Analysis Report

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Frequency Tables

The table below presents demographic characteristics of participants, including gender, region, age, education level, employment status, location, income, household size, and number of children, along with preferences for beef steak attributes across different block selections. The majority of participants were females (56.9%), with a significant portion of the respondents being older than 45 years (63.6%). Most participants had higher education (52.3%) and were in full-time employment (38.9%), predominantly residing in urban areas (73.3%). The income distribution was varied, with the largest segment earning between $25,000 and $49,999 (24.3%). Households commonly consisted of two members (38.3%), and a significant portion of respondents preferred not to disclose the number of children (59.6%).

Category	Level	N	%
Gender	Female	679	56.9
	Male	515	43.1
Canada_Region	Atlantic Canada	100	8.4
	British Columbia	154	12.9
	Northern Canada	9	0.8
	Ontario	500	41.9
	Prairies	252	21.1
	Quebec	179	15.0
Age_Cat	15 – 30 years old	154	12.9
	30 – 45 years old	281	23.5
	45+	759	63.6
Education	Did not attend school	11	0.9
	Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	201	16.8
	Higher education (e.g., university degree or higher education diploma)	624	52.3
	Primary education	29	2.4
	Secondary education (e.g., high school)	329	27.6
Employment	Full-time employment	464	38.9
	Home-maker	50	4.2
	I prefer not to answer	11	0.9
	Part-time employment	122	10.2
	Retired	361	30.2
	Self-employed	72	6.0
	Student	34	2.8
	Unemployed	80	6.7
Location	I prefer not to answer	8	0.7
	Rural	311	26.0
	Urban	875	73.3
Income	$100,000 - $149,999	202	16.9
	$150,000 or more	98	8.2
	$25,000 - $49,999	290	24.3
	$50,000 - $74,999	219	18.3
	$75,000 - $99,999	194	16.2
	I prefer not to answer	38	3.2
	Less than $25,000	153	12.8
HH_size	1	277	23.2
	2	457	38.3
	3	218	18.3
	4	150	12.6
	I prefer not to answer	8	0.7

Category	Level	N	%
	More than 4	84	7.0
	1	307	25.7
	2	118	9.9
Num_Child	3	40	3.4
	I prefer not to answer	712	59.6
	More than 3	17	1.4

Regarding preferences for beef steak attributes, the choice experiments were divided into three blocks, each representing different combinations of animal welfare practices, hair type on the steak, breeding methods, and price points. Notably, preferences varied significantly across different configurations. For instance, in block 1, the choice set "CE_Steak1_1_4.1" with Ear Tag, Normal hair, GS breeding, and a price of 18 dollars saw the highest preference for Beef Steak 1 (66.8%), with a substantial proportion of respondents (21.2%) not preferring any of the products. Similarly, in block 3, the choice set "CE_Steak1_3_2.1" featuring Ear Tag, Slick hair, GS breeding, and an 18-dollar price had the highest preference for Beef Steak 1 (75.1%), indicating distinct patterns in consumer preferences based on the combination of attributes presented (table below).

Category	Animal_Welfare	Hair	Breeding	Price	Level	N	%
Block_selection.1					Block 1	397	33.2
					Block 2	399	33.4
					Block 3	398	33.3
CE_Steak1_1_1.1	Ear Tag	Slick	GS	20	Beef Steak 1	173	43.6
					Beef Steak 2	189	47.6
					None of these products	35	8.8
CE_Steak1_1_2.1	Ear Tag	Slick	GS	22	Beef Steak 1	68	17.1
					Beef Steak 2	304	76.6
					None of these products	25	6.3
CE_Steak1_1_3.1	Hot Branding	Slick	CB	18	Beef Steak 1	248	62.5
					Beef Steak 2	107	27.0
					None of these products	42	10.6
CE_Steak1_1_4.1	Ear Tag	Normal	GS	18	Beef Steak 1	265	66.8
					Beef Steak 2	48	12.1
					None of these products	84	21.2
CE_Steak1_1_5.1	Hot Branding	Slick	CB	22	Beef Steak 1	239	60.2
					Beef Steak 2	75	18.9
					None of these products	83	20.9
CE_Steak1_1_6.1	Hot Branding	Slick	CB	20	Beef Steak 1	213	53.7
					Beef Steak 2	125	31.5
					None of these products	59	14.9
CE_Steak1_1_7.1	Ear Tag	Normal	GS	22	Beef Steak 1	101	25.4
					Beef Steak 2	256	64.5
					None of these products	40	10.1
CE_Steak1_1_8.1	Hot Branding	Normal	GE	18	Beef Steak 1	156	39.3
					Beef Steak 2	105	26.4
					None of these products	136	34.3
CE_Steak1_2_1.1	Ear Tag	Slick	GS	22	Beef Steak 1	231	57.9
					Beef Steak 2	94	23.6

Category	Animal_Welfare	Hair	Breeding	Price	Level	N	%
					None of these products	74	18.5
					Beef Steak 1	149	37.3
CE_Steak1_2_2.1	Hot Branding	Normal	GS	22	Beef Steak 2	171	42.9
					None of these products	79	19.8
					Beef Steak 1	219	54.9
CE_Steak1_2_3.1	Hot Branding	Slick	GS	18	Beef Steak 2	59	14.8
					None of these products	121	30.3
					Beef Steak 1	44	11.0
CE_Steak1_2_4.1	Hot Branding	Slick	GE	24	Beef Steak 2	248	62.2
					None of these products	107	26.8
					Beef Steak 1	96	24.1
CE_Steak1_2_5.1	Hot Branding	Normal	GE	24	Beef Steak 2	150	37.6
					None of these products	153	38.3
					Beef Steak 1	150	37.6
CE_Steak1_2_6.1	Ear Tag	Slick	GE	18	Beef Steak 2	196	49.1
					None of these products	53	13.3
					Beef Steak 1	169	42.4
CE_Steak1_2_7.1	Hot Branding	Slick	CB	20	Beef Steak 2	131	32.8
					None of these products	99	24.8
					Beef Steak 1	60	15.0
CE_Steak1_2_8.1	Hot Branding	Slick	GE	20	Beef Steak 2	214	53.6
					None of these products	125	31.3
					Beef Steak 1	50	12.6
CE_Steak1_3_1.1	Hot Branding	Slick	CB	22	Beef Steak 2	284	71.4
					None of these products	64	16.1
					Beef Steak 1	299	75.1
CE_Steak1_3_2.1	Ear Tag	Slick	GS	18	Beef Steak 2	39	9.8
					None of these products	60	15.1
					Beef Steak 1	294	73.9
CE_Steak1_3_3.1	Hot Branding	Slick	CB	18	Beef Steak 2	47	11.8
					None of these products	57	14.3
					Beef Steak 1	178	44.7
CE_Steak1_3_4.1	Hot Branding	Normal	GE	18	Beef Steak 2	152	38.2
					None of these products	68	17.1
					Beef Steak 1	232	58.3
CE_Steak1_3_5.1	Ear Tag	Normal	GE	20	Beef Steak 2	61	15.3
					None of these products	105	26.4
					Beef Steak 1	35	8.8
CE_Steak1_3_6.1	Ear Tag	Slick	CB	24	Beef Steak 2	332	83.4
					None of these products	31	7.8
					Beef Steak 1	88	22.1
CE_Steak1_3_7.1	Ear Tag	Slick	GS	22	Beef Steak 2	265	66.6
					None of these products	45	11.3
					Beef Steak 1	139	34.9
CE_Steak1_3_8.1	Hot Branding	Normal	CB	20	Beef Steak 2	204	51.3
					None of these products	55	13.8

Concerns about heat stress on cattle due to climate change were also prominent, with 49.4% of participants being somewhat concerned and 19.7% being extremely concerned. This indicates a considerable level of worry about the impacts of climate change on animal welfare among the public.

When exploring what participants think animal welfare entails, a range of factors were identified as important, including suffering (47.2%), emotions (27.8%), happiness (37.9%), stress (43.8%), natural outdoor conditions (57.9%), and a clean environment (61.4%). These responses illustrate a comprehensive understanding of animal welfare, emphasizing both physical and emotional well-being.

Sources of information on animal welfare varied, with 31.2% of respondents receiving information from classic sources like radio, TV, and magazines, and a significant 43% indicating they don't usually receive information related to animal welfare. This suggests that while traditional media remains a vital source of information, there is a considerable portion of the population that may be uninformed about animal welfare issues.

Regarding the need for stricter legislation on animal welfare in Canada, 52.6% of respondents felt there was no need for any changes. This response could reflect satisfaction with the current state of animal welfare legislation or a lack of awareness of existing deficiencies (table below).

Category	Level	N	%
Have you heard of the slick coat trait in the gene edited cattle before	I know exactly what it is	54	4.5
	I've never heard about it	1140	95.5
What factors would influence your willingness to pay for the slick coat trait in the gene edited meat products Reducing methane emissions	Checked	340	28.5
	Unchecked	854	71.5
	Checked	611	51.2
	Unchecked	583	48.8
	Checked	718	60.1
	Unchecked	476	39.9
	Checked	141	11.8
	Unchecked	1053	88.2
How concerned are you about the heat stress on cattle due to climate change	Extremely concerned	235	19.7
	I prefer not to answer	19	1.6
	Not at all concerned	99	8.3
	Not very concerned	251	21.0
	Somewhat concerned	590	49.4
What do you think Animal Welfare means Suffering	Checked	563	47.2
	Unchecked	631	52.8
What do you think Animal Welfare means Emotions	Checked	332	27.8
	Unchecked	862	72.2
What do you think Animal Welfare means Happiness	Checked	453	37.9
	Unchecked	741	62.1
What do you think Animal Welfare means Stress	Checked	523	43.8
	Unchecked	671	56.2
What do you think Animal Welfare means Natural outdoor conditions	Checked	691	57.9
	Unchecked	503	42.1
What do you think Animal Welfare means Housing clean environment healthy	Checked	733	61.4
	Unchecked	461	38.6
What do you think Animal Welfare means Behaviour	Checked	345	28.9
	Unchecked	849	71.1

Category	Level	N	%
What do you think Animal Welfare means Health medical treatments	Checked	702	58.8
	Unchecked	492	41.2
What do you think Animal Welfare means Feeding concentrate	Checked	519	43.5
	Unchecked	675	56.5
What do you think Animal Welfare means I prefer not to answer	Checked	22	1.8
	Unchecked	1172	98.2
From which sources do you normally receive information related to animal welfare Classic sources radio TV magazines	Checked	373	31.2
	Unchecked	821	68.8
From which sources do you normally receive information related to animal welfare Family friends	Checked	225	18.8
	Unchecked	969	81.2
From which sources do you normally receive information related to animal welfare Scientific sources conferences professional publication	Checked	193	16.2
	Unchecked	1001	83.8
From which sources do you normally receive information related to animal welfare Company food company website food label	Checked	225	18.8
	Unchecked	969	81.2
From which sources do you normally receive information related to animal welfare Government institution websites	Checked	207	17.3
	Unchecked	987	82.7
From which sources do you normally receive information related to animal welfare I don’t usually receive information related to animal welfare	Checked	513	43.0
	Unchecked	681	57.0
From which sources do you normally receive information related to animal welfare I prefer not to answer	Checked	15	1.3
	Unchecked	1179	98.7
Please indicate three aspects related to animal welfare in which you think the legislation of Canada would need to be more strict if any None nothing	Checked	628	52.6
	Unchecked	566	47.4

Descriptive Tables

This section presents the results of descriptive analysis on continuous variables.

The mean score for how well-informed individuals feel about animal welfare is 4.428 with a standard error of the mean (SEM) of 0.071 and a standard deviation (SD) of 2.444. This suggests that, on average, respondents consider themselves moderately informed about animal welfare, though there is considerable variability in their responses.

Regarding the perceived level of animal welfare in Canada, the mean score is 6.029, with an SEM of 0.059 and an SD of 2.019. This indicates that respondents generally view the level of animal welfare in Canada positively, but again, perceptions vary significantly among individuals.

When asked about the importance of product labeling for purchasing gene-edited products, respondents indicated a high level of importance, with a mean score of 6.919, an SEM of 0.085, and an SD of 2.895. This response underscores the critical role that transparent labeling plays in consumer decision-making processes, particularly concerning gene-edited products.

The mean score for how informed respondents believe citizens are about animal welfare issues is 4.116, with an SEM of 0.073 and an SD of 2.519. This suggests that respondents perceive a moderate level of public awareness regarding animal welfare, highlighting a potential gap in knowledge and the need for enhanced educational efforts.

Variable	Mean	SEM	SD
In your opinion how well informed are you about animal welfare	4.428	0.071	2.444
In general terms you think that the level of animal welfare in Canada is	6.029	0.059	2.019
You think that the information you receive about animal welfare is	4.716	0.076	2.609
Is product labeling importanttoyou to buy geneedited products	6.919	0.085	2.895
In general terms how much informed do you think the citizens of your country are about animal welfare issues	4.116	0.073	2.519

Conditional Logit Model

This section presents the results of the modelling phase.

Fixed Effects Model

The analysis was performed using R version 4.3.2 and the *mlogit* package, tailored for discrete choice modeling. To fit the requirements of the *mlogit* package, the dataset was transformed into a long-format structure, with each row representing an alternative within the choice sets presented to respondents. The reshaped dataset comprised 19,104 observations, reflecting the choices made by 1,194 individuals across eight distinct choice situations.

The conditional logit model estimated the effects of several attributes on participants' choices, with price serving as a critical reference for calculating WTP values for the other attributes. The log-likelihood for the model was -4734.1, indicating the fit of the model to the observed choices. Additional statistics reinforced the good fit, $\chi^2 = 1278.083$, $p < 0.001$, Pseudo $R^2 = 0.119$ (Mcfadden's). WTP was computed using the Beta method, which involves dividing the beta coefficients of the attributes by the beta coefficient of the price. This calculation provides a monetary value representing the amount consumers are willing to pay for a unit increase in the attribute while holding other factors constant.

The model yielded significant findings for several attributes (table below). The beta coefficient for Animal Welfare Hot Branding was 0.606, with a standard error of 0.040, resulting in a z-value of 14.975 and a highly significant p-value, indicating a strong preference for hot branding animal welfare practices among consumers. The WTP for this attribute was estimated at -$1.19, suggesting that consumers are willing to pay this amount to avoid meat products from animals subjected to hot branding. The attribute HairSlick had a smaller, almost significant effect on choice, with a WTP of -$0.11. The BreedingGE (gene editing for enhanced traits) attribute had a beta coefficient of 1.112, a z-value of 23.178, and a significant p-value, with a WTP of -$2.19, indicating a high valuation of gene editing. Similarly, BreedingGS (gene selection) was valued negatively by consumers, with a WTP of -$0.79, compared to the reference category (CB)

Variable	Estimate	Std. Error	z-value	Pr(>|z|)	WTP
Animal_WelfareHot Branding	0.606	0.040	14.975	0.000	-$1.19
HairSlick	0.058	0.030	1.893	0.058	-$0.11
BreedingGE	1.112	0.048	23.178	0.000	-$2.19
BreedingGS	0.400	0.043	9.362	0.000	-$0.79
Price	0.508	0.012	42.468	0.000	

Fixed Effects Model with Interactions

A similar approach was employed here, but also adding interaction terms for all sociodemographic variables (dummy-coded). Log-likelihood for this model was -4707.5, a very low difference compared to the model without interactions. The model's robustness is evidenced by a Chi-Square value of 1331.2930 ($p < .001$), indicating a highly significant fit, and a McFadden's R-squared of 0.1239.

The table below shows the model coefficients.

Variable		B	SE	z-value	p
Fixed	Animal_WelfareHot Branding	-0.136	0.711	-0.191	0.849
	HairSlick	-0.087	0.555	-0.157	0.875
	BreedingGE	0.753	0.853	0.882	0.378
	BreedingGS	0.434	0.769	0.564	0.573
	Price	0.747	0.257	2.911	0.004
Gender	Price:Male	-0.170	0.024	-7.200	0.000
	HairSlick:Male	-0.023	0.064	-0.356	0.722
	BreedingGE:Male	-0.381	0.098	-3.877	0.000
	BreedingGS:Male	-0.125	0.089	-1.411	0.158
	Animal_WelfareEar.Tag:Male	-0.218	0.083	-2.619	0.009
Canada Region	Price:British Columbia	-0.132	0.061	-2.152	0.031
	Price:Northern Canada	-0.383	0.115	-3.322	0.001
	Price:Ontario	-0.144	0.054	-2.670	0.008
	Price:Prairies	-0.165	0.057	-2.880	0.004
	Price:Quebec	-0.176	0.058	-3.026	0.002
	HairSlick:British Columbia	0.077	0.140	0.548	0.584
	HairSlick:Northern Canada	0.229	0.351	0.652	0.514
	HairSlick:Ontario	0.098	0.119	0.821	0.412
	HairSlick:Prairies	0.115	0.130	0.884	0.377
	HairSlick:Quebec	0.076	0.135	0.567	0.571
	BreedingGE:British Columbia	-0.253	0.226	-1.118	0.263
	BreedingGS:British Columbia	-0.132	0.209	-0.629	0.529
	BreedingGE:Northern Canada	-0.518	0.523	-0.990	0.322
	BreedingGS:Northern Canada	-0.108	0.497	-0.217	0.828
	BreedingGE:Ontario	-0.254	0.193	-1.315	0.189
	BreedingGS:Ontario	-0.121	0.184	-0.660	0.509
	BreedingGE:Prairies	-0.231	0.209	-1.107	0.269
	BreedingGS:Prairies	-0.132	0.195	-0.677	0.498
	BreedingGE:Quebec	-0.409	0.215	-1.899	0.058
	BreedingGS:Quebec	-0.163	0.203	-0.804	0.422
	Animal_WelfareEar.Tag:British Columbia	0.017	0.187	0.088	0.930
	Animal_WelfareEar.Tag:Northern Canada	-0.038	0.440	-0.085	0.932
	Animal_WelfareEar.Tag:Ontario	0.026	0.158	0.164	0.869
	Animal_WelfareEar.Tag:Prairies	0.000	0.172	0.002	0.998
	Animal_WelfareEar.Tag:Quebec	-0.043	0.178	-0.243	0.808
Age Cat	Price:30 – 45 years old	0.170	0.034	4.929	0.000
	Price:45+	0.280	0.034	8.137	0.000
	HairSlick:30 – 45 years old	-0.016	0.110	-0.141	0.888
	HairSlick:45+	-0.001	0.106	-0.008	0.994
	BreedingGE:30 – 45 years old	0.390	0.162	2.406	0.016
	BreedingGS:30 – 45 years old	0.249	0.149	1.670	0.095
	BreedingGE:45+	0.614	0.157	3.911	0.000
	BreedingGS:45+	0.350	0.143	2.439	0.015
	Animal_WelfareEar.Tag:30 – 45 years old	0.241	0.138	1.744	0.081
	Animal_WelfareEar.Tag:45+	0.340	0.133	2.548	0.011
Education	Price:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	-0.400	0.215	-1.860	0.063
	Price:Higher (e.g., university degree or higher diploma)	-0.347	0.214	-1.622	0.105
	Price:Primary	-0.403	0.222	-1.812	0.070
	Price:Secondary (e.g., high school)	-0.283	0.215	-1.318	0.188
	HairSlick:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	0.178	0.348	0.512	0.609

Variable		B	SE	z-value	p
	HairSlick:Higher (e.g., university degree or higher diploma)	0.119	0.341	0.349	0.727
	HairSlick:Primary	0.139	0.392	0.354	0.723
	HairSlick:Secondary (e.g., high school)	0.177	0.342	0.517	0.605
	BreedingGE:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	-0.027	0.562	-0.048	0.961
	BreedingGS:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	-0.166	0.538	-0.308	0.758
	BreedingGE:Higher (e.g., university degree or higher diploma)	0.138	0.552	0.250	0.802
	BreedingGS:Higher (e.g., university degree or higher diploma)	-0.073	0.530	-0.137	0.891
	BreedingGE:Primary	0.047	0.622	0.076	0.940
	BreedingGS:Primary	-0.143	0.587	-0.244	0.807
	BreedingGE:Secondary (e.g., high school)	0.254	0.556	0.456	0.648
	BreedingGS:Secondary (e.g., high school)	-0.056	0.534	-0.105	0.916
	Animal_WelfareEar.Tag:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	0.462	0.455	1.015	0.310
	Animal_WelfareEar.Tag:Higher (e.g., university degree or higher diploma)	0.564	0.447	1.261	0.207
	Animal_WelfareEar.Tag:Primary	0.381	0.509	0.749	0.454
	Animal_WelfareEar.Tag:Secondary (e.g., high school)	0.606	0.449	1.350	0.177
Employment	Price:Home-maker	0.209	0.080	2.625	0.009
	Price:I prefer not to answer	-0.141	0.105	-1.350	0.177
	Price:Part-time	-0.016	0.038	-0.420	0.674
	Price:Retired	0.159	0.038	4.194	0.000
	Price:Self-employed	0.067	0.051	1.322	0.186
	Price:Student	0.107	0.065	1.634	0.102
	Price:Unemployed	0.062	0.054	1.147	0.251
	HairSlick:Home-maker	0.048	0.177	0.270	0.787
	HairSlick:I prefer not to answer	0.191	0.368	0.519	0.604
	HairSlick:Part-time	0.053	0.114	0.467	0.640
	HairSlick:Retired	0.005	0.093	0.052	0.959
	HairSlick:Self-employed	0.109	0.145	0.749	0.454
	HairSlick:Student	0.049	0.200	0.245	0.807
	HairSlick:Unemployed	0.016	0.147	0.112	0.911
	BreedingGE:Home-maker	0.408	0.288	1.415	0.157
	BreedingGS:Home-maker	0.110	0.248	0.443	0.658
	BreedingGE:I prefer not to answer	-0.117	0.523	-0.225	0.822
	BreedingGS:I prefer not to answer	-0.079	0.427	-0.185	0.853
	BreedingGE:Part-time	-0.004	0.171	-0.025	0.980
	BreedingGS:Part-time	0.015	0.153	0.100	0.920
	BreedingGE:Retired	0.162	0.147	1.099	0.272
	BreedingGS:Retired	0.035	0.132	0.266	0.790
	BreedingGE:Self-employed	0.213	0.221	0.963	0.336
	BreedingGS:Self-employed	0.003	0.185	0.017	0.986
	BreedingGE:Student	0.240	0.299	0.803	0.422
	BreedingGS:Student	0.100	0.280	0.356	0.722
	BreedingGE:Unemployed	0.094	0.226	0.414	0.679
	BreedingGS:Unemployed	0.020	0.200	0.098	0.922
	Animal_WelfareEar.Tag:Home-maker	0.347	0.244	1.424	0.154
	Animal_WelfareEar.Tag:I prefer not to answer	-0.092	0.448	-0.206	0.837
	Animal_WelfareEar.Tag:Part-time	0.133	0.146	0.910	0.363
	Animal_WelfareEar.Tag:Retired	0.155	0.124	1.252	0.210

Variable		B	SE	z-value	p
	Animal_WelfareEar.Tag:Self-employed	0.160	0.188	0.848	0.396
	Animal_WelfareEar.Tag:Student	0.130	0.252	0.518	0.605
	Animal_WelfareEar.Tag:Unemployed	0.218	0.192	1.135	0.256
Location	Price:Rural	0.003	0.128	0.024	0.981
	Price:Urban	-0.010	0.126	-0.076	0.939
	HairSlick:Rural	-0.096	0.398	-0.241	0.810
	HairSlick:Urban	-0.102	0.394	-0.258	0.797
	BreedingGE:Rural	0.007	0.590	0.012	0.991
	BreedingGS:Rural	-0.041	0.502	-0.082	0.935
	BreedingGE:Urban	-0.032	0.584	-0.054	0.957
	BreedingGS:Urban	-0.054	0.496	-0.108	0.914
	Animal_WelfareEar.Tag:Rural	-0.137	0.504	-0.272	0.785
	Animal_WelfareEar.Tag:Urban	-0.153	0.500	-0.306	0.759
Income	Price:$150,000 or more	0.032	0.045	0.725	0.468
	Price:$25,000 - $49,999	0.036	0.039	0.930	0.353
	Price:$50,000 - $74,999	-0.007	0.037	-0.194	0.846
	Price:$75,000 - $99,999	0.044	0.038	1.179	0.239
	Price:I prefer not to answer	-0.010	0.080	-0.127	0.899
	Price:Less than $25,000	-0.029	0.049	-0.587	0.557
	HairSlick:$150,000 or more	-0.042	0.127	-0.332	0.740
	HairSlick:$25,000 - $49,999	0.007	0.105	0.068	0.946
	HairSlick:$50,000 - $74,999	-0.002	0.105	-0.019	0.985
	HairSlick:$75,000 - $99,999	0.010	0.107	0.092	0.927
	HairSlick:I prefer not to answer	0.176	0.211	0.835	0.404
	HairSlick:Less than $25,000	0.030	0.135	0.223	0.824
	BreedingGE:$150,000 or more	0.031	0.193	0.158	0.875
	BreedingGS:$150,000 or more	0.038	0.182	0.209	0.835
	BreedingGE:$25,000 - $49,999	0.062	0.162	0.383	0.702
	BreedingGS:$25,000 - $49,999	-0.024	0.146	-0.163	0.871
	BreedingGE:$50,000 - $74,999	0.084	0.160	0.527	0.598
	BreedingGS:$50,000 - $74,999	0.015	0.147	0.104	0.917
	BreedingGE:$75,000 - $99,999	0.111	0.162	0.685	0.493
	BreedingGS:$75,000 - $99,999	0.019	0.148	0.129	0.897
	BreedingGE:I prefer not to answer	0.101	0.330	0.307	0.758
	BreedingGS:I prefer not to answer	-0.102	0.282	-0.360	0.719
	BreedingGE:Less than $25,000	-0.162	0.206	-0.787	0.431
	BreedingGS:Less than $25,000	-0.126	0.187	-0.675	0.500
	Animal_WelfareEar.Tag:$150,000 or more	-0.043	0.163	-0.262	0.794
	Animal_WelfareEar.Tag:$25,000 - $49,999	-0.038	0.137	-0.275	0.783
	Animal_WelfareEar.Tag:$50,000 - $74,999	0.007	0.135	0.053	0.958
	Animal_WelfareEar.Tag:$75,000 - $99,999	0.043	0.138	0.310	0.756
	Animal_WelfareEar.Tag:I prefer not to answer	0.148	0.283	0.523	0.601
	Animal_WelfareEar.Tag:Less than $25,000	-0.199	0.175	-1.137	0.256
HH size	Price:2	-0.048	0.034	-1.421	0.155
	Price:3	-0.061	0.037	-1.647	0.100
	Price:4	0.082	0.048	1.726	0.084
	Price:I prefer not to answer	0.158	0.177	0.894	0.372
	Price:More than 4	-0.089	0.055	-1.609	0.108
	HairSlick:2	0.012	0.087	0.139	0.889
	HairSlick:3	0.061	0.107	0.565	0.572
	HairSlick:4	-0.082	0.128	-0.644	0.519
	HairSlick:I prefer not to answer	0.649	0.651	0.996	0.319
	HairSlick:More than 4	-0.007	0.173	-0.042	0.967
	BreedingGE:2	-0.057	0.136	-0.416	0.677

Variable		B	SE	z-value	p
	BreedingGS:2	-0.024	0.123	-0.198	0.843
	BreedingGE:3	-0.134	0.162	-0.828	0.408
	BreedingGS:3	-0.122	0.143	-0.850	0.395
	BreedingGE:4	0.077	0.197	0.388	0.698
	BreedingGS:4	0.093	0.183	0.505	0.613
	BreedingGE:I prefer not to answer	0.673	0.918	0.733	0.463
	BreedingGS:I prefer not to answer	0.053	0.559	0.096	0.924
	BreedingGE:More than 4	-0.071	0.256	-0.278	0.781
	BreedingGS:More than 4	-0.060	0.220	-0.273	0.785
	Animal_WelfareHot Branding:2	-0.003	0.115	-0.030	0.976
	Animal_WelfareHot Branding:3	-0.002	0.139	-0.014	0.989
	Animal_WelfareHot Branding:4	-0.027	0.166	-0.165	0.869
	Animal_WelfareHot Branding:I prefer not to answer	0.266	0.783	0.340	0.734
	Animal_WelfareHot Branding:More than 4	0.084	0.218	0.383	0.702
	Price:2	-0.074	0.041	-1.774	0.076
	Price:3	0.030	0.064	0.469	0.639
	Price:I prefer not to answer	0.094	0.029	3.239	0.001
	Price:More than 3	0.070	0.098	0.718	0.473
	HairSlick:2	0.001	0.124	0.009	0.993
	HairSlick:3	-0.067	0.201	-0.333	0.739
	HairSlick:I prefer not to answer	-0.018	0.083	-0.217	0.829
	HairSlick:More than 3	0.022	0.288	0.075	0.940
	BreedingGE:2	-0.094	0.186	-0.504	0.614
Num Child	BreedingGS:2	-0.084	0.173	-0.486	0.627
	BreedingGE:3	-0.064	0.297	-0.216	0.829
	BreedingGS:3	-0.018	0.272	-0.067	0.947
	BreedingGE:I prefer not to answer	0.174	0.126	1.382	0.167
	BreedingGS:I prefer not to answer	0.052	0.111	0.469	0.639
	BreedingGE:More than 3	0.126	0.434	0.289	0.772
	BreedingGS:More than 3	0.031	0.382	0.082	0.935
	Animal_WelfareHot Branding:2	-0.111	0.157	-0.707	0.479
	Animal_WelfareHot Branding:3	-0.199	0.253	-0.788	0.430
	Animal_WelfareHot Branding:I prefer not to answer	0.138	0.107	1.293	0.196
	Animal_WelfareHot Branding:More than 3	-0.022	0.369	-0.059	0.953

Price Sensitivity across Gender: The interaction between price and male gender (B = -0.170, p < .001) highlights men's distinct price sensitivity compared to women. This suggests that male consumers may be more price-conscious or value gene-edited meat products differently.

Geographic Variation in Price Sensitivity: Significant interactions between price and specific Canadian regions—British Columbia (B = -0.132, p = .031), Northern Canada (B = -0.383, p = .001), Ontario (B = -0.144, p = .008), Prairies (B = -0.165, p = .004), and Quebec (B = -0.176, p = .002)—indicate regional differences in price sensitivity.

Age-Related Differences in Price Sensitivity: Age significantly affects price sensitivity, with the 30 – 45 years old group (B = 0.170, p < .001) and the 45+ group (B = 0.280, p < .001) showing increased sensitivity compared to younger consumers. This points to age-related factors influencing consumer valuation of gene-edited meat products.

Employment Status and Price Sensitivity: Among various employment statuses, retirees show specific price sensitivities ($B = 0.159$, $p < .001$), reflecting possibly fixed income considerations in their purchasing decisions.

Breeding Techniques and Gender: The interaction between the BreedingGE attribute and male gender ($B = -0.381$, $p < .001$) signifies gender-specific preferences for certain genetic breeding techniques, suggesting that men may have distinct attitudes towards genetic modifications in meat products.

Random Parameters Model

These models were fit using the *gmnl* package and the *mixl* model type (mixed choice models). Choice attributes were included as random parameters to investigate choice heterogeneity, while keeping a fixed parameter. The distribution of the random parameters were considered normal. Traditional model-fit indices were not calculated since a null random model is not feasible in these types of models. Log-likelihood was used instead.

Random Parameters Model without Interactions

Log-likelihood for this model was -4927.77, indicating a slightly worse fit than the conditional model.

The standard error of the standard deviation of the distribution of Animal Welfare was not calculated, possibly due to the dummy nature of the variable, which makes the convergence of standard deviations difficult. The table below shows the coefficients.

Index	Estimate	Std. Error	z-value	Pr(>|z|)	WTP
Price	0.505	0.012	42.732	0.000	
Animal_WelfareEar.Tag	-0.122	0.037	-3.334	0.001	$0.24
HairSlick	0.059	0.031	1.925	0.054	-$0.12
BreedingGE	0.903	0.048	18.866	0.000	-$1.79
BreedingGS	0.366	0.043	8.541	0.000	-$0.72
sd.Animal_WelfareEar.Tag	0.100				
sd.HairSlick	0.100	0.042	2.393	0.017	
sd.BreedingGE	0.100	0.093	1.075	0.282	
sd.BreedingGS	0.100	0.064	1.563	0.118	

Price: The price coefficient was significant (B = 0.505, SE = 0.012, p < .001), underscoring the sensitivity of consumer choices to price changes.

Animal Welfare Ear Tag: Consumers were willing to pay more for products labeled with an ear tag indicating animal welfare (B = -0.122, SE = 0.037, p = .001, WTP = $0.24).

Hair Slick: This attribute had a positive but not statistically significant effect on WTP at the 0.05 level (B = 0.059, SE = 0.031, p = .054).

Gene Editing (BreedingGE): There was a significant and negative WTP for gene-edited products (B = 0.903, SE = 0.048, p < .001, WTP = -$1.79), compared to conventional methods.

Genetic Selection (BreedingGS): Similarly, products from genetically selected breeds had a positive impact on consumer choices (B = 0.366, SE = 0.043, p < .001, WTP = -$0.72), though the WTP calculation was not explicitly provided.

Standard Deviations: The model estimated standard deviations for random parameters (e.g., sd.HairSlick: B = 0.100, SE = 0.042, p = .017), indicating significant heterogeneity in consumer preferences for certain attributes.

Random Parameters Model with Interactions

Log-likelihood for the model with interactions was -4923.86, similar to the model without interactions. This suggests that there is not much influence of sociodemographic variables on consumer's choice.

Variable		**B**	**SE**	**z**	**p**
Fixed Parameter	Price	0.783	0.260	3.005	0.003
Random Parameters	Animal_WelfareEar.Tag	0.639	0.723	0.884	0.377
	HairSlick	-0.144	0.566	-0.254	0.799
	BreedingGE	0.485	0.865	0.560	0.575
	BreedingGS	0.375	0.775	0.483	0.629
	sd.Animal_WelfareEar.Tag	0.100	0.366	0.273	0.785
	sd.HairSlick	0.100	0.045	2.222	0.026
	sd.BreedingGE	0.100	0.089	1.120	0.263
	sd.BreedingGS	0.100	0.065	1.546	0.122
Gender	Price:Male	-0.169	0.024	-7.148	0.000
	HairSlick:Male	-0.022	0.065	-0.343	0.732
	BreedingGE:Male	-0.300	0.099	-3.026	0.002
	BreedingGS:Male	-0.113	0.089	-1.269	0.204
	Animal_WelfareEar.Tag:Male	0.026	0.082	0.316	0.752
Canada Region	Price:British Columbia	-0.137	0.062	-2.218	0.027
	Price:Northern Canada	-0.390	0.116	-3.372	0.001
	Price:Ontario	-0.150	0.055	-2.733	0.006
	Price:Prairies	-0.170	0.058	-2.945	0.003
	Price:Quebec	-0.180	0.059	-3.065	0.002
	HairSlick:British Columbia	0.099	0.141	0.699	0.485
	HairSlick:Northern Canada	0.247	0.352	0.701	0.483
	HairSlick:Ontario	0.117	0.120	0.976	0.329
	HairSlick:Prairies	0.141	0.131	1.077	0.282
	HairSlick:Quebec	0.100	0.136	0.734	0.463
	BreedingGE:British Columbia	-0.231	0.227	-1.017	0.309
	BreedingGE:Northern Canada	-0.399	0.527	-0.757	0.449
	BreedingGE:Ontario	-0.229	0.195	-1.177	0.239
	BreedingGE:Prairies	-0.207	0.210	-0.983	0.326
	BreedingGE:Quebec	-0.380	0.217	-1.754	0.079
	BreedingGS:British Columbia	-0.134	0.211	-0.635	0.525
	BreedingGS:Northern Canada	-0.091	0.499	-0.183	0.855
	BreedingGS:Ontario	-0.123	0.185	-0.664	0.507
	BreedingGS:Prairies	-0.134	0.196	-0.684	0.494
	BreedingGS:Quebec	-0.165	0.204	-0.809	0.418
	Animal_WelfareEar.Tag:British Columbia	-0.101	0.187	-0.539	0.590
	Animal_WelfareEar.Tag:Northern Canada	-0.243	0.447	-0.543	0.587
	Animal_WelfareEar.Tag:Ontario	-0.119	0.157	-0.762	0.446
	Animal_WelfareEar.Tag:Prairies	-0.112	0.171	-0.655	0.513
	Animal_WelfareEar.Tag:Quebec	-0.082	0.175	-0.465	0.642
Age Cat	Price:30 – 45 years old	0.167	0.034	4.861	0.000
	Price:45+	0.276	0.034	8.036	0.000
	HairSlick:30 – 45 years old	-0.016	0.111	-0.141	0.888
	HairSlick:45+	-0.001	0.106	-0.007	0.995
	BreedingGE:30 – 45 years old	0.322	0.164	1.963	0.050

Variable		B	SE	z	p
	BreedingGE:45+	0.500	0.158	3.156	0.002
	BreedingGS:30 – 45 years old	0.241	0.150	1.612	0.107
	BreedingGS:45+	0.334	0.144	2.322	0.020
	Animal_WelfareEar.Tag:30 – 45 years old	-0.050	0.139	-0.356	0.722
	Animal_WelfareEar.Tag:45+	-0.031	0.134	-0.228	0.820
Education	Price:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	-0.431	0.220	-1.958	0.050
	Price:Higher (e.g., university degree or higher diploma)	-0.379	0.219	-1.728	0.084
	Price:Primary	-0.433	0.227	-1.906	0.057
	Price:Secondary (e.g., high school)	-0.316	0.220	-1.439	0.150
	HairSlick:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	0.218	0.364	0.599	0.549
	HairSlick:Higher (e.g., university degree or higher diploma)	0.151	0.357	0.423	0.672
	HairSlick:Primary	0.165	0.407	0.406	0.685
	HairSlick:Secondary (e.g., high school)	0.217	0.359	0.606	0.544
	BreedingGE:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	0.138	0.577	0.239	0.811
	BreedingGE:Higher (e.g., university degree or higher diploma)	0.300	0.568	0.528	0.598
	BreedingGE:Primary	0.242	0.640	0.378	0.706
	BreedingGE:Secondary (e.g., high school)	0.366	0.571	0.642	0.521
	BreedingGS:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	-0.121	0.546	-0.222	0.824
	BreedingGS:Higher (e.g., university degree or higher diploma)	-0.027	0.538	-0.050	0.960
	BreedingGS:Primary	-0.093	0.595	-0.157	0.875
	BreedingGS:Secondary (e.g., high school)	-0.020	0.542	-0.038	0.970
	Animal_WelfareEar.Tag:Graduate or Professional Degree (MA, MSc, MAB, PhD, JD, MD, DDS, DVM, etc.)	-0.699	0.468	-1.494	0.135
	Animal_WelfareEar.Tag:Higher (e.g., university degree or higher diploma)	-0.752	0.458	-1.643	0.100
	Animal_WelfareEar.Tag:Primary	-0.653	0.522	-1.252	0.211
	Animal_WelfareEar.Tag:Secondary (e.g., high school)	-0.712	0.461	-1.545	0.122
Employment	Price:Home-maker	0.208	0.081	2.568	0.010
	Price:I prefer not to answer	-0.143	0.104	-1.375	0.169
	Price:Part-time	-0.020	0.038	-0.535	0.592
	Price:Retired	0.160	0.038	4.197	0.000
	Price:Self-employed	0.062	0.050	1.234	0.217
	Price:Student	0.104	0.065	1.589	0.112
	Price:Unemployed	0.056	0.054	1.036	0.300
	HairSlick:Home-maker	0.051	0.184	0.279	0.781
	HairSlick:I prefer not to answer	0.225	0.370	0.607	0.544
	HairSlick:Part-time	0.057	0.115	0.497	0.619
	HairSlick:Retired	0.007	0.093	0.076	0.939
	HairSlick:Self-employed	0.129	0.146	0.884	0.377
	HairSlick:Student	0.044	0.201	0.220	0.826
	HairSlick:Unemployed	0.022	0.148	0.151	0.880
	BreedingGE:Home-maker	0.313	0.287	1.091	0.275
	BreedingGE:I prefer not to answer	-0.106	0.525	-0.201	0.841
	BreedingGE:Part-time	0.012	0.172	0.071	0.944
	BreedingGE:Retired	0.080	0.148	0.542	0.588
	BreedingGE:Self-employed	0.155	0.222	0.700	0.484
	BreedingGE:Student	0.210	0.303	0.693	0.488

Variable		B	SE	z	p
	BreedingGE:Unemployed	0.081	0.228	0.356	0.722
	BreedingGS:Home-maker	0.096	0.249	0.384	0.701
	BreedingGS:I prefer not to answer	-0.078	0.429	-0.181	0.856
	BreedingGS:Part-time	0.019	0.154	0.122	0.903
	BreedingGS:Retired	0.020	0.133	0.153	0.879
	BreedingGS:Self-employed	-0.007	0.186	-0.038	0.970
	BreedingGS:Student	0.099	0.281	0.354	0.724
	BreedingGS:Unemployed	0.021	0.201	0.104	0.918
	Animal_WelfareEar.Tag:Home-maker	-0.114	0.246	-0.464	0.643
	Animal_WelfareEar.Tag:I prefer not to answer	-0.004	0.449	-0.009	0.993
	Animal_WelfareEar.Tag:Part-time	-0.125	0.144	-0.866	0.387
	Animal_WelfareEar.Tag:Retired	0.003	0.121	0.026	0.979
	Animal_WelfareEar.Tag:Self-employed	-0.049	0.185	-0.267	0.790
	Animal_WelfareEar.Tag:Student	0.016	0.259	0.062	0.951
	Animal_WelfareEar.Tag:Unemployed	-0.123	0.189	-0.651	0.515
Location	Price:Rural	0.007	0.127	0.055	0.956
	Price:Urban	-0.006	0.125	-0.044	0.965
	HairSlick:Rural	-0.100	0.399	-0.252	0.801
	HairSlick:Urban	-0.107	0.395	-0.270	0.787
	BreedingGE:Rural	-0.007	0.592	-0.011	0.991
	BreedingGE:Urban	-0.038	0.586	-0.064	0.949
	BreedingGS:Rural	-0.043	0.502	-0.086	0.931
	BreedingGS:Urban	-0.055	0.496	-0.111	0.911
	Animal_WelfareEar.Tag:Rural	0.120	0.507	0.236	0.813
	Animal_WelfareEar.Tag:Urban	0.119	0.505	0.235	0.814
Income	Price:$150,000 or more	0.034	0.044	0.764	0.445
	Price:$25,000 - $49,999	0.037	0.039	0.948	0.343
	Price:$50,000 - $74,999	-0.009	0.037	-0.252	0.801
	Price:$75,000 - $99,999	0.043	0.037	1.161	0.246
	Price:I prefer not to answer	-0.017	0.080	-0.218	0.827
	Price:Less than $25,000	-0.025	0.049	-0.515	0.607
	HairSlick:$150,000 or more	-0.053	0.128	-0.409	0.683
	HairSlick:$25,000 - $49,999	0.006	0.106	0.052	0.959
	HairSlick:$50,000 - $74,999	-0.003	0.105	-0.029	0.977
	HairSlick:$75,000 - $99,999	0.009	0.107	0.084	0.933
	HairSlick:I prefer not to answer	0.205	0.212	0.968	0.333
	HairSlick:Less than $25,000	0.041	0.135	0.301	0.764
	BreedingGE:$150,000 or more	0.039	0.196	0.201	0.841
	BreedingGE:$25,000 - $49,999	0.047	0.163	0.288	0.773
	BreedingGE:$50,000 - $74,999	0.096	0.161	0.595	0.552
	BreedingGE:$75,000 - $99,999	0.094	0.164	0.576	0.565
	BreedingGE:I prefer not to answer	0.062	0.329	0.188	0.851
	BreedingGE:Less than $25,000	-0.187	0.207	-0.901	0.367
	BreedingGS:$150,000 or more	0.041	0.182	0.227	0.821
	BreedingGS:$25,000 - $49,999	-0.026	0.147	-0.178	0.859
	BreedingGS:$50,000 - $74,999	0.018	0.147	0.121	0.903
	BreedingGS:$75,000 - $99,999	0.018	0.149	0.117	0.906
	BreedingGS:I prefer not to answer	-0.111	0.283	-0.393	0.694
	BreedingGS:Less than $25,000	-0.135	0.187	-0.719	0.472
	Animal_WelfareEar.Tag:$150,000 or more	0.046	0.162	0.286	0.775
	Animal_WelfareEar.Tag:$25,000 - $49,999	0.070	0.136	0.516	0.606
	Animal_WelfareEar.Tag:$50,000 - $74,999	-0.004	0.133	-0.033	0.974
	Animal_WelfareEar.Tag:$75,000 - $99,999	0.008	0.137	0.059	0.953
	Animal_WelfareEar.Tag:I prefer not to answer	-0.097	0.276	-0.352	0.725

Variable		B	SE	z	p
	Animal_WelfareEar.Tag:Less than $25,000	0.165	0.173	0.954	0.340
HH size	Price:2	-0.050	0.034	-1.480	0.139
	Price:3	-0.062	0.037	-1.676	0.094
	Price:4	0.085	0.048	1.783	0.075
	Price:I prefer not to answer	0.143	0.171	0.837	0.403
	Price:More than 4	-0.094	0.055	-1.696	0.090
	HairSlick:2	0.017	0.088	0.191	0.848
	HairSlick:3	0.072	0.109	0.666	0.505
	HairSlick:4	-0.084	0.129	-0.649	0.516
	HairSlick:I prefer not to answer	0.831	0.677	1.228	0.220
	HairSlick:More than 4	0.009	0.175	0.051	0.959
	BreedingGE:2	-0.037	0.137	-0.272	0.785
	BreedingGE:3	-0.130	0.164	-0.796	0.426
	BreedingGE:4	0.040	0.200	0.201	0.840
	BreedingGE:I prefer not to answer	0.519	0.878	0.592	0.554
	BreedingGE:More than 4	-0.059	0.258	-0.227	0.820
	BreedingGS:2	-0.021	0.123	-0.168	0.867
	BreedingGS:3	-0.123	0.143	-0.856	0.392
	BreedingGS:4	0.086	0.184	0.466	0.641
	BreedingGS:I prefer not to answer	0.055	0.565	0.097	0.922
	BreedingGS:More than 4	-0.058	0.220	-0.265	0.791
	Animal_WelfareEar.Tag:2	-0.029	0.113	-0.258	0.797
	Animal_WelfareEar.Tag:3	-0.049	0.138	-0.356	0.722
	Animal_WelfareEar.Tag:4	0.086	0.164	0.525	0.600
	Animal_WelfareEar.Tag:I prefer not to answer	0.123	0.742	0.166	0.868
	Animal_WelfareEar.Tag:More than 4	-0.125	0.217	-0.579	0.563
Num Child	Price:2	-0.075	0.041	-1.803	0.071
	Price:3	0.038	0.064	0.602	0.547
	Price:I prefer not to answer	0.093	0.029	3.190	0.001
	Price:More than 3	0.070	0.098	0.718	0.473
	HairSlick:2	-0.003	0.125	-0.021	0.983
	HairSlick:3	-0.085	0.202	-0.418	0.676
	HairSlick:I prefer not to answer	-0.019	0.083	-0.235	0.815
	HairSlick:More than 3	0.017	0.294	0.058	0.954
	BreedingGE:2	-0.046	0.189	-0.246	0.806
	BreedingGE:3	-0.064	0.299	-0.214	0.830
	BreedingGE:I prefer not to answer	0.143	0.126	1.128	0.259
	BreedingGE:More than 3	0.115	0.438	0.262	0.793
	BreedingGS:2	-0.076	0.174	-0.435	0.664
	BreedingGS:3	-0.022	0.273	-0.080	0.936
	BreedingGS:I prefer not to answer	0.049	0.112	0.439	0.660
	BreedingGS:More than 3	0.028	0.383	0.073	0.942
	Animal_WelfareEar.Tag:2	0.032	0.158	0.204	0.839
	Animal_WelfareEar.Tag:3	0.162	0.252	0.642	0.521
	Animal_WelfareEar.Tag:I prefer not to answer	-0.044	0.106	-0.413	0.680
	Animal_WelfareEar.Tag:More than 3	0.066	0.375	0.175	0.861

The fixed parameter for Price (B = 0.783, SE = 0.260, p = 0.003) remained significant, indicating a clear sensitivity to price changes among consumers.

Gender showed a significant interaction with price for males (Price:Male, B = -0.169, SE = 0.024, z = -7.148, p < .000), suggesting that male consumers exhibit a different sensitivity to price compared

to females, potentially indicating a higher willingness to pay or a different valuation of gene-edited meat products by gender. Similarly, the interaction between BreedingGE and male gender (BreedingGE:Male, B = -0.300, SE = 0.099, z = -3.026, p = .002) revealed gender-based differences in preferences for certain breeding technologies.

Regional differences also emerged as significant, with various regions exhibiting distinct price sensitivities. For example, consumers in Northern Canada showed a significant negative interaction with price (Price:Northern Canada, B = -0.390, SE = 0.116, z = -3.372, p = .001), indicating a higher price sensitivity in this region, compared to the reference region (Atlantic Canada).

Age categories further delineated consumer preferences, with older age groups (45+ years) displaying a significant positive interaction with price (Price:45+, B = 0.276, SE = 0.034, z = 8.036, p < .000), suggesting that older consumers may attribute more value to gene-edited meat products or have a lower price sensitivity compared to younger consumers.

Interestingly, the education level showed an almost significant negative interaction with price among those with Graduate or Professional Degrees (B = -0.431, SE = 0.220, z = -1.958, p = .050).

The employment status, particularly among homemakers and retired individuals, showed significant interactions with price, indicating differing valuations of gene-edited meat products across employment categories.

Lastly, the significant interaction between the sd.HairSlick and its standard error (sd.HairSlick, B = 0.100, SE = 0.045, z = 2.222, p = .026) suggests variability in consumer preferences for hair traits in cattle.