

Intestinal Integrity (I²) 2024 Mid-year Review

Introduction

Elanco's Health Tracking System (HTSi) is an established, independently verified and globally recognised broiler benchmarking platform that incorporates multiple lesions to assess intestinal health, locomotor function, respiratory stability and bird welfare.¹

Elanco's Health Tracking System (HTSi) is a **data led broiler benchmarking platform** that enables poultry businesses to monitor the performance of birds, better by understanding the flock health and so **drive towards future improvements**.

Our bespoke Intestinal Integrity (I²) index is a unique, weighted index that assesses the intestinal health of flocks captured in HTSi. I² is the primary driver of broiler performance, and there is a strong correlation between improved Intestinal Integrity and improved ADG, FCR, EPEF¹ and percent livability.²

▲
ADG
increases by
0.04g

▼
FCR
decreases by
0.13pts

▲
EPEF
increases by
0.52

▲
% livability
increases by
5%

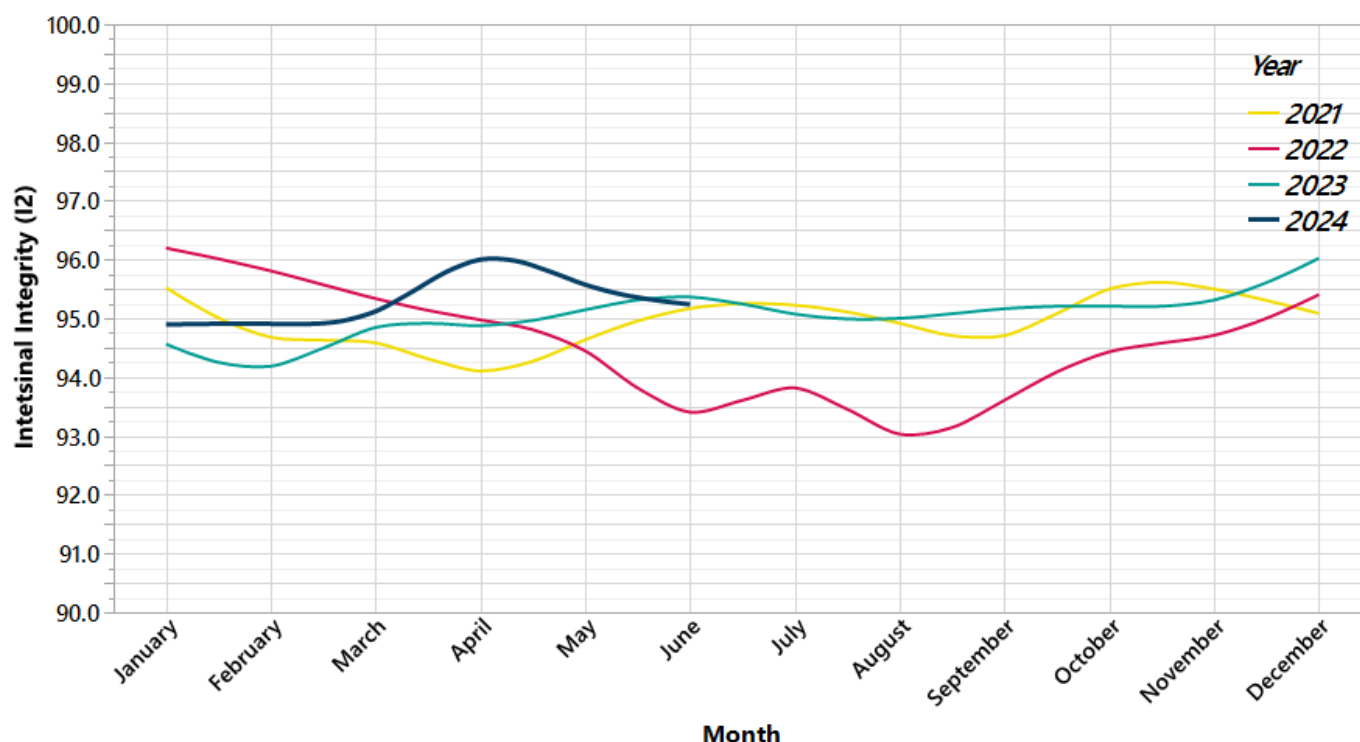


The Mid-year Review is an aggregation of all UK data collected by the Elanco team from the preceding six months. The data included is **unselective** and includes a representative sample of birds, **irrespective of the source of anticoccidial or program choice**. Whilst the data is indicative of what is occurring across the industry, individual customer and regional variation does exist. Because of this we recommend you contact the Elanco team should you wish to have a detailed discussion concerning your I² index.

UK Industry Intestinal Integrity (I²)

Year on Year Average

Average Intestinal Integrity score over Time



In the first six months of 2024, the Intestinal Integrity (I²) index has remained relatively stable in the UK broiler population. April's peak of 96.02 is the highest monthly average I² since January 2022, where it was 96.12.

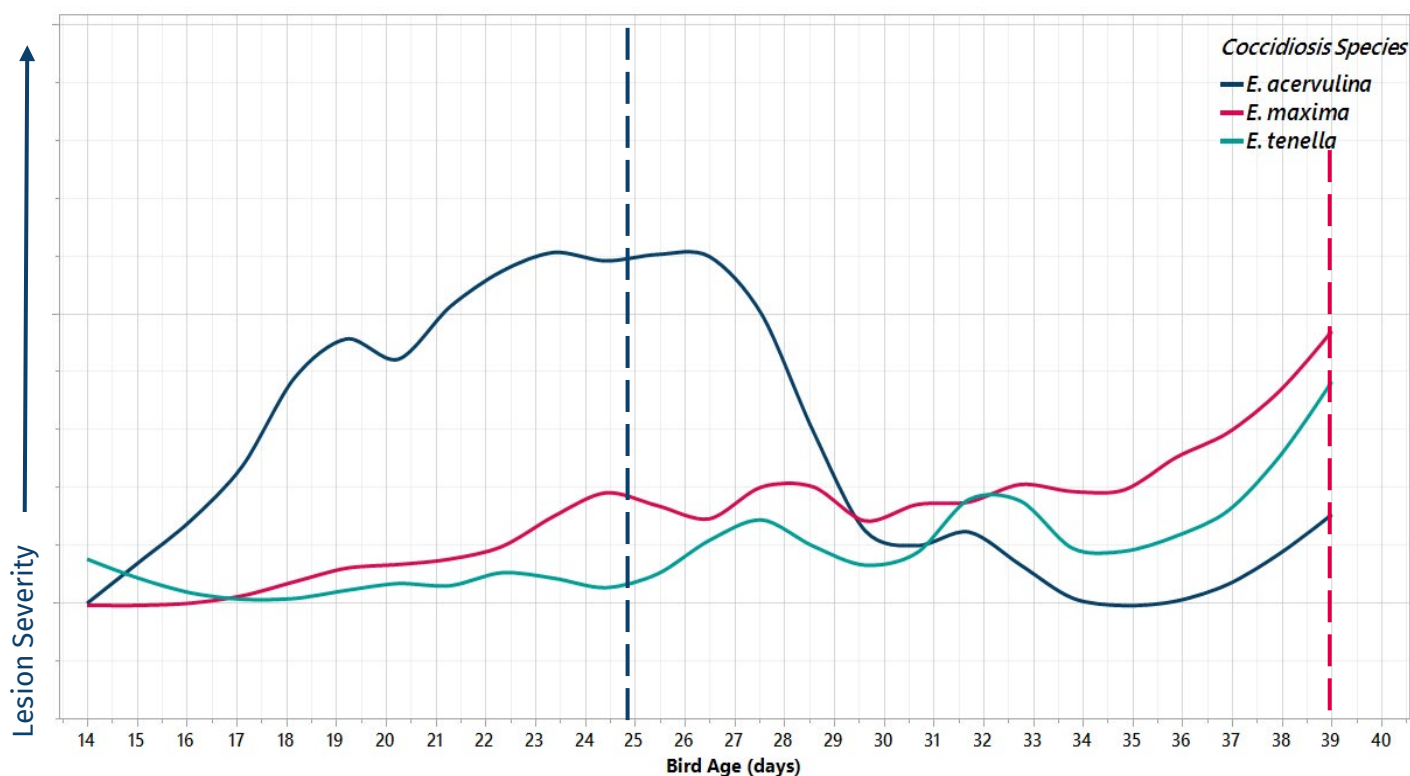
The latest data from June 2024 shows an I² average in line with what was seen in June of 2023 and 2021. However, when comparing the I² scores in the first half of this year with the same period of 2023, those recorded in 2024 were significantly higher.[^]

Looking forward, the next three months are often the most challenging period for intestinal health, with the I² score across industry significantly lower than the other seasons[^]. These seasonal changes from July to September can be inconsistent and highly variable, making ventilation and effective cleanout the priorities for attention on farm.

UK Industry January – June 2024

Age of peak challenge by Coccidia species

Eimeria challenge by three key species



E. acervulina

When taking the last six months into consideration, *E. acervulina* lesions peaked at 25 days of age, with levels elevated from 23 until 26 days, before a sharp decline. This shows no change compared to 2023, yet the smaller secondary peak has reduced in severity and is shown at 39 days this year, compared to 30 days in 2023; this may be down to an increase in slower growing breeds in the data set.

E. maxima

Incidences of *E. maxima* have been noted earlier than last year, seen from 18 days onwards, increasing as the bird ages, until peak at 39 days. All cases were confirmed with microscopy.

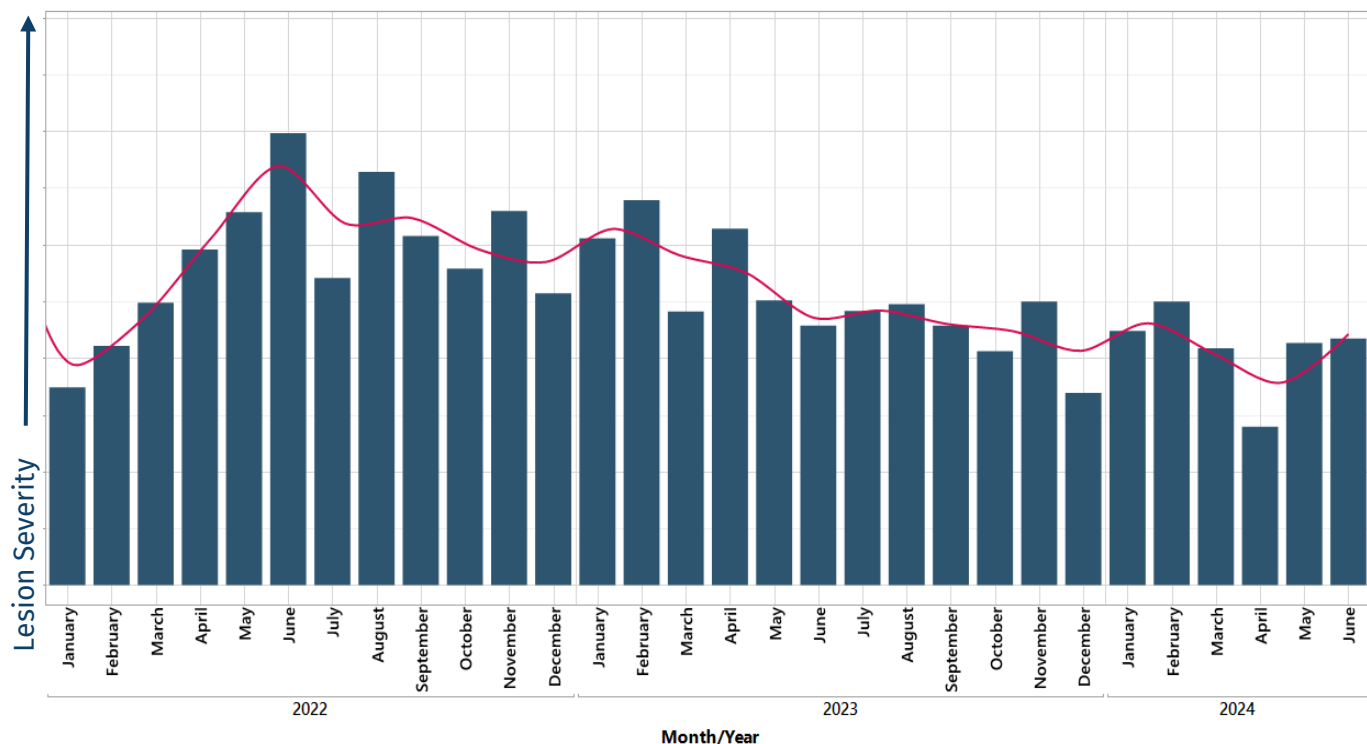
E. tenella

E. tenella showed variability, with small peaks occurring at 27, 32 and 39 days. Of the cases seen, 92% were mild (score 1), 7% moderate (score 2), and the remaining 1% severe (scores of 3 or 4).

Topical Lesion: *E. acervulina*

Average *E. acervulina* severity from January 2022 to June 2024

E. acervulina average over time



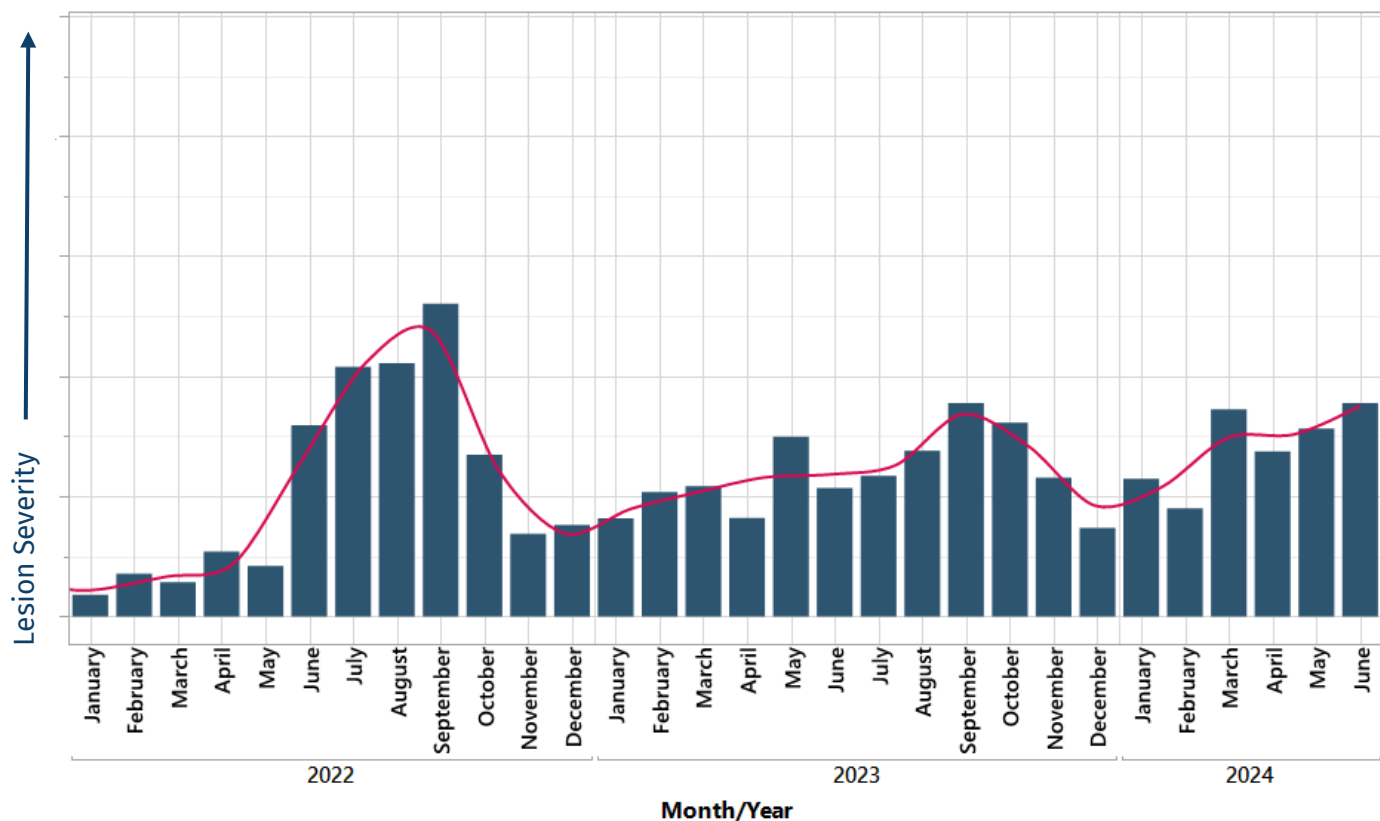
Since a peak in *E. acervulina* lesions seen in June 2022, levels have steadily decreased. The average *E. acervulina* score seen in April 2024 is the lowest that has been documented in HTSi data since the same month in 2020. Statistically lower than the same time period in 2023[^], this has contributed towards the improvement of I² that has been seen so far this year and demonstrates that stability has returned following a disruption to I² in summer 2022.



Topical Lesion: *E. maxima*

Average *E. maxima* severity from January 2022 to June 2024

E. maxima average over time



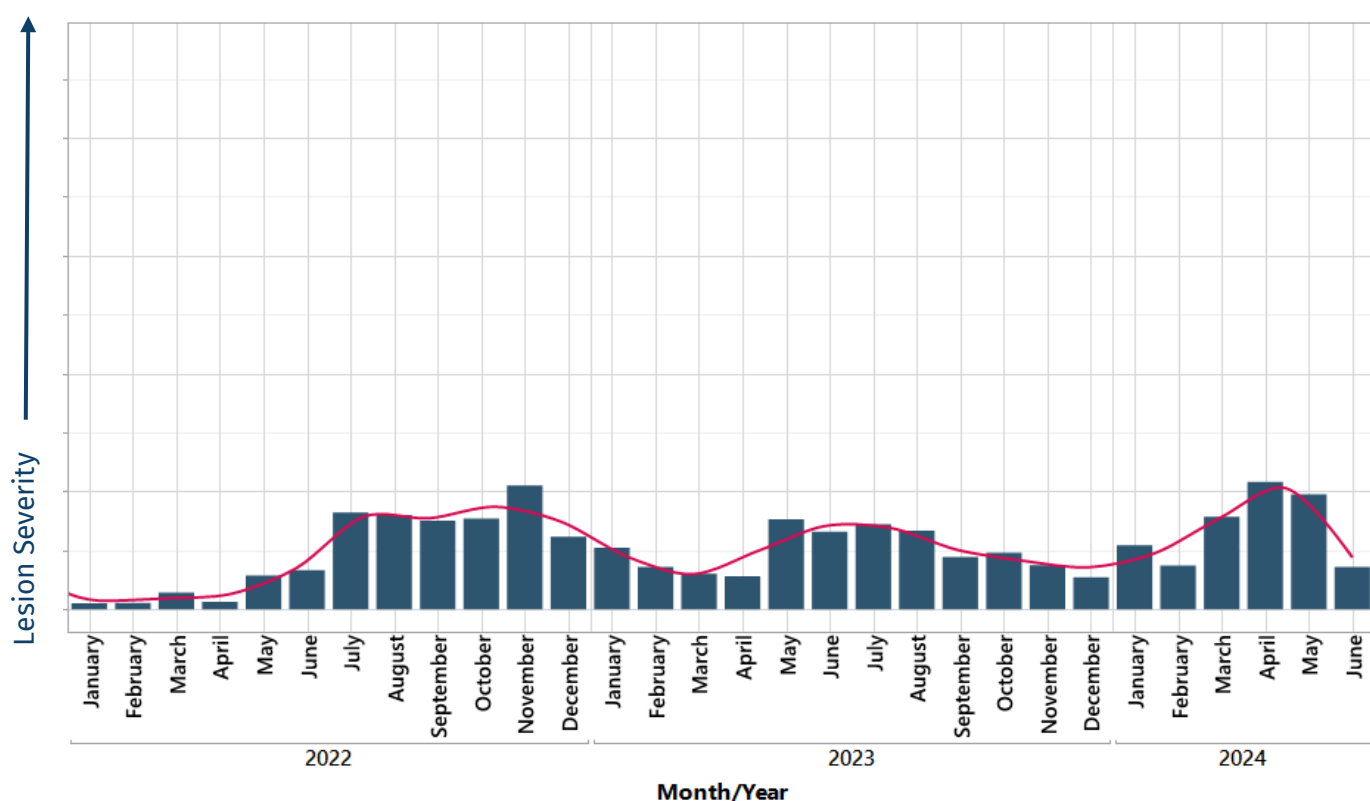
Levels of *E. maxima* have steadily increased in the first six months of this year, following a similar trend to those noted in 2023, and 2022. This didn't decrease until September last year, and October the year before. These have been higher than expected since May 2022.



Topical Lesion: *E. tenella*

Average *E. tenella* severity from January 2022 to June 2024

E. tenella average over time



Average scores of *E. tenella* have increased for the first four months of the year, peaking higher than the same time the previous year. This is followed by a reduction in June, back to the same levels seen in June 2022. This last six month period has included more birds aged 35 day and older than the previous years, as some areas of industry started to focus on the stressful time between thin and kill.

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Veterinary comments

From James Bishop BVM BVS MRCVS – Poultry Technical Consultant, Elanco.

Despite challenges in weather with lots of rain, cold nights and warm days, the average Intestinal Integrity (I²) value across the industry has improved. A reduction in the level of *E. acervulina* has driven this positive change. We have also seen less *E. acervulina* in birds over 30 days compared to previous years which has led to improvements in performance with birds not having to experience a peak challenge during significant periods of stress and growth.

With an improvement in I² values and a forthcoming move to a lower stocking density for a high proportion of the growing base, it is vital that producers now maximise their performance. This requires choosing optimal anticoccidial programs and attention to turn around time and good quality cleanout and disinfection process, including drying of floors and strict biosecurity. For those who will be growing on lower stocking densities, whilst the number of birds in a shed will decrease, the overall threat of coccidiosis will remain, which has the potential to dramatically impact performance. Be sure to consult Elanco and your Veterinary Surgeon for advice or to discuss any concerns.



1. Kasab-Bachia H, Arrudab A, Robertsa T, Wilsona J. (2017). The use of large databases to inform the development of an intestinal scoring system for the poultry industry. Preventive Veterinary Medicine, 146, pp. 130–135

2. Swirski AL, Kasab-Bachi H, Rivers J, Wilson JB. (2020). Data Driven Enhancements to the Intestinal Integrity (I²) Index: A Novel Approach to Support Poultry Sustainability. Agriculture; 10(8):320