Annual Report on data in the National Johne's Disease Tracker Database for 2025

Johne's Control Index, including non-milk-recording herds, and trends in Johne's Disease Tracker parameters

A report for

Action Group on Johne's

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Headline summary

This reports describes progress towards the aspirational goal outlined in Phase 3 of the National Johne's Management Plan (NJMP) for the GB dairy industry alongside a review of trends in Johne's Disease (JD) Tracker parameters, 3-year rolling benchmarks.

Key messages

- Data from non-milk-recording herds were provided and used in the JCI calculation for the first time in 2025. This brought the total number of herds for inclusion in the national JCI to 4,565.
- The national JCI has a consistent downwards trend from 2020 (8.55) to 2025 (6.12 for only milk-recorded herds and 6.50 with non-milk-recorded herds included).
- The % of herds with an ATV ≤5.5 has a consistent improving trend from 2020 (18.9%) to 2025 (50.4% for only milk-recorded herds and 46% with non-milk-recorded herds included).
- Data from both milk-recorded and non-milk-recorded herds will be used for national JCI calculations in future years.
- The data show a clear profile that herds with lower ATV tend to test more frequently and are more likely to routinely milk-record.
- The data show that once herds have achieved a herd ATV of ≤5.5 the probability of maintaining that level of ATV increases with each of the next 2 or 3 years at ≤5.5.
- Tracker parameters and the benchmarks derived from them are intended to provide meaningful targets for herds that are fully engaged with the NJMP. The JD parameter quartile statistics and 3 year rolling benchmarks are based on a subset of data from milk-recording herds with exactly four whole herd tests in each respective calendar year.
- Since 2016, the median ATV for this subset has trended downwards, and this continued between 2024 (5.8) and 2025 (5.1). This brings over 50% of the herds in the benchmark subset to an ATV below the aspirational JCI goal.
- The 3-year rolling median ATV up to and including 2025 is now 5.5, with the rolling Q1 at 4.3 and Q3 at 7.2.
- All other JD parameters showed movement 'in the right direction' between 2024 and 2025.

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Tables and Figures

National JD Tracker Database

The National JD Tracker database is an InterHerd+ (PAN Livestock Services Ltd.) database containing routine milk-recording and milk ELISA data from herds which test for JD with the milk-recording organisations (MROs) National Milk Records (NMR) or Cattle Information Service (CIS). When it was established in 2023, the database was populated with retrospective data going back to 2010, and it is updated annually. From 2010 to 2024, milk-recording and milk ELISA data from nominally quarterly testing herds (identified by the respective MROs) were collated within the database. In 2025, data from all milk-recording herds which JD test, irrespective of their JD testing frequency, was included in the database. Additionally, data from non-milk-recording herds, that had nonetheless used JD milk ELISA testing services provided by NMR and CIS, were provided in spreadsheet form. These data have been combined with the data from milk-recording herds to calculate a more inclusive industry JCI using the ATVs from both milk-recording and non-milk-recording herds. It should be noted that, as of 2025, data from herds with less than 50 cows[1] have been excluded. In the case of non-milk-recording herds, data from '60 cow random samples'[2] would also have been included in the JCI calculation, although the data provided did not include identification of whether testing was 'whole herd' or '60 cow random'.

Within the National JD Tracker database, the JD Tracker tool calculates a variety of outcome measures and drivers: so-called 'JD parameters'. These parameters use only data from 'whole herd' milk ELISA testing[3]. For the calculations of benchmarks, only data from herds with exactly four 'whole herd' JD test in the year were used.

Description of the data and data analysis

From milk-recording herds, JD test data along with routine milk-recording data were supplied as an InterHerd+ database, with anonymised cow and herd IDs. All JD parameters and herd demographics could be calculated for these herds using the KPI and JD tracker procedures developed for the database. Data from herds smaller than 50 cows were excluded.

From non-milk-recording herds, data were supplied in Excel spreadsheets, giving date of test and test value for each and every individual cow JD test recorded by the MROs in 2025, with anonymised cow and herd IDs. These data were grouped and summarised by herd and testing

[1] Based on average number of cows reported as present across the year, or a best estimate of herd size.
[2] Under phase 3 of the National Johne's Management Plan there is a minimum option for herds to provide an ATV based on testing 60 randomly selected cows, in cases where whole herd testing is not being used.
[3] Whereby at least 50% of cows present in the herd were tested on the same date.

date, to give the annual ATV for each herd. Procedures were followed to derive a best estimate of herds size[4] and data from herds smaller than 50 cows (estimated) were excluded.

Summary data from both the milk-recording and non-milk-recording herds were combined in an Access database to facilitate analysis of all herds' data together. This database included, for each herd, ATV, % of tests positive at the 30 cut-off, herd size (recorded or estimated) and number of test dates in the year.

Number of herds and frequency of JD testing

Up until 2024, the number of herds recorded in the National JD Tracker database peaked at 2,973 in 2022. Of these herds, approximately 90% had carried out whole herd JD tests three to five times per year. Following the inclusion of herds undertaking non-quarterly testing in 2025, the number of milk-recording herds increased to 3,589, although this was reduced to 3,512 after exclusion of herds with less than 50 cows. The number of herds testing three to five times per year remained similar to previous years, but not surprisingly the number of annually testing herds increased from ~150 up to 700 herds (Figure 1).

In 2025 additional data were also supplied from 1,053 non-milk-recording herds. This brought the total number of herds for inclusion in the industry JCI to 4,565. Figure 1 shows that the majority of the added non-milk-recording herds had tested once or twice in the year.

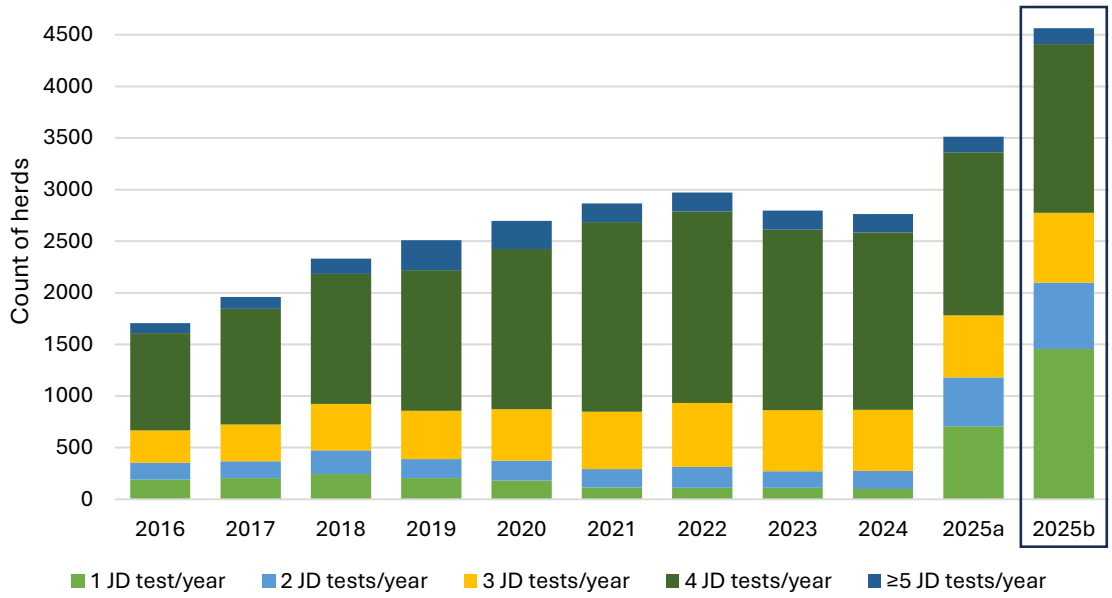

Figure 1: The count of herds with different numbers of 'whole herd' milk ELISA tests up to 2025.

Notes: *Up to 2024 the database focused on herds which were nominally quarterly testing when herds were included irrespective of their JD testing frequency. 2025a: This bar shows milk-recording herds with at least 50 cows. 2025b: This bar includes 1,053 additional non-milk-recording herds.*

[4] Best estimate herd size: 1.1 x maximum number tests recorded on a single date (assuming 90% of herd tested is the most reasonably expected).

Johne's Control Index (JCI)

Phase 3 of the NJMP has challenged the GB dairy sector to achieve a JCI ≤ 5.5 by 2030. The national JCI is defined as a simple mean (annual average) of the ATVs of all the herds for which data are available[5]. For the GB dairy sector as a whole to achieve the aspirational goal it will not require 100% of herds to have an ATV ≤5.5, only that the herds for which data are available have an average ATV ≤5.5[6].

JCI

Based on milk-recording herds in the National JD Tracker database, the national JCI has a consistent downwards trend from 8.55 in 2020 to 6.12 in 2025, apart from a small increase in 2024 (Figure 2). The change (improvement) from 2024 to 2025, for the milk-recording herds, is striking. The JCI for these herds fell from 6.71 to 6.12, even with the inclusion of herds testing less frequently in the year in 2025. The further addition of non-milk-recording herds gives a higher JCI, at 6.50, but this is still an improvement from 2024.

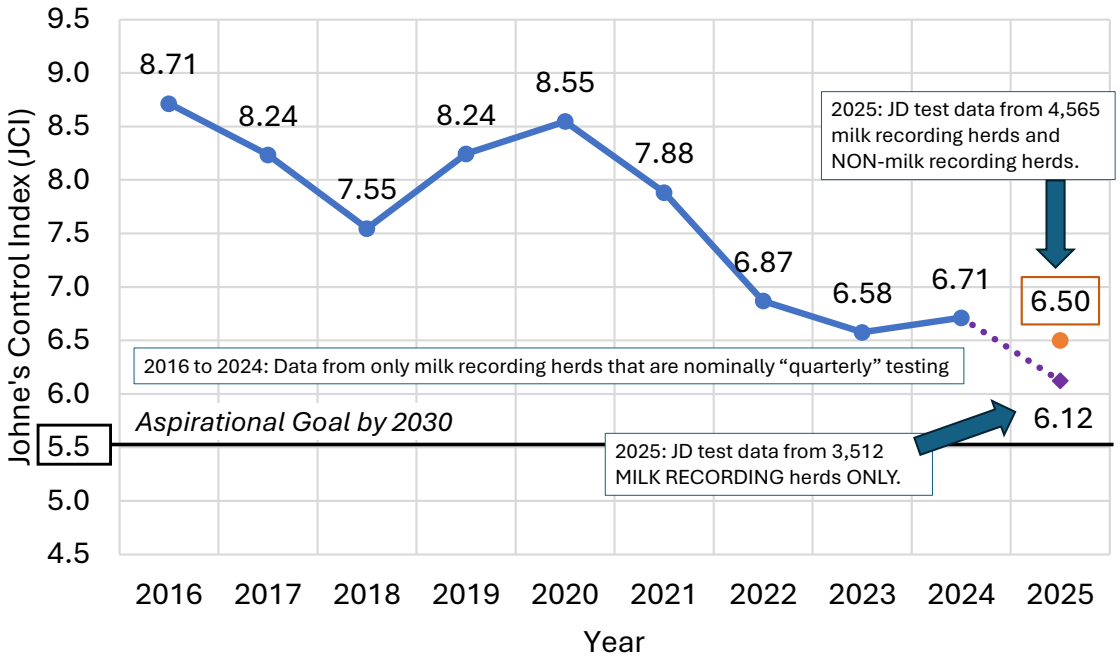

Figure 2: Annual overall mean of ATV of all herds (= "JCI") in the National JD Tracker database between 2016 and 2025.

[5] Up to 2024, the national JCI was calculated using herds which were nominally quarterly testing as no other data were available. From 2025, the national JCI has been calculated using data from herds which test less frequently and, with the addition of non-milk-recording herds, from herds conducting 60-random samples.

[6] The aspirational goal requires the average ATV of all herds to be ≤5.5, which could theoretically occur with ~50% of herds ≤5.5 and ~50% >5.5, provided the distribution of ATV were symmetrical. The precise % of herds that will have ATV ≤5.5 when the 'all herd JCI' is ≤5.5 will depend on the distribution of ATV. The distribution is unlikely to be symmetrical about the mean, but more likely skewed, so it may require about 60%, or more, of herds with ATV ≤5.5 to achieve the overall JCI ≤5.5. Therefore, an indicative target for the % of herds with an ATV ≤5.5 in-order to achieve the aspiration goal cannot be defined.

Percentage of herds with ATV ≤5.5

Based on milk-recording herds in the National JD Tracker database, the % of herds with an ATV ≤5.5 has a consistent improving trend from 18.9% in 2020 to 50.4% in 2025, apart from a slight decrease in 2024 (Figure 3). The change (improvement) from 2024 to 2025 is striking for the milk-recording herds. The % of these herds with an ATV ≤5.5 improved from 40% to 50% (Figure 3), even with the addition of herds testing less frequently in the year. The further addition of non-milk-recording herds gives a lower % of herds with an ATV ≤5.5, at 46%, but this is still an improvement from 2024.

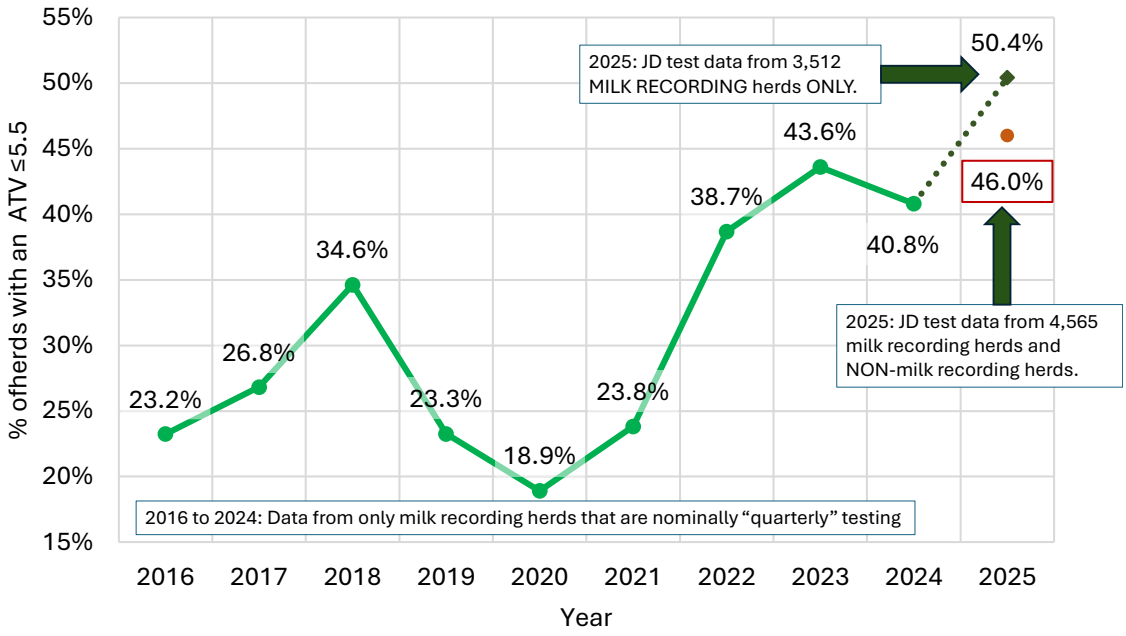

Figure 3: Annual values for the % of all herds with an ATV ≤5.5 between 2016 and 2025.

Implications of increased data availability

The addition of data from non-milk-recording herds this year is a step change in the calculation of the JCI. The separate points marked on Figure 2 and Figure 3, including both milk-recording and non-milk-recording herds, represent a new baseline for the national JCI going forwards (Table 1). It is likely that the numbers of herds for which data are provided will change, most likely increase, but there are no longer whole categories of herds for which data are lacking.

Table 1: National statistics for 2025

Number of herds	4,565
JCI	6.5
% of herds with ATV ≤ 5.5	46.0%
Average %Pos30[7]	3.0%

[7] Average of the % of tests that were positive per herd, NOT % of positive cows.

Frequency of testing, participation in milk-recording and JCI

The 'subset JCI'[8] varied depending on the frequency of herd JD testing. Generally, the JCI is lower among herds that JD test more frequently. Herds that JD tested once in the year (n=1,457) had a JCI of 7.25, compared with a JCI of 5.71 for herds that tested four or more times in the year (n=1,790) (Figure 4). For reference, Figure 5 shows the distribution of herds by number of herd JD tests in the year.

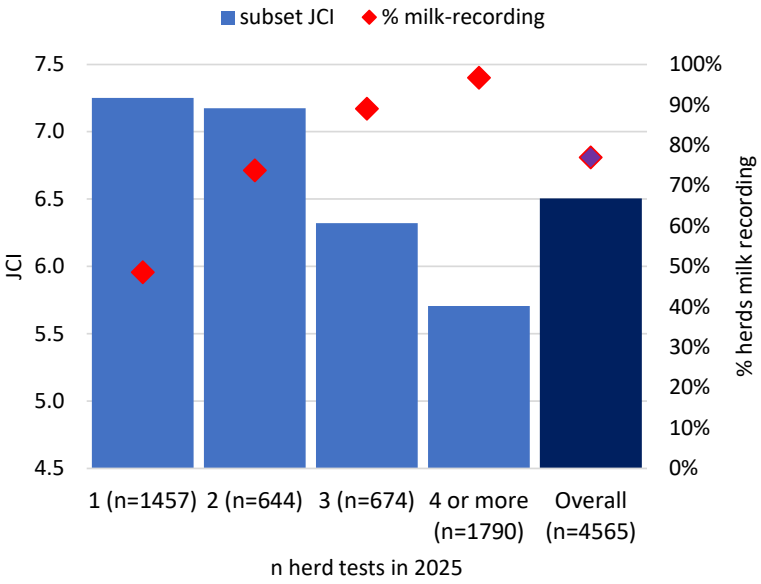

Figure 4: Subset JCI and % of herds that milk-record by number of JD herd tests in 2025

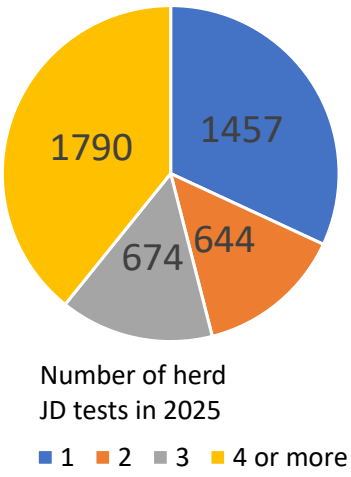

Figure 5: Herds, by number of herd JD tests in 2025

Figure 4 also shows the percentage of herds in each testing frequency subset that were milk-recording herds. It is visible that there is association between frequency of testing and the percentage milk-recording, with higher percentage milk-recording among higher frequency testing herds. Almost 100% of herds that tested four or more times are milk-recording, in contrast to less than 50% of herds that tested once in the year. It is also important to note that herds in the once tested group include some that carried out the 60-cow random samples rather than whole herd testing. These data cannot be used to prove any cause and effect link between testing frequency, milk-recording and reduced ATV, but they do show a clear profile that herds with lower ATV tend to test more frequently and are more likely to routinely milk-record.

[8] 'Subset JCI' denotes an average of ATVs calculated for a subset of herds within the database, in this case herds grouped by the number of herd JD tests in 2025.

Trends in JD Tracker parameters and rolling benchmarks

These statistics are intended to provide meaningful targets for herds that are fully engaged with the NJMP. The quartile statistics underly the 'traffic light' graphics on JD tracker platforms like InterHerd+ and HerdWise. The JD parameter quartile statistics and 3 year rolling benchmarks are based on a subset of data from milk-recording herds with exactly four whole herd tests in each respective calendar year.

JD Tracker parameters

The median herd ATV decreased from 7.9 in 2016 to 5.1 in 2025. Since 2016, the median ATV has trended downwards, albeit with an increase to 7.6 between 2018 and 2020, and plateau between 2022 and 2024 (Figure 6).

The median proportion of positive JD tests, as indicated by %Pos30 decreased from 3.7% in 2016, hovered around 2.0% from 2022 to 2024 and decreased to 1.5% in 2025. The median herd %Pos60 and %Pos100 decreased gradually from 2016 to 2025, from 1.1% to 0.4%, and 0.4% to 0.1%, respectively. Interestingly, no peaks were observed in %Pos60 or %Pos100 in 2020 compared with that in %Pos30 (Figure 7).

The median herd percents of cows being categorised as a J4, J5 or Priority Cull (PC) also decreased between 2016 and 2025: %J4 from 3.4% to 1.1%; %J5 from 1.6% to 0.8%; %PC from 1.1% to 0.4%. All these parameters also demonstrated a small peak in 2020 (Figure 8).

The median herd relative risk of subsequent service for J5 cows and relative risk of exit for J5 cows within 150 days following a 'whole herd' test date, comparing with all other cows except J4 cows, improved from 2016 to 2025, excluding a temporary decrease in the RRexitJ5 in 2020. RRExitJ5 has increased from 2.6 to 3.3 from 2016 to 2025. RRServJ5 has decreased from 0.6 in 2016 to 0.3 in 2025 (Figure 9).

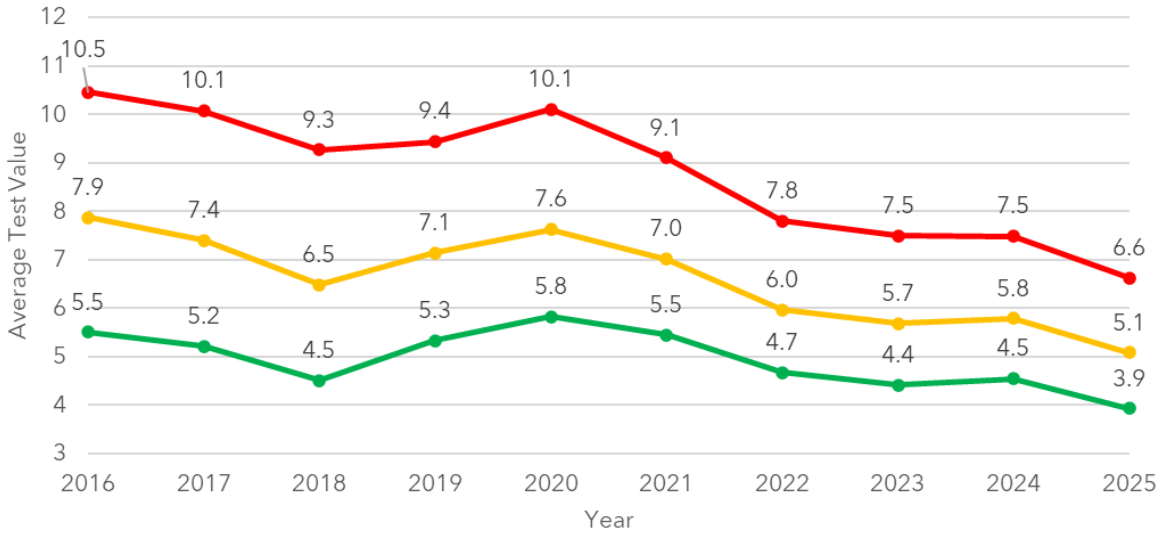

Figure 6: The annual median and quartile values for herd ATVs for JD milk ELISAs carried out during 'whole herd' tests in the National JD Tracker database, by year. Green = quartile 1, orange = median, red = quartile 3.

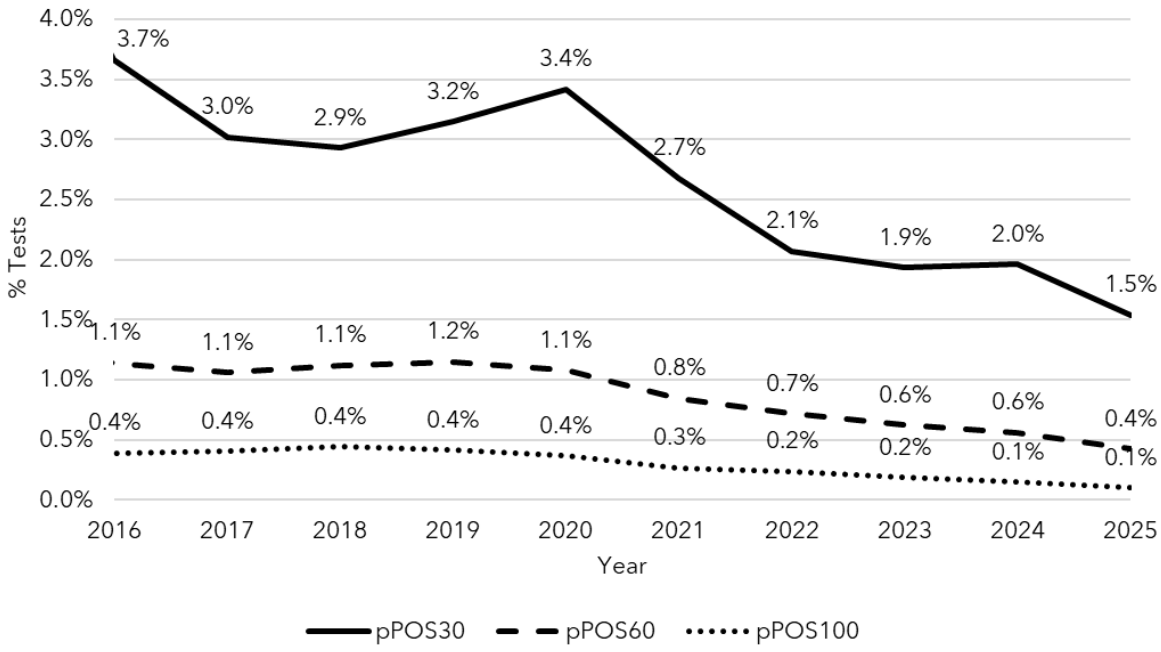

Figure 7: The median herd % of tests positive, at different cut-offs, for JD tests carried out during 'whole herd' tests in the National JD Tracker database, by year.

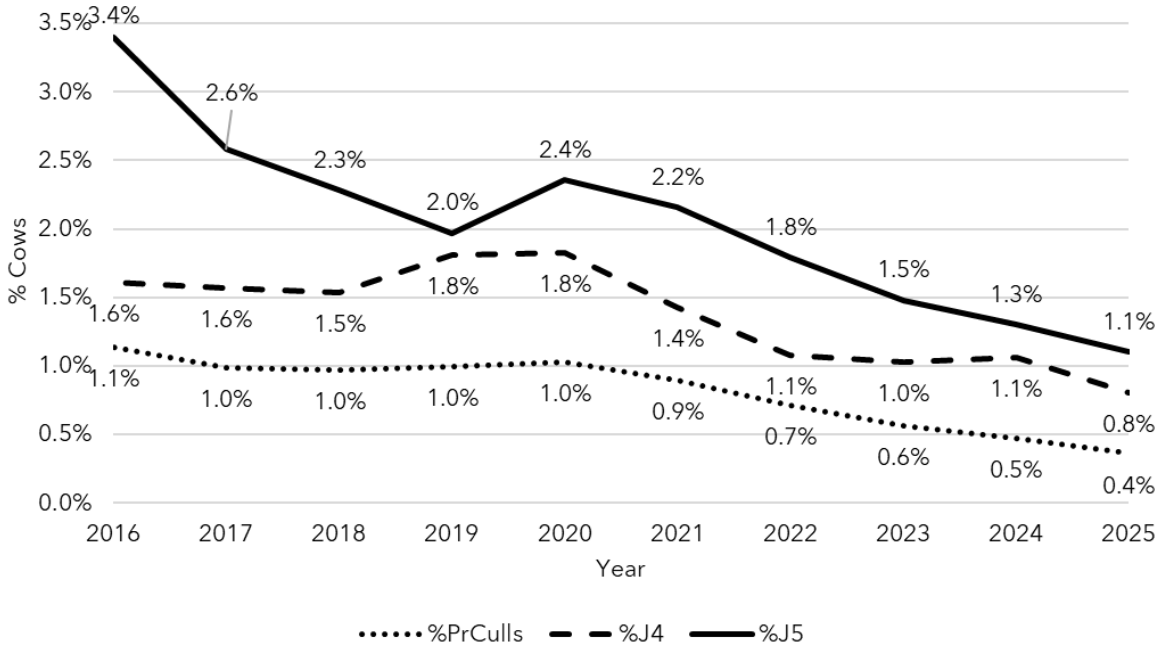

Figure 8: The median herd % J4, J5 and priority cull ('PC') classified cows among cows present on 'whole herd' test dates in the National JD Tracker database, by year.

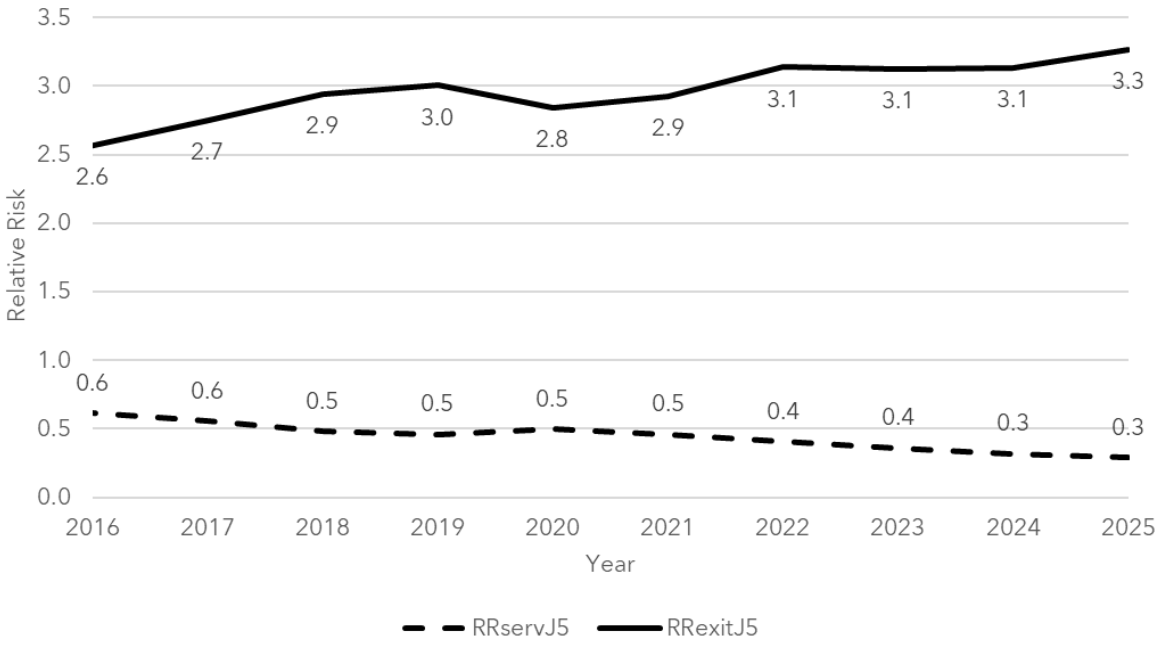

Figure 9: The median herd RR of subsequent service and RR of exit within 150 days after 'whole herd' test date comparing risk in J5 cows with all other cows except J4 cows present on test dates in the National JD Tracker database, by year.

JD Tracker Tool Benchmarks

The benchmarks used for colour coding within IH+ JD results displays were updated using data from herds in the National JD Tracker database as part of the launch of Phase 3 of the NJMP. Table 2 details the 2023 to 2025 3-year rolling benchmarks. Only data from herds which tested exactly four times in each year were used; 2023 = 1,751 herds, 2024 = 1,719 herds and 2025 = 1,581 herds[9].

Table 2: 2023 to 2025 3-year rolling benchmarks for the JD Tracker Tool.

JD Tracker Parameters	Quartiles		
	Q1	Median	Q3
AveTVal	4.30	5.52	7.20
pPOS	0.86%	1.81%	3.42%
pPOS60	0.12%	0.54%	1.31%
pPOS100	0.00%	0.15%	0.54%
pJ4	0.50%	0.96%	1.69%
pP1J4	0.08%	0.69%	1.53%
pJ5	0.45%	1.29%	2.72%
pPrCulls	0.00%	0.47%	1.26%
RRservJ5	0.00	0.32	0.75
RRexitJ5	3.94	3.17	3.01

A comparison of 2,700 herds which JD tested (any frequency) in 2024 and 2025 has highlighted the movement of herds between quartiles (Figure 10). Quartiles 2 and 3 show the most volatility. Of herds in quartile 2 in 2024, 33% moved up to quartile 1, 42% remained in quartile 2 and 25% moved down to quartiles 3 or 4. Of herds in quartile 3 in 2024, 41% moved up to quartiles 1 or 2, 42% remained in quartile 3 and 17% moved down to quartile 4. Of herds in quartile 1 in 2024, 75% remained in quartile 1 while 19%, 5% and 1% moved into quartiles 2, 3 and 4 in 2025, respectively. Herds in quartile 4 show the least movement. Of these herds, 33% of herds moved up to quartiles 1, 2 or 3, but 67% remain in quartile 4 (Figure 10).

[9] The number of herds contributing data for 2025 was reduced by the exclusion of 25 herds with less than 50 cows.

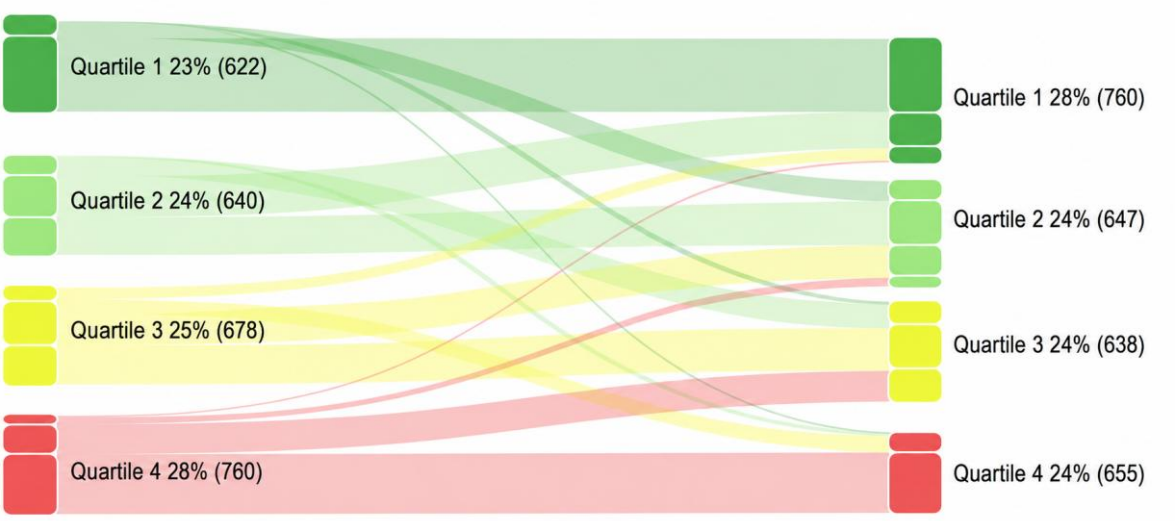

Figure 10: A Sankey chart showing the movement of herds between 2024 ATV quartiles (2022 – 2024 rolling benchmarks) and 2025 ATV quartiles (2023 – 2025 rolling benchmarks). Data from 2,700 herds that tested (any frequency) in 2024 and 2025.