MARKET RESEARCH REPORT

Cage-Free Egg Study

Understanding Consumer Perception & Acceptability of Cage-Free Eggs in Malaysia

A report prepared for

Humane World for Animals

June 2026

NIQ

NielsenIQ

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SECTION

I.

Context, Objective & Research Design

Current egg production systems raise hen welfare concerns. Understanding consumer perceptions offers insights for expanding the cage-free model in Malaysia

The rapid growth of the global population has driven a significant increase in food consumption, with egg production expanding exponentially over the past five decades. This growth has been facilitated by intensive farming systems, particularly the widespread use of conventional battery cages, which maximize efficiency but raise concerns regarding sustainability and animal welfare.[1]

As awareness of these issues continues to develop, the need for sustainable egg farming practices and improved hen welfare has become increasingly urgent. However, public understanding, attitudes, and behavior toward cage-free eggs remain inconsistent and difficult to measure.[2]

Though in Malaysia, the egg industry remains largely dominated by conventional caged production, early signs of transition are beginning to emerge. Several producers have started to adopt cage-free systems, investing in aviary systems and welfare-oriented practices that signal a gradual shift within the sector.

Understanding consumer perceptions and attitudes toward cage-free eggs will therefore be critical, offering valuable insights that can help guide strategies to expand the cage-free model in Malaysia.

Malaysia's egg industry remains largely dominated by conventional caged production yet early signs of transition to cage-free system are beginning to emerge.

21 Jun 2025

Huat Lai to complete Malaysia's largest cage-free chicken farm in 4Q

(1) Food and Agriculture Organization of the United Nations (FAO) (2020) Global egg production statistics.
(2) Sinclair, M., Phillips, C.J.C., & others (2022) Consumer attitudes towards egg production systems and hen welfare. Harvard Law School.

Humane World for Animals commissioned NielsenIQ to conduct a specific study to understand, assess, and guide change in Malaysian egg markets

01

Understand cconsumer perception

of egg production systems

To help businesses and policy makers predict purchasing decisions, shape marketing strategies and respond to the demand for ethical products.

02

Assess consumer acceptability

of cage-free eggs

To examine whether consumers are prepared to pay more for cage-free eggs, supporting producers and retailers in expanding such offerings.

03

Guide welfare improvements & awareness

of cage-free eggs

To study public attitudes to strengthen farm animal welfare, influence policy changes, and address misconceptions.

The sample design ensured the representativeness of the Malaysian market

METHODOLOGY

- Online survey
- Length of interview: ~20 minutes

RESPONDENT CRITERIA

- Age: 21 - 55 years old
- Decision maker in purchasing chicken eggs (any type)
- Purchase chicken eggs at least once per month
- Intent to purchase chicken eggs in future

SAMPLE DESIGN

Region	% Region	Cities (% quota each)
North	21%	Kangar (1%) Alor Setar (2%) Georgetown (5%) Seberang Prai (4%) Taiping (5%) Ipoh (2%) Teluk Intan (2%)
Central	29%	Kuala Lumpur (7%) Petaling Jaya (5%) Subang Jaya (5%) Shah Alam (5%) Kajang (4%) Bangi (4%)
South	17%	Seremban (2%) Melaka (6%) Muar (3%) Johor Bahru (7%)
East Coast	14%	Kuantan (5%) Kuala Terengganu (5%) Kota Bahru (4%)
East Malaysia	19%	Sabah (9%) Sarawak (9%)

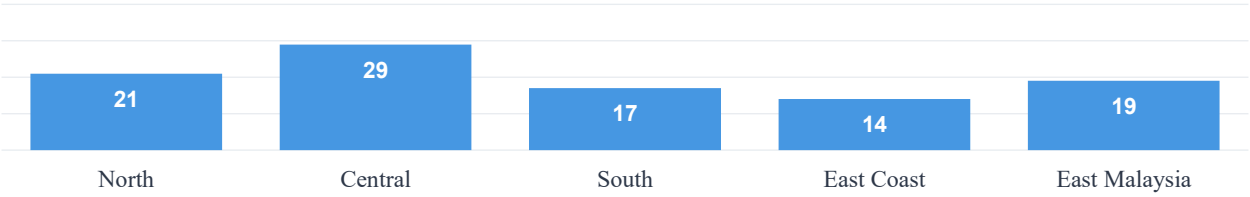
TOTAL SAMPLE SIZE: 700

Survey Respondents

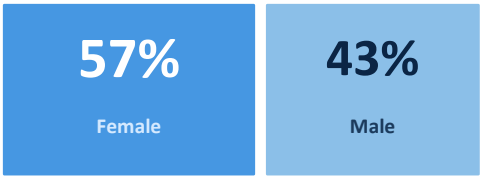
Chicken egg buyers skew female, are mainly from the 26-45 years of age and are predominantly Malay. Of all egg buyers, 85% have household incomes above RM 5,250/ month, consistent with the dominance of white-collar occupations such as office workers, management, and professionals

Base: All respondents (n=700) | Data shown in %

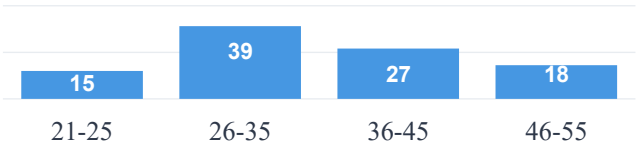
Region Living



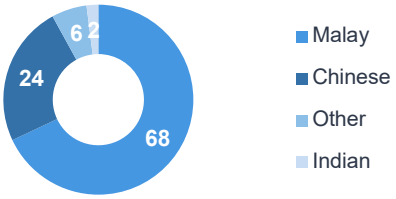
Gender



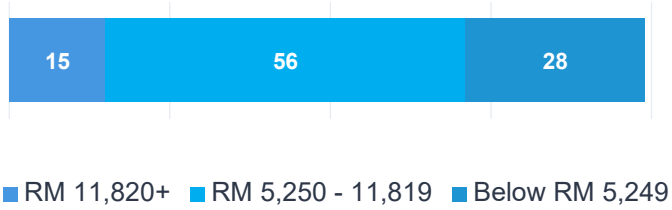
Age Group (YO)



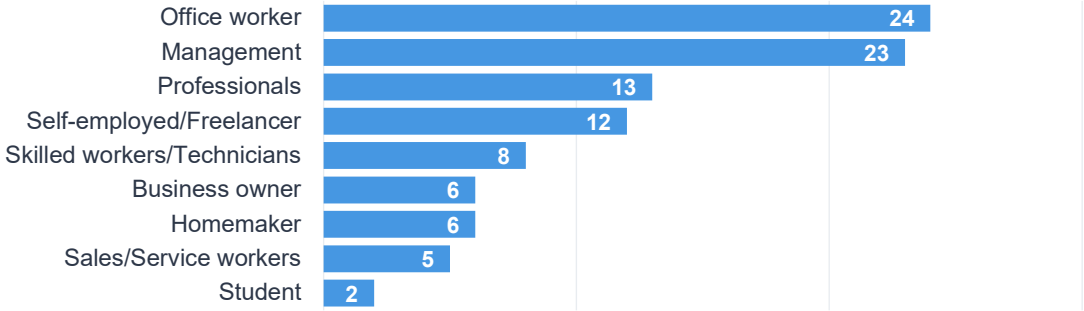
Ethnicity



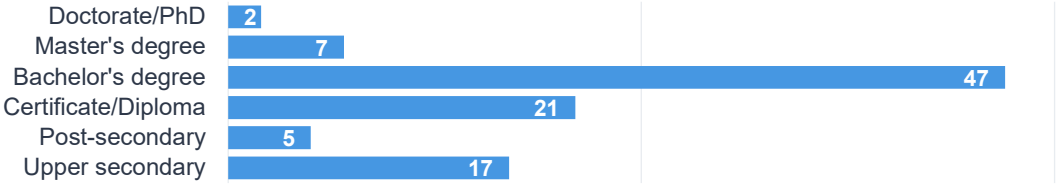
Monthly Household Income



Occupation



Education Level



Executive Summary

Chicken egg purchases

- Chicken eggs are a **daily/weekly staple**, with 60% of consumers purchasing once or several times per week. Most Malaysian consumers buy packs of 30, followed by 10 and 12.
- Hypermarkets, supermarkets, and convenience stores/minimarts are the main purchase channels, alongside growing adoption of e-commerce amongst younger and higher income groups

Perception of egg production systems

- **Egg color** strongly shapes consumer perceptions of production systems. While brown eggs are associated to indoor systems (both caged & cage-free), white eggs are perceived to free-range. Packaging materials have little influence, as both cartons and plastic boxes of brown eggs are perceived similarly (caged or cage-free).

- **Labelling & Packaging** impact consumer perceptions of production systems. Carton packs with premium & appealing designs cause confusion, with 55% of consumers mistaking regular eggs for cage-free. Labels like *"Farm Fresh, Organic"* mislead consumers as they believe these eggs are cage-free or free-range.

Cage-free egg concept test & Attitude toward ethical farming

- Consumers already show **strong support for cage-free eggs**, and the concept test slightly increased likability, purchase intent, and willingness to pay. The increase is most evident among younger (21- 25) age groups, lower-income, and East Coast consumers.

- Consumers support ethical farming and animal welfare. They also favor government incentives for cage-free eggs.

SECTION

1.

Overview of chicken egg purchases

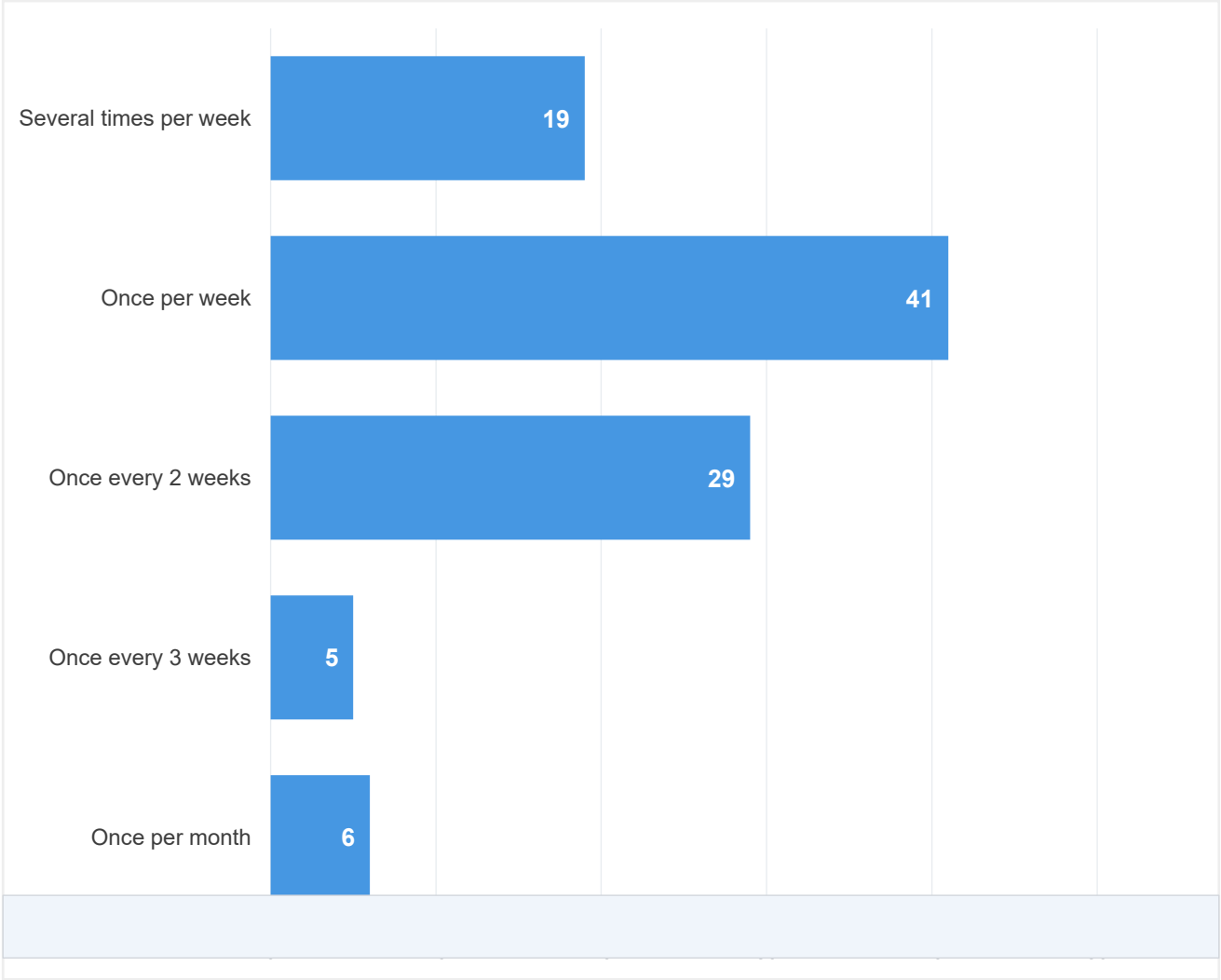
Overall, 60% of consumers buy eggs once or several times per week.

Chicken egg purchase frequency (%)

Base: n = 700

60% Weekly purchase

40% Monthly purchase



Consumers in the North and East show a higher frequency of egg purchases compared to other regions, with several purchases per week. By age group, those aged 21 - 25 buy more frequently than the others.

Chicken egg Purchase frequency by Region (%)

	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
Weekly purchase	**60**	**63**	**60**	**58**	**62**	**52**
Several times/week	19	24	14	13	28	14
Once per week	41	39	46	45	34	38
Monthly purchase	**40**	**36**	**40**	**42**	**38**	**49**
Once every 2 weeks	29	25	29	32	28	33
Once every 3 weeks	5	3	6	6	5	7
Once per month	6	8	5	4	5	9

Chicken egg Purchase frequency by Age Group (%)

	TOTAL	AGE GROUP			
		21 - 25	26 - 35	36 - 45	46 - 55
Base (n=)	700	106	275	191	128
Weekly purchase	**60**	**66**	**58**	**56**	**59**
Several times/week	19	27	19	12	16
Once per week	41	39	39	44	43
Monthly purchase	**40**	**35**	**42**	**44**	**41**
Once every 2 weeks	29	24	29	32	29
Once every 3 weeks	5	3	7	6	4
Once per month	6	8	6	6	8

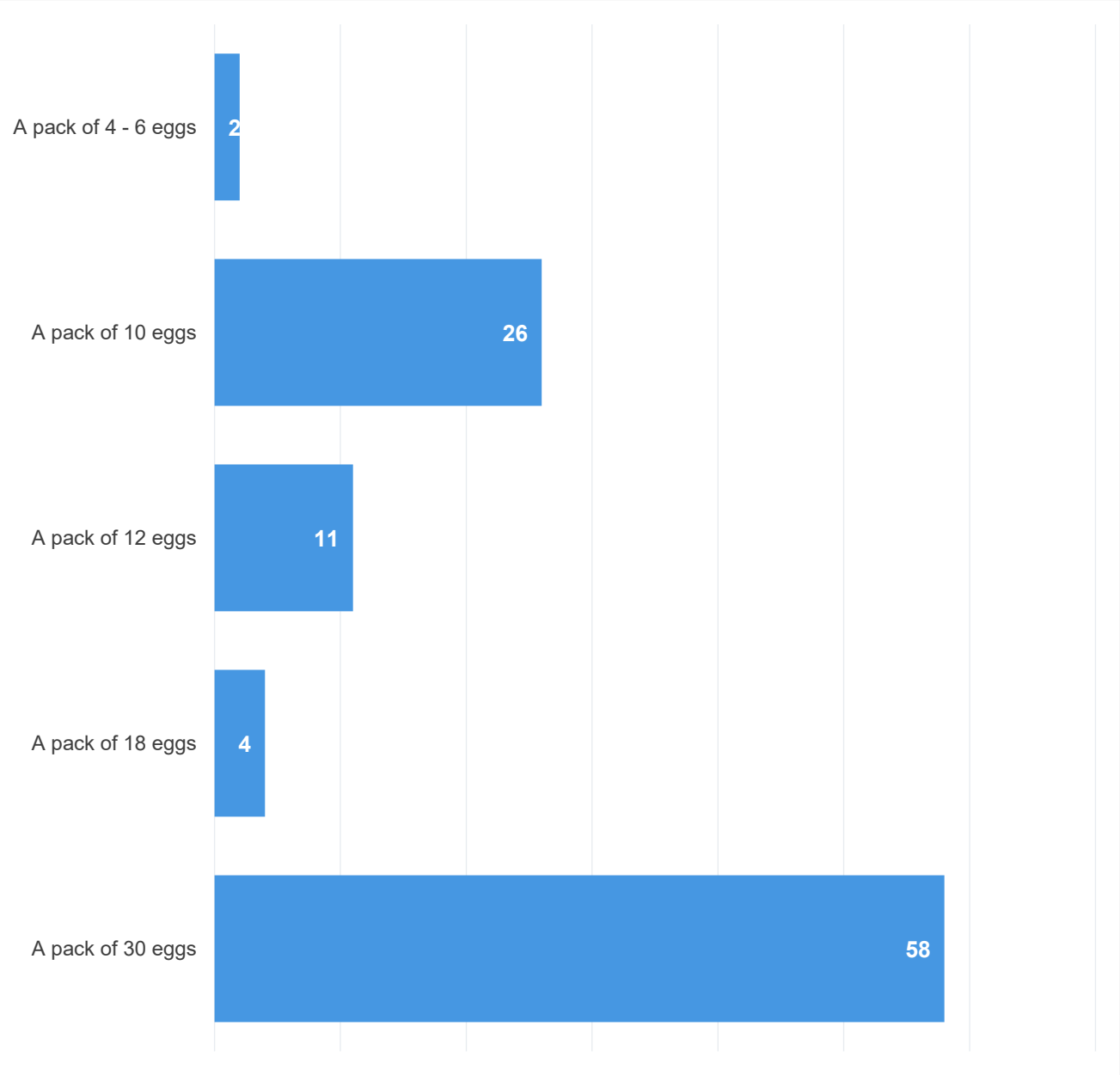
Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Malaysian consumers purchase eggs in a pack of 30, followed by a pack of 10 and 12.

Purchase amount (%)

Base: n = 700



Besides purchasing in packs of 30 and 10, consumers in the Central region also tend to buy eggs in packs of 12 significantly more than consumers in other regions. Younger consumers (21-25 years of age) show a preference for smaller packs (10–12 eggs)

Chicken egg Purchase amount by Region (%)

	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
A pack of 4 – 6 eggs	2	1	1	3	2	2
A pack of 10 eggs	26	27	29	29	24	17
A pack of 12 eggs	11	7	16	8	9	9
A pack of 18 eggs	4	4	3	2	8	5
A pack of 30 eggs	58	61	50	58	57	68

Chicken egg Purchase amount by Age Group & Frequency (%)

	TOTAL	AGE GROUP				PURCHASE FREQUENCY	
		21-25	26-35	36-45	46-55	Weekly	Monthly
Base (n=)	700	106	275	191	128	413	287
A pack of 4 – 6 eggs	2	1	2	2	1	1	0
A pack of 10 eggs	26	35	22	26	25	28	22
A pack of 12 eggs	11	18	11	11	4	13	7
A pack of 18 eggs	4	9	3	2	5	5	3
A pack of 30 eggs	58	37	62	59	66	52	67

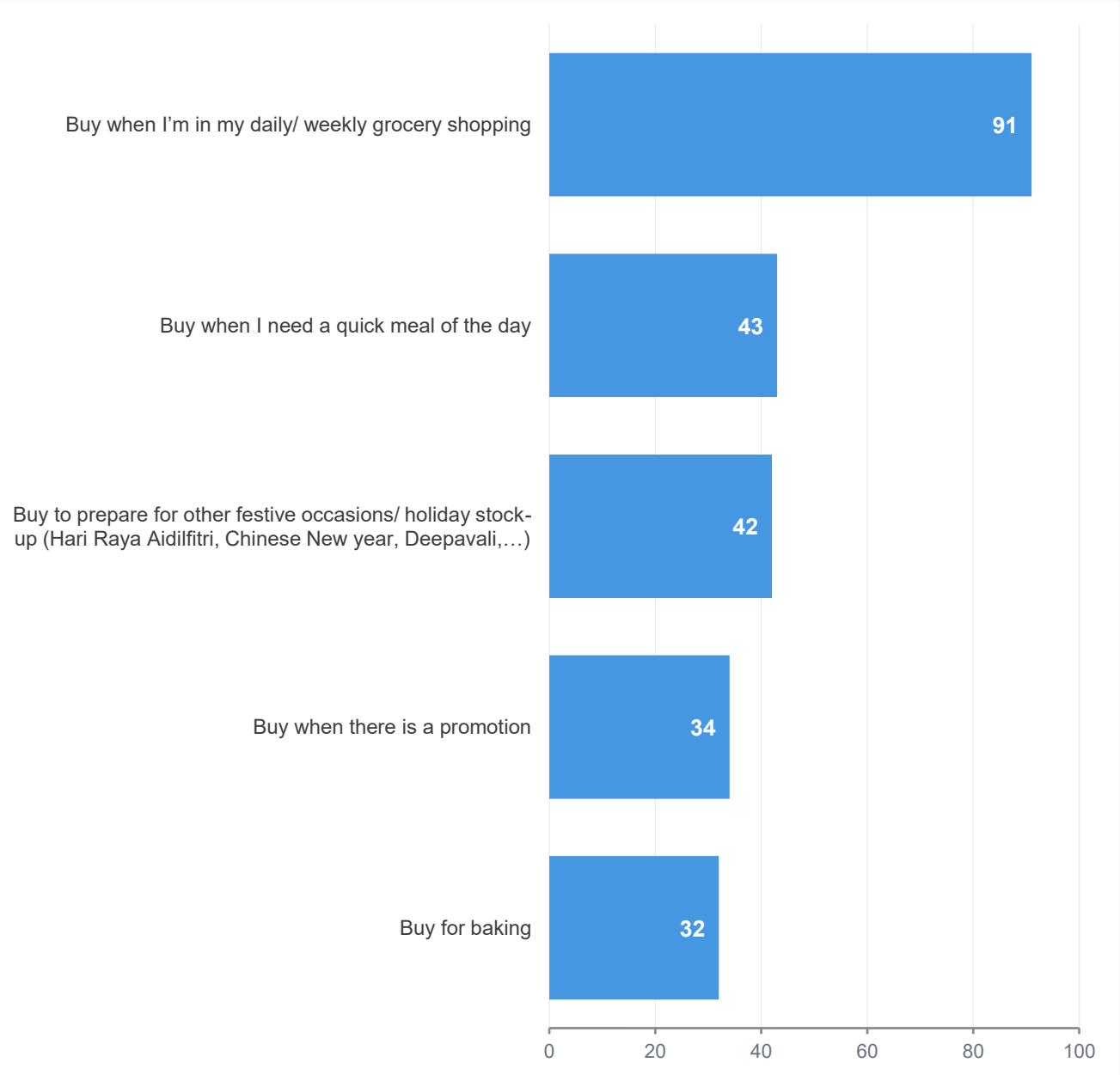
Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Eggs are a daily/weekly purchase, with 91% of consumers having eggs in their daily/weekly shopping basket.

Purchase occasion (%)

Base: n = 700



In the South and East Coast where festival density is high, consumers tend to purchase eggs for festive or holiday stock-ups. Younger consumers (21 - 25 years of age) are also significantly more likely than other groups to buy eggs for quick daily meals.

Purchase occasion by Region (%)

	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
Buy when I'm in my daily/ weekly grocery shopping	91	85	93	88	94	93
Buy when I need a quick meal of the day	43	46	41	45	51	37
Buy to prepare for other festive occasions/ holiday stock-up	42	40	35	54	49	38
Buy when there is a promotion	34	37	30	37	36	33
Buy for baking	32	28	33	32	37	33

Purchase occasion by Age Group & Frequency (%)

	TOTAL	AGE GROUP				PURCHASE FREQUENCY	
		21-25	26-35	36-45	46-55	Weekly	Monthly
Base (n=)	700	106	275	191	128	413	287
Buy when I'm in my daily/ weekly grocery shopping	91	76	95	93	90	90	91
Buy when I need a quick meal of the day	43	55	41	45	36	47	38
Buy to prepare for other festive occasions/ holiday stock-up	42	44	43	39	42	46	36
Buy when there is a promotion	34	41	35	30	32	34	34
Buy for baking	32	35	29	34	38	38	25

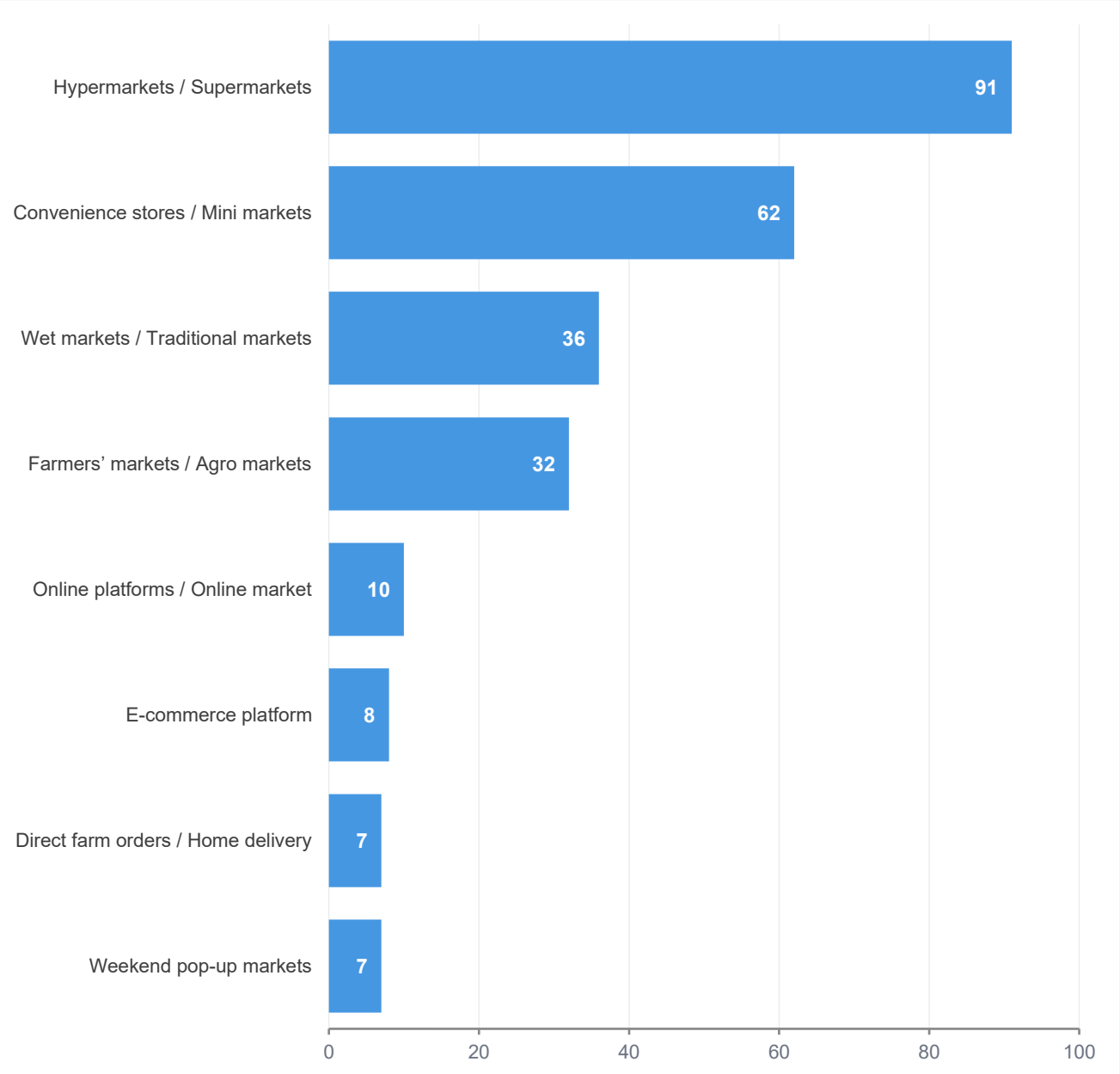
Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Hyper/Supermarkets, convenience stores/minimarts are key places where consumers are likely to purchase chicken eggs from.

Purchase place (%)

Base: n = 700



Purchase Place by Region, Age Group & Household Income

Consumers in East Malay are less likely to buy eggs from convenience stores/minimarts, whereas those in the North tend to purchase through wet or traditional markets. Younger consumers (21–25 years of age) tend to be more likely to buy chicken eggs through online platforms, while older groups (36–55 years of age) are more inclined toward pop-up markets. High-income households are also more receptive to e-commerce compared to other income segments.

Purchase place by Region (%)

	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
Hypermarkets / Supermarkets	91	86	93	87	94	93
Convenience stores/ Minimart	62	60	67	68	63	52
Wet markets / Traditional markets	36	47	28	37	33	39
Farmers' markets / Agro markets	32	40	25	29	31	35
Direct farm orders/ Home delivery	7	11	9	9	15	7
Weekend pop-up markets	7	9	7	7	7	10
Online platforms / Online market	10	12	5	9	5	2
E-commerce platform	8	10	6	7	7	5

Purchase place by Age Group & Household Income (%)

	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21-25	26-35	36-45	46-55	Low	Middle	High
Base (n=)	700	106	275	191	128	198	395	107
Hypermarkets / Supermarkets	91	86	97	85	89	88	92	88
Convenience stores/ Minimart	62	69	62	62	59	60	63	64
Wet markets / Traditional markets	36	33	32	42	40	39	35	36
Farmers' markets / Agro markets	32	35	30	29	36	29	33	31
Direct farm orders/ Home delivery	7	16	5	11	13	9	10	13
Weekend pop-up markets	7	3	7	10	9	8	7	10
Online platforms / Online market	10	20	5	3	5	3	7	13
E-commerce platform	8	14	4	6	7	6	6	13

Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Summary of chicken egg purchases

Chicken eggs are a weekly staple, with 60% of consumers purchasing once or several times per week.

Most buy packs of 30, followed by 10 and 12. The central region and younger consumers (age 21 - 25) show a stronger preference for smaller packs.

Chicken eggs appear in 91% of daily/weekly shopping baskets. The South and East Coast consumers tend to stock up during festivals. Younger buyers lean toward quick daily meals.

Hypermarkets and supermarkets, along with convenience stores/minimarts, are the primary purchase places. Younger consumers (21 - 25 years of age) are more likely to buy chicken eggs through online platforms, older groups (36 - 55 years of age) prefer pop-up markets, and high-income households are more receptive to purchase eggs through e-commerce.

SECTION

2.

Perception of chicken egg production systems

Concept test – Package and egg color in two scenarios

***Step 1.* Respondents were shown each set of images sequentially and were given time to observe before answering the questions**

SET 1 *Same package, different egg color*

IMAGE 1	IMAGE 2

SET 2 *Same egg color, different package*

IMAGE 1	IMAGE 2

***Step 2.* Respondents selected the statement about the chicken egg production system that they associated with each image**

Statement:

Statement (Wording in the questionnaire)	Wording in the report
These eggs come from hens that are kept in small cages with little space to move	**Caged egg**
These eggs come from hens that live cage-free with additional space to move but no outdoor access	**Cage free – without outdoor access**
These eggs come from hens that live cage-free with additional space to move and with outdoor access	**Cage free – with outdoor access**
These eggs come from hens raised on small farms or backyards, with outdoor and natural feed access	**Free range**

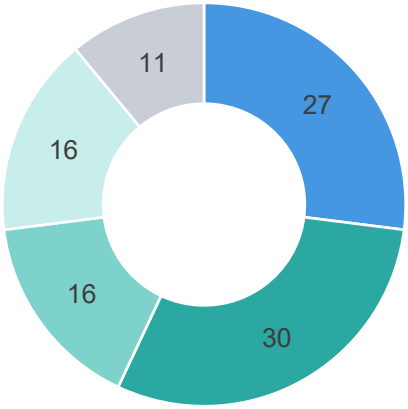
Concept test stimuli (Set 1 & Set 2) shown to respondents, and the statement-to-wording mapping used throughout this report.

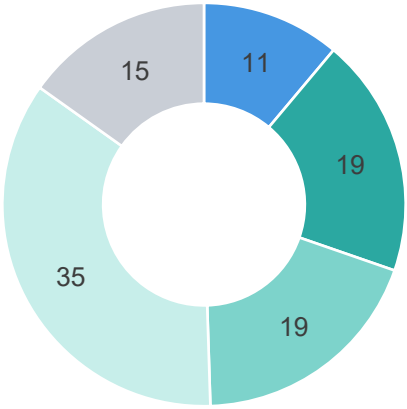
Most consumers associate brown eggs with indoor systems, either cage or cage-free, while they believe that white eggs are produced by hens kept cage-free, especially in free-range environments.

SET 1 - TOTAL RESULTS *(Base: n = 700)*

IMAGE 1 – Brown eggs in carton

IMAGE 2 – White eggs in carton





- Caged egg
- Cage free – without outdoor access
- Cage free – with outdoor access
- Free range
- Not sure

Set 1 (same package, different egg color): respondents selected the statement about the production system associated with each image.

Package and egg color test – SET 1 Breakdown

Most consumers across regions & age groups associate brown eggs with indoor systems, either cage or cage-free, while they believe that white eggs are produced by hens kept cage-free, especially in free-range environments.

Image 1: Brown eggs in carton

Image 1: Brown eggs in carton

Breakdown by Region (%)

	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
IMAGE 1 – Brown eggs in carton						
Caged egg	27	31	28	23	32	23
Cage free – without outdoor access	30	24	34	33	30	29
Cage free – with outdoor access	16	17	16	18	16	11
Free range	16	15	13	20	16	19
Not sure	11	13	9	7	5	18
IMAGE 2 – White eggs in carton						
Caged egg	11	11	11	12	13	11
Cage free – without outdoor access	19	22	14	23	22	16
Cage free – with outdoor access	19	20	23	12	23	17
Free range	35	31	40	40	32	31
Not sure	15	16	12	13	10	26

Breakdown by Age Group & Household Income (%)

	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	700	106	275	191	128	198	395	107
IMAGE 1 – Brown eggs in carton								
Caged egg	27	23	27	27	33	25	29	27
Cage free – without outdoor access	30	30	30	35	24	36	28	29
Cage free – with outdoor access	16	22	16	13	14	12	18	13
Free range	16	21	19	15	9	17	16	18
Not sure	11	5	9	10	20	11	10	13
IMAGE 2 – White eggs in carton								
Caged egg	11	15	10	13	9	10	13	9
Cage free – without outdoor access	19	18	19	16	23	19	19	18
Cage free – with outdoor access	19	25	18	21	15	16	22	16
Free range	35	36	40	34	27	39	32	39
Not sure	15	7	13	17	27	17	14	18

Significantly higher than the other groups (95% CL)

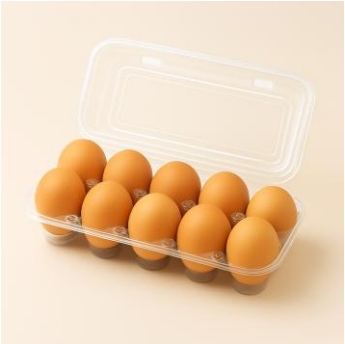
Significantly lower than the other groups (95% CL)

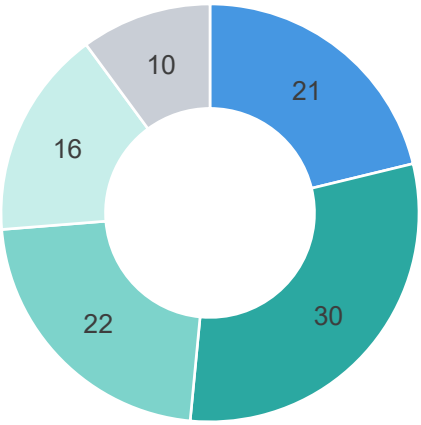
Package type does not appear to influence consumer perception of production systems, as both brown eggs in cartons and plastic boxes are strongly associated with caged or cage-free production

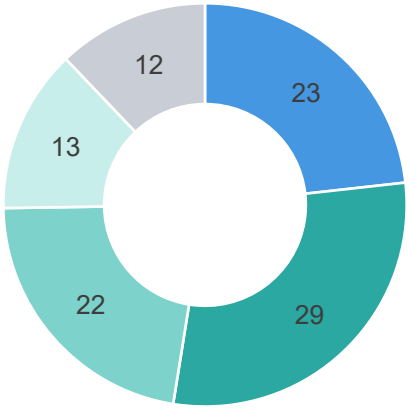
SET 2 - TOTAL RESULTS *(Base: n = 700)*

IMAGE 1 – Brown eggs in carton box

IMAGE 2 – Brown eggs in plastic box







- Caged egg
- Cage free – without outdoor access
- Cage free – with outdoor access
- Free range
- Not sure

Package and egg color test – SET 2 Breakdown

Young consumers (21 - 35 years of age) tend to associate brown eggs in cartons with cage-free production (with outdoor access), while older consumers (46 - 55 years of age) consistently show stronger uncertainty about egg production systems

Image 1: Brown eggs in carton box

Image 2: Brown eggs in plastic box

Breakdown by Region (%)

	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
IMAGE 1 – Brown eggs in plastic box						
Caged egg	21	29	20	16	25	18
Cage free – without outdoor access	30	20	33	33	32	34
Cage free – with outdoor access	22	23	26	24	18	17
Free range	16	14	15	19	19	14
Not sure	10	14	7	8	7	16
IMAGE 2 – Brown eggs in clamshell box						
Caged egg	23	23	25	14	28	25
Cage free – without outdoor access	29	27	30	31	34	27
Cage free – with outdoor access	22	23	22	24	19	23
Free range	13	10	14	20	12	8
Not sure	12	17	9	10	7	17

Breakdown by Age Group & Household Income (%)

	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	700	106	275	191	128	198	395	107
IMAGE 1 – Brown eggs in plastic box								
Caged egg	21	21	16	23	32	18	22	24
Cage free – without outdoor access	30	26	32	34	25	35	30	22
Cage free – with outdoor access	22	27	25	20	16	18	24	22
Free range	16	21	20	12	9	14	15	21
Not sure	10	5	8	12	19	14	9	10
IMAGE 2 – Brown eggs in clamshell box								
Caged egg	23	19	21	27	25	29	20	25
Cage free – without outdoor access	29	27	32	29	27	25	31	30
Cage free – with outdoor access	22	26	25	19	19	18	26	16
Free range	13	21	12	14	9	13	11	19
Not sure	12	7	10	12	20	15	11	10

Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Set 2 (same egg color, different package): respondents selected the statement about the production system associated with each image.

Customers' awareness & association between different chicken egg types to production systems

Respondents were asked questions about each type of egg, with the corresponding image displayed. Each egg type was presented individually, one at a time

Question: ***Please tell us which you think best describes the living conditions of hens that produced …***

Regular eggs

(Grade A/B/C egg)

Fresh eggs

(Eggs that are marketed or labelled as "Fresh eggs")

Organic eggs

(Eggs that are marketed or labelled as "Organic")

Kampung eggs

Statement:

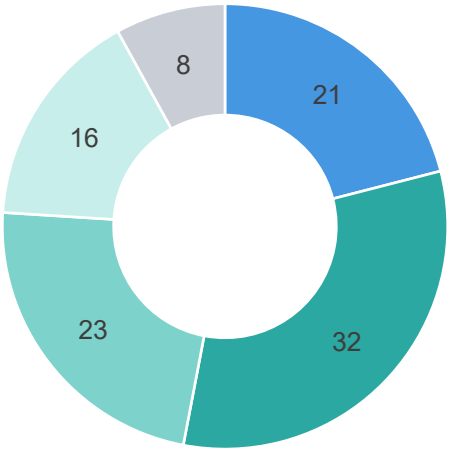
Statement (Wording in the questionnaire)	Wording in the report
These eggs come from hens that are kept in small cages with little space to move	**Caged egg**
These eggs come from hens that live cage-free with additional space to move but no outdoor access	**Cage free – without outdoor access**
These eggs come from hens that live cage-free with additional space to move and with outdoor access	**Cage free – with outdoor access**
These eggs come from hens raised on small farms or backyards, with outdoor and natural feed access	**Free range**

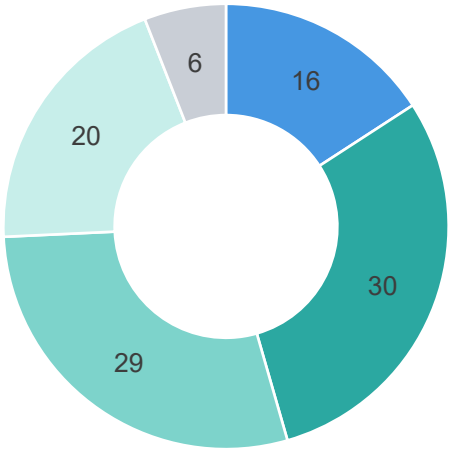
Appealing carton packaging & design cause respondents to confuse regular eggs with cage free. Labels featuring terms like 'Farm Fresh' also mislead consumers into thinking the eggs are cage free.

REGULAR & FRESH EGGS - TOTAL RESULTS *(Base: n = 700)*

Regular eggs

Fresh eggs





- Caged egg
- Cage free – without outdoor access
- Cage free – with outdoor access
- Free range
- Not sure

Question: Please tell us which you think best describes the living conditions of hens that produced … (see Slide 6 for stimuli & statement wording).

Regular & Fresh eggs perception - Breakdown

Young consumers (21 - 35 years of age) & Higher income consumers more strongly associate regular eggs in appealing cartons with cage free

Regular eggs

Fresh eggs

Breakdown by Region (%)

	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
Regular eggs						
Caged egg	21	21	23	14	20	24
Cage free – without outdoor access	32	31	28	36	29	36
Cage free – with outdoor access	23	27	27	24	20	11
Free range	16	10	16	16	22	22
Not sure	8	12	5	9	10	8
Fresh eggs						
Caged egg	16	10	18	8	20	21
Cage free – without outdoor access	30	30	31	29	30	27
Cage free – with outdoor access	29	33	26	33	26	27
Free range	20	17	22	25	18	19
Not sure	6	10	3	4	7	6

Breakdown by Age Group & Household Income (%)

	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	700	106	275	191	128	198	395	107
Regular eggs								
Caged egg	21	16	21	20	27	18	22	23
Cage free – without outdoor access	32	25	31	35	34	39	30	24
Cage free – with outdoor access	23	32	27	16	15	16	25	25
Free range	16	21	13	21	13	16	17	17
Not sure	8	6	8	8	13	11	7	10
Fresh eggs								
Caged egg	16	9	12	19	22	18	12	23
Cage free – without outdoor access	30	30	31	31	23	31	31	23
Cage free – with outdoor access	29	33	33	24	23	24	32	26
Free range	20	25	17	21	22	20	20	21
Not sure	6	3	6	4	10	7	5	6

Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

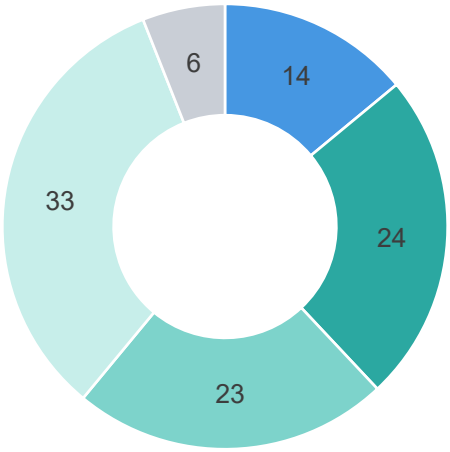
Question: Please tell us which you think best describes the living conditions of hens that produced … (see Slide 6 for stimuli & statement wording).

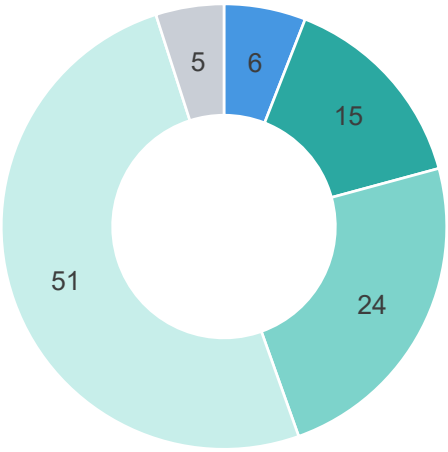
Eggs labeled as 'Organic' are strongly associated with cage-free and free-range production systems. Kampung eggs are perceived to free-range or cage-free systems (with outdoor access)

ORGANIC & KAMPUNG EGGS - TOTAL RESULTS *(Base: n = 700)*

Organic eggs

Kampung eggs





- Caged egg
- Cage free – without outdoor access
- Cage free – with outdoor access
- Free range
- Not sure

Question: Please tell us which you think best describes the living conditions of hens that produced … (see Slide 6 for stimuli & statement wording).

Organic & Kampung eggs perception - Breakdown

Organic eggs

Kampung eggs

Breakdown by Region (%)

	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
Organic eggs						
Caged egg	14	14	11	14	12	22
Cage free – without outdoor access	24	25	25	18	20	29
Cage free – with outdoor access	23	23	27	21	25	18
Free range	33	30	32	40	37	26
Not sure	6	8	4	6	6	5
Kampung eggs						
Caged egg	6	6	5	8	6	3
Cage free – without outdoor access	15	18	10	15	20	14
Cage free – with outdoor access	24	27	27	14	20	27
Free range	51	44	54	60	48	50
Not sure	5	5	3	3	6	7

Breakdown by Age Group & Household Income (%)

	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	700	106	275	191	128	198	395	107
Organic eggs								
Caged egg	14	14	14	15	16	17	11	21
Cage free – without outdoor access	24	24	22	27	24	24	25	21
Cage free – with outdoor access	23	28	25	25	14	21	26	18
Free range	33	32	34	28	36	31	33	36
Not sure	6	2	5	6	10	7	5	6
Kampung eggs								
Caged egg	6	8	5	5	5	6	6	4
Cage free – without outdoor access	15	16	13	16	15	13	15	18
Cage free – with outdoor access	24	24	20	24	30	20	26	21
Free range	51	51	57	51	40	56	49	52
Not sure	5	2	4	4	9	6	4	5

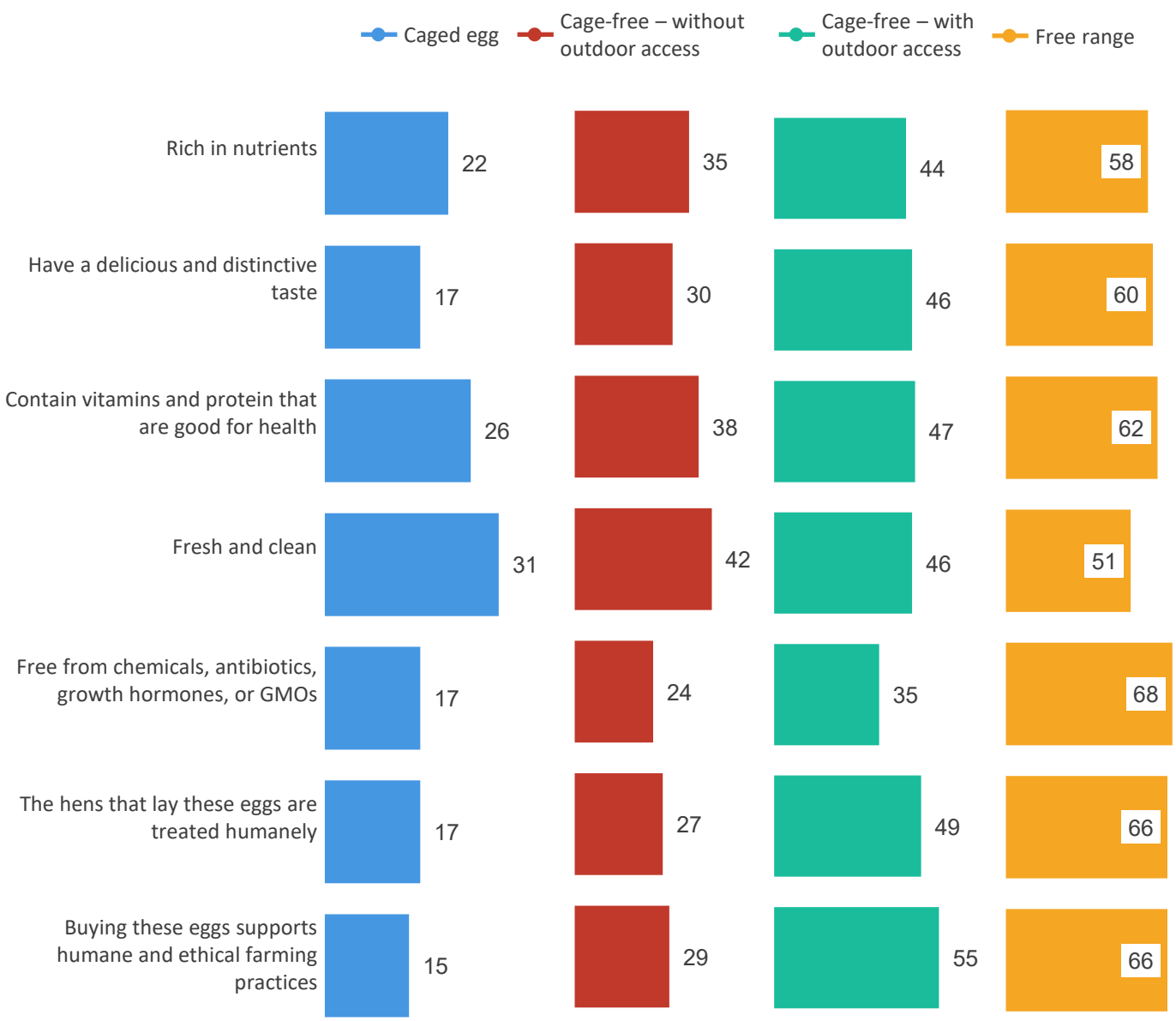
Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Question: Please tell us which you think best describes the living conditions of hens that produced … (see Slide 6 for stimuli & statement wording).

The closer hens are to outdoor access and nature, the more consumers associate their eggs with higher nutritional value, distinctive taste, vitamins and protein, and being free from chemicals or antibiotics.
Cage-free (with outdoor access) and free-range systems are strongly linked to humane treatment and ethical farming practices.

Association to each production system (%)



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Eggs from caged hens are less associated with attributes related to nutritional value and ethical farming. However, respondents from the East Coast more strongly associate eggs from caged hens to these attributes compared to other areas. Compared to other income groups, middle-class consumers tend to associate caged eggs less with humane treatment and ethical farming practices.

Association to Caged eggs (%)

Breakdown by Region (%)	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
Rich in nutrients	22	20	18	13	32	28
Have a delicious and distinctive taste	17	19	15	11	26	17
Contain vitamins and protein that are good for health	26	26	24	18	40	27
Fresh and clean	31	30	27	24	51	33
Free from chemicals, antibiotics, growth hormones, or GMOs	17	19	15	12	27	18
The hens that lay these eggs are treated humanely	17	17	13	14	24	20
Buying these eggs supports humane and ethical farming practices	15	14	14	10	28	16

Breakdown by Age Group & Household Income (%)	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	700	106	275	191	128	198	395	107
Rich in nutrients	22	25	21	21	20	22	21	25
Have a delicious and distinctive taste	17	23	15	16	17	17	17	18
Contain vitamins and protein that are good for health	26	24	27	26	27	28	24	33
Fresh and clean	31	25	30	36	33	36	29	34
Free from chemicals, antibiotics, growth hormones, or GMOs	17	18	16	17	20	20	16	19
The hens that lay these eggs are treated humanely	17	21	18	15	15	19	14	22
Buying these eggs supports humane and ethical farming practices	15	14	16	18	13	20	13	17

Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Data point(s) that are higher/lower than the other groups but might not be statistically significant (95% CL). Researchers intentionally highlight these data points to provide additional insight.

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Turning to cage-free egg (without outdoor access), consumers in the East Coast & East Malay and the higher income group tend to strongly associate this egg with nutritional value (rich nutrients, good vitamins/proteins, and free from chemicals or antibiotics).

Association to Cage-free eggs (%) – *Without outdoor access*

Breakdown by Region (%)	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
Rich in nutrients	35	33	28	34	45	40
Have a delicious and distinctive taste	30	30	27	28	31	34
Contain vitamins and protein that are good for health	38	40	32	34	45	42
Fresh and clean	42	43	40	38	47	44
Free from chemicals, antibiotics, growth hormones, or GMOs	24	31	21	23	27	22
The hens that lay these eggs are treated humanely	27	31	24	21	28	30
Buying these eggs supports humane and ethical farming practices	29	33	27	17	38	31

Breakdown by Age Group & Household Income (%)	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	700	106	275	191	128	198	395	107
Rich in nutrients	35	35	37	37	27	33	34	42
Have a delicious and distinctive taste	30	28	28	34	29	24	33	28
Contain vitamins and protein that are good for health	38	35	38	40	36	29	40	47
Fresh and clean	42	36	41	46	44	45	40	42
Free from chemicals, antibiotics, growth hormones, or GMOs	24	35	24	19	23	19	25	34
The hens that lay these eggs are treated humanely	27	27	30	28	18	26	27	27
Buying these eggs supports humane and ethical farming practices	29	35	32	26	22	30	27	34

Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Data point(s) that are higher/lower than the other groups but might not be statistically significant (95% CL). Researchers intentionally highlight these data points to provide additional insight.

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For cage-free egg (with outdoor access), young consumers (21 - 25 years of age) and the higher income groups tend to strongly associate this egg with all-around nutritional value & ethical farming attributes.

Association to Cage-free eggs (%) – *With outdoor access*

Breakdown by Region (%)	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
Rich in nutrients	44	46	47	42	46	35
Have a delicious and distinctive taste	46	49	48	45	51	36
Contain vitamins and protein that are good for health	47	50	50	44	51	40
Fresh and clean	46	49	48	45	47	42
Free from chemicals, antibiotics, growth hormones, or GMOs	35	37	36	36	34	31
The hens that lay these eggs are treated humanely	49	56	50	48	52	41
Buying these eggs supports humane and ethical farming practices	55	56	59	50	62	48

Breakdown by Age Group & Household Income (%)	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	700	106	275	191	128	198	395	107
Rich in nutrients	44	59	42	41	38	37	47	43
Have a delicious and distinctive taste	46	60	45	41	42	37	49	50
Contain vitamins and protein that are good for health	47	56	44	48	45	41	50	47
Fresh and clean	46	60	46	43	41	34	51	52
Free from chemicals, antibiotics, growth hormones, or GMOs	35	51	34	30	32	27	37	43
The hens that lay these eggs are treated humanely	49	59	48	48	45	45	49	58
Buying these eggs supports humane and ethical farming practices	55	63	54	56	48	47	57	63

Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Data point(s) that are higher/lower than the other groups but might not be statistically significant (95% CL). Researchers intentionally highlight these data points to provide additional insight.

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Free-range eggs are highly associated with nutritional value and ethical farming attributes across regions, age groups, and income classes.

Association Free-range eggs (%)

Breakdown by Region (%)

		REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	700	147	205	119	97	132
Rich in nutrients	58	63	61	51	63	48
Have a delicious and distinctive taste	60	61	62	56	61	59
Contain vitamins and protein that are good for health	62	63	67	57	60	59
Fresh and clean	51	52	56	50	48	42
Free from chemicals, antibiotics, growth hormones, or GMOs	68	65	70	68	72	64
The hens that lay these eggs are treated humanely	66	63	67	64	72	64
Buying these eggs supports humane and ethical farming practices	66	68	68	69	65	61

Breakdown by Age Group & Household Income (%)

	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	700	106	275	191	128	198	395	107
Rich in nutrients	58	64	53	58	60	57	57	61
Have a delicious and distinctive taste	60	63	58	62	59	60	59	64
Contain vitamins and protein that are good for health	62	68	60	61	63	62	62	63
Fresh and clean	51	58	48	49	52	48	52	49
Free from chemicals, antibiotics, growth hormones, or GMOs	68	67	69	68	66	70	69	60
The hens that lay these eggs are treated humanely	66	66	63	66	70	66	67	62
Buying these eggs supports humane and ethical farming practices	66	63	65	66	72	65	68	64

Significantly higher than the other groups (95% CL)

Significantly lower than the other groups (95% CL)

Data point(s) that are higher/lower than the other groups but might not be statistically significant (95% CL). Researchers intentionally highlight these data points to provide additional insight.

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Summary of chicken egg production systems

Chicken egg color strongly shapes consumer perceptions of production systems: brown eggs are mainly perceived to caged or cage-free farming, while white eggs are associated with free-range. Packaging type has little influence, as both cartons and plastic boxes of brown eggs are perceived similarly (caged or cage-free).

Labeling & Packaging impact consumer perceptions of production systems. Carton packs with premium & appealing designs cause confusion, with 55% of consumers mistaking regular eggs for cage-free. Terms like *"Farm Fresh, Organic"* mislead consumers as they believe these eggs are cage-free or free-range.

Consumers associate cage-free eggs with outdoor access and free-range eggs with better nutrition, taste, freedom from chemicals, humane and ethical farming.

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SECTION

3.

Cage-free egg concept test

Cage eggs and Cage-free eggs concept

CAGE EGGS

The dominant form of commercial egg production uses cages to confine egg-laying hens.

In these cages, hens cannot express their basic natural behavior. They are unable to perch, scratch, nest, freely stretch their wings or walk more than a few steps. They may be kept in these cages for up to two years before they are slaughtered.

CAGE-FREE EGGS

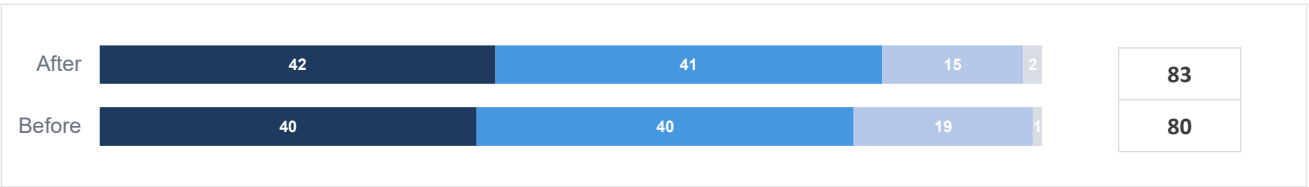
In contrast, cage-free eggs come from hens not confined to cages. They are raised in open barns where they can express their natural behavior, lay their eggs in a nest box, roost on perches at night and spread their wings.

The hens have more space and are less crowded in cage-free systems. They can walk and run freely throughout the indoor environment. Some cage-free farms also provide outdoor access for the hens.

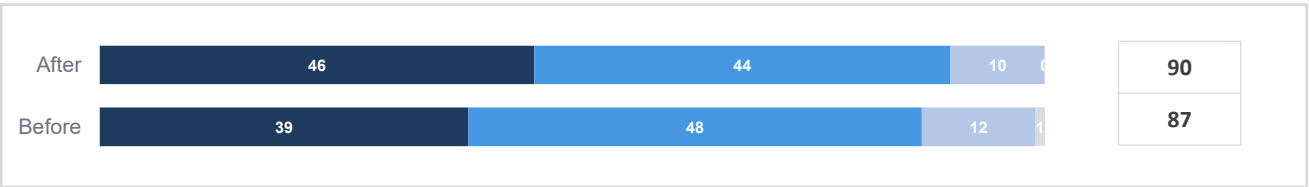
Respondents already demonstrated strong support for cage-free eggs prior to the concept test. The concept test slightly increased likability, purchase intent, and willingness to pay for cage-free eggs

Concept test (%) – Total, n = 700

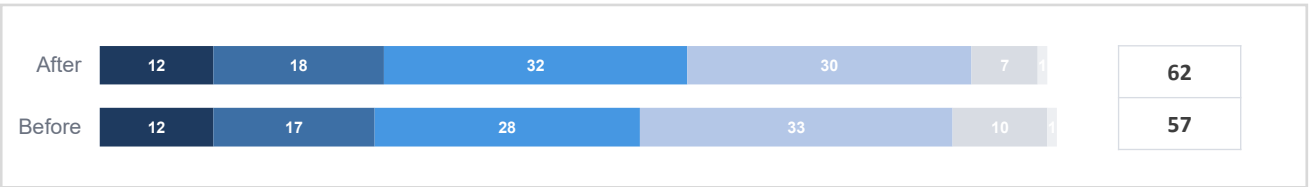
Likability T2B: 80% → 83% (+3%)



Purchase intent T2B: 87% → 90% (+3%)



Willingness to pay more T3B: 57% → 62% (+5%)



Likability / Purchase intent scale:

- Strongly like it / Definitely will buy
- Feel normal / Might buy or not

T2B

- Like it / Will buy
- Dislike / Won't buy

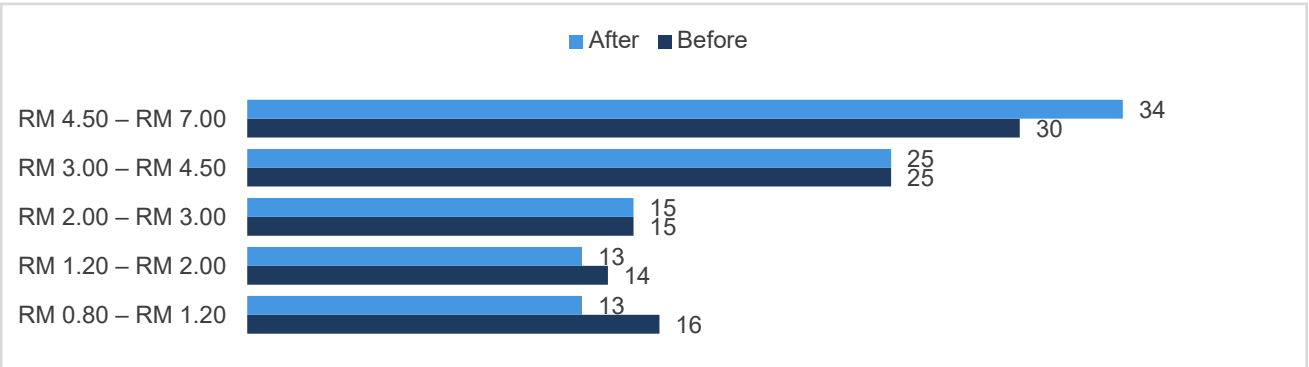
Willingness to pay scale:

- Would even if much more expensive than any other egg type (1)
- Would buy even if much more expensive than avg. market price (2)
- Would buy if a little higher than avg. market price (3)

T3B

- Would only buy if equivalent to avg. market price (4)
- Would buy if a little lower than avg. market price (5)
- Wouldn't buy this egg at all (6)

Amount willing to pay more (%)



East Coast consumers also demonstrated higher levels of likability and a greater willingness to pay for cage-free eggs

Concept test (%) – By subgroup – Region

	TOTAL	REGION				
		North	Central	South	East Coast	East Malay
Base (n=)	*700*	*147*	*205*	*119*	*97*	*132*
Likability (T2B) *T2B = % Strongly like + % like*						
Preconcept test	***80***	84	81	84	81	69
Post-concept test	***83***	84	83	90	88	71
% Gap (Post – Pre)	***+3***	**0**	**+2**	**+6**	**+7**	**+2**
Purchase intent (T2B) *T2B = % Definitely will buy + % Will buy*						
Preconcept test	***87***	86	89	87	92	80
Post-concept test	***90***	88	92	92	95	83
% Gap (Post – Pre)	***+3***	**+2**	**+3**	**+5**	**+3**	**+3**
Willingness to pay more (% T3B) *T3B = Total of % willing to buy even at higher than average price*						
Preconcept test	***57***	65	63	62	48	39
Post-concept test	***62***	65	68	67	67	43
% Gap (Post – Pre)	***+5***	**0**	**+5**	**+5**	**+19**	**+4**

The increase was most noticeable among younger consumers (21 – 25 years of age) and those in lower-income groups.

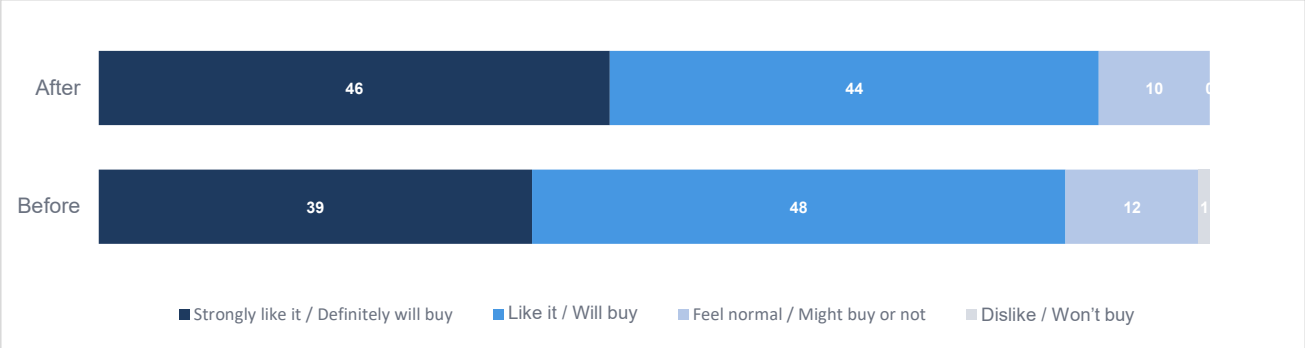
Concept test (%) – By subgroup – Age group & Household income

	TOTAL	AGE GROUP				HOUSEHOLD INCOME		
		21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	*700*	*106*	*275*	*191*	*128*	*198*	*395*	*107*
Likability (T2B) *T2B = % Strongly like + % like*								
Preconcept test	***80***	80	80	79	81	76	81	82
Post-concept test	***83***	87	83	85	77	83	84	80
% Gap (Post – Pre)	***+3***	**+7**	**+3**	**+6**	**-4**	**+7**	**+3**	**-2**
Purchase intent (T2B) *T2B = % Definitely will buy + % Will buy*								
Preconcept test	***87***	84	87	89	85	81	89	88
Post-concept test	***90***	90	91	91	87	88	91	90
% Gap (Post – Pre)	***+3***	**+6**	**+4**	**+2**	**+2**	**+7**	**+2**	**+2**
Willingness to pay more (% T3B) *T3B = Total of % willing to buy even at higher than average price*								
Preconcept test	***57***	61	56	55	58	38	63	69
Post-concept test	***62***	72	62	57	63	50	66	74
% Gap (Post – Pre)	***+5***	**+11**	**+6**	**+2**	**+5**	**+12**	**+3**	**+5**

Consumers show strong support for the cage-free model. However, many assume that regular, fresh, and organic eggs are already cage-free. This reflects a perception gap.

Overall, 90% of respondents intend to purchase cage-free egg, and 62% of respondent are even willing to pay more for cage-free

Intent to purchase cage-free eggs **T2B: 87% → 90%** **(+3%)**



Over 75% consumers believe they are purchasing cage-free or free-range eggs when they choose conventional eggs packaged with an appealing design or those labelled as "Farm Fresh"

Regular eggs

Only **21%** of respondents correctly identify this package as eggs from caged hens

Fresh eggs

Only **16%** of respondents correctly identify this package as eggs from caged hens

Organic eggs

47% of respondents believe these eggs are from hens kept cage free and **33%** think they are free range

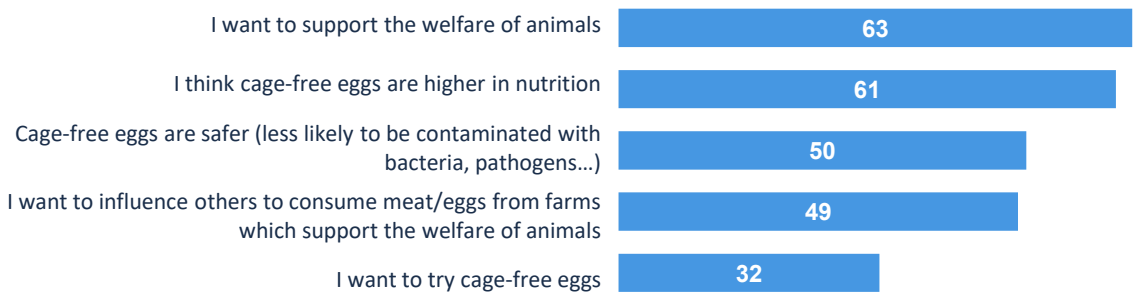
Kampung eggs

39% of respondents believe these eggs are from hens kept cage free and **51%** believe they are free range

Key reasons driving consumer support for cage-free eggs includes a desire to promote animal welfare and the perception that cage-free eggs offer higher nutritional value.

High-income consumers favour cage-free eggs for their perceived nutritional and safety benefits. In addition, they tend to advocate cage-free production to influence others toward supporting animal welfare

Reasons intend to buy cage-free egg (%) – Total (%)



Reasons intend to buy cage-free egg (%) – By subgroup (%)

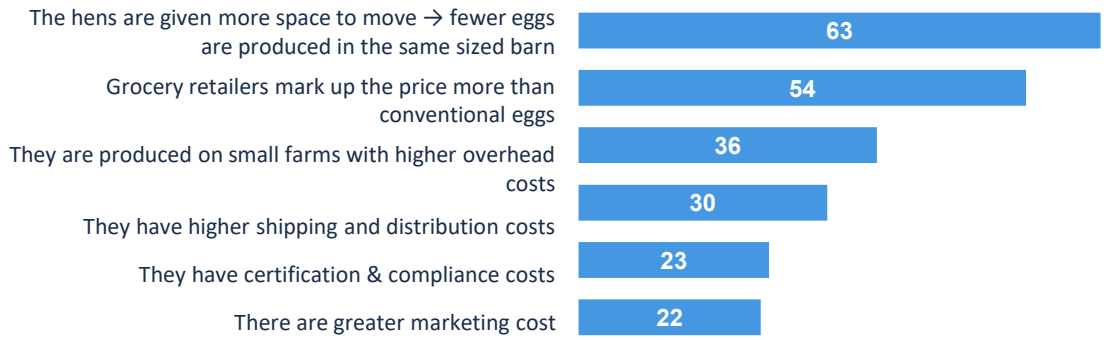
	REGION					AGE GROUP				HOUSEHOLD INCOME		
	North	Central	South	East Coast	East Malay	21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	*147*	*205*	*119*	*97*	*132*	*106*	*275*	*191*	*128*	*198*	*395*	*107*
I want to support the welfare of animals	53	66	65	68	63	61	66	63	58	61	63	67
I think cage-free eggs are higher in nutrition	65	63	57	65	54	65	60	57	67	53	63	**71**
Cage-free eggs are safer (less likely to be contaminated with bacteria, pathogens…)	50	48	54	54	48	52	45	53	58	47	49	**61**
I want to influence others to consume meat/eggs from farms which support the welfare of animals	50	55	43	49	46	55	50	45	52	45	49	57
I want to try cage-free eggs	29	33	35	33	33	32	32	32	33	29	35	30

Significantly higher than the other groups (95% CL)

Regarding perceptions of why cage-free eggs cost more, consumers assume it requires more space for hens to grow. Retailer mark-up the price is also considered part of the reason.

> *Younger consumers (21-25 years of age) tend to assume cage-free eggs cost more because they involve higher overhead, shipping & distribution, and certification & compliance costs. A similar trend is observed among high-income groups*

Reasons cage-free eggs cost more (%) – Total (%)



Reasons cage-free eggs cost more (%) – By subgroup (%)

	REGION					AGE GROUP				HOUSEHOLD INCOME		
	North	Central	South	East Coast	East Malay	21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	*147*	*205*	*119*	*97*	*132*	*106*	*275*	*191*	*128*	*198*	*395*	*107*
The hens are given more space to move → fewer eggs are produced in the same sized barn	60	66	57	64	66	57	65	60	67	63	64	62
Grocery retailers mark up the price more than conventional eggs	53	52	55	61	50	52	51	54	59	51	56	49
They are produced on small farms with higher overhead costs	39	35	41	34	29	41	35	37	32	31	36	41
They have higher shipping and distribution costs	35	29	27	31	27	37	28	29	29	25	30	**37**
They have certification & compliance costs	32	19	23	19	21	35	22	20	17	19	24	25
There are greater marketing cost	21	21	25	23	22	25	21	23	23	23	20	31

Significantly higher than the other groups (95% CL)

Data point(s) that are higher/lower than the other groups but might not be statistically significant (95% CL). Researchers intentionally highlight these data points to provide additional insight.

A summary of cage-free concept test

Consumers already show strong support for cage-free eggs, and the concept test slightly boosts likability, purchase intent, and willingness to pay. The increase is most evident among younger (21-25 years of age), lower-income, and East Coast consumers.

Support is driven by beliefs in animal welfare and higher nutritional value. The higher costs of cage-free system are attributed to greater space requirements for hens and retailer mark-ups.

Despite strong support, many confuse regular, fresh, or organic eggs with cage-free, highlighting a perception gap that needs to be addressed to expand the cage-free model in Malaysia.

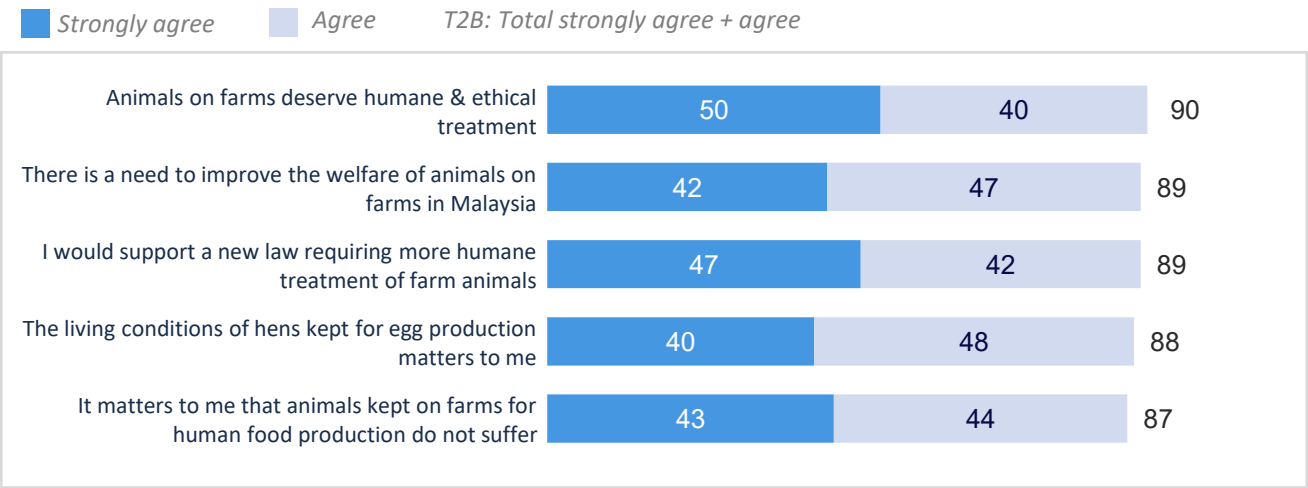
SECTION

4.

Attitude toward ethical farming

Consumers across regions, age groups, and income levels support ethical farming, including ethical treatment of animals, improvements in animal welfare, support for laws on humane treatment, and concern for animal living conditions.

Attitude toward ethical farming – T2B (%) – Total (%)

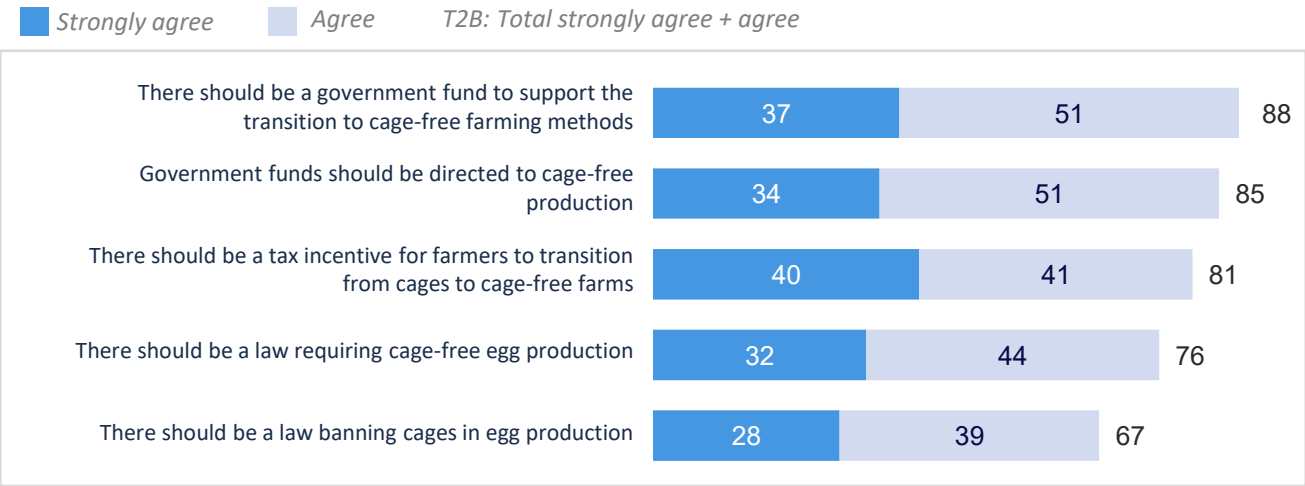


Attitude toward ethical farming – T2B (%) – By subgroup (%)

	REGION					AGE GROUP				HOUSEHOLD INCOME		
	North	Central	South	East Coast	East Malay	21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	*147*	*205*	*119*	*97*	*132*	*106*	*275*	*191*	*128*	*198*	*395*	*107*
Animals on farms deserve humane & ethical treatment	88	93	92	91	88	92	92	87	91	92	90	89
There is a need to improve the welfare of animals on farms in Malaysia	86	93	91	93	83	89	91	87	89	89	89	92
I would support a new law requiring more humane treatment of farm animals	84	93	87	94	88	93	91	86	89	88	89	92
The living conditions of hens kept for egg production matters to me	87	92	91	86	83	92	89	85	88	87	89	88
It matters to me that animals kept on farms for human food production do not suffer	85	87	92	93	82	91	87	85	90	87	87	87

Consumers across cohorts support government funding and tax incentives for cage-free eggs, and most consumers would support a law on cage-free egg production.

Attitude toward government support for cage-free farming (%) – Total (%)



Attitude toward government support for cage-free farming (%) – By subgroup (%)

	REGION					AGE GROUP				HOUSEHOLD INCOME		
	North	Central	South	East Coast	East Malay	21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	*147*	*205*	*119*	*97*	*132*	*106*	*275*	*191*	*128*	*198*	*395*	*107*
There should be a government fund to support the transition to cage-free farming methods	88	90	92	88	83	92	88	86	88	87	88	92
Government funds should be directed to cage-free production	85	88	86	87	78	90	86	80	87	85	84	88
There should be a tax incentive for farmers to transition from cages to cage-free farms	78	87	80	80	76	79	81	80	82	77	82	85
There should be a law requiring cage-free egg production	74	81	66	89	69	82	76	72	77	69	78	79
There should be a law banning cages in egg production	66	73	59	74	61	68	66	64	72	58	70	72

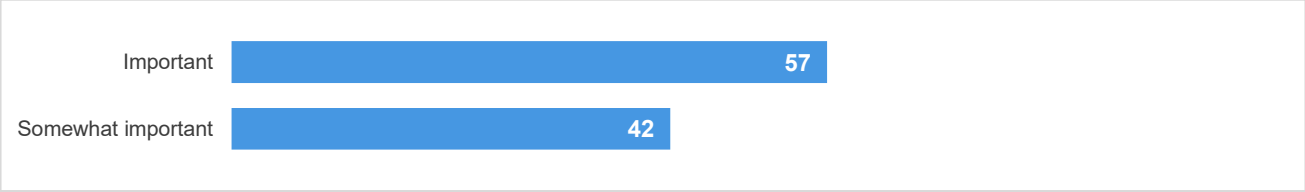
Significantly lower than the other groups (95% CL)

Consumers across cohorts consider animal welfare an important component of sustainability.

Respondents were asked: Do you consider animal welfare practices (such as cage-free housing and more humane treatment of hens) to be an important component of sustainability?

And given the following definition: Sustainability means meeting the needs of the present without compromising the ability of future generations to meet their own needs. The concept has environmental, economic, social and cultural dimensions.

Animal welfare practices vs sustainability (%) – Total (%)



Animal welfare practices vs sustainability (%) – By subgroup (%)

	REGION					AGE GROUP				HOUSEHOLD INCOME		
	North	Central	South	East Coast	East Malay	21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	*147*	*205*	*119*	*97*	*132*	*106*	*275*	*191*	*128*	*198*	*395*	*107*
Important	54	56	58	63	54	67	55	54	55	56	56	60
Somewhat important	44	43	42	37	44	33	44	44	45	44	43	38
Total (Important + Somewhat important)	**98**	**99**	**100**	**100**	**98**	**100**	**99**	**98**	**100**	**100**	**99**	**98**

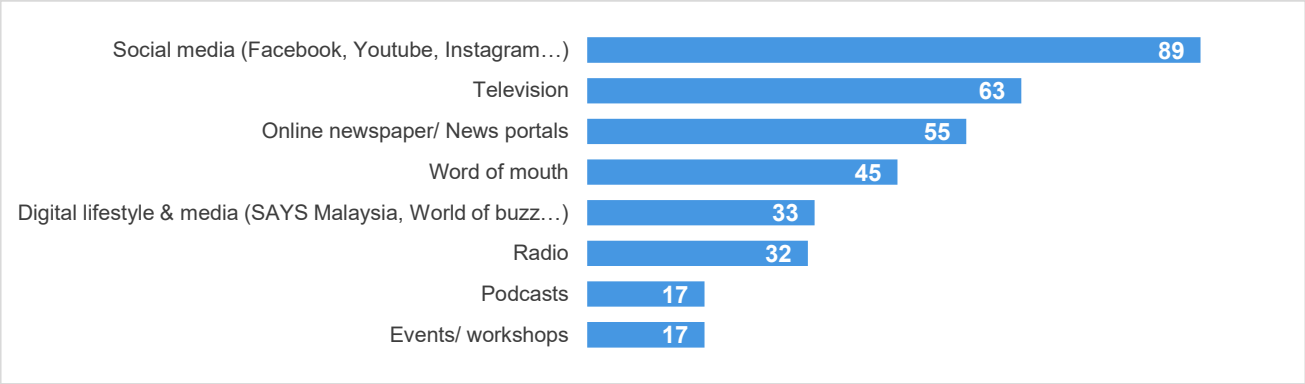
SECTION

III.

Appendix

Media channels of information about food

Source of information – Food (%) – Total (%)



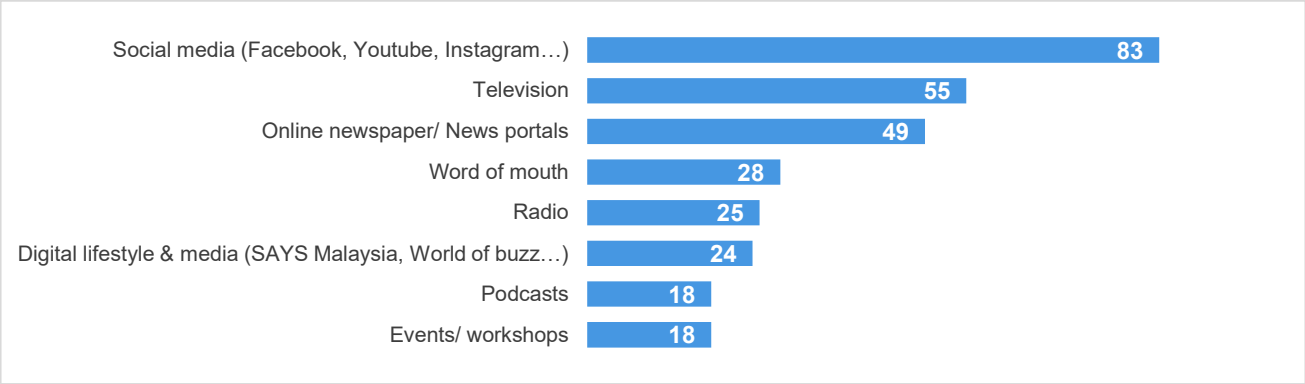
Source of information – Food (%) – By subgroup (%)

	REGION					AGE GROUP				HOUSEHOLD INCOME		
	North	Central	South	East Coast	East Malay	21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	*147*	*205*	*119*	*97*	*132*	*106*	*275*	*191*	*128*	*198*	*395*	*107*
Social media (Facebook, Youtube, Instagram…)	84	90	92	91	90	87	92	89	87	90	87	94
Television	51	65	72	72	57	57	64	69	55	61	65	59
Online newspaper/ News portals	50	56	63	46	56	42	54	57	63	52	55	57
Word of mouth	47	45	43	49	43	41	42	50	49	54	38	55
Digital lifestyle & media (SAYS Malaysia, World of buzz…)	31	39	27	31	33	32	35	30	34	25	36	36
Radio	31	31	43	31	23	25	31	36	32	29	31	37
Podcasts	19	20	17	16	11	16	18	17	16	15	18	20
Events/ workshops	14	19	13	21	17	13	15	19	20	14	17	20

Q27a. From which media channels do you get information about food? [Please choose all that apply]

Media channels of information about farming

Source of information – Farming (%) – Total (%)



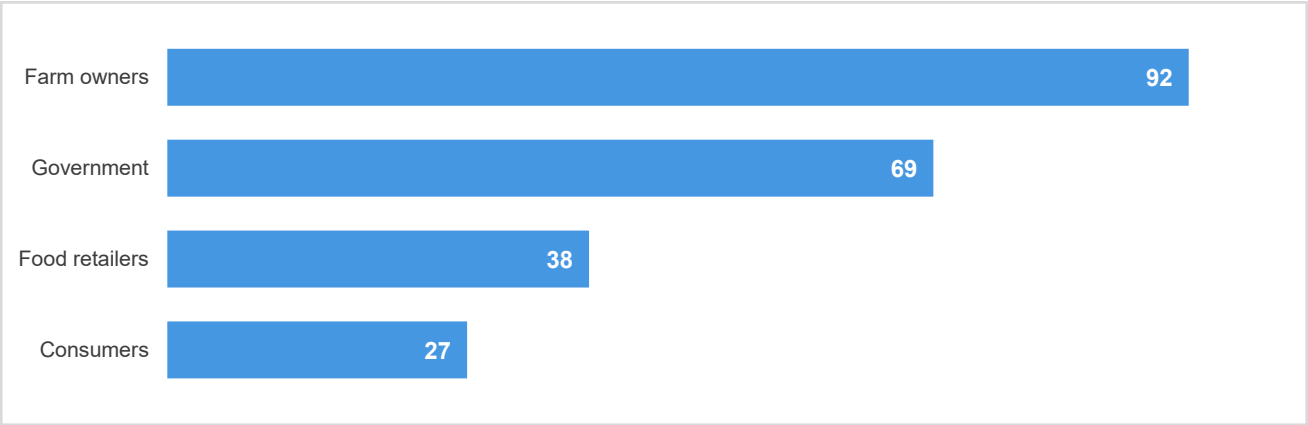
Source of information – Farming (%) – By subgroup (%)

	REGION					AGE GROUP				HOUSEHOLD INCOME		
	North	Central	South	East Coast	East Malay	21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	*147*	*205*	*119*	*97*	*132*	*106*	*275*	*191*	*128*	*198*	*395*	*107*
Social media (Facebook, Youtube, Instagram…)	77	82	89	90	81	79	84	83	85	83	84	82
Television	46	55	66	56	54	45	60	58	48	56	56	50
Online newspaper/ News portals	44	54	60	39	47	36	52	51	52	46	51	48
Word of mouth	30	27	23	27	33	28	23	28	38	31	26	33
Radio	26	22	30	29	20	27	21	31	21	26	24	26
Digital lifestyle & media (SAYS Malaysia, World of buzz…)	24	29	18	23	25	22	27	24	22	18	26	30
Podcasts	20	20	14	22	12	18	19	17	19	18	17	22
Events/ workshops	16	18	14	27	17	12	15	26	16	20	17	16

Q27b. And from which media channels do you get information about farming and ethical farming? [Please choose all that apply]

Responsibily for animal welfare

Responsible sector (%) – Total (%)



Responsible sector (%) – By subgroup (%)

	REGION					AGE GROUP				HOUSEHOLD INCOME		
	North	Central	South	East Coast	East Malay	21 - 25	26 - 35	36 – 45	46 - 55	Low	Middle	High
Base (n=)	*147*	*205*	*119*	*97*	*132*	*106*	*275*	*191*	*128*	*198*	*395*	*107*
Farm owners	91	92	90	96	93	83	95	93	93	92	92	91
Government	63	74	66	70	69	56	69	73	72	58	71	80
Food retailers	47	39	34	28	36	39	40	35	35	27	41	46
Consumers	31	29	20	22	28	27	26	26	29	18	29	33

Q24. Which sectors should be responsible for animal welfare/humane treatment of farm animals? [Please choose all that apply]

Thank you

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