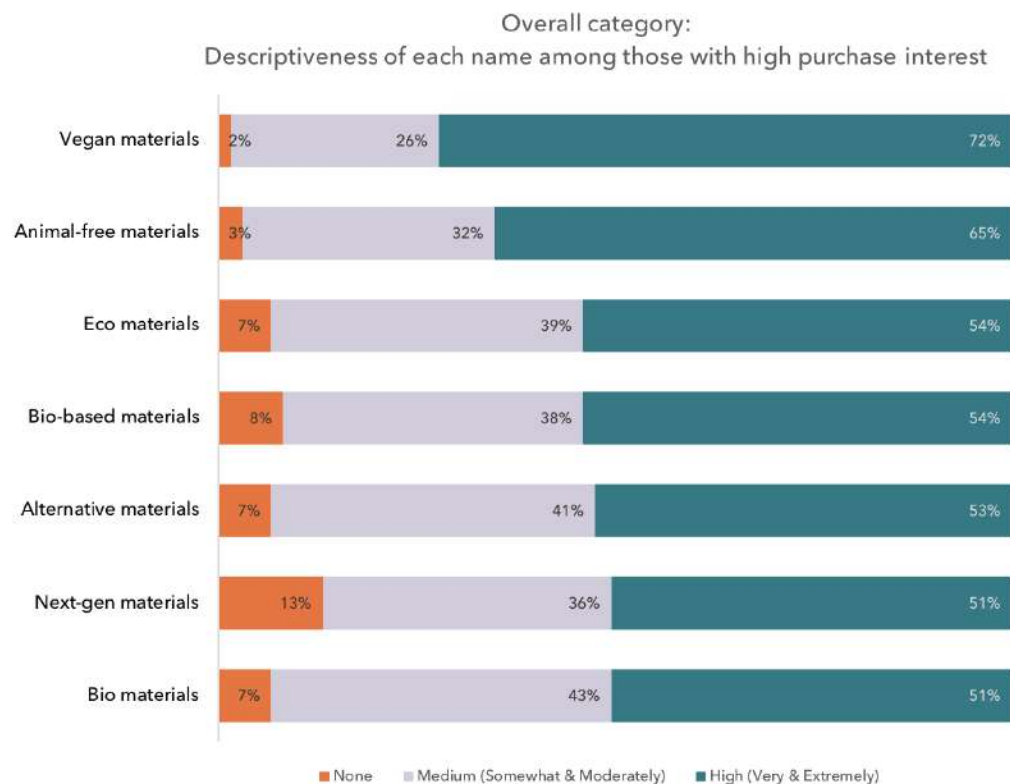
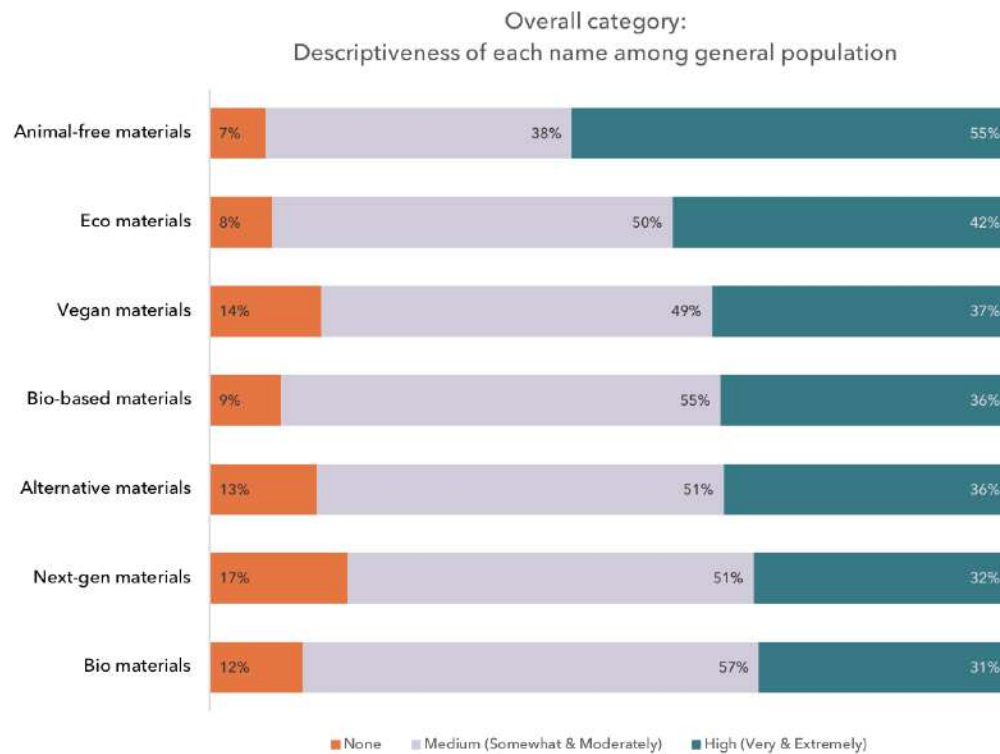
## Overall Category: Appeal

In terms of appeal, *eco materials* was the highest rated, followed by *animal-free*, *next-gen*, and *alternative*. Charts are presented below, and percentages and means for both groups are reported in tables in [Appendix D](#).



## Overall Category: Descriptiveness

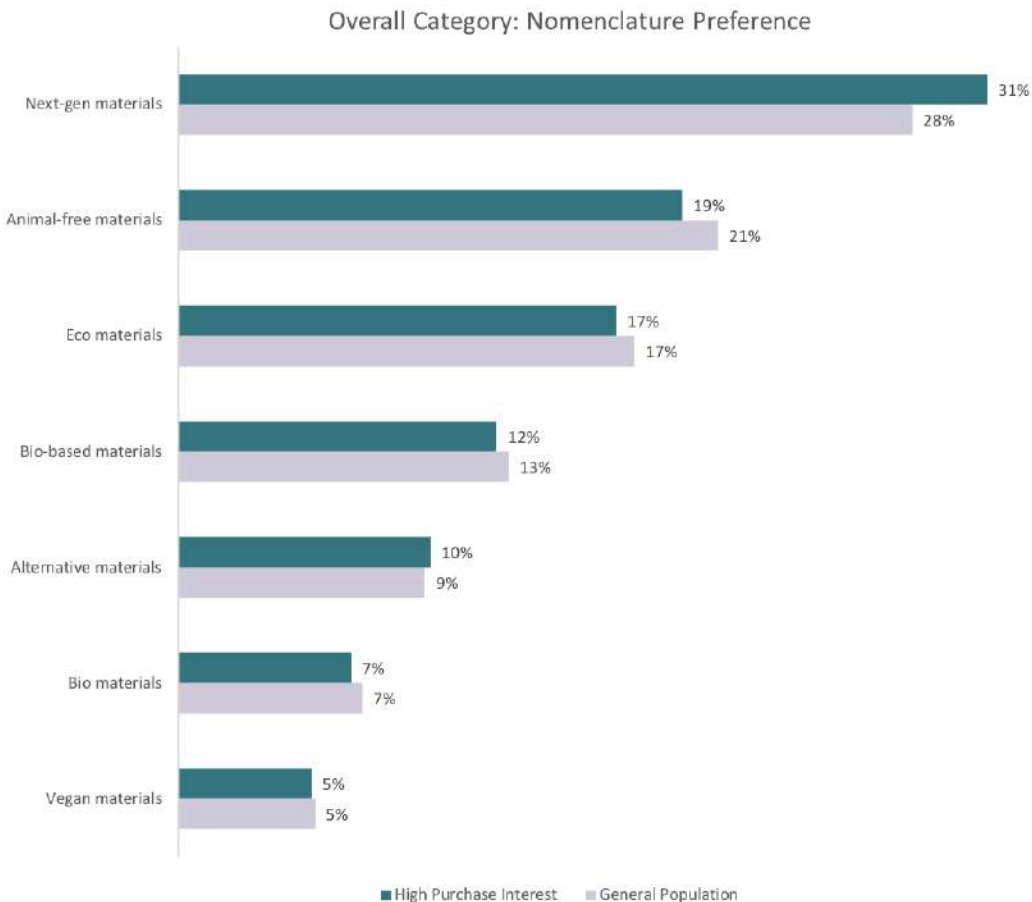
In terms of descriptiveness, *animal-free* was the highest rated, followed by *eco* and *vegan*. Charts are presented below, and percentages and means for both groups are reported in tables in [Appendix D](#).





## Overall Category: Preference

Consumers' top preferred term was *next-gen materials*, followed by *animal-free* and *eco*. About 1 in 3 consumers preferred *next-gen*, 1 in 5 preferred *animal-free*, and 1 in 6 preferred *eco*. The chart below shows the frequency each term was selected for both groups.



## Overall Category: Reason for Preference

After participants selected their preferred name, we asked them to explain the reasoning for their choice. The primary reasons for preferring *next-gen* was that it cued innovation, encompassed and described multiple product characteristics, and was appealing for multiple audiences. Below we report the emergent themes from the open-ended responses. Themes describe participant sentiments which were mentioned at least three times.

Among those who selected *next-gen* as their preferred nomenclature (28%,  $n = 140$ ), participants explained a range of reasons for their preference, including that the term describes the product as:

- Innovative, modern, or for the future
- Having a multifaceted meaning, in that it encompasses and is accurately descriptive of the multiple product characteristics (sustainability, performance, animal-free), rather than only one
- Neutral and appealing to multiple audiences, or not off-putting to specific audiences
- Generally appealing

Twenty-one percent of the overall sample ( $n = 103$ ) selected *animal-free* as their top preference. The two main reasons for choosing *animal-free* included the term being:

- Appealing, because it highlights that the materials do not harm animals
- Descriptive, straightforward, and easy to quickly understand

The next top-chosen nomenclature option was *eco*, which 15% of the sample ( $n = 87$ ) selected.

Participants explained that the reasons for this choice included that the term:

- Is broadly descriptive and easy to understand
- Shows that the product is good for the environment and ecological
- Sounds modern
- Is appealing sounding, or catchy

Among those who chose *alternative* as their preferred nomenclature (13%,  $n = 63$ ), the reported reasons for their preference included that the term:

- Is broadly descriptive and appropriate
- Is simple and easy-to-understand
- Implies a difference from currently available products, thus highlighting the consumer's choice
- Is generally appealing

The fifth top chosen nomenclature option was *bio-based*. Of the 10% of participants who chose *bio-based* ( $n = 48$ ), the reported reasons included that the term:

- Is accurate and descriptive
- Is generally appealing, e.g., sounds better, nice, catchy
- Sounds earthy, e.g., natural, organic, biodegradable
- Sounds scientific

Among those who chose *vegan* as their top preference (5%,  $n = 25$ ), participants reported that they selected the term *vegan* because:

- It's descriptive and accurate
- It's a familiar term that is already known and understood
- It highlights that the product is good for animals
- Veganism is a part of their own identity
- It's generally appealing

The least commonly chosen term was *bio*. Of the participants who selected this term (7%,  $n = 35$ ), reported reasons for doing so included that *bio*:

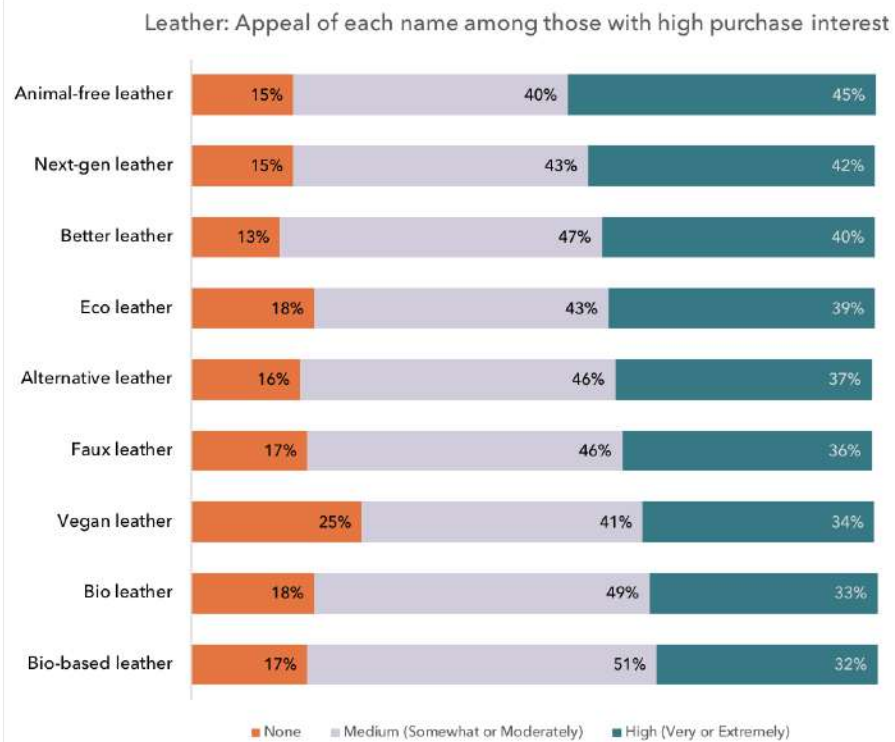
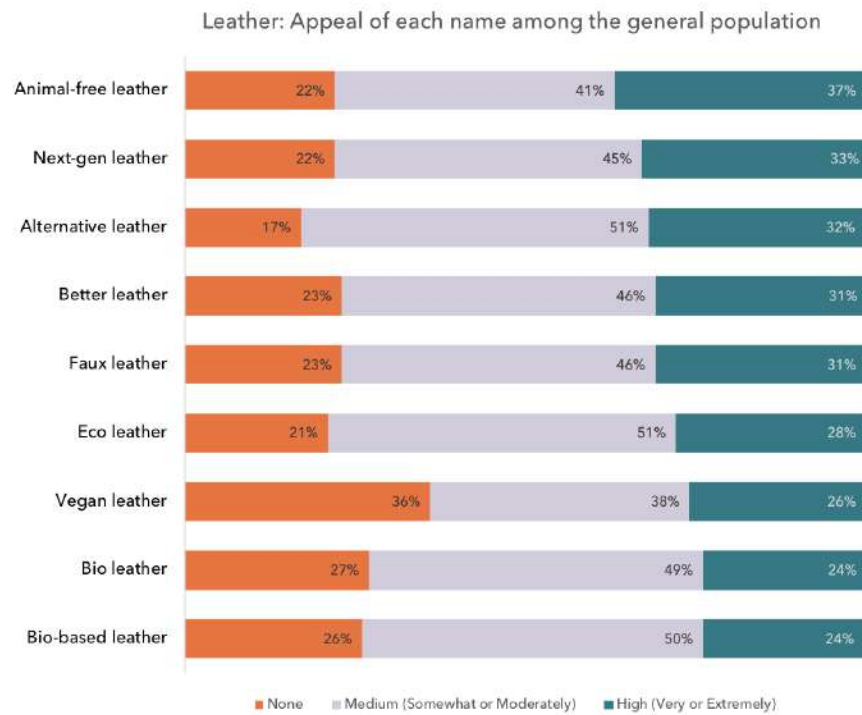
- Sounds appealing - it is short, understandable, catchy, and easy to remember
- Is descriptive
- Shows that the product is good for the environment, e.g., natural, biodegradable
- Is related to biology

## Nomenclature: Sub-categories

Following the overall category assessments, we asked participants to provide appeal ratings for each of six sub-categories: leather, silk, fur, wool, down, and crocodile skin. For each sub-category, participants assessed the seven overall category names, plus *faux*, and up to 2 additional names specific to that sub-category.

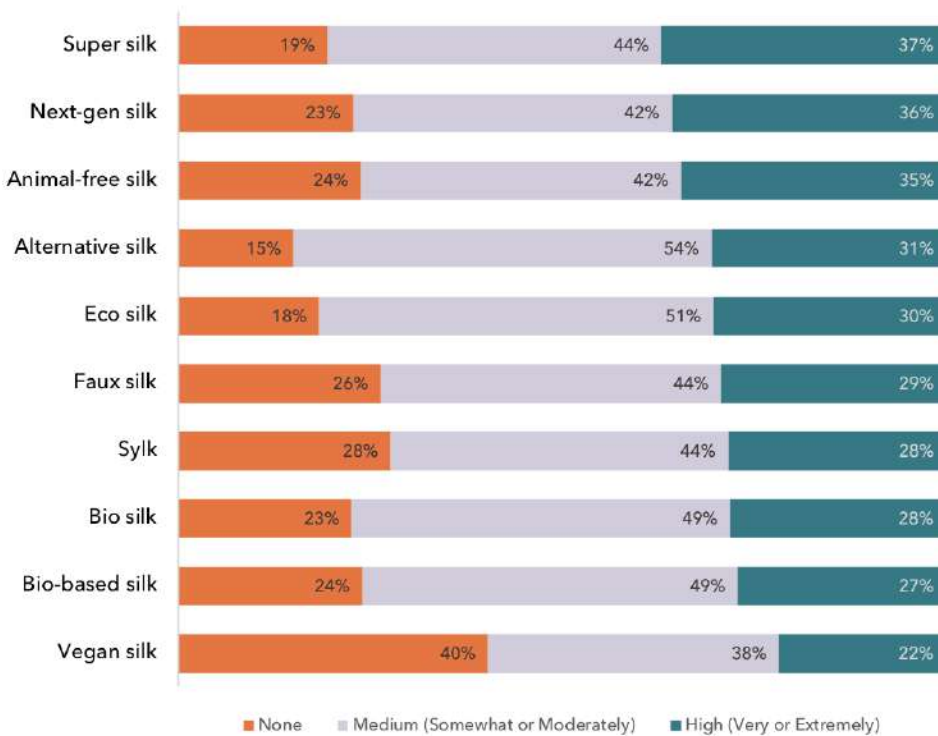
The purpose of this portion of the assessment was to assess whether the top names in the overall category (*next-gen*, *animal-free*, and *eco*) also fit as nomenclature for the six sub-categories of animal-replacement materials. Across the six subcategories, we found a general pattern of the names *next-gen* and *animal-free* remained among the top in terms of appeal, while the name *eco* tended to be less appealing for the sub-categories. Specific findings for each category can be found in the charts below, reported for both the general population and the high purchase interest segment.

## Leather: Appeal

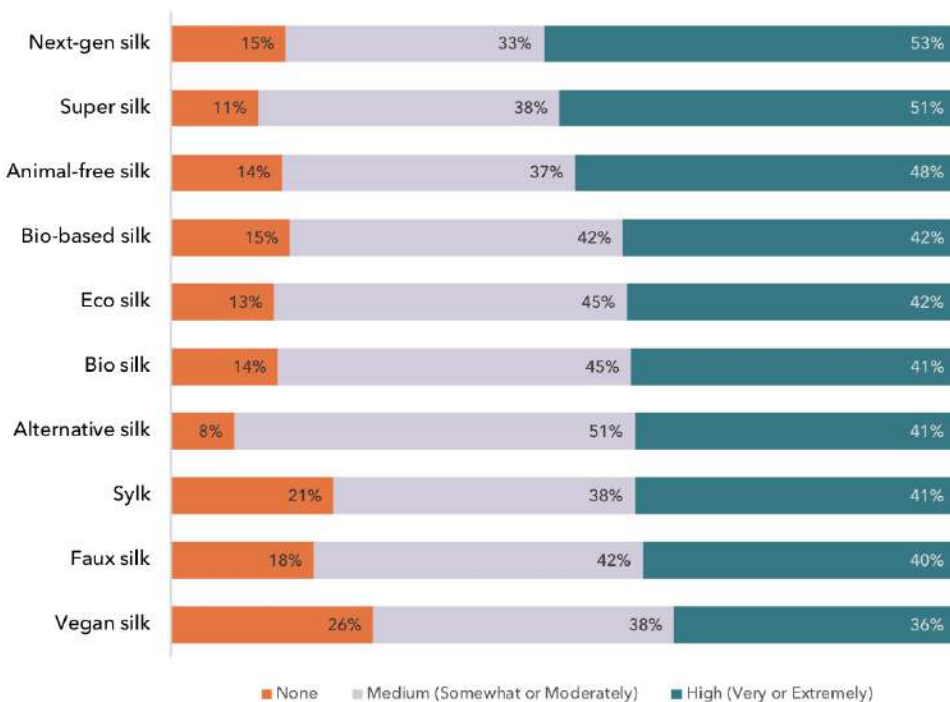


## Silk: Appeal

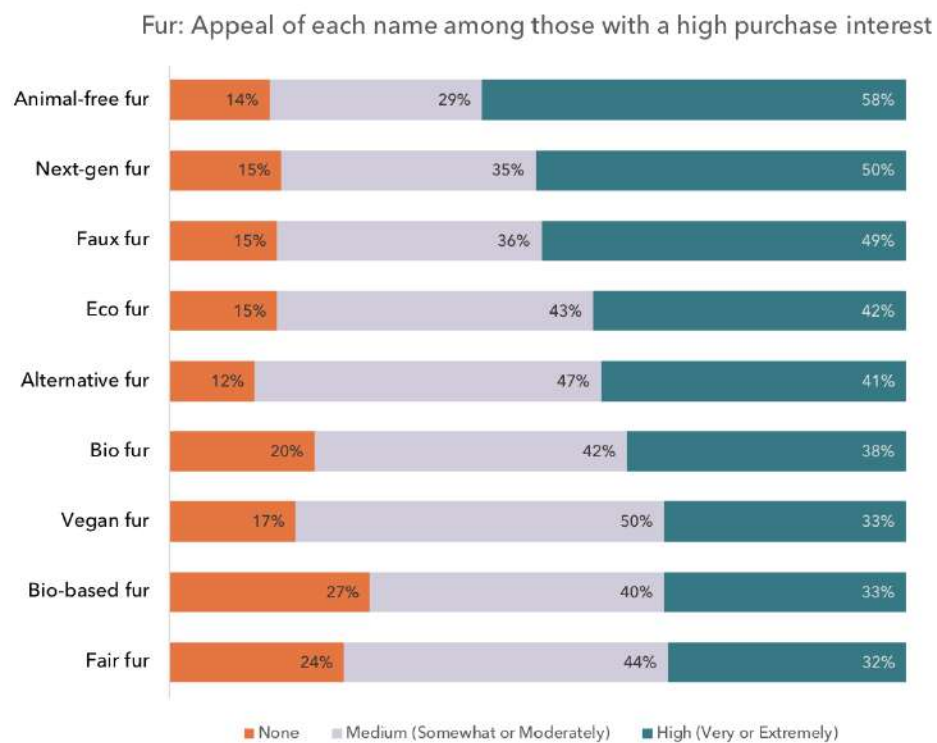
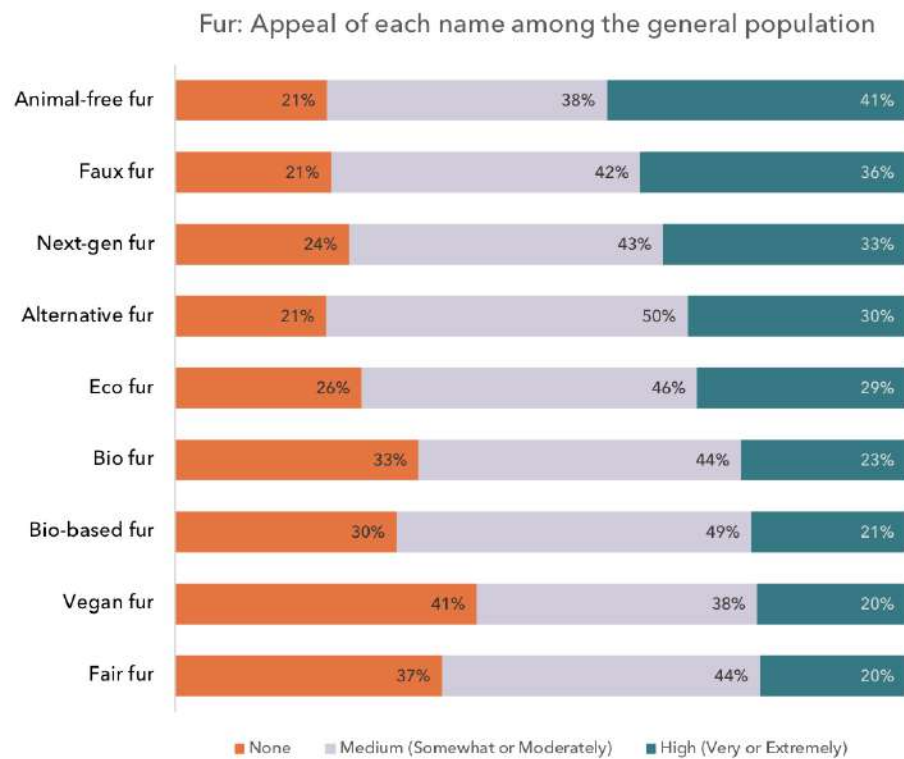
Silk: Appeal of each name among the general population



Silk: Appeal of each name among those with a high purchase interest

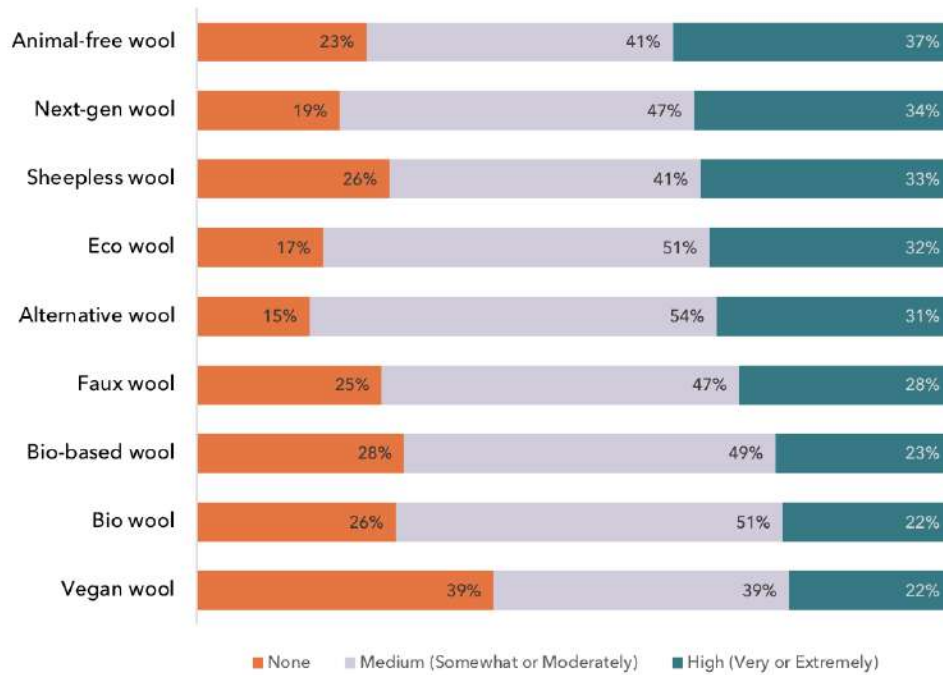


## Fur: Appeal

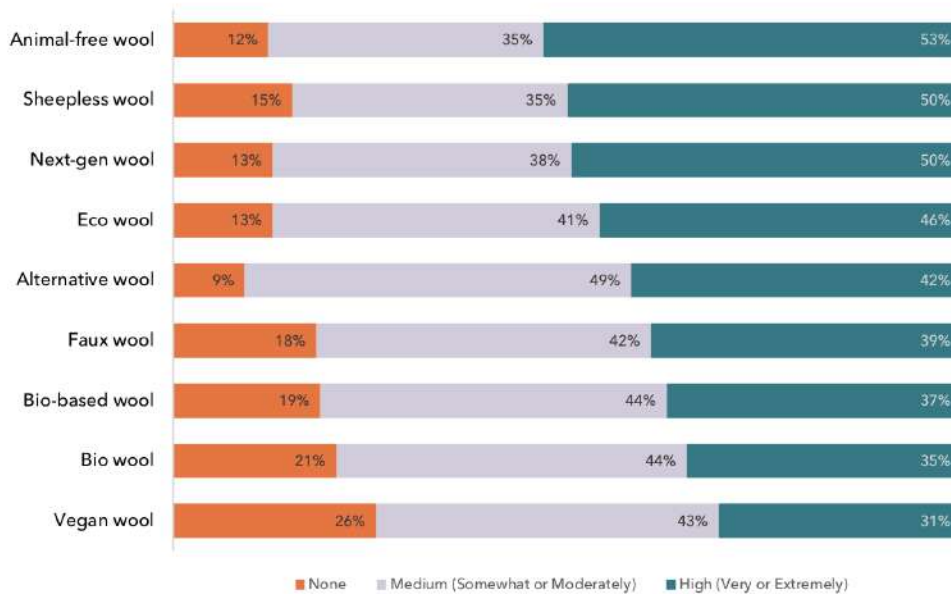


## Wool: Appeal

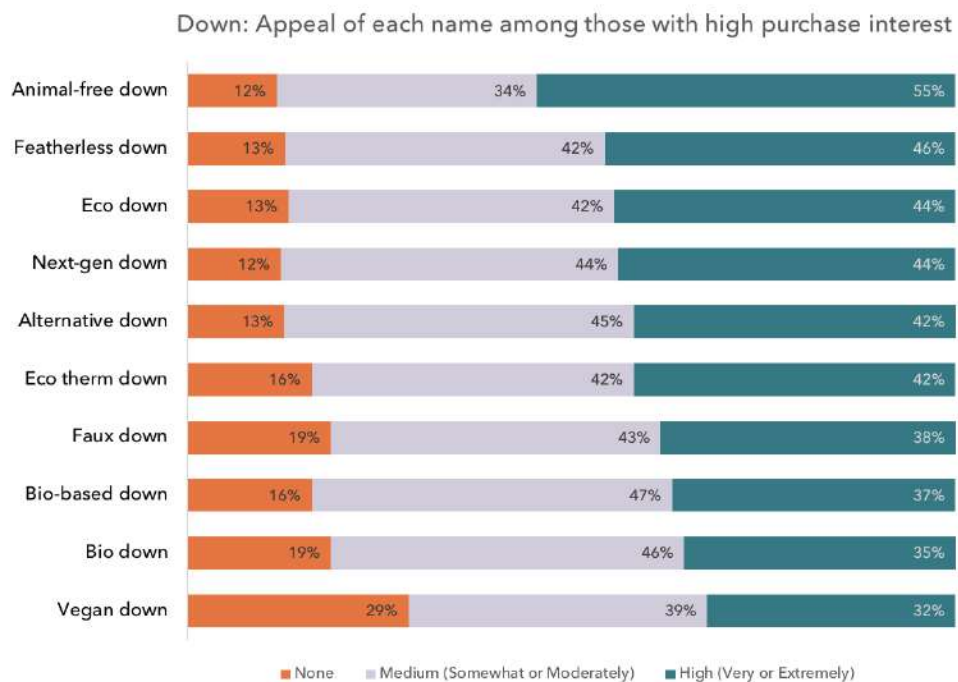
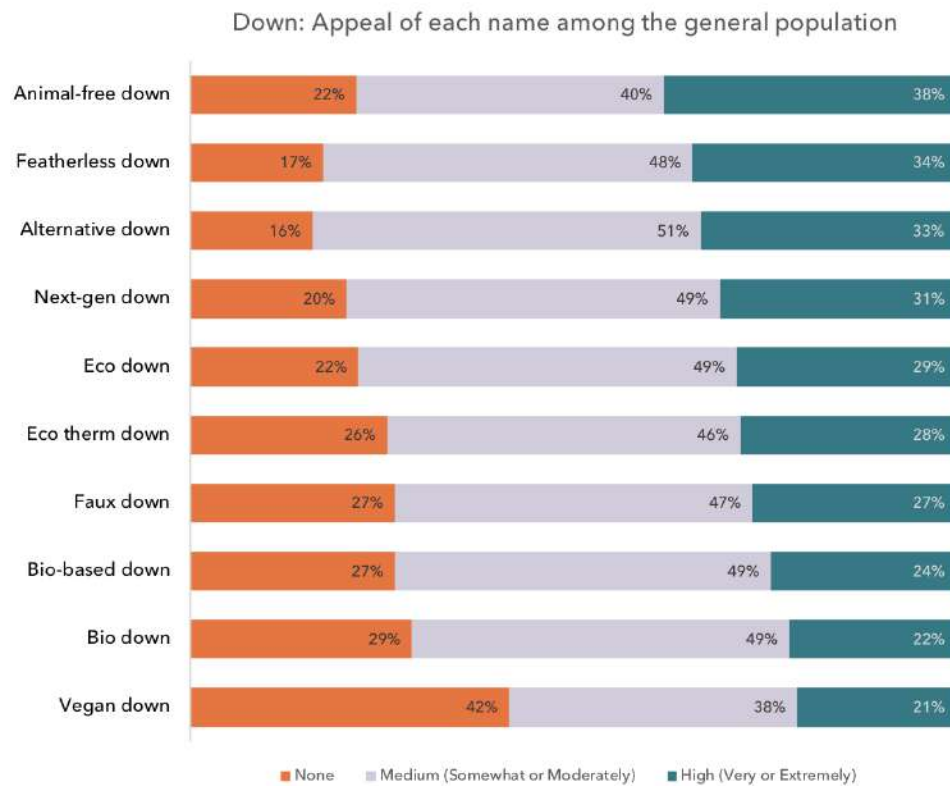
Wool: Appeal of each name among the general population



Wool: Appeal of each name among those with a high purchase interest

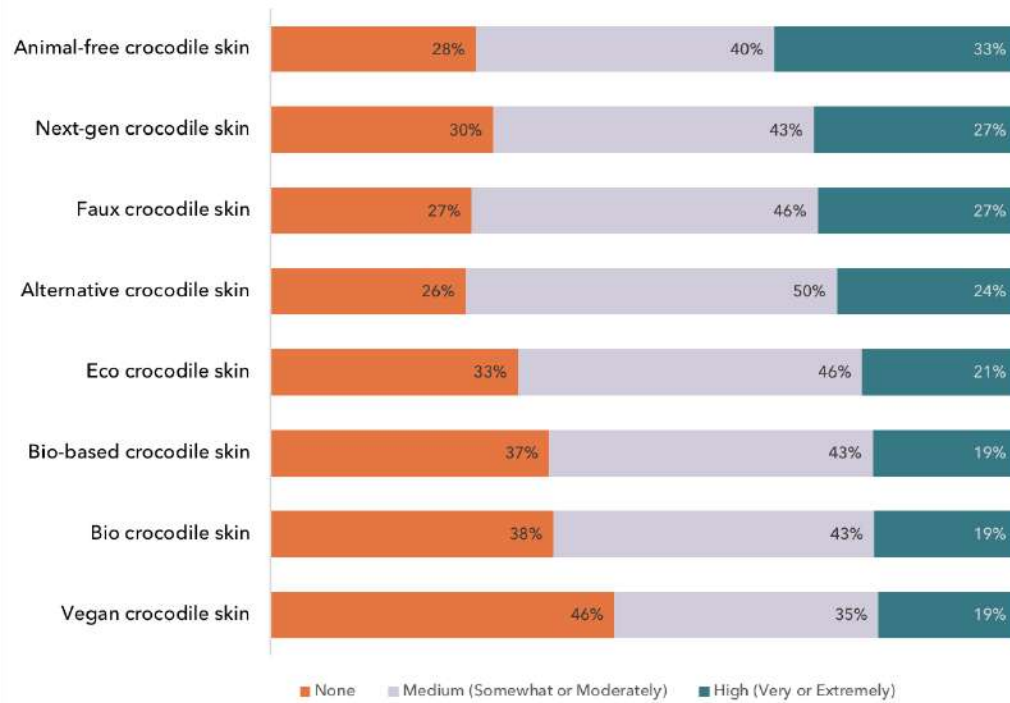


## Down: Appeal

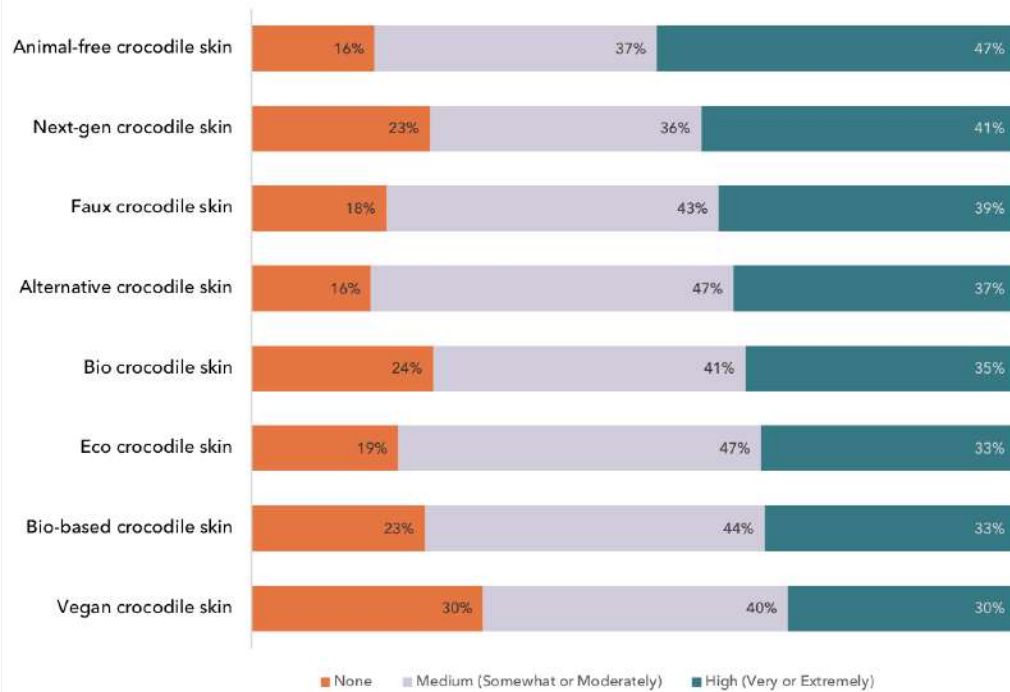


## Crocodile Skin: Appeal

Crocodile skin: Appeal of each name among the general population



Crocodile skin: Appeal of each name among those with high purchase interest





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## Conclusion

In this study, we assessed nomenclature choices for a new category of materials with high performance, sustainable, and animal-free characteristics. For the overall category, we found that consumers selected the terms *next-gen*, *animal-free*, and *eco* as their top choices. The same three terms were also most appealing, but differed in the order: *eco*, *animal-free*, and *next-gen*. For descriptiveness, *animal-free*, *eco*, and *vegan* were highest. For the six sub-categories of animal-replacement materials, the names *next-gen* and *animal-free* were consistently among the top in appeal. Overall, we found *next-gen* and *animal-free* to be most suitable from an appeal standpoint, while *animal-free* stood out as both appealing and descriptive. However, from a purely consumer-focused perspective, *next-gen* was overall preferred: about 1 out of 3 consumers preferred the term *next-gen* and 1 out of 5 preferred the term *animal-free*. These findings were generally consistent for both the general population and the high purchase interest segment.

An additional criterion to consider is differentiation, or whether the term effectively differentiates these new materials from other material types. As participants' open-ended responses indicate, the term *next-gen* cues innovation, and may better describe a new category of materials which has multiple characteristics (i.e., sustainable, animal-free, and high performance). In contrast, the term *eco* emphasizes the material's attribute as being environmentally-friendly, though not necessarily high performance or vegan, and *animal-free* highlights the vegan aspects of the product, though not necessarily its high performance or environmentally-friendliness. Considering this study's findings and each term's differentiation potential, we recommend *next-gen* as an overarching, consumer-friendly category term, which can be used in conjunction with product- and technology-specific names.

However, nomenclature choices should be highly context-dependent. The relative importance of each of these criteria (appeal, descriptiveness, preference, differentiation, and suitability for sub-categories) will need to be weighed in order to determine appropriate nomenclature in each context.

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## About North Mountain Consulting Group

North Mountain Consulting Group is a research and communication consulting firm that helps organizations develop evidence-based strategies for a sustainable food future. Our team of researchers combines the integrity and rigor of social science research methods with communication expertise to develop effective communication strategies. We specialize in understanding and influencing the consumer landscapes of emerging technologies.

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## Funding

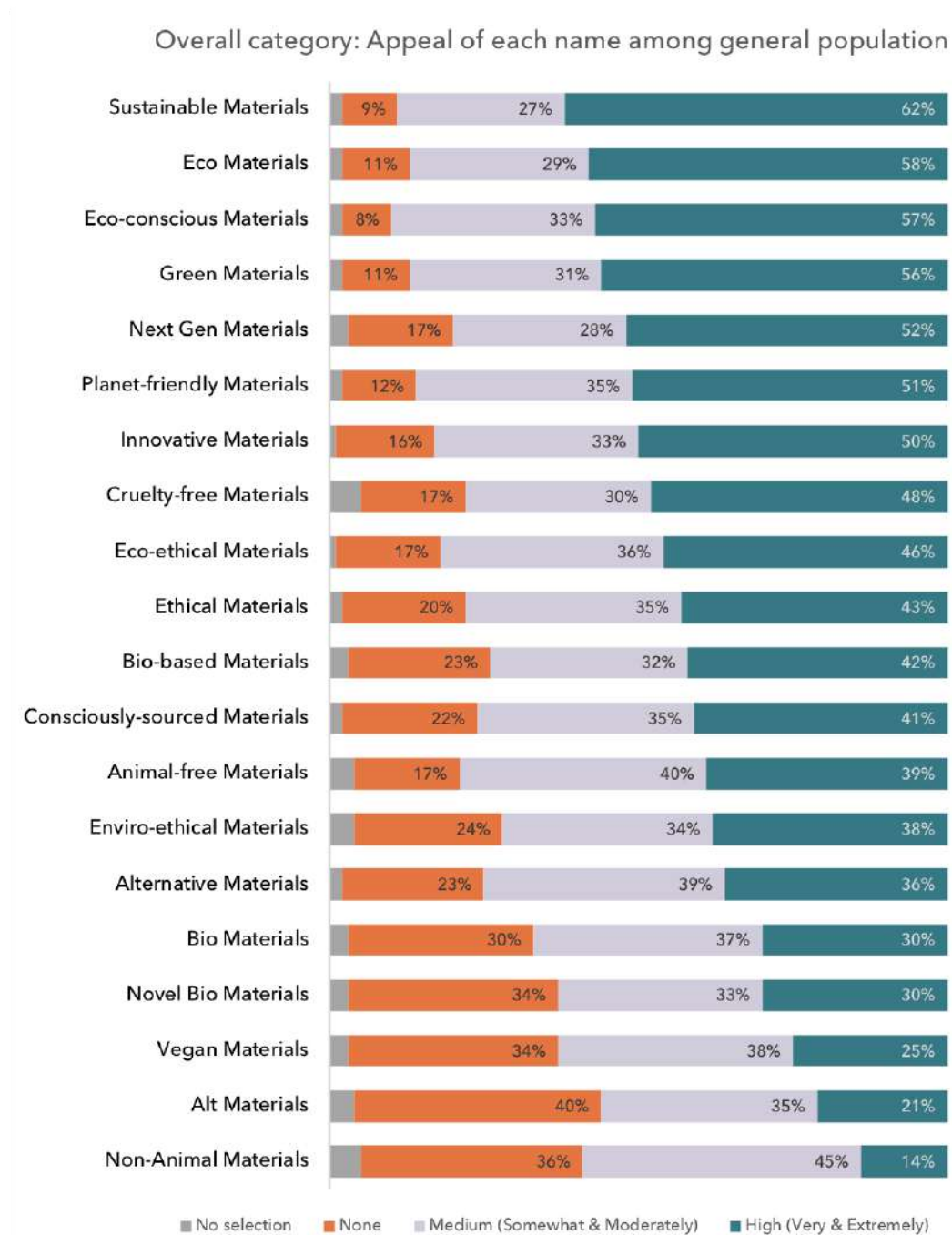
This project was funded by a generous grant from Animal Charity Evaluators' [Animal Advocacy Research Fund](#).

## Appendix A: Brief Technology Description

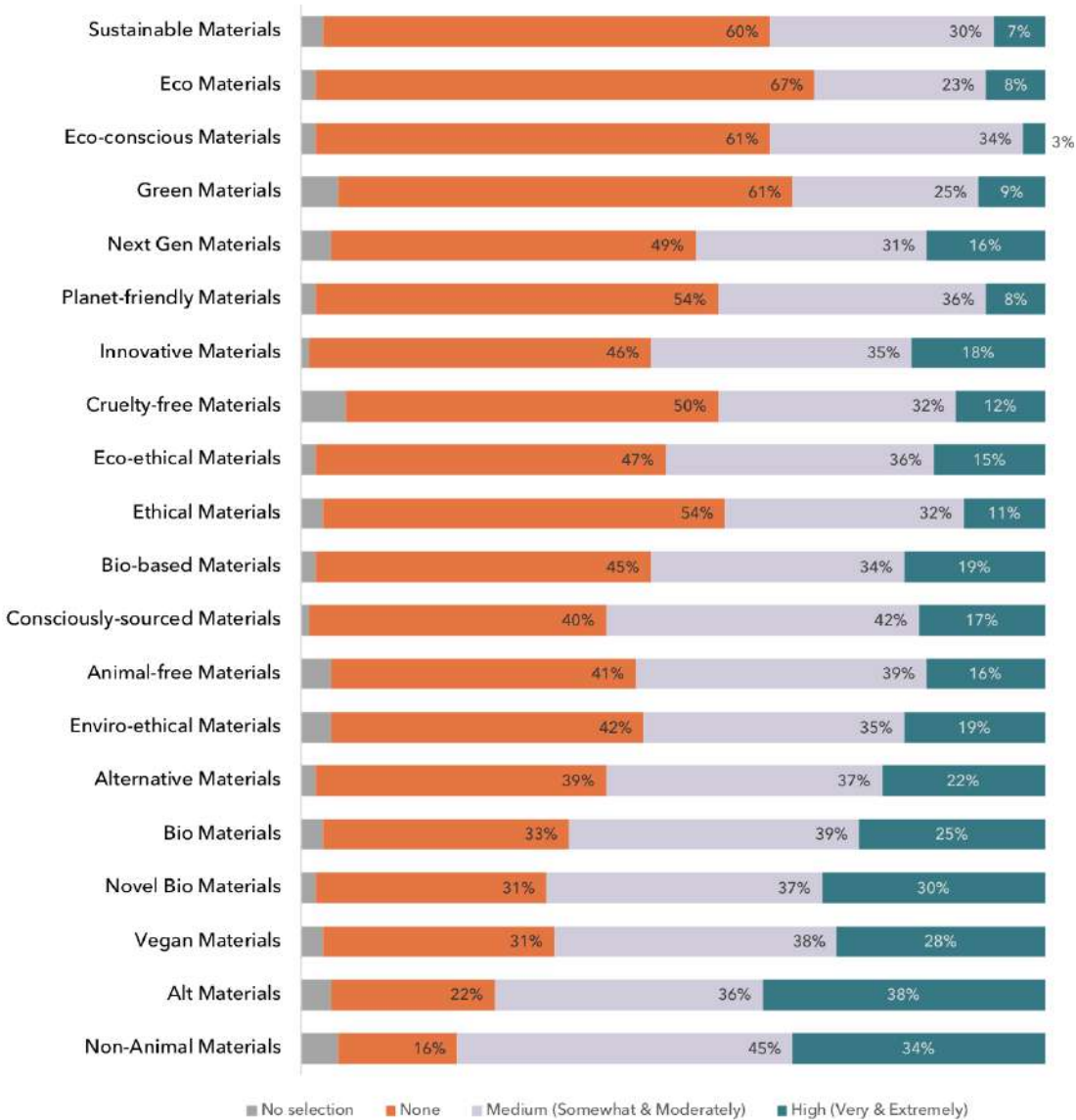
Brief Technology Description
<p>In the last few years, rapid advances in science and technology have given rise to a new materials industry.</p> <p>Mission-driven companies are designing new types of materials for fashion, automobile, and homegoods products.</p> <p>These materials can be used to make high-performance products such as:</p> <ul style="list-style-type: none"><li>● beautiful and durable handbags, wallets, sweaters, and shoes</li><li>● soft and functional sofa, chair, and automobile upholstery</li><li>● warm jackets and comforters</li></ul> <p>These materials are made using a variety of technologies:</p> <ul style="list-style-type: none"><li>● Leather, wool, fur, and down can be replicated by using natural components from plants, algae, and fungi</li><li>● Leather and silk can be grown directly from cells, bypassing the animal but resulting in an identical product</li></ul> <p>Although made in different ways, these materials are all:</p> <ul style="list-style-type: none"><li>● High performance</li><li>● More sustainable</li><li>● Animal-free</li></ul>

## Appendix B: Phase 1 Results

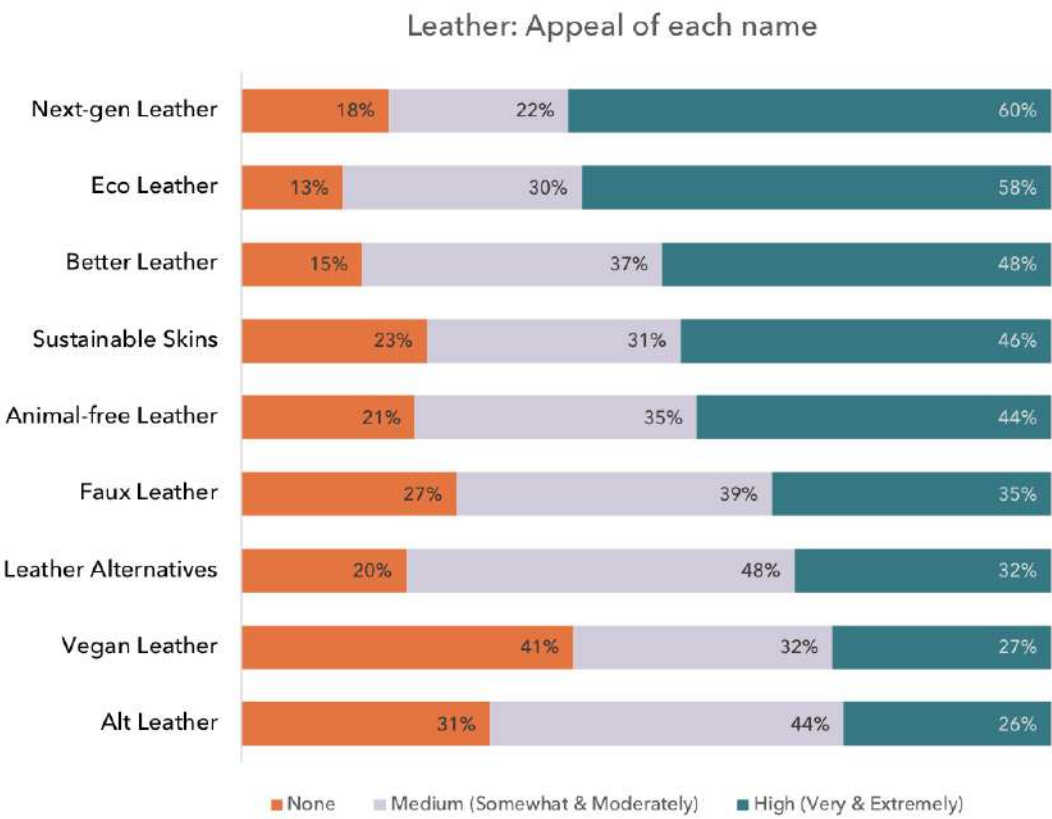
### Phase 1 Results: Overall Category



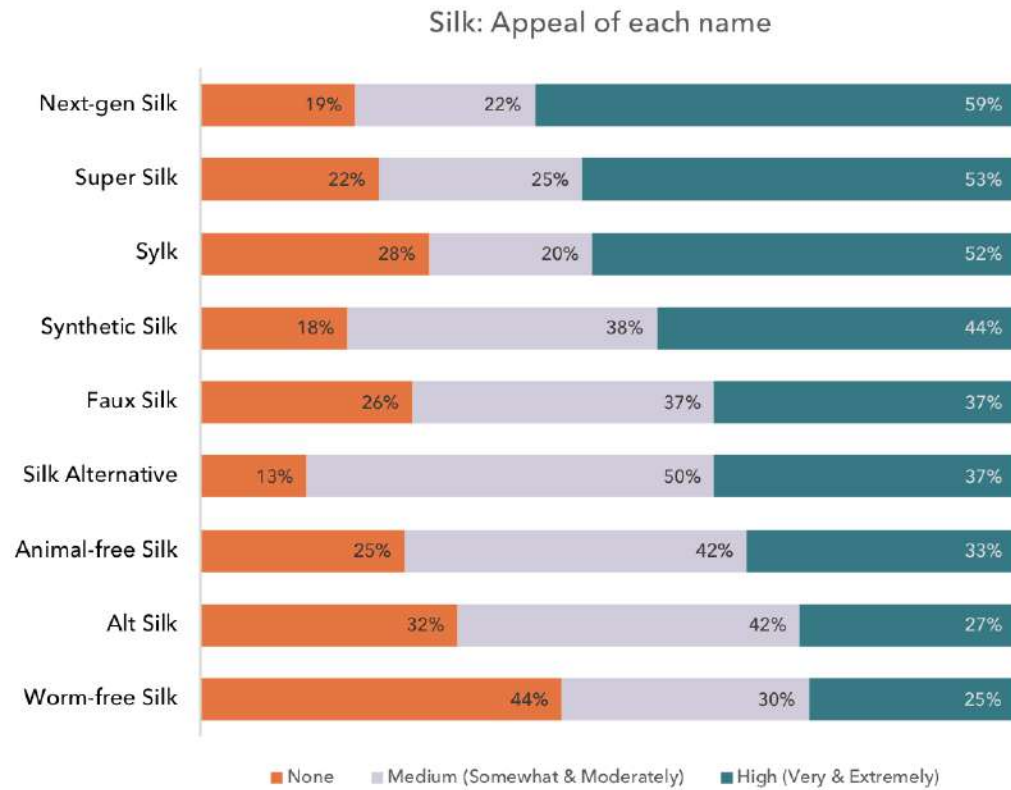
Overall category: Appeal of each name among those with a high purchase interest



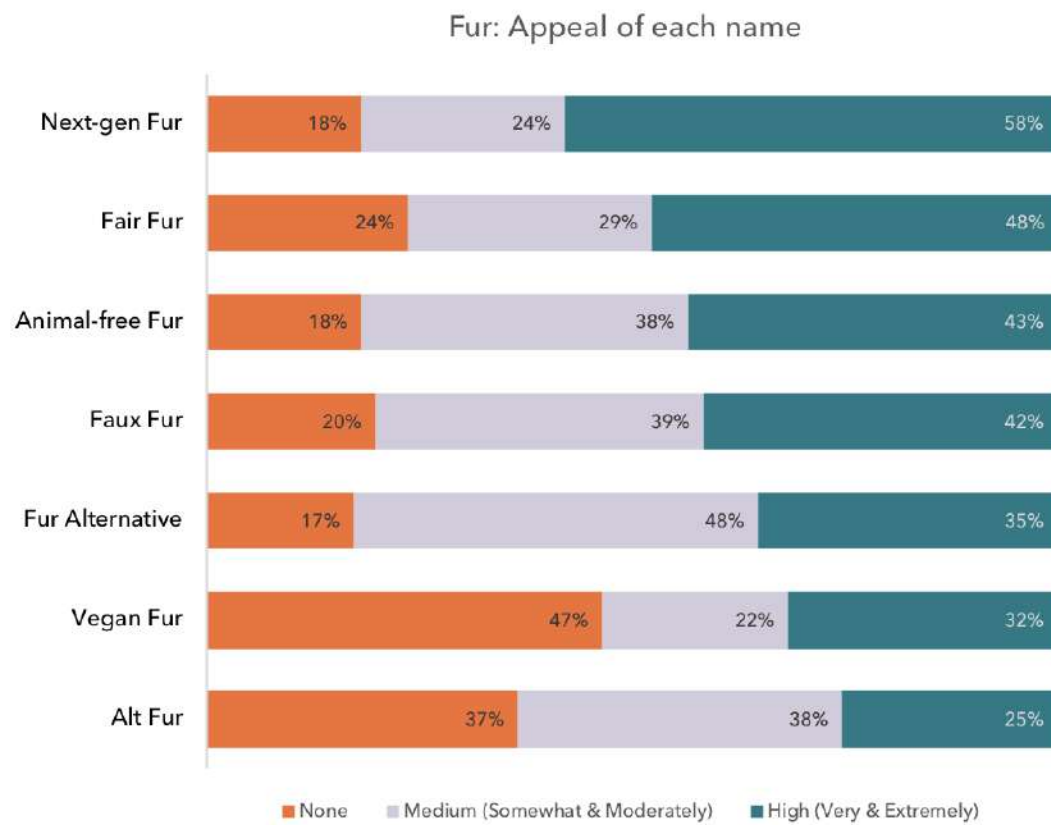
Phase 1 Results: Leather



## Phase 1 Results: Silk

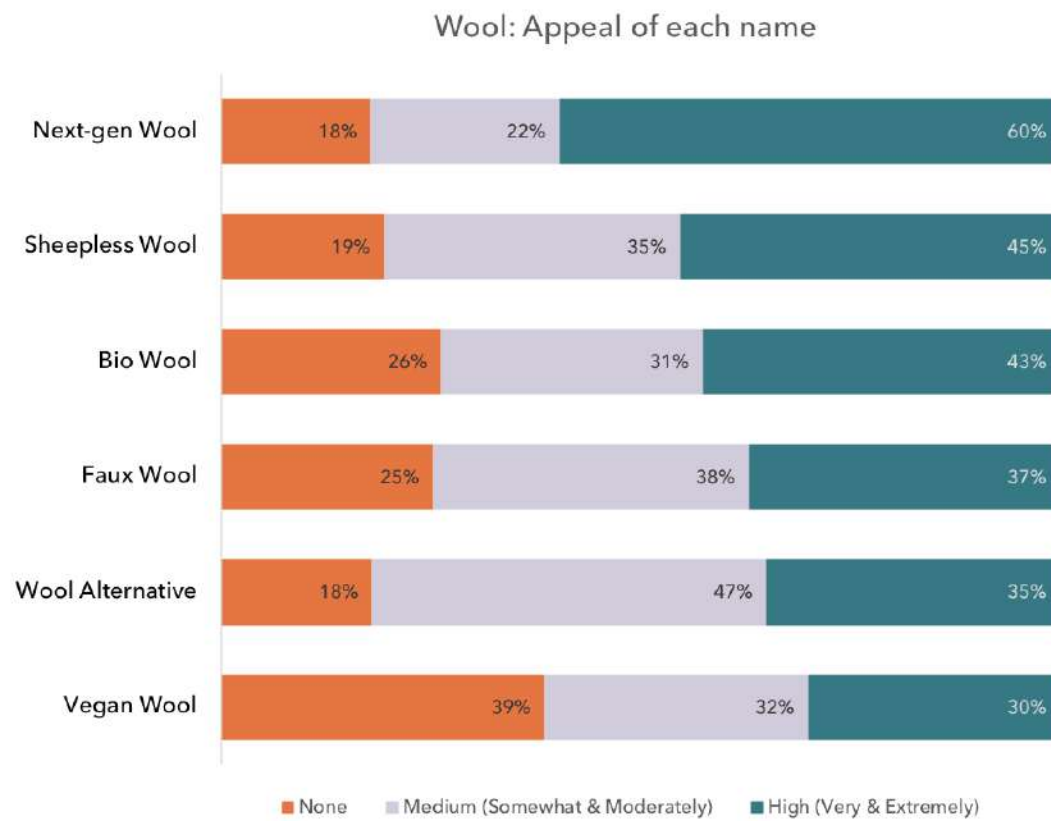


## Phase 1 Results: Fur

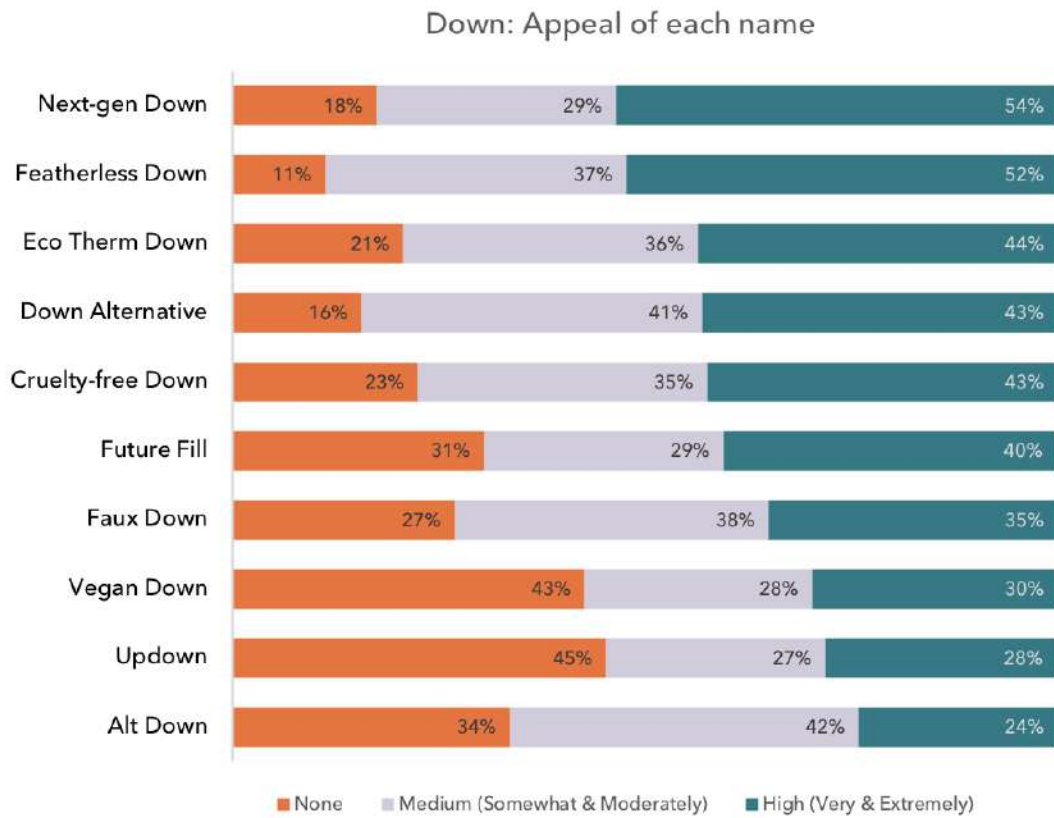




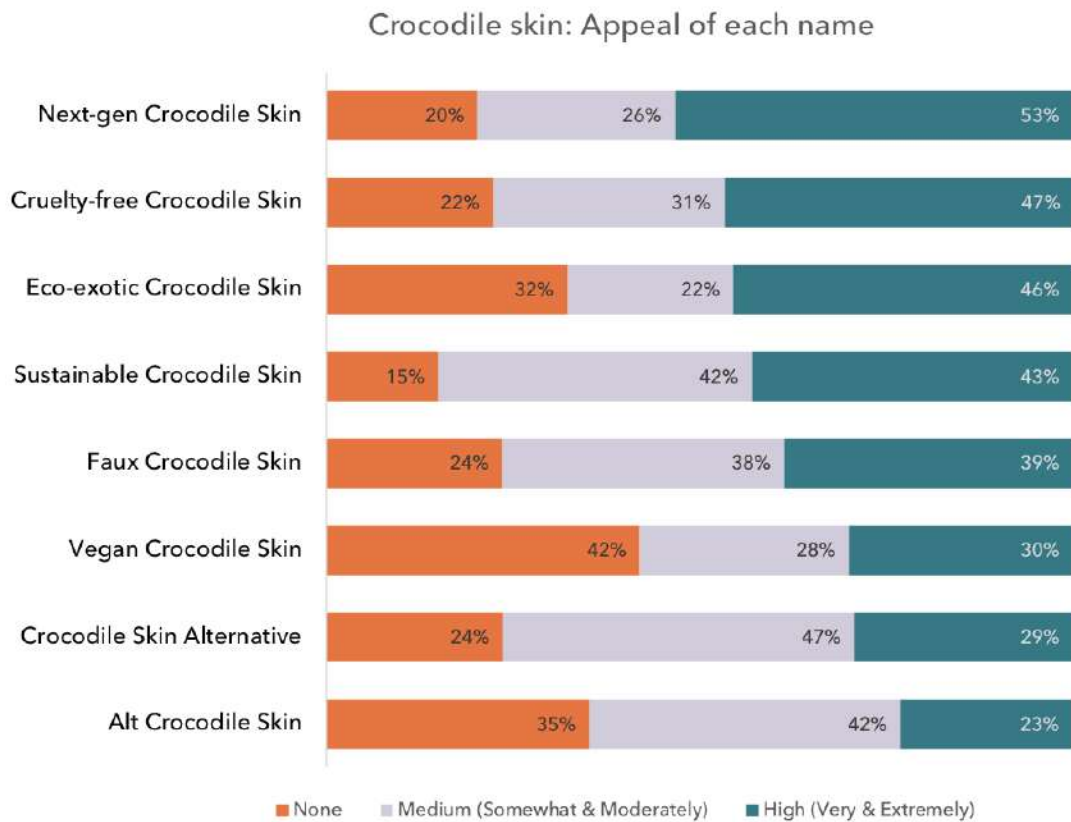
## Phase 1 Results: Wool



## Phase 1 Results: Down



## Phase 1 Results: Crocodile skin



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## Appendix C: Sociodemographic Tables

### Gender Identity

	Sample	Sampling Goal Based On U.S. Census
Male	46%	49%
Female	52%	51%
Non-binary	1%	-
Other	0%	-

Note: The sample had a slight underrepresentation of males.

### Generation

	Sample	Sampling Goal Based On U.S. Census
Generation Z (15-24)	16%	17%
Millennials (25-39)	28%	28%
Generation X (40-54)	24%	25%
Baby boomers (55-74)	25%	30%
Silents (75+)	7%	-

Note: Participants were recruited to match the U.S. population age 15-74 in ranges each spanning four years. In the survey, 7% of participants reported their age as being in the Silent generation, which differed from their associated age data (Baby Boomer) in the panel.

### Geographic Region

	Sample	Sampling Goal Based On U.S. Census
Northeast	24%	17%
Midwest	24%	21%
South	27%	38%
West	25%	24%

Note: The sample had underrepresentation from the Southern region and overrepresentation from the Northeastern region.

**Race/Ethnicity**

U.S. Racial/Ethnic Categories	%
Hispanic, Latino, or Spanish	7%
White or Caucasian	80%
Black or African American	10%
American Indian or Alaskan Native	2%
Asian	6%
Middle Eastern or North African	0%
Native Hawaiian or Other Pacific Islander	1%
Other	1%
Prefer not to say	0%

Note: The sample was representative of race, but not of ethnicity (19% of the population is Hispanic/Latino).

**Education**

	%
Primary school	0%
Some high school	6%
Completed high school	26%
Technical qualification or trade certificate	12%
College/Undergraduate degree	39%
Postgraduate degree	16%
Prefer not to answer	0%

**Annual Income**

	%
Less than \$20,000	16%
\$20,000 to \$39,999	15%
\$40,000 to \$59,999	18%
\$60,000 to \$79,999	15%
\$80,000 to \$99,999	10%
\$100,000 or more	22%
Prefer not to answer	4%

**Political Orientation**

	%
Very conservative	11%
Conservative	17%
Moderate	39%
Liberal	15%
Very liberal	12%
Prefer not to answer	6%

## Appendix D: Appeal and Descriptiveness Assessments of Category Names

General Population: Average Appeal and Descriptiveness Ratings of Each Category Name

	Preference	Descriptive	Appeal						
	Category	Category	Category	Leather	Silk	Fur	Wool	Down	Crocodile skin
	% Selected	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Next-gen materials	28%	2.86	3.03	2.83	2.81	2.76	2.85	2.81	2.58
Animal-free materials	21%	3.45	3.16	2.86	2.82	3.01	2.9	2.91	2.74
Eco materials	17%	2.97	3.28	2.73	2.78	2.65	2.85	2.7	2.39
Alternative materials	13%	2.99	2.94	2.84	2.86	2.74	2.84	2.88	2.58
Bio-based materials	9%	3.06	2.89	2.54	2.63	2.41	2.52	2.51	2.29
Vegan materials	5%	2.99	2.6	2.47	2.32	2.28	2.32	2.25	2.13
Bio materials	7%	2.97	2.85	2.51	2.66	2.41	2.49	2.43	2.27

High Purchase Interest Group: Mean Appeal and Descriptiveness Ratings of Each Category Name

	Preference	Descriptive	Appeal						
	Category	Category	Category	Leather	Silk	Fur	Wool	Down	Crocodile skin
	% Selected	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Next-gen materials	31%	3.29	3.55	3.11	3.25	3.25	3.28	3.21	2.94
Animal-free materials	19%	3.9	3.66	3.14	3.3	3.46	3.38	3.42	3.26
Eco materials	17%	3.43	3.79	3.02	3.15	3.12	3.2	3.19	2.88
Alternative materials	10%	3.48	3.51	3.02	3.18	3.1	3.15	3.14	3.01
Bio-based materials	12%	3.44	3.43	2.92	3.08	2.85	2.96	2.93	2.77
Vegan materials	5%	3.39	3.2	2.77	2.86	2.74	2.73	2.7	2.61
Bio materials	7%	3.43	3.45	2.87	3.12	2.94	2.86	2.89	2.79

General Population: Percentage of Respondents Rating Names as Highly Appealing or Highly Descriptive

	Preference	Descriptive	Appeal						
	Category	Category	Category	Leather	Silk	Fur	Wool	Down	Crocodile skin
	% Selected	% High	% High	% High	% High	% High	% High	% High	% High
Next-gen materials	28%	32%	38%	33%	36%	33%	34%	31%	27%
Animal-free materials	21%	55%	44%	37%	35%	41%	37%	38%	33%
Eco materials	17%	42%	46%	28%	30%	29%	32%	29%	21%
Alternative materials	13%	36%	35%	32%	31%	30%	31%	33%	24%
Bio-based materials	9%	36%	33%	24%	27%	21%	23%	24%	19%
Vegan materials	5%	37%	28%	26%	22%	20%	22%	21%	19%
Bio materials	7%	31%	33%	24%	28%	23%	22%	22%	19%

High Purchase Interest Group: Percentage of Respondents Rating Names as Highly Appealing or Highly Descriptive

	Preference	Descriptive	Appeal						
	Category	Category	Category	Leather	Silk	Fur	Wool	Down	Crocodile skin
	% Selected	% High	% High	% High	% High	% High	% High	% High	% High
Next-gen materials	31%	51%	58%	42%	53%	50%	50%	44%	41%
Animal-free materials	19%	65%	61%	45%	48%	58%	53%	55%	47%
Eco materials	17%	54%	67%	39%	42%	42%	46%	44%	33%
Alternative materials	10%	53%	58%	37%	41%	41%	42%	42%	37%
Bio-based materials	12%	54%	51%	32%	42%	33%	37%	37%	33%
Vegan materials	5%	72%	44%	34%	36%	33%	31%	32%	30%
Bio materials	7%	51%	55%	33%	41%	38%	35%	35%	35%