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Humane Society International



2026

Hidden Eggs:

Methodology

Introduction

This methodology accompanies the *Hidden Eggs: Closing the farming method transparency gap in processed foods* report. It describes the study scope, sampling approach, disclosure classifications, analytical units and the calculation of the cage-free transparency index. It also explains the assessment of public cage-free commitments and the analysis of how egg production systems were communicated on packaging. Detailed lists of the outlets, food manufacturers and product brands included in the research are provided in a separate supporting document.

The research assessed information available on product packaging and, where relevant, in online product listings. It focused on disclosure, not sourcing. Where an egg production system was not disclosed, the study could not determine whether the eggs came from cage-free or caged systems.

The methodology explains how the findings were produced and how they should be interpreted, including the distinction between products, market contexts and disclosure data points. The findings describe the assessed sample and are not intended to provide a statistically representative estimate of the wider EU processed-food market.

Study scope and sampling

A total of 476 processed food products from 99 attributed food manufacturers were collected between November 2025 and February 2026 from grocery retail and wholesale in Austria, France, Germany, Italy, the Netherlands, Poland, Romania and Spain using non-random convenience sampling. The products were collected through 25 grocery retail chains belonging to 21 parent companies and six wholesale chains belonging to five parent companies. These categories were selected because they are widely available processed foods that commonly contain egg and represent different product formulations and uses of egg ingredients. Organic products were not included in the research sample.

Grocery retail refers to outlets selling products directly to consumers. Wholesale refers to outlets primarily supplying businesses such as hotels, restaurants, caterers and smaller retailers. Priority was given to major chains operating in more than one assessed country, alongside leading domestic outlets relevant to national markets. Outlet selection also reflected practical accessibility, including a reasonable travel distance for researchers.

Within the three product categories, product-selection guidance prioritised well-known food manufacturers and brands that were widely available in the country assessed, while seeking a spread of branded and private-label products. Branded products were defined as products sold under brands not owned by the retailer or wholesaler. Private-label products were products sold under brands owned by the retailer or wholesaler, although they may be manufactured by third parties. The research did not aim to record every eligible product in each market. The findings describe transparency within the assessed sample and are not statistically representative of the wider EU processed-food market.

Physical packaging was examined where access was possible. Online product listings were used where relevant, including where physical access to wholesalers was not possible. Wholesale mayonnaise included bulk-format packaging. Dried egg pasta and biscuits found through wholesalers were generally packaged in retail-sized units, sometimes sold in multipacks. The analysis therefore compares grocery retail and wholesale sales channels rather than exclusively comparing retail-sized and bulk-format packaging. Where the same product was encountered through both grocery retail and wholesale, the observations were retained in separate market contexts because sales channel was an analytical variable.



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Dataset attributed food manufacturers

Detailed lists of the grocery retailers, wholesalers, food manufacturers and product brands included in the research are provided in the separate *Hidden Eggs 2026: Assessed outlets, food manufacturers and brands*.

Data collection and disclosure outcomes

Seven researchers conducted the product assessments. Each was generally assigned to one country, although one researcher collected data in both Germany and Austria. For physical products, researchers photographed and examined all available sides of the packaging. For online listings, they reviewed the available product images, ingredient declaration, product description and other supplied information. If the images did not show all sides of the packaging, other online listings relevant to the same sales channel were cross-referenced where necessary to obtain more complete information. The dataset recorded the country of sale, product category, sales channel, food manufacturer, brand or private-label identity and the egg production system communicated.

Each product was classified as:

- disclosing the use of free-range eggs;
- disclosing the use of barn eggs; or
- not disclosing the egg production system.

These three classifications are referred to as "disclosure outcomes". For this research, free-range and barn systems were treated as cage-free. None of the 476 products assessed explicitly communicated the use of eggs from caged systems. Non-disclosure means only that the production system could not be determined from the information assessed. It is not evidence of cage-free or caged sourcing.

Units of analysis

The research used four analytical units:

1. **Product:** An individual processed food item whose packaging or online listing was examined.
2. **Market context:** A combination of food manufacturer, country of sale, product category and sales channel. A market context represents a manufacturer's presence within a specific country, product category and sales channel.
3. **Disclosure data point:** Each distinct disclosure outcome observed within a market context: free-range, barn or no production-system disclosure. A disclosure outcome was counted once per market context, even if it appeared on several products.
4. **Cage-free transparency index:** A score from 0 to 100 measuring the extent to which cage-free egg production systems were communicated in the market contexts assessed. Higher scores indicate greater cage-free transparency. The index is based on disclosure data points rather than individual products.

For manufacturer-level analyses, products were attributed to the highest relevant corporate owner rather than solely to the individual brand under which they were sold. Brand identities were retained where relevant to describe packaging and variation within manufacturer portfolios.

The 476 products were grouped into 278 market contexts, which generated 304 disclosure data points.

For example, several mayonnaise products from the same manufacturer in one country and sales channel may form one market context. If some products disclosed free-range eggs while others did not disclose the production system, the market context contributed two data points: one free-range disclosure and one non-disclosure.

Market contexts grouping

The research aimed to examine how consistently egg production-system information was communicated across the different market situations encountered by buyers.

Several products from the same food manufacturer could appear within the same country of sale, product category and sales channel. Counting every individual package equally could give disproportionate influence to manufacturers or market situations for which more product variants happened to be collected.

Grouping products into market contexts and counting each distinct disclosure outcome once helped reduce the influence of repeated or closely related products while preserving genuine differences in disclosure. A market context could therefore contribute more than one disclosure data point if different disclosure outcomes appeared across the products assessed within that context.

This approach supports comparison across countries of sale, product categories and sales channels. However, it does not eliminate all sampling imbalance and does not make the sample statistically representative of the wider EU processed-food market.

A different question

A simple product-level analysis would ask how many collected products carried a cage-free statement. The study's market context indicator instead asks how consistently cage-free information appeared across assessed combinations of manufacturer, country of sale, product category and sales channel.

Calculating cage-free transparency index

The cage-free transparency index measures the extent to which cage-free egg production systems were communicated on processed food packages within the market contexts assessed. It is calculated using disclosure data points rather than individual products.

> **Cage-free transparency index =** *(free-range disclosure data points + barn disclosure data points)* ÷ total disclosure data points × 100

The cage-free transparency index ranges from 0 to 100 and is grouped into ten bands ranging from ● **Band 1: Minimal transparency** to ● **Band 10: Excellent transparency**. Higher index values indicate that cage-free egg production systems were communicated in a larger share of the disclosure data points included in the analysis. Bands are used because sample sizes are relatively small and differences in product availability during data collection may influence individual index values. The bands support cautious interpretation and emphasise relative transparency rather than precise numerical differences.

Band 10	**Excellent transparency**	**90–100**
Band 9	**Very high transparency**	**80–89**
Band 8	**High transparency**	**70–79**
Band 7	**Good transparency**	**60–69**
Band 6	**Moderate transparency**	**50–59**
Band 5	**Emerging transparency**	**40–49**
Band 4	**Limited transparency**	**30–39**
Band 3	**Low transparency**	**20–29**
Band 2	**Very low transparency**	**10–19**
Band 1	**Minimal transparency**	**0–9**

TABLE 1: CAGE-FREE TRANSPARENCY INDEX BANDS, DESCRIPTORS AND SCORE RANGES

Example: from products to a cage-free transparency index

The following example of mayonnaise in France across five brands illustrates how products were converted into disclosure data points and then into a cage-free transparency index.

	MARKET CONTEXT	DISCLOSURE OUTCOMES	DATA POINTS
Unilever	France | mayonnaise | grocery retail	**Free-range eggs; no disclosure**	2
KraftHeinz	France | mayonnaise | grocery retail	**Free-range eggs**	1
Auchan	Private label | France | mayonnaise | grocery retail	**Free-range eggs; barn eggs**	2
Carrefour	Private label | France | mayonnaise | grocery retail	**Free-range eggs; no disclosure**	2
Colona	France | mayonnaise | wholesale	**No disclosure**	1
Total			8

The five French mayonnaise market contexts generated eight disclosure data points:

- **Free-range disclosure:** 4 data points
- **Barn disclosure:** 1 data point
- **No disclosure:** 3 data points

> The cage-free transparency index was therefore:
> **(4 + 1) ÷ 8 × 100 = 62.5**

Reported as a whole number, this corresponds to an index of **63**, placing the sample in ● **Band 7: Good transparency**.

This result describes the composition of the eight disclosure data points. It does not mean that 63% of the individual products in the five contexts carried a cage-free statement.

Dataset overview and comparative analyses

Overall dataset

Measure	Total
Products assessed	476
Attributed food manufacturers	99
Grocery retail chains (parent companies)	25 (21)
Wholesale chains (parent companies)	6 (5)
Market contexts	278
Disclosure data points	304
Cage-free disclosure data points	165
Overall cage-free transparency index	**54** ● **Band 6: Moderate**

Country breakdown

The denominator for each country index is the number of disclosure data points in market contexts belonging to that country. Country sample sizes were uneven and should be considered when comparing results.

Country

	Products	Market contexts	Cage-free disclosure / all data points	Cage-free transparency index	Cage-free transparency band
Austria	50	32	23 / 33	70	● **8: High**
France	67	32	24 / 42	57	● **6: Moderate**
Germany	32	26	15 / 26	58	● **6: Moderate**
Italy	46	31	21 / 35	60	● **7: Good**
The Netherlands	84	43	33 / 44	75	● **8: High**
Poland	102	52	27 / 56	48	● **5: Emerging**
Romania	56	36	14 / 40	35	● **4: Limited**
Spain	39	26	8 / 28	29	● **3: Low**
Total	**476**	**278**	**165 / 304**	**54**	● **6: Moderate**

Product category breakdown

The denominator for each category index is the total number of disclosure data points belonging to that category. The subsequent tables provide the same measures for each product category, broken down by country of sale.

Product category

	Products	Market contexts	Cage-free disclosure / all data points	Cage-free transparency index	Cage-free transparency band
Mayonnaise	172	93	76 / 106	72	8: High
Dried egg pasta	118	85	50 / 89	56	6: Moderate
Biscuits	186	100	39 / 109	36	4: Limited
Total	**476**	**278**	**165 / 304**	**54**	6: Moderate

Mayonnaise

	Products	Market contexts	Cage-free disclosure / all data points	Cage-free transparency index	Cage-free transparency band
Austria	20	12	12 / 13	92	10: Excellent
France	30	12	12 / 17	71	8: High
Germany	11	9	8 / 9	89	9: Very high
Italy	13	10	9 / 12	75	8: High
The Netherlands	23	12	12 / 13	92	10: Excellent
Poland	43	22	15 / 24	63	7: Good
Romania	20	10	7 / 12	58	6: Moderate
Spain	12	6	1 / 6	17	2: Very low
Total	**172**	**93**	**76 / 106**	**72**	8: High



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Dried egg pasta

	Products	Market contexts	Cage-free disclosure / all data points	Cage-free transparency index	Cage-free transparency band
Austria	13	10	8 / 10	80	9: Very high
France	8	8	6 / 8	75	8: High
Germany	9	8	4 / 8	50	6: Moderate
Italy	11	8	8 / 10	80	9: Very high
The Netherlands	18	13	10 / 13	77	8: High
Poland	28	16	7 / 17	41	5: Emerging
Romania	20	13	4 / 13	31	4: Limited
Spain	11	9	3 / 10	30	4: Limited
Total	**118**	**85**	**50 / 89**	**56**	6: Moderate

Biscuits

	Products	Market contexts	Cage-free disclosure / all data points	Cage-free transparency index	Cage-free transparency band
Austria	17	10	3 / 10	30	4: Limited
France	29	12	6 / 17	35	4: Limited
Germany	12	9	3 / 9	33	4: Limited
Italy	22	13	4 / 13	31	4: Limited
The Netherlands	43	18	11 / 18	61	7: Good
Poland	31	14	5 / 15	33	4: Limited
Romania	16	13	3 / 15	20	3: Low
Spain	16	11	4 / 12	33	4: Limited
Total	**186**	**100**	**39 / 109**	**36**	4: Limited



Sales channel breakdown

The denominator for each sales channel index is the total number of disclosure data points associated with that sales channel. The subsequent tables provide the same measures for grocery retail and wholesale, broken down by country of sale.

Sales channel

	Market contexts	Cage-free disclosure / all data points	Cage-free transparency index	Cage-free transparency band
Grocery retail	184	129 / 203	64	7: Good
Wholesale	94	36 / 101	36	4: Limited
Total	**278**	**165 / 304**	**54**	6: Moderate

Grocery retail

	Market contexts	Cage-free disclosure / all data points	Cage-free transparency index	Cage-free transparency band
Austria	25	19 / 26	73	8: High
France	21	18 / 30	60	7: Good
Germany	20	14 / 20	70	8: High
Italy	25	17 / 27	63	7: Good
The Netherlands	27	24 / 27	89	9: Very high
Poland	30	21 / 32	66	7: Good
Romania	17	11 / 21	52	6: Moderate
Spain	19	5 / 20	25	3: Low
Total	**184**	**129 / 203**	**64**	7: Good

Wholesale

	Market contexts	Cage-free disclosure / all data points	Cage-free transparency index	Cage-free transparency band
Austria	7	4 / 7	57	6: Moderate
France	11	6 / 12	50	6: Moderate
Germany	6	1 / 6	17	2: Very low
Italy	6	4 / 8	50	6: Moderate
The Netherlands	16	9 / 17	53	6: Moderate
Poland	22	6 / 24	25	3: Low
Romania	19	3 / 19	16	2: Very low
Spain	7	3 / 8	38	4: Limited
Total	**94**	**36 / 101**	**36**	**4: Limited**

Additional assessments

Public cage-free commitments

Researchers reviewed company websites, corporate reports, press releases and ChickenWatch.org for publicly available commitments explicitly covering processed eggs.

Ahold Delhaize was classified as not having a public cage-free commitment because commitment coverage differed across the assessed retail chains.

Manufacturers were grouped into three disclosure profiles: consistent cage-free disclosure across all assessed products, mixed disclosure, or no cage-free disclosure on any assessed product. The comparison is descriptive and does not establish causation or verify sourcing.

Manufacturer disclosure profile	Attributed food manufacturers	With cage-free commitment	Without cage-free commitment
Consistent cage-free disclosure	26	20 | 39%	6 | 13%
Mixed disclosure	30	21 | 40%	9 | 19%
No cage-free disclosure	43	11 | 21%	32 | 68%
Total	**99**	**52 | 100%**	**47 | 100%**

Placement of cage-free egg disclosure on packaging

Researchers recorded whether and where cage-free egg production systems were communicated on the packaging. More than one method could be recorded for each package.

The research identified four main ways in which cage-free egg production systems were communicated: in the ingredient list; in the product title or name; as a front-of-pack claim; or elsewhere on the packaging. The sample included 183 unique packaging items observed within market contexts where a cage-free production system was disclosed: 86 mayonnaise, 49 dried egg pasta and 48 biscuit packages. For this assessment, duplicate observations of the same packaging within a market context were counted once. The unit of analysis was therefore a unique packaging item rather than every photographed or listed occurrence.

Product category

	Packages assessed	Ingredient-list disclosure	Percentage
Mayonnaise	86	56	65%
Dried egg pasta	49	37	76%
Biscuits	48	42	88%

The denominator for each percentage is the total number of unique packaging items with a cage-free disclosure in that product category.

Product category

	Ingredient-list subset	Also used another method	Percentage of subset
Mayonnaise	56	40	71%
Dried egg pasta	37	25	68%
Biscuits	42	7	17%

The denominator is the subset of packages using ingredient-list disclosure. Disclosure was not always easy to identify and could require careful examination of the packaging.



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Interpreting the findings and study limitations

A high cage-free transparency index indicates greater cage-free transparency within the disclosure data points included in the analysis. A low index indicates that production system information was often absent. The index does not reflect the proportion of individual products made with cage-free eggs and does not establish the production system used where packaging or online product listings provided no information.

The main limitations were:

- the use of non-random convenience sampling and the absence of statistical representativeness;
- variation in product availability and packaging information across markets;
- uneven country and product-category sample sizes;
- differences in outlet access, product availability and physical versus online data collection;
- potentially incomplete online package imagery;
- the point-in-time nature of packaging information, corporate ownership and public commitments;
- no supplier audit or independent verification of sourcing;
- possible language, translation and disclosure-visibility challenges;
- the study-specific construction of the index;
- the findings may not apply beyond the assessed products and market contexts.

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Together, we tackle the root causes of animal cruelty and suffering to create permanent change.

With millions of supporters and work happening in over 50 countries, Humane World for Animals—formerly called Humane Society International—addresses the most deeply entrenched forms of animal cruelty and suffering. As the leading voice in the animal protection space, we work to end the cruellest practices, care for animals in crisis and build a stronger animal protection movement. Driving toward the greatest global impact, we aim to achieve the vision behind our name: a more humane world.

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