

Internal Project Report



Assessment of the environmental performance of Red Tractor Assured farms

Report Final Version

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Environment & Business Agriculture team – Market-led Approaches Programme

Executive Summary

Why work with Red Tractor Assurance (RTA)?

There are around 100k commercial farm businesses in England. RTA have 46,000 farmer members who belong to at least one RTA sector scheme in the UK¹. Approved certifying bodies carry out assessments every 12 -18 months, in comparison we inspect around 500 farms per year (0.5%) and respond to around 500 pollution incidents caused by farmers. If RTA membership leads to good environmental performance, we could take membership into account in our Risk Based Approach to farm regulation and use the reach of the scheme to complement our regulatory approach to secure compliance. The analysis updates our evidence from a previous assessment in 2013 from which we determined we could formally give Earned Recognition² to LEAF Marque certified farms (a whole farm certification scheme).

Is Red Tractor membership an indicator of good environmental performance?

To assess the environmental performance of Red Tractor members we have worked in partnership with RTA, analysing their data on conformance with environmental standards alongside our data for calendar years 2014-2019. We analysed Environment Agency (EA) data on farm inspections and farm pollution incidents, assessing whether membership of Red Tractor Assurance influenced compliance. The analysis has also identified where the scheme standards could be strengthened to deliver for the environment.

Method for analysis

- EA data came from two sources: farm inspections (FARMS data system) and pollution incidents caused by farms recorded on NIRS (National Incident Recording System)
- Analyses covered data from 5 calendar years, around 3000 EA inspections, 4000 agricultural pollution incidents and 239000 RTA assessments
- We analysed conformance data for the RTA standards which align to the Agency's priority impacts from farming described in <u>'Key Actions</u> for Farmers'³.

Results

Pollution incidents

- There were 4,064 incidents in total
- RTA farms were responsible for a significant number of pollution incidents (62% of category 1 and 2 incidents, 56% of category 3 incidents).
- Dairy farms were responsible for the most pollution incidents from the agriculture sector 1,342 in total (33%). RTA farms accounted for 74% of category 1 and 2 incidents and 66% of category 3. It is likely to be greater since 72 dairy RTA members did not provide their





¹ RTA scheme is not 'whole farm'. Membership is by sector scheme. In England there are around 68,000 RTA sector scheme members. The 46,000 figure also includes a small number of farms in other parts of UK for certain schemes.

² Earned Recognition means we would not normally select a LEAF Marque farm for inspection because they are lower environmental risk ³ Also on the AHDB website https://pork.ahdb.org.uk/environment-buildings/environmental-protection/



County Parish Holdings (CPH) so could have been responsible for more of the 'other farms' incidents. 'Other farms' accounted for 49 category 1 and 2 incidents, and 406 category 3 dairy incidents. However, incidents caused by RTA farms appeared to be slightly lower than might be expected by chance based on their contribution to the overall farm population (c.95%).

 Slurry caused the most pollution incidents by far (30% of total).



EA inspections

- RTA farms were less compliant (26%) with EA inspections compared to non-RTA farms (19%).
- The highest level of EA inspection non-compliances was in the dairy sector, whereas for RTA inspections the most non-conforming sectors were Beef and Lamb, followed by Dairy (average 3.8% and 3.5% 3.4% respectively). However, we recognise that EA targets dairy farms as they are higher risk.



Red Tractor Assessments

- For Standards which we consider a priority for environmental protection, on average assessors advised to improve in 2% of RTA assessments.
- There were less than half the number of RTA environmental standards in livestock sector schemes (19-22), compared to fresh produce (57) and crops (43). Some of EA priority impacts are not included or underrepresented in livestock standards including water use, soil health (except for poaching) and nutrient management. This is reflected in EA assessment outcomes, where horticulture sector demonstrated higher compliance than other farms. We recognise that in comparison with other sectors, fresh produce and crops sectors use more plant protection products and fertilisers. The risks associated with these inputs is a focus of RTA standards.
- Conformance with mandatory standards was more than twice as likely, compared to recommended standards.

Conclusions

This assessment has been comprehensive. The evidence gathered through this project demonstrates that Red Tractor membership is not currently an indicator of good environmental performance, and therefore we do not recommend extending Earned Recognition to RTA farms. However, the evidence shows we should acknowledge the relatively good environmental performance of Red Tractor horticulture sector scheme members.

There was significantly lower conformance with Red Tractor recommended standards compared to mandatory standards. To increase conformance with environmental standards we recommend they are made mandatory. In 2019 RTA introduced mandatory use of the industry 'slurry wizard' tool for farmers to assess legally required slurry storage capacity. We welcome this improvement, but due to timing this analysis could not take account of any impact of this newly introduced standard.

Next steps

We have shared the findings with RTA. They have told us they valued this assessment and have recognised priority areas for strengthening environmental standards. We have offered to continue to work with RTA to help them achieve this ahead of their public consultation October to December 2020. The standard is due to be updated autumn 2021. The priorities which Red Tractor propose to take to their formal governance Technical Advisory Committees are:

- Farming rules for water
- Measures to reduce pollution incidents
- Slurry and silage storage
- Soil and nutrient management
- Soil health
- Burning/mismanagement of waste
- Materials to land
- Contingency planning for environmental incidents (e.g. agrochemical/slurry spills, floods)

RTA Member rule change – impact on data sharing

We welcome RTA's agreement to amend its member rules to allow the EA to share data. This is due in spring 2020. We expect EA's ability to share pollution incident data occurring on or caused by any RTA farm with RTA to generate significant benefits. It should demonstrate the benefit of working in partnership with a 3rd party scheme. Our aim is to see a significant reduction in pollution incidents caused by RTA farms.

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1.Background

Project objectives

- We can identify if Red Tractor assurance demonstrates acceptable environment protection by member farms
- We have up to date evidence to contribute to developing new approaches and policy post Brexit, in particular the role of farm assurance
- We have evidence to support our current risk based approach for inspection of farms
- We use the project outputs to consider wider use of 'earned recognition' in our business. (We already formally give Earned Recognition to "LEAF marque' certified farms in our national targeting framework for water quality farm visits).
- We have evidence we can use to influence market led approaches to reduce environmental impact of farms, in particular pollution incidents.
- Provides evidence to support our engagement and continued relationship with RTA.

Scope

In this phase, the project looked at RTA sector schemes only. There may be future phases to consider other farm assurance schemes.

Why work with Red Tractor Assurance (RTA)?

There are around 100k commercial farm businesses in England. RTA have 46,000 farmer members who belong to at least one RTA sector scheme in the UK⁴. Approved certifying bodies carry out assessments every 12 -18 months, in comparison we inspect around 500 farms per year (0.5%) and respond to around 500 pollution incidents caused by farmers. If RTA membership leads to good environmental performance, we could take membership into account in our Risk Based Approach to farm regulation and use the reach of the scheme to complement our regulatory approach to secure compliance.

Is Red Tractor membership an indicator of good environmental performance?

To assess the environmental performance of Red Tractor members we have worked in partnership with RTA, analysing their data on conformance with environmental standards alongside our data for calendar years 2014-2019. We analysed EA data on farm inspections and farm pollution incidents, assessing whether membership of Red Tractor Assurance influenced compliance. The analysis has also identified where the scheme standards could be strengthened to deliver for the environment.

⁴ RTA scheme is not 'whole farm'. Membership is by sector scheme. In England there are around 68,000 RTA sector scheme members.

Constraints of analysis

 County Parish Holdings (CPH) numbers - matching EA data to RTA data relies solely on CPH number. Not all RTA members have or have provided CPH numbers (see). Absence of CPH means those farms were categorised in 'other farm' or non-red tractor grouping. We were able to remap some of the RT farms where there was no CPH for incidents, but it is very time consuming.

Members	RTA Members Oct 2018	No CPH number	% No CPH
Dairy	11171	72	1%
Beef and lamb	24426	284	1%
Pigs	2155	6	0%
Chicken	2103	35	2%
Turkey	320	0	0%
Crops	16618	1627	10%
Produce	2220	290	13%
Total	59013	2215	4%

- National Incident Recording System (NIRS) NIRS data records where the pollution incident is reported and are not necessarily the source of the incident. For example, water pollution can travel for miles before someone spots and reports it. This means there can be uncertainty in attribution. Also an incident may have happened but not have been caused by the farmer e.g. fly tipping incidents.
- **RTA membership is not a whole farm scheme -** pollution could happen on a non-assured part of the farm. For this analysis we have assumed membership of one or more sector schemes means it is a 'RTA farm'.
- EA inspects only 0.5% of English farms are inspected annually, out of around 100,000 farm businesses. In contrast, Red Tractor assessments are carried out on every one of their 46,000 members every 12-18 months. This means there is a big difference in the size of the datasets analysed which can skew results.
- We target EA inspections based on risk to water pollution. They are not random and we often target dairy farms since our evidence shows they are causing the biggest environmental impacts. Local environmental priorities also influences targeting.
- **RTA membership was from a snapshot in time in July 2019.** The large volume of data meant we did not check if a farmer was in an RTA scheme at the time of the incident/inspection. However, RTA tell us there is very low fluctuation rate of farmers entering/leaving the scheme.
- **RTA environmental standards only** We undertook analysis of data for selected RTA standards relevant to EA's main environmental objectives for farmers (Appendix 2 for list).
- **RTA standard update** Over the period 2014-2018 RTA standards have changed. Analysis covers data from V3 and V4.
- **Quality Assurance** undertaken for pollution incident data for all Category 1 and 2 incidents, but only some Category 3 incidents. This meant many Category 3's were assigned medium confidence. They would justify further analysis but insufficient resources for this project.
- **FARMS system** this records EA farm inspections. It was superseded in November 2019 with a new system that does (National Compliance Assessment Database NCAD) which captures a more comprehensive assessment of compliance. We understand records on FARMS under report non-compliance. For example, we are aware many farms are not compliant with the new Farming Rules for Water (introduced April 2018). There is also under-reporting of pollution caused by run off issues which is frequently seen on farms.
- Slurry storage interim phase We agreed with RTA to take a pragmatic approach, so their assessors did not record non-conformance with slurry storage standard while we worked with industry to improve their slurry wizard⁵. The analysis took place during this interim period.
- Mixed farms NIRS analysis categorised these farms as the dominant farm type.

⁵ <u>Slurry wizard</u> calculates required storage capacity

2. Methodology

Data from Red Tractor and EA was analysed for data between 2014-2019. This was to follow on from a similar review of data 2008-2013, named '<u>Study to assess whether membership of Red</u> <u>Tractor Assurance and LEAF schemes is an indicator of good environmental performance to improve targeting of risk based farm inspections</u>' (internal report).

Red Tractor Data Analysis

We analysed non-conformances recorded by assessors of certification bodies. Certification bodies are independent of RTA but carry out assessments of RTA member farms to determine conformance to the scheme standards. In this report they will be referred to as RTA scheme assessors.

The analysis covered the following RTA sector schemes: dairy, beef, lamb, pigs, chickens, turkey, crop and fresh produce. We excluded poultry compliance from the main report as we currently permit 1,028 farms in the EA Pig and Poultry assurance scheme, and there were lower numbers of RTA poultry compared to other sectors (with 2,423 RTA members across sector schemes for chicken and turkey: hatchery, breeder & replacement, broiler & poussin, free range, and breeder layer). We analysed Poultry data with the other sector data. The full analysis is held separately and we have included only the summarised results in this report.

RTA provided us with aggregated and summarised data, to protect members' personal data. The RTA conformance data related to RTA Versions 3 and 4 Standards depending on the year of assessment (see Table). Note that some of the standards had changed, been removed or added between V3 and V4.

Table . Red Tractor Assurance Standard versions and dates analysed

Red Tractor Version number	Dates operational and data used
Version 3 (V3)	October 2014 – September 2017
Version 4 (V4)	October 2017 – September 2018

We selected for analyses only those RTA standards which relate to EA priority environmental objectives for farmers. To communicate the results we gave standards a single word and merged those which would deliver similar environmental outcomes. See Appendix 1 for the full wording of each standard. We categorised Standards into: pesticides, nutrient management, water use, livestock management, emergency planning and soil health. These categories were based on EA's Key Actions for Farmers (hosted on Enviropedia and AHDB website, summary of themes in Appendix 4). We added categories where standards did not fit neatly into one of the 6 'key actions' themes. Additional categories were waste management, pollution, staff training/competence, general, documents, and integrated crop management (because the standard is wider than integrated pest management).

We analysed non-conformance data by conducting summary statistics including calculating means, proportions, and statistical differences and plotted onto graphs in the 12 categories.

We also analysed the different between Mandatory and Recommended standards. See box for definitions of key and normal mandatory standards and recommended standards, as they are enforced at different levels. We analysed both key and normal together as a single 'Mandatory' standard group. Key standard (Mandatory) – can receive a major or minor NC. If you receive a major you are immediately suspended. A minor NC requires you to correct within 28 days

Normal standard (Mandatory) – NC against a normal standard requires you to correct within 28 days

Recommended standard – does not affect certification

EA Data analysis

We analysed data from 2 sources: EA farm inspection data and EA pollution incident data.

EA farm inspection data

We analysed data recorded by EA environment officers on the FARMS (NCAD⁶) data system over the time period 1st January 2014 to April 31st 2019. They record whether farm inspections carried out were compliant or non-compliant (for any part of the inspection).

We focused analysis on the following sectors: dairy, beef, lamb, arable, and horticulture, but we did not include EA pigs and poultry inspections because EA manage a pig and poultry assurance scheme for farms permitted under Environmental Permitting regulations (EPR). Since 2015 compliance data for EPR intensive pig and poultry farms has been recorded in a different system (NCAD) with different criteria for inspections. This prevents a reliable comparison with non- EPR farms. Since November 2019 all farm inspections are recorded in NCAD.

Figure . Flow diagram of analysis matching EA inspection data to Red Tractor CPH numbers from Farms

We extracted data from FARMS and mapped it using geospatial software GIS with ArcView. Using CPH numbers⁷ we matched EA Inspection results with RTA member farms using Microsoft Access join function (linking two databases by common field), which pulled out the data from EA inspections with RTA CPH numbers. This enabled us to compare noncompliant EA inspections on farms that matched RTA CPH numbers against farms that did not match to RTA CPH numbers. Note, the group 'non-RTA' or other farms may contain some Red Tractor members as 4% of

Analysis of EA inspection data



RTA members did not have a CPH number. The process is summarised in Figure .

EA agriculture sector delivery plan – key performance indicator for Farm improvements

In addition to recording results of compliance assessment, EA Officers also record farm improvements (KPI656). Note data is recorded locally. There is some variation between local teams depending on local priorities for reducing pollution and types of farm production in those areas. For example there is more dairy production in the South West, but more arable in East Anglia, therefore priorities will differ.

This project has taken note of this data see results section Figure , Figure and Figure .

⁶ We are transitioning from FARMS to a new system, NCAD. Data for intensive pig and poultry farms permitted under EPR Environmental Permitting Regulations is recorded on NCAD.

⁷ CPH (County Parish Holding) is the only current method way of reliably identifying and matching data from different sources for an individual farm.

Pollution Incident data reported to EA

We record data about reported pollution incidents in the National Incident Recording System (NIRS). We analysed NIRS data over the time period 1st January 2014 to July 31st 2019. We analysed all incidents which were attributable to farms. We record the dominant farming sector for a farm: dairy, beef, lamb, pigs, poultry, arable or horticulture.

In this assessment, we analysed category 1-3 pollution incidents. When EA investigates a pollution incidents we assign one of four categories depending on the severity of impact:

- Category 1 major, serious, persistent and/or extensive impact or effect on the environment, people and/or property
- Category 2 significant impact or effect on the environment, people and/or property
- Category 3 minor or minimal impact or effect on the environment, people and/or property
- Category 4 substantiated incident with no impact.

Figure . Flow diagram of analysing NIRS data and matching to Red Tractor CPH numbers

We extracted this data and geospatially mapped, using GIS software, farm incidents across England and assigned them to the nearest farm using identification called County Parish Holding (CPH) numbers. Because pollution incidents may be reported and recorded at a location distant from the source farm, we undertook a quality assurance process. The EA's evidence team Quality Assured (QA'd) all Category 1 and 2 pollution incidents against farm location, and assigned each a confidence level - see confidence levels below. A high confidence means it was QA'd and very

Analysis of NIRS data



likely occurred on that farm, Medium there was a part match and likely it was on that farm. Very low means it was probably a different farm – these were in a small minority. Because of the large number of Category 3 incidents we were unable to quality check each record and so used Medium and Low as default based on the distances.

Confidence levels

- High quality checked to match farm address
- Medium within 0-50 m of CPH location
- Low within 50-100 m of CPH location
- Very low over 100 m away from CPH location

Using 'v lookup' function on Microsoft Excel (linking two databases by a common field), we then matched incident location to CPH number of RTA Members - to compare the prevalence of incidents on farms matching RTA CPH numbers against those that didn't match. See Figure to Figure for summary statistics.

Data analysis work sheets

The locations of the data analysis work sheets are in an internal document called: 'Location of datasheets used for the Red Tractor Assurance Environmental Performance analysis'.

3.Results

3.1 Pollution Incidents occurring on Red Tractor Farms Total incidents

- A total of 4,064 category 1, 2 and 3 incidents were analysed between 1st January 2014 and 31st July 2019.
- 1,319 farms were assigned high confidence, 2486 medium, 253 low and 6 very low.⁸
- Of the Category 1 and 2 incidents, 289 were assigned high confidence, 58 medium, 67 low and 6 very low.

Incident on Red Tractor farms

- 62% of category 1 and 2 incidents (at all confidence levels) occurred on RTA farms. Of those category 1 and 2 incidents assigned with high confidence levels 70% occurred on RTA farms (Figure).
- 56% of category 3 incidents (at all confidence levels) occurred on RTA farms. Of those category 3 incidents assigned with high confidence levels 61% occurred on RTA farms (Figure).





⁸ Confidence levels: High (quality assured and located on farm), Medium (within 0-50 m), and Low (within 50-100 m), Very low (>100 m, unlikely pollution came from here). Quality assurance was limited mainly to category 1 and 2 due to volume of incidents and time for evidence team to manually check, resulting in many category 3 incidents automatically being assigned medium confidence.





Sectors causing pollution incidents

- The main source of pollution incidents was from dairy farms (48% of category 1 and 2).
- RTA farms are likely to be responsible for most dairy incidents as 95% of dairy is RTA. 72 Red Tractor dairy members did not provide a CPH number, and 'Other farms' with no CPH match to Red Tractor accounted for 49 category 1 and 2 incidents, and 406 category 3 incidents - so some of these are likely to have been caused by RTA farms with no CPH.
- The remaining incidents were caused by Arable, Poultry, Beef, Pigs, Horticulture and then Sheep.
- Pollution incidents occurred on RTA farms more often than other farms in most sectors. However, when looking at percentage caused by RTA farms, it does not take into consideration the proportion that RTA farms represent per sector. This data was not available for all sectors.

See Figure , Figure ,

• Table and Table for a breakdown of sectors causing pollution.

Figure . Sector causing category 1 and 2 pollution incidents, 1st January 2014-31st July 2019



Table . Category 1 and 2 incidents on Red Tractor and other farms

	Number of		Total		
	incidents on	Number of	Number		
	Red Tractor	incidents on	of		
Category 1 and 2 incidents	farms	Other farms	incidents	% Red Tractor	% of total incidents
Arable	33	35	68	49%	17%
Beef	16	11	27	59%	7%
Dairy	142	49	191	74%	48%
Energy Crops	4	3	7	57%	2%
Equine	0	2	2	0%	0%
Fish Farming	0	1	1	0%	0%
Forestry	0	1	1	0%	0%
Horticulture	5	3	8	63%	2%
Other Agricultural Source	7	7	14	50%	3%
Pig	14	9	23	61%	6%
Poultry	26	28	54	48%	13%
Sheep	3	2	5	60%	1%
Grand Total	250	151	401	62%	100%

Figure . Sectors causing category 3 pollution incidents, 1st January 2014- 31st July 2019



Pollution source in each sector

- Overall the largest source of pollution was from slurry. This mainly came from dairy farms (and therefore likely to be Red Tractor) but also some beef and pig farms.
- Beef farm incidents were also caused by manure, silage, soils, waste and smoke.
- Pig farm incidents were mostly to do with slurry, odour and atmospheric pollutants.
- Poultry farm incidents were mostly to do with odour and atmospheric pollutants
- Sheep farms had very few incidents, but most were related to waste and smoke.
- Noise complaints mainly came from pig and poultry farms. This may be because many pig and poultry farms have an EPR permit and therefore if a condition is breached it is more likely to attract complaints.
- For arable farms there were a mixture of incidents, mainly relating to smoke, agrochemicals, waste, fire-fighting run off water, soils and fuels.

	Number of		Total		
	incidents on	Number of	Number		
	Red Tractor	incidents on	of		
Category 3	farms	Other farms	incidents	% Red Tractor	% of total incidents
Arable	432	302	734	59%	20%
Beef	157	155	312	50%	9%
Dairy	745	406	1151	65%	32%
Energy Crops	8	2	10	80%	0%
Equine	47	114	161	29%	4%
Fish Farming	3	4	7	43%	0%
Forestry	8	22	30	27%	1%
Horticulture	44	53	97	45%	3%
Other Agricultural Source	246	253	499	49%	14%
Pig	139	84	223	62%	6%
Poultry	172	174	346	50%	9%
Sheep	29	51	80	36%	2%
Grand Total	2030	1620	3650	56%	100%

• There were relatively few horticulture incidents, but they were mainly caused by smoke, waste, fuels, and soils.

Figure a-j breaks down pollution incidents for each sector – all sectors RTA (a) and other (b), dairy RTA (c) and other (d), beef RTA (e) and other (f), sheep RTA (g) and other (h), pig RTA (i) and other (j), poultry RTA (k) and other (l), arable RTA (m) and other (n), horticulture RTA (o) and other (p).







3.2 EA Inspection analysis

Number of EA inspections 2014-18

There were a total of 3,042 farm inspections 2014-18⁹ analysed for dairy, beef, arable, sheep, horticulture (not including pigs and poultry). The number of EA farm inspections has reduced year on year to align with decrease in allocated funding.

Figure . Number of compliant and non-compliant EA inspections, on all dairy, beef, mixed, arable, sheep, horticulture (not including intensive pigs and poultry which are permitted under EPR environmental permitting regulations) between 1st January 2014 and 31st April 2019

	2014	2015	2016	2017	2018	2019	2014-19
Non							
compliant	173	189	119	121	83	43	728
Compliant	665	704	504	281	123	37	2314
Total farms	838	893	623	402	206	80	3042

Number and type of EA non-compliance

Overall, RTA members had a lower rate of compliance than those not matching RTA CPH numbers. In every sector RTA members had lower compliance, except horticulture. Whilst this indicates RTA farms are performing worse than other farms, we recognise EA inspections are targeted towards high risk farms which often include dairy farms. 95% of English dairy farms are RTA.

Red Tractor Assured farms

- EA carried out 2,212 inspections on RTA farms 1st January 2014 31st April 2019.
- 26% of EA inspections were recorded as non-compliant on RTA member farms. *However* we know non-compliances are under reported in FARMS system (see constraints).
- 74% of EA inspections were recorded as compliant on RTA member farms.
- Red tractor farms had a lower level of compliance in nearly all sectors except for horticulture and sheep (
- Figure).

More Red Tractor dairy farms were targeted for inspection, compared to other sectors and other farms (

• Figure).

Non Red Tractor Assured member farms

- EA carried out 830 inspections on non-RTA member farm 1st January 2014 31st April 2019.
- 19% of EA inspections were recorded as non-compliant on other farms.

⁹ Taken from the EA FARMS database (soon to be replaced by NCAD)

• 81% of EA inspections were recorded as compliant on other farms.



Figure . Non-compliant EA inspections by sector for Red Tractor and other farms (percent), 1st January 2014-31st April 2019

Figure . EA inspection results of Red Tractor (a) and other farms (b) by sector



EA agriculture sector delivery plan – key performance indicator for Farm improvements (KPI665) 2018-2019

Our data from our annual review of farm improvements implemented shows the types of issues our environment officers (EO's) are dealing with and prioritising.

This data shows in Figure the overwhelming focus on dairy farms, enforcing SSAFO¹⁰ regulations in 2018-19. They prioritise dairy farms because they are causing the most serious pollution incidents. The majority of the 430 interventions were to improve slurry storage (102 farms), silage storage (70 farms) and site drainage¹¹ (72 farms) (Figure).

In summary:

- A total of 430 farm improvements were recorded across EA's operational areas (completed and scheduled improvements combined)
- 377 outcomes were reported during 2018/19 (contributing to EA corporate key performance indicator KPI655)
- We have secured the highest number of improvements on Dairy farms

Figure . Number of improvements instructed by EA inspectors by farm type



2018/19 improvements by farm type

¹⁰ SSAFO – Regulations about storing Slurry, Silage and Agricultural Fuel Oils

¹¹ Site drainage improvements relate to infrastructure of pipes which should be draining slurry or dirty water to the appropriate stores but have issues, such as cracked pipes, miss connections and so on. Or it could be cracked paving allowing dirty water/slurry/silage liquor to penetrate into the ground rather than running to the store.



Types of improvements (both completed and scheduled)

Figure illustrates the continued reliance on the SSAFO regulations and emphasises the need for this legislation to be modernised in order to drive further farm improvements. With the introduction of the Farming Rules for Water in 2018, we are beginning to see these regulations drive farm improvements (21 improvements which is approx. 8% of all improvements recorded). Use of Farming Rules for water will increase as we move from awareness raising to enforcing these regulations where we identify breaches.





Regulatory driver behind the improvements (both scheduled and completed)

3.4 Comparison of Red Tractor conformance with EA pollution incidents and EA farm inspections

Red Tractor data shows a high level of conformance which doesn't align with EA data on farm inspections and pollution incidents. For example, our biggest issues were slurry storage, silage storage, waste and fires. However this isn't reflected in Red Tractor's conformance data. Note that RTA assessments are only on the day and EA are not currently allowed to notify them of pollution incidents, making it harder for them to pick up non-conformances.¹²

Similarities:

Livestock

- RTA Livestock sector scheme members were less compliant/conforming than crops and fresh produce in both EA inspections and RTA assessments.
- 0.5% RTA members failed RTA standard HF.K.1 to maintain tracks and gateways for grazing between 2014 and 2018. Similarly only 0.7% of EA inspections resulted in instructions to improve tracks and gateways. However, this RT standard is only for dairy, more cases may have been picked up if it was expanded to sheep, beef and pigs.

Differences:

Slurry:

- Slurry and manures from Red Tractor farms caused the largest number of pollution incidents by far, including the most category 1 and 2 incidents.
- 30% of incidents occurring from Red Tractor farms was caused by slurry.
- Organic manures not only risk run off of nutrients, causing eutrophication and poisonous levels of Nitrogen, but also biosecurity risk spreading microbes and disease along rivers.
- The largest number of EA driven improvements on farms was to improve slurry storage (102 out of 377).
- EA estimates that 50% of dairy farms have inadequate slurry storage, a figure accepted by the agriculture industry¹³. This includes farms that have under estimated the storage required. AHDB has revised the 'Slurry Wizard' so that farmers calculate correct capacity using appropriate rain figures. This revision was introduced in 2019 and hence its impact would not be seen in this analysis.
- However, a very low percentage of RT members were instructed by RT to improve slurry storage: this is because RTA assessors were waiting for the revision of Slurry Wizard before resuming inspections on slurry stores.
- Storing organic manure RT standard EC.k (NM.b in V4) 'Organic manure must be stored in a manner that minimises the risk of contamination and pollution' was at 2% non-conformance for dairy and less than 0.5% for beef, lamb, pigs, chickens, turkeys, crops, and fresh produce.¹⁴
- Storing fertilisers EC.k to store fertilisers to reduce risk of pollution failed <2% of dairy and <0.5% on other livestock farms.
- Application EC.m.3 (fertiliser rates must match to crop requirement) only failed on 0.9% of crops, and didn't fail on any fresh produce farms. This was not a standard in livestock sectors.

¹² We are working on an agreement and RTA aim to change their member rules to enable us to share more information. This would allow RTA to spot check and raise more non-conformances to be corrected.

¹³ EA internal report, and Farm Inspection and Regulation Review, December 2018 (Dame Glenys Stacey Review). Key Facts
¹⁴ We agreed with RTA to take a pragmatic approach, to not record slurry storage as a non-conformance while we worked out

slurry wizard. We accept under reporting of slurry storage non-conformance during this interim period.

- Crop demand EC.m.4 (supply and timing must match crop demand) only failed on 0.1% for crops, and didn't fail on any fresh produce farms. This was not a standard in livestock sectors.
- Pollution risk EC.m (about reducing risk of pollution when applying fertilisers), only failed on 2.4% of livestock farms, 1.9% of crops, and didn't fail on any fresh produce farms.
- Equipment EC.m.1 (recommendation that fertiliser application equipment must be checked) failed on 3% of livestock farms, 0.6% of crops, and didn't fail on any fresh produce farms.

Silage storage:

- Improving silage storage was our second biggest target for improvement (72/430 or 17%).
- Silage contributed to a large number of incidents from Red Tractor farms.
- The RTA standard FW.m (V4 only) 'Silage must be stored in a manner that minimises the risk of contamination and pollution', only failed on 0.2% dairy farms, 0.1% of beef, 0.0% of lamb, and 6.2% of pigs.
- The next most frequent EA improvement was to improve site drainage (70/430 or 16%). Compliance with silage stores is usually poor for a variety of reasons, but in particular for not having a perimeter drain.

Fire water and Waste management

- 12% of Red Tractor incidents were caused by smoke, 11% wastes, and 5% from firefighting run off (2014-19).
- However, Red Tractor assessments only failed farms for waste offences (EC.c) on <5% of livestock farms, 1% of fresh produce, 2% of crops.

Land contamination

- Very few farms <0.2% failed RT standard EC.I only using appropriate, safe and suitable soil improvements and fertilisers.
- However our Environment Officers have increasingly been finding contamination in soil improvement products such as plastics.
- 33 incidents (3%) were caused by land contamination (52% of those were Red Tractor farms) 2014-18.

Livestock management

- Most of the 16 livestock management improvements (4% of improvements) instructed by EA inspectors were to reduce bankside erosion and poaching (e.g. by fencing off waterways to cattle or providing water),
- However preventing bankside erosion is not yet a Red Tractor standard. The new standard to reduce poaching only failed 0.5% of dairy, 0.1 % beef, 0% lamb farms.

Pesticides

- Only 4% of Red Tractor incidents were caused by pesticides (2014-19)
- Only 2% of EA led improvements were about pesticides (10/430) 2018/19.
- However, standards about pesticide application were the highest non-conformance topic in RT standards for crops. This was mostly due to record keeping rather than actual application. It is easier to find non-conformance with records compared to operations during an inspection.

Conclusion about comparison

There were many more differences than similarities between Red Tractor and EA data, indicating priorities for RT assessors tend not to be aligned with priorities for EA officers. However, RTA are not entirely dedicated to environmental standards, whereas EA are. RTA have many priorities including food safety and animal welfare, making it difficult to assess every aspect in one visit.

3.3 Red Tractor Assurance environmental standard analysis

Breath of environmental protection measures across the RTA sector schemes We grouped RTA Standards into the 6 themes of Key Actions for Farmers (top 6 rows of

Table). See Appendix 2 for the full list of standards, their full names, how we grouped and merged the standards.

		Number of standards in						Fresh
		categories V3	Dairy	Beef	Lamb	Pigs	Crops	Produce
or	les	Nutrient management	4	4	4	4	9	10
s F	юц	Soil health					1	6
ion	F	Water use						6
Act	ers	Livestock management	4	3	3	2		
eV /	E	Pesticides	7	7	7	7	15	15
ž	Ба	Incidents / flood risk	1	1	1	1	1	1
		Waste management	1	1	1	1	1	2
		Pollution control	1	1	1	1	1	2
		Conservation					3	4
Integrated of Staff		Integrated crop management					1	1
		Staff	1	1	1	1	1	1
	General		1	1	1	1	1	2
		Total	20	19	19	18	34	50

Table . Grouping of RTA sector standards by EA priority theme V3 RTA sector standards

Table . Grouping of RTA sector standards by EA priority theme V4 RTA sector standards

	Number of standards in						Fresh
	categories V4	Dairy	Beef	Lamb	Pigs	Crops	Produce
or es	Nutrient management	6	6	6	6	11	13
s fc	Soil health					1	6
ion Th	Water use					7	6
Act ers	Livestock management	5	5	5	4		
e v	Pesticides	4	4	4	4	15	17
Хa	Incidents / flood risk	1	1	1	1	1	1
	Waste management	1	1	1	1	1	2
	Pollution control	2	2	2	2	2	2
	Conservation					3	4
	Integrated crop management					1	1
	Staff	1	1	1	1	1	1
	Documents	1	1	1	2		1
	General						1
	Total	21	21	21	21	43	55

Fresh produce had the largest number of environmental standards with 50 in V3 and 55 in V4.

- Crops had 34 environmental standards in V3 and 43 in V4.
- Whereas the Livestock sectors had half as many environmental standards (18-21).
- Note that what counted as an environmental standard was subjective to those most closely aligned to EA objectives and concerns.

In V4 Fresh Produce and Crops had unique categories not in other standards, including 6 standards about water use and soil health. Fresh produce also had 5 extra standards on soil health compared to crop standards and 6 extra on nutrient management compared to livestock. Many more environmental standards were included in crops standard in V4 compared to V3, but still not in livestock standards. Some sectors also had unique environmental standards, including a biodiversity plan in Free Range Chicken and a pig density limit in Pigs. The difference in number and types of standards for each sector is partly due to the differences between sectors. For example Crops and fresh produce use more agrochemicals that have a pollution risk. We would like to see more environmental standards across all schemes.

Some Key Actions for Farmer categories were fairly well represented such as nutrient management (4-13 standards), Pesticides (4-17 standards), and Livestock management (3-5 standards).

However, Soil management (except for poaching) and Water use were not included in Livestock management standards, and there was not a requirement to spread manures only when crops needed nutrition. There was only limited mention of flooding within the 'incidents' standards and only as a response to any emergency situation. We would like to see more on making farms resilient to flooding incidents before they happen, such as improving soil health, and reducing risk of pollution if an event occurs (e.g. safely storing agrochemicals higher up).

There was also a decrease of four pesticides standards between V3 and V4, which had been merged with other standards. However, assessors are still checking for the same things within merged standards and should not be seen as a reduced assessment or outcome.

Breadth of Mandatory¹⁵ vs recommended¹⁶ environmental standards

Mandatory RTA standards are those which if found to be non-conforming must be rectified in 28 days or RTA can suspend the member. Whereas recommended standards do not affect certification.¹⁷

	Number of Mandatory standards in categories V3 & V4	Dairy	Beef	Lamb	Pigs	Crops	Fresh Produce
۲ s	Nutrient management	5	5	5	5	9	9
s fo eme	Soil health					1	1
ion The	Water use					5	4
Act lers	Livestock management	5	5	5	5		
(ev arm	Pesticides	7	7	7	7	16	16
× ů	Incidents / flood risk	1	1	1	1	1	1
	Waste management	1	1	1	1	1	2
	Pollution control	1	1	1	1	1	2
	Conservation					3	3
	Integrated crop management					1	1
	Staff	1	1	1	1	1	1
	Documents	1	1	1	2		3
	General	1	1	1	1	1	1
	Total	23	23	23	24	40	44

Table . Number of mandatory standards in V3 and V4 RTA sector standards, organised into categories

The majority of selected environmental standards were mandatory (79%) in total. With the remainder being recommended. Recommended standards include the majority of soil standards (5 out of 6), water use (4 out of 13), nutrients (4 out of 15), and pesticides (3 of 18). Recommended environmental standards were mainly in crops and fresh produce. Livestock only had 2 recommended environmental standards, about checking equipment used to apply nutrients and pesticides.

Table .	Number of	recommended	standards in	V3 and	V4 RTA	sector standards.	organised into	categories
						,		

	Number of recommended standards in categories V3 & V4	Dairy	Beef	Lamb	Pigs	Crops	Fresh Produce
r si	Nutrient management	1	1	1	1	2	4
s fo	Soil health						5
ion The	Water use					2	2
Act ers	Livestock management						
eV .	Pesticides	1	1	1	1	1	3
х ^в	Incidents / flood risk						
	Waste management						
	Pollution control						
	Conservation						1
	Integrated crop management						
	Staff						
	Density						
	General						
	Total	2	2	2	2	5	15

¹⁵ If there is a serious non-conformance against what red Tractor consider to be a 'Key' standard (marked K in the manual), a members certificate can be sus pended until they have shown they have put this right. *Red Tractor Member Rules 2017*

¹⁶ Members must conform to all the Standards (not including 'recommendations') before certification can be progressed. *Red Tractor Member Rules* 2017

¹⁷ We agreed with RTA to take a pragmatic approach, to not record slurry storage as a non-conformance while we worked out slurry wizard. We accept under reporting of slurry storage non-conformance during this interim period.

Conformance level of RTA standards

Number of RTA members and percentage inspected

Tables 9 and 10 show the number of members in each RT sector scheme, and the percentage of these which were inspected. There was a high level of assessments, between 61% and 100% per year. This confirmed the RT assessment frequency of 12-18 months.

Members by sector scheme	Oct-15	Oct-16	Oct-17	Oct-18
Dairy	11614	12077	11673	11171
Beef and lamb	25210	25582	25078	24426
Pigs	2113	2188	2140	2155
Chicken	2042	2090	2132	2103
Turkey	N/A	N/A	N/A	320
Crops	17950	17672	17027	16618
Produce	2411	2365	2229	2220

Table . Number of Red Tractor members UK data?see below

Table . Percentage of Red Tractor members inspected by Red Tractor in each year

Inspected %	Oct-15	Oct-16	Oct-17	Oct-18
Dairy	69%	68%	75%	69%
Beef and lamb	98%	100%	102%	100%
Pigs	93%	83%	96%	90%
Chicken	64%	64%	67%	61%
Turkey	N/A	N/A	N/A	111%
Crops	94%	93%	96%	94%
Produce	95%	96%	98%	92%

From cath Lehane

there really are very, very few unassured dairy farms in England. This obviously has implications for the conclusions of the report as there is little scope to compare assured vs. unassured. But we needed the CPH

In looking through the report I noticed that table 10 looked a bit odd. Certainly the level of inspection for dairy and chicken does not look right and needs to be looked at again. I've copied Sarah in and she will be able to help with this. (clare – tweak to title may help?) from background section in this report

Members	RTA Membe Oct 2018	ers I	No CPH number	% No CPH	ls th	his Repla	cement fo	or table 9 ? data from cath Lehane.
Dairy	11171		72	1%		e did for Ivsis		only would have to redo all the
Beef and lamb	24426		284	1%	1			
Pigs	2155		6	0%	1			
Chicken	2103		35	2%	1			
Turkey	320		0	0%	1			
Crops	16618		1627	10%]			
Produce	2220		290	13%]			
Total	59013		2215	4%]			
Sector		UK	<	<mark>Eng o</mark>	<mark>nly</mark>	Total site only)	<mark>es (Eng</mark>	
Dairy		<mark>11</mark> :	<mark>387</mark>		<mark>6193</mark>		<mark>6829</mark>	
Beef and I	<mark>amb</mark>	<mark>23</mark>	<mark>183</mark>	2	2455		<mark>30215</mark>	
<mark>Pigs</mark>		22	<mark>233</mark>		<mark>1829</mark>		<mark>2177</mark>	
Poultry (ch	<mark>nicken)</mark>	18	<mark>889</mark>		<mark>1140</mark>		<mark>1196</mark>	
Crops		<mark>16</mark>	<mark>675</mark>	1	<mark>6398</mark>		<mark>23856</mark>	
Produce		2	<mark>142</mark>		<mark>1711</mark>		<mark>2124</mark>	

Additional sites, which are linked to one membership, must be under the same management control. For crops they are additional grain store location or pesticide stores, for beef and lamb its any additional sites where the livestock might be kept, for dairy each milking location needs its own site registration, pigs and poultry – they might be smaller additional units which are linked to the membership but are at a different location, fresh produce could be different production sites/ parcels of land which are linked to the main site.

Figure . Number of assessments carried out by Red Tractor on their livestock, crops and fresh produce members

Number of assessments

Across all sectors there was an average of 59,874 assessments per year October 2014 – September 2018. The number of assessments increased over time, with 61,193 in Oct 2014 -Sep 2015, 61,978 in Oct 2015 – Sep 2016, and 63,047 in Oct 2016 – Sep 2017, and then dropped in Oct 2017-18 to 53,277. The largest number of assessments on average (2014-18) were in Crops (16,314)



followed by Beef (15,992), Lamb (9,086), Dairy (8,150), Pigs (6,711), Fresh Produce (2,193), and Poultry which were all under 1,000 (hence the separate graphs below). For Chickens, on average (2014-2018); 28 hatcheries were inspected, 102 breeder replacement units, 161 free range units, 239 breeder layer units and 812 broiler & poussin units. For Turkeys, 2017-2018 only; 25 hatcheries were inspected, 31 breeder replacement units, 69 free range units, 48 breeder layer units and 202 grower units. Number of assessments reflects the numbers of members in each of these schemes (see table 9).



Mean non-conformance across all sectors

- The mean nonconformance across all selected environmental standards 2014-2018 was 2.4%.
- Between 2014 and 2018 the highest average nonconformances of selected environmental standards were in beef (3.8%), then lamb (3.5%), dairy (3.4%), crops (1.5%), pigs (1.4%), and fresh produce (1.0%).



0

Number of assessments in brackets on Y axis

Recommended vs Mandatory non-conformances

We analysed data associated with 85 RT standards which relate to environmental protection. 67 were Mandatory, 18 were recommended. When analysing the selected Red Tractor environmental standards, the level of non-conformance in recommended standards (average 2.9% \pm 3.9) was significantly higher (TTEST p=0.01) than mandatory standards (average 1.4% \pm 2.6). This shows farmers were less likely to conform to recommended versus mandatory standards. However, the sample sizes of 67 and 18 was relatively small and the level of standard deviation was relatively high in each. Recommended standards have been a useful tool for a gentle introduction of a

requirement. However, we would like to see many of these recommended environmental standards transition to mandatory.

We assessed the impact of a standard moving from being recommended to mandatory between RTA standards Version 3 (October 2014 - September 2017) and Version 4 (from October 2017). For example: standard requiring nutrient application equipment to be checked dropped its non-conformance level from 3% to 0.4%. Whereas standard requiring pesticide equipment to be maintained and tested slightly increased in non-conformance from 1.5% to 1.8%, however failure of this standard was mainly due to certificates going out of date at the time of assessment.

Figure . Mean non-conformance of mandatory and recommended Red Tractor standards for all sectors V3 and v4 combined. Note some standards are combined or hidden in the graph (showing EA priority standards)



RTA standard non-conformances by sector

RTA assessors mainly picked up on pesticide non-conformances, and integrated crop management. See below for summaries of each sector, and Appendix 1 for full details and graphs.

RTA Fresh Produce non-conformances

In the fresh produce scheme the largest numbers of non-conformances, on average between 2014-18, were around pesticide use (recording surplus spray 15.5%, maintain application

equipment 4.7% and having a suitable operator 3.3%), followed by integrated crop management 5.1%, knowing classification of soil 4.2%, mapping soil types 3.0%, and keeping advice from application instructions/professional advice 3.3%. Most other standards were around 1%.

RTA Crops non-conformances

On average between 2014-18, the largest failure of Red Tractor standards on crop farms was integrated crop management (8.7%) with the level of non-conformance decreasing over time. This was followed by a number of pesticide standards (maintaining application equipment 4.2% and competent sprayer operator 2.8%), whereby failures increased each year. Irrigation in the new V4 standard failed 4.1%. Disposing of waste while minimising risk to environment had non-conformance rate of 2.1%. Maintaining soil structure was around 0.5% until 2017 when it went up to 2.9%. Most other standards were below 1%.

RTA large livestock sectors non-conformances (dairy, beef, lamb, pigs)

The highest level of non-conformance to Red Tractor standards (average 2014-18) were in pesticides to read the label when mixing Plant Protection Products. Ranging from 7% in Pigs, 19% in dairy to 29% in beef and lamb. Other pesticide standards also had relatively frequent non-conformance but still below 5%. Planning serious incident management was highest in lamb 5.2%, followed by beef 4.4%, pigs 3.0% and dairy 1.2%. Nutrient standards non-conformances included checking application equipment (up to 5%), and fertilisers applied minimise the risk of pollution (around 3%). Waste disposal failures was highest in dairy 5.4%, followed by beef 4.2%, lamb 3.4% and pigs 2.4%.

For new V4 standards, pig farms had high failures in providing a farm map 10%, and safe water 13%. Dairy had higher failures in recording pesticide application 6.1%, manure planning 4.4% and providing a farm map 4.4%. Beef and lamb were below 4% for all V4 standards.

RTA Poultry sector non-conformances

Poultry had very similar standards to other livestock sectors, RTA scheme assessors found average non-conformance was low (2.5% average 2014-18), with highest non-conformances on free range chicken farms including general pollution standards (free range chickens 16.4%, chicken average 7.5%), clean housing standards (free range chickens 10%, chicken average 5.3%), and safe suitable clean bedding (free range chickens 6.8%, chicken average 3.4%). For full results see separate report: Analysis of Red Tractor Assurance Poultry scheme environmental performance.

For all individual sectors non-conformances and graphs 2014-18, please see Appendix 1.

4.Conclusions

Overview

The evidence gathered through this project demonstrates that Red Tractor membership is not currently an indicator of good environmental performance, and therefore we do not recommend extending Earned Recognition to RTA farms. However, the evidence shows we should acknowledge the relatively good environmental performance of horticulture sector scheme members.

Benefit of working with RTA

We recognise the value in working closely with RTA. It supports the principles set out in Regulators code (see appendix 3). Red Tractor conduct a high volume of assessments, inspecting their members farms every 12-18 months which equates to on average nearly half of English farms per year. Whereas EA only inspect around 0.5% of farms annually. The greater coverage of the scheme provides potential leverage to secure environmental outcomes if RTA standards are strengthened and conformance with those standards is achieved.

EA vs Red Tractor data

According to RTA data, their members are conforming to RTA standards at a very high rate. This doesn't compare with our compliance assessment and pollution incident data, which shows Red Tractor farms are responsible for more pollutions and non-compliant EA assessments compared to other farms. EA target farms that are higher environmental risk as part of a risk based approach and to make best used of limited staff resources. We target based on evidence including which types of farms cause the most significant incidents (see Appendix 3 for more details of our Regulators Code). The difference appears to be that RTA assessors and EA officers differ in their approach to assessment and priorities targeted, EA target based on risk of pollution whereas RTA assess every farm on every aspect of their standard. Therefore less focus is paid to areas we consider a priority.

Recommended vs Mandatory standards

There was significantly lower conformance with Red Tractor recommended standards compared to mandatory standards. To increase conformance with environmental standards we would recommend they are made mandatory.

In response to our evidence, we welcomed RTA upgrading its slurry storage standard in 2017 and making Slurry Wizard mandatory in 2019. Since then the need for adequate slurry storage capacity has become a priority for assurance scheme assessments. However, the data may not show this improvement yet, as it was an interim phase and assessors were waiting for slurry wizard to be updated before holding farmers to account.

Next steps

We have shared the findings with RTA. They have told us they valued this assessment and have recognised priority areas for strengthening environmental standards. We have offered to continue to work with RTA to help them achieve this ahead of their next Public consultation autumn 2020. The standard is due to be updated and published autumn 2021. We welcome RTA's commitment to embed the Farming Rules for Water into the next version of the standard. Other priorities which Red Tractor propose to take to their formal governance Technical Advisory Committees, focusing on the priority areas for each sector, are:

- reduce pollution incidents
- burning/mismanagement of waste
- materials to land
- slurry and silage storage
- soil and nutrient management

- soil health
- contingency planning for environmental incidents (e.g. agrochemical/slurry spills)
- incorporating farming rules for water

Acknowledgements

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Appendix 1 Red Tractor Sector Schemes Conformance

Analysis

RTA Fresh Produce non-conformances

Pesticides

- Non-conformance was highest for recording surplus pesticide spray on average 15.5% 2014-18. This was only a recommendation and to do with keeping records of surplus, but perhaps shows the effect of not making a standard mandatory. Groundwater permit requires records to be kept but no permit is required for disposal in field over crop.
- For maintaining spray equipment the non-conformance level was 4.7 % (2014-18). However this standard is assessed by checking the NSTS certificate, so it is easier to spot and fail and not necessarily a reflection of maintenance.
- Having a suitable operator non-conformance was 3.3% (2014-18). However, this was more due to
 paperwork than the actual competence of the operator, as they must be registered with the National
 Register of Sprayer Operators (NRoSO).

Integrated Crop Management

• Integrated Crop Management failed on 5.1% of farms (2014-18).

Soil

- Conformance for soil standards was relatively high
- The highest non-conformances for soil was in maintaining Structure and Erosion (1.5%) (2014-18).
- This was followed by standards for soil management (1.2%) (2014-18).

V4 new standards

- The largest non-conformance in the new V4 standard was Records advice (3.3%) (Records are kept of all technical application instructions/ professional adviser recommendations).
- Most other new standards were failed 1-2% each.





Number of assessments: 2,046.



Fresh Produce Standards RTA assessments (non-conformance %)

Average number of annual assessments: 2,193. Standards removed in Fresh Produce V4 - EC.d.1, EC.g.1

RTA Crops non-conformances

Integrated Crop Management

The largest failure of Red Tractor standards on crop farms was with integrated crop management 8.7% (2014-18). This peaked in 2014 at 17%, with the level of conformance increasing over time.

Pesticides

This was followed by a number of pesticide standards, whereby failures increased every year.

- Standards about maintaining equipment was the highest pesticide non-conformance (4.2%). However standard is assessed by checking the certificate (NSTS certificate in this case), making it easier to spot and fail.
- Standards about the sprayer operator were the next most failed standards (2.8% 2014-18). However, this was more due to paperwork than the actual competence of the operator, as they must be registered with the National Register of Sprayer Operators (NRoSO).

Waste

• Disposing of waste while minimising risk to environment had non-conformance rate of 2.1% 2014-18.

Nutrients

The largest non-conformance standards for nutrients were:

- Rate of application based on crop requirements (1.1% 2014-18).
- Application minimises the risk of pollution (1% 2014-18).

V4 new standards

- Irrigation was the biggest non-conformance, with 4.1% failing to have a Water Management Plan, but averaged out only 0.7% on average were non- conforming to water management standards.
- Just over 1% failed new nutrient and pesticides standards





Number of assessments: 15,568.





RTA Livestock sectors non-conformances

Livestock sectors were grouped and plotted onto the same graph for ease of comparison. Individual sectors broken down by year are in the Appendix. The average (mean) non-conformance was plotted between October 2014 and October 2018 for each standard in each sector scheme.

- Overall compliance was very high for selected environmental standards.
- The highest level of non-conformance to Red Tractor standards were dairy whole farm pollution prevention (6.5%) and dairy waste management (5.4%).
- The least conforming pesticide standards were for maintaining and testing PPP equipment and a competent person applying (both were 4% or less). However these standards are assessed by checking the certificate (NSTS and NRoSO certificates in this case), making them easier to spot and fail.
- Nutrient standards were less conformed to in large livestock, including EC.m.1 (up to 5%) 'It is recommended that all equipment used for applying manufactured fertilisers is checked to ensure

accurate application', and EC.m (around 3%) 'Fertilisers and soil improvement products must be applied to land in a manner which minimises the risk of contamination or pollution'.

- Also in large livestock, incident planning was frequently not in place (1.2-5.2%) DP.b 'A documented plan for the effective management of serious incidents and potential emergency situations that threaten the welfare of livestock, food safety or the environment must be in place and known to key staff
- Waste disposal failures was highest in dairy 5.4%, followed by beef 4.2%, lamb 3.4% and pigs 2.4%.



Figure . Non-conformance of RT standards on large livestock farms

Tracks in dairy only. Average number of assessments in brackets





Livestock individual sector results

Dairy

Non-conformance was found in all standards.

Pesticides

- In at least one year, the following reached over 5%
 - EC.i (maintain equipment),
 - EC.g (competent operator),
 - EC.g.1 (grandfathered operators should have certificates), and
 - o AG.e (Records must be kept of all PPP application)
- All the other pesticide standards weren't conformed to on average 1-5% of the time

Nutrients

- Two nutrient standards had consistent levels on non-conformance 2014-17 of 3-4%, but which dropped off in 2017-8; EC.m 'Fertilisers and soil improvement products must be applied to land in a manner which minimises the risk of contamination or pollution' and EC.m.1 'It is recommended that all equipment used for applying manufactured fertilisers is checked to ensure accurate application'.
- EC.k non-conformance peaked in 2017-18 (safe storage of manures)

Other

- Waste standard EC.c 'All wastes must be disposed of in a manner that minimises the risk of contamination or pollution' increased between 2014-18 from 3 to 8%
- EC.a General safety non-conformance rose over time too from 4.8 to 8.4% 'The farm must be maintained in a manner that does not present risks to food safety, animal welfare or environmental protection
- Storage of potential pollutants (EC.b) failed on average 4.6%

New V4 standards

• 4.4% of farms failed DP.2 'A farm map must be in place' and NM.a 'A Manure Management Plan must be kept and followed when applying manures and/ or slurries to land'



Dairy RTA assessments (non-conformance %)

Average number of annual assessments: 8,150

Figure . Non-conformance of RT standards on dairy farms, V4 only





Number of assessments: 7,690

Beef

Nutrients

 Similar to dairy, two nutrient standards had rising levels on non-conformance 2014-17 of up to 7.5%, but these dropped off in 2017-8; EC.m 'Fertilisers and soil improvement products must be applied to land in a manner which minimises the risk of contamination or pollution' and EC.m.1 'It is recommended that all equipment used for applying manufactured fertilisers is checked to ensure accurate application'.

Pesticides

- In at least one year, the following reached over 5%
 - o EC.i (maintain equipment),
 - EC.g (competent operator), and
 - EC.g.1 (grandfathered operators should have certificates)

Other

- Waste standard EC.c 'All wastes must be disposed of in a manner that minimises the risk of contamination or pollution' averaged at 4.2% 2014-18
- Incident planning averaged at 4.4%

New V4 standards

• 4.0% of farms failed DP.2 'A farm map must be in place' and NM.a 'A Manure Management Plan must be kept and followed when applying manures and/ or slurries to land





• Number of assessments: 15,450



Beef RTA assessments (non-conformance %)

Average number of annual assessments: 15,992

Lamb

Pesticides

- In at least one year, the following reached over 5%
 - o EC.i (maintain equipment), 7.5% in 2018
 - EC.g.1 (grandfathered operators should have certificates) 12.1% in 2015

Nutrients

• Two nutrient standards had higher levels of non-conformance, on average 2.7% and 4% respectively; EC.m 'Fertilisers and soil improvement products must be applied to land in a manner which minimises the risk of contamination or pollution' and EC.m.1 'It is recommended that all equipment used for applying manufactured fertilisers is checked to ensure accurate application'.

Other

- Waste standard EC.c 'All wastes must be disposed of in a manner that minimises the risk of contamination or pollution' averaged at 3.4% 2014-18
- Incident planning averaged at 5.2%

New V4 standards

- 4.0% of farms failed NM.a 'A Manure Management Plan must be kept and followed when applying manures and/ or slurries to land'
- 3.7% failed AG.e 'Records must be kept of all PPP application'.
- 2.9% failed DP.2 'A farm map must be in place'



Average number of annual assessments: 9,086





Number of assessments: 8,948

Pigs

Pigs had similar levels of non-compliance as other livestock standards (average 2014-18). Particularly in pesticides, whole farm pollution prevention (average 2014-18.3%, emergency plans 2.9%, waste management 2.4% and carcases 2%. Most other standards were failed less than 1%.

New V4 standards had higher failures for providing safe water 13%, a farm map 10% and silage storage 6%.



Figure . Non-conformance of RT standards on pig farms, V4 only

Number of assessments: 1,933



Pigs RTA assessments (non-conformance %)

Average number of annual assessments: 6,711

Appendix 2 Red Tractor Standard wording

Red Tractor V3 standards were effective in Oct 2014 - Sep 2017 data. V4 standards were effective in the Oct 2017 – Sep 2018 data. The wording for each version of the standards we selected to analyse are as follows below. Some standards were merged with simplified names for topic areas and the data was averaged, for easier analysis on graphs.

RT Standard Version 3

V3 environmental standards selected for analysis					
Category	Standard Code	Short name	Standard Wording		
Incidents	DP.b	Emergency Plan	A documented plan for the effective management of serious incidents and potential emergency situations that threaten (the welfare of livestock/birds for livestock and poultry sectors), food safety or the environment must be in place and known to key staff		
Staff	SC.a	Competence	Systems must be in place to ensure that all new staff are effectively trained and deemed competent to carry out the activities they are employed to do		
	HF.d.1	Bedding	Safe, suitable and legal bedding is provided in lying areas		
	HF.k.1	Tracks	Tracks and gateways must be maintained for grazing cattle		
Livestock management	FS.c	Carcases	Carcases must be disposed of correctly, either by collection by a licensed collector or by approved on-farm incineration		
	EC.a.1	Hatchery	The hatchery has a written environmental policy		
	OP.c	Stocking density	Stocking density must not exceed 30 sows per hectare		
General	EC.a	Whole farm	The farm must be maintained in a manner that does not present risks to food safety, animal welfare or environmental protection		
Pollution	EC.b/ EC.c.2	Pollution prevention	Potential pollutants are stored in a manner that minimises the risk of contamination or pollution There must be a documented Pollution Prevention Management Plan		
Waste	EC.c/EC.c.1	Waste management	All wastes must be disposed of in a manner that minimises the risk of contamination or pollution There must be a documented and implemented Waste and Recycling Management Plan		
	EC.e	Storage	PPPs must be stored in a manner that minimises the risk of contamination or pollution		
Destisides	EC.e.4	Emergency	Emergency facilities to deal with chemical spillages must be in place		
resucides	EC.f	Application	PPPs must be applied to land in a manner that minimises the risk of contamination or pollution		
	EC.f.1	Read label	When mixing PPPs handling and filling instructions on the label must be followed		

Table . Red Tractor Assurance Version 3 environmental standards selected for analysis

V3 environmental standards selected for analysis					
Category	Standard Code	Short name	Standard Wording		
	EC.g/ EC.g.2	Operator competence	PPP application must be undertaken by competent operators / Sprayer operators must be registered with the National Register of Sprayer Operators (NRoSO)		
	EC.i/ <u>EC.i.1</u>	Equipment maintained	All PPP application equipment must be maintained and from 26th Nov 2016 tested (NSTS certificates checked by assessors) (It is recommended for livestock, mandatory for crops and fresh produce) that PPP application equipment is checked to ensure accurate application		
	EC.i.3	Transport	PPPs must be transported in a safe manner, as detailed in the Code of Practice for Using Plant Protection Products		
	EC.i.4	Surplus pesticide	Surplus spray mix must be dealt with in a manner that minimises the risk of contamination and pollution		
	<u>EC.i.5</u>	Record pesticide	It is recommended that records of disposal of surplus spray mix are kept		
	EC.k/ EC.k.1	Fertiliser Storage	Fertilisers must be stored in a manner that minimises the risk of contamination or pollution Liquid fertiliser must be stored in suitable tanks/ bowsers		
	EC.I	Appropriate fertilisers	Only appropriate, safe and suitable fertilisers and soil improvement products must be applied to land		
	EC.m	Application	Fertilisers and soil improvement products must be applied to land in a manner which minimises the risk of contamination or pollution		
Nutrients	<u>EC.m.1</u>	Equipment checked	(It is recommended for livestock, mandatory for crops and fresh produce) that all equipment used for applying manufactured fertilisers is checked to ensure accurate application		
	EC.m.3	Fertiliser applications	Fertiliser rates must be based on a calculation of the nutrient requirements of the crop and on regular analysis of nutrient levels in soil, plant or nutrient solution		
	EC.m.4	Crop demand	The supply and timing of nutrient application must be matched to meet crop demand		
	EC.m.6	Records	Records must be kept of all applications of fertilisers/ soil improvement products		
	EC.m.7	Nutrient plan	It is recommended that a cropping/ nutrient management plan is developed		
Integrated Crop Management	IM.a	Integrated Crop Management	Integrated Crop Management ICM) must be in place to proactively manage crop production		
Soil	SM.a/ SM.b	Soil Structure	Producers must have systems in place that aim to maintain soil structure and control erosion It is recommended that producers know the classification of soils on their farm and production practices are adjusted to maintain soil structure and control erosion		

V3 environme	V3 environmental standards selected for analysis					
Category	Standard Code	Short name	Standard Wording			
	SM.d/ SM.e/ SM.f	Soil management	It is recommended that soil types are mapped for the farm so they can be used to plan rotations, planting and growing plans It is recommended that soil management is discussed with advisers and relevant staff in order to ensure that cultivations are appropriate for soil type, cropping, topography, erosion risk and climate It is recommended that your Soil Management Plan/ Soil Protection Review aims to minimise compaction			
	SM.m	Recycled materials	It is recommended that substrates which contain recycled materials are used and records kept			
Water use	IG.e/ IG.f/ <u>IG.g/</u> IG.h	Irrigation Water	Crop irrigation must be based on an identified need It is recommended that irrigation water usage records are kept It is recommended that a documented Water Management Plan is produced and is used to identify opportunities for water use efficiency and reducing waste The use of irrigation water abstracted from sustainable sources is regulated by the competent authorities and producers sourcing abstracted water must hold an appropriate licence			

Underlined standards are recommendations only

RT Standard Version 4

RT V4 standards have been effective since October 2017.

Key changes in V4 compared to V3

- Livestock change of standard names
 - Plant Protection Product (EC.) standards changed name to Agrochemicals (AG.)
 - \circ $\;$ Nutrient standards (EC.) changed name to NM.
 - o Crops and Fresh Produce did not change the names of these standards
- EC.e (PPPs must be stored...) Merged with EC.b (Potential pollutants are stored...) to create AG.a (Key Agrochemicals are stored in a manner that minimises the risk of contamination and pollution)
- EC.f.1 (Read the label...) Merged with AG.c.1 (Agrochemicals must be applied by competent persons)
- ECi1 Removed? (It is recommended that PPP application equipment is checked to ensure accurate application)
- EC.d.1 removed ('PPP's must be appropriate for the control required as recommended on the product label or Extension of Authorisation for Minor Uses (EAMU))
- EC.g.1 removed (Removed on 1st Jan 2016) It is recommended that those who have Grandfather rights hold relevant certificates of competence)

The following tables detail the wording of V4 standards selected for analysis. Livestock sectors were combined in the first table (dairy, beef, lamb, pigs, chicken, turkey), as they were very similar with a few exceptions. The standards analysed for each sector are detailed in graphs in the results section. Some standards were merged with simplified names for topic areas and the data was averaged, for easier analysis on graphs.

Livestock V4 environmental standards selected for analysis					
Category	Equiv alent to V3	V4 Stand ard Code	Short name Apply same as above	Standard wording	
Incidents	DP.b	DP.b	Emergency Plan	A documented plan for the effective management of serious incidents and potential emergency situations that threaten (the welfare of livestock/birds for livestock and poultry sectors), food safety or the environment must be in place and known to key staff	
Staff	SC.a	SC.a	Competence Systems must be in place to ensure that all new staf effectively trained and deemed competent to carry activities they are employed to do		
	HF.d.1	HF.d.1	Bedding	Safe, suitable and legal bedding is provided in lying areas	
	HF.k.1	HF.k.1	Tracks	Tracks and gateways must be maintained for grazing cattle	
Livestock	FS.c	FS.c	Carcases	Carcases must be disposed of correctly, either by collection by a licensed collector or by approved on-farm incineration	
	OP.c	OP.c	Stocking Density	Stocking density must not exceed 30 sows per hectare	
General	*EC.a	DP.a.1	Whole Farm	Systems must be in place to maintain the farm in a manner that does not present risks to food safety, animal welfare and environmental protection	
Pollution	*EC.b	AG.a	Pollution Prevention	Agrochemicals are stored in a manner that minimises the risk of contamination and pollution	
Wastes	*EC.c	AG.f	Waste Management	Wastes are disposed of in a manner that minimises the risk of contamination and pollution	
	*EC.e	x	-	 EC.e (PPPs must be stored) Merged with EC.b (Potential pollutants are stored) to create AG.a (Key Agrochemicals are stored in a manner that minimises the risk of contamination and pollution) 	
Agro-	*EC.f	AG.c	Application	Agrochemicals must be applied in a manner that minimises the risk of contamination and pollution	
chemicals	*EC.f. 1	х	-	 EC.f.1 (Read the label) – Merged with AG.c.1 (Agrochemicals must be applied by competent persons) 	
	*EC.g	AG.c.1	Operator	Agrochemicals must be applied by competent persons	
	*EC.i	AG.d	Equipment	All PPP application equipment must be maintained and	
	*EC.k	NM.b	Fertiliser Storage	Organic manure must be stored in a manner that minimises the risk of contamination and pollution	
Nuturianta	*EC.I	NM.c	Appropriate Fertilisers	Fertilisers/ soil improvement products must be suitable for their intended use	
Nutrients	*EC.m	NM.c. 1	Fertiliser Application	Fertilisers must be applied in a manner that minimises the risk of contamination or pollution	
	*EC.m .1	NM.c. 2	Equipment Checked	Fertiliser application equipment must be maintained	
	=			New to V4	
Document s	New	DP.a.2	Мар	A farm map must be in place	

Livestock V	4 enviroi	nmental	standards sele	cted for analysis
Category	Equiv alent to V3	V4 Stand ard Code	Short name Apply same as above	Standard wording
Incidents	New	DP.b. 3	Notify RT	You must contact Red Tractor and/ or your Certification Body immediately if a serious incident or emergency situation that threatens the welfare of birds (e.g. stocking density breach), food safety or the environment occurs on farm
Pesticides	New	AG.e	Record application	Records must be kept of all PPP application
Nutrients New New	New	NM.a	Manure Plan	A Manure Management Plan must be kept and followed when applying manures and/ or slurries to land
	FW.m	Store silage	Silage must be stored in a manner that minimises the risk of contamination and pollution	
	New	OP.c	Stocking density	Stocking density must not exceed 30 sows per hectare
Livestock I	New	FW.c. 2	Safe water	Mains water is potable or if using non-mains water, the water source is independently tested annually as close to source as possible for harmful substances
	New	HF.I	Poaching	There must be controls in place to minimise overgrazing and poaching
Pollution	New	HF.d.7	Drains	Drains in production areas are accessible and cleanable

*standards same or very similar but new name, x = standard removed or merged in V4. Underlined standards are recommendations only

The following table combines the crops and fresh produce standards, as they had the same code and wording for shared standards. The standards analysed for each sector are detailed in graphs in the results section. Some standards were merged with simplified names for topic areas and the data was averaged, for easier analysis on graphs.

Table . Red Tractor Assurance Version 4 Crops and Fresh Produce sector environmental standards selected for analysis

Crops and F	Crops and Fresh Produce V4 environmental standards selected for analysis					
Category	Stan dard Cod e	Short name	Standard wording			
Incidents	DP.b	Emergency Plan	A documented plan for the effective management of serious incidents and potential emergency situation (including food safety incidents which may lead to/ include a product withdrawal or product recall) must be in place and known to key staff			
Staff	SC.a	Competence	Systems must be in place to ensure that all new staff are effectively trained and deemed competent to carry out the activities they are employed to do			
General	EC.a	Whole farm	The farm must be maintained in a manner that does not present risks to food safety or environmental protection			

Crops and Fresh Produce V4 environmental standards selected for analysis					
Category	Stan dard Cod e	Short name	Standard wording		
Pollution	EC.b / EC.c. 2	Pollution Prevention	Potential pollutants are stored in a manner that minimises the risk of contamination or pollution There must be a documented and implemented Pollution Prevention Management Plan		
Waste	EC.c / EC.c. 1	Waste Management	All wastes must be disposed of in a manner that minimises the risk of contamination or pollution There must be a documented and implemented Waste and Recycling Management Plan		
	EC.e	Storage	Crops - PPPs must be stored in a manner that minimises the risk of contamination or pollution Fresh Produce - PPPs must be stored in a dedicated agro-chemical store in a manner that minimises the risk of contamination or pollution		
	EC.e. 4	Emergency	Emergency facilities to deal with chemical spillages must be in place		
	EC.f	Application	PPPs must be applied to land in a manner that minimises the risk of contamination or pollution		
Pesticides	EC.f. 1	Read Label	When mixing PPPs handling and filling instructions on the label must be followed		
	EC.g / EC.g. 2	Operator competence	PPP application must be undertaken by competent operators Sprayer operators must be registered with the National Register of Sprayer Operators (NRoSO)		
	EC.i/ EC.i. 1	Equipment maintained	All PPP application equipment must be maintained and tested (NSTS certificates checked by assessors) All PPP application equipment must be checked to ensure accurate application		
	EC.i. 3	Transport	PPPs must be transported in a safe manner, as detailed in the Code of Practice for Using Plant Protection Products		
	EC.i. 4	Surplus Pesticide	Surplus spray mix must be dealt with in a manner that minimises the risk of contamination and pollution		
	<u>EC.i.</u> 5	Record Surplus	It is recommended that records of disposal of surplus spray mix are kept		
	EC.k / EC.k. 1	Fertiliser Storage	Fertilisers must be stored in a manner that minimises the risk of contamination or pollution Liquid fertiliser must be stored in suitable tanks/ bowsers		
Nutrients	EC.I	Appropriate Fertilisers	Crops - Only appropriate, safe and suitable fertilisers and soil improvement products must be applied to land Fresh Produce - Only appropriate, safe and suitable fertilisers and soil improvement products must be applied. They have been deemed as appropriate, safe and suitable in the Risk Assessment		
	EC. m	Fertiliser Application	Fertilisers and soil improvement products must be applied to land in a manner which minimises the risk of contamination or pollution		

Crops and Fresh Produce V4 environmental standards selected for analysis					
Category	Stan dard Cod e	Short name	Standard wording		
	EC. m.1	Equipment checked	All equipment used for applying manufactured fertilisers must be checked to ensure accurate application (recommended in livestock but mandatory in crops and fresh produce)		
	EC. m.3	Rate	Fertiliser rates must be based on a calculation of the nutrient requirements of the crop and on regular analysis of nutrient levels in soil, plant or nutrient solution		
	EC. m.4	Crop demand	The supply and timing of nutrient application must be matched to meet crop demand		
	EC. m.6	Records	Records must be kept of all applications of fertilisers/ soil		
	<u>EC.</u> m.7	Nutrient plan	It is recommended that a cropping/ nutrient management plan is developed		
ICM	IM.a	Integrated Crop Management	Integrated Crop Management (ICM) must be in place to proactively manage crop production		
Soil	SM.a / <u>SM.</u> <u>b</u>	Soil Structure	Producers must have systems in place that aim to maintain soil structure and control erosion It is recommended that producers know the classification of soils on their farm and production practices are adjusted to maintain soil structure and control erosion		
	<u>SM.</u> <u>d/</u> <u>SM.</u> <u>e/</u> <u>SM.f</u>	Soil management	It is recommended that soil types are mapped for the farm so they can be used to plan rotations, planting and growing plans It is recommended that soil management is discussed with advisers and relevant staff in order to ensure that cultivations are appropriate for soil type, cropping, topography, erosion risk and climate It is recommended that your Soil Management Plan aims to minimise compaction		
	<u>SM.</u> <u>m</u>	Recycled materials	It is recommended that substrates which contain recycled materials are used and records kept		
Water use	IG.e/ IG.f/ IG.g/ IG.h	Irrigation Water	Crop irrigation must be based on an identified need Records must be kept of irrigation water usage (It is recommended for Crops, mandatory for Fresh Produce) that a documented Water Management Plan must be produced and used to identify opportunities for water use efficiency and reducing waste The use of water abstracted from sustainable sources is regulated by the competent authorities and producers sourcing abstracted water must hold an appropriate licence where required		
New to \	/4				
Documents	DP.a .2	Мар	A farm map or farm maps must be available on site for all sites		
Staff	SC.e	Contractors	Where contractors are employed to undertake work on the production of crops, a Contractors' Commitment Document is in place which confirms that the contractor will comply with the Red Tractor Fresh Produce Scheme requirements		

Crops and Fresh Produce V4 environmental standards selected for analysis				
Category	Stan dard Cod e	Short name	Standard wording	
	EC.e. 1	Store construction	The PPP store must be of a suitable design and construction	
Pesticides	EC.f. 3	Metaldehyde	Where Metaldehyde is used, it must be used in a manner that reduces the risk to water, birds and small mammals	
	EC.h	Record application	Records must be kept of all PPP applications for a minimum of three years	
	<u>EC.i.</u> 6	Equipment storage	It is recommended that PPP application equipment is stored in a manner that minimises the risk of contamination or pollution	
Nutrients	EC.k. 2	Stock records	Manufactured fertiliser stock records must be kept and updated at least every three months and detail quantities received and used	
	<u>EC.</u> <u>m.8</u>	Records advice	It is recommended that records are kept of all technical application instructions/ professional adviser recommendations for fertiliser and soil improvement products	

Underlined standards are recommendations only

Appendix 3 Regulators Code

The <u>Regulator's Code</u> provides a clear, flexible framework for how regulators should engage with those they regulate. There are six provisions of the Code:

- Regulators should carry out their activities in a way that supports those they regulate to comply and grow
- Regulators should provide simple and straightforward ways to engage with those they regulate and hear their views
- Regulators should base their regulatory activities on risk
- Regulators should share information about compliance and risk
- Regulators should ensure clear information, guidance and advice are available to help those they regulate meet their responsibilities to comply; and
- Regulators should ensure that their approach to regulatory activities is transparent

The Environment Agency aims to provide its regulated customers with an efficient and professional service to meet the requirements of the Regulators' Code.

The most relevant sections related to the issues of data sharing and earned recognition with external bodies are listed below:

3. Regulators should base their regulatory activities on risk

3.1 Regulators should take an evidence based approach to determining the priority risks in their area of responsibility, and should allocate resources where they would be most effective in addressing those priority risks.

3.4 Regulators, in making their assessment of risk, should recognise the compliance record of those they regulate, including using earned recognition approaches and should consider all available and relevant data on compliance, including evidence of relevant external verification.

4. Regulators should share information about compliance and risk

4.1 Regulators should collectively follow the principle of "collect once, use many times" when requesting information from those they regulate.

4.2 When the law allows, regulators should agree secure mechanisms to share information with each other about businesses and other bodies they regulate, to help target resources and activities and minimise duplication.

Appendix 4 Key actions for farmers

Below is the front cover for Key Actions for Farmers with our key themes – hosted on Enviropedia and AHDB websites.

Figure . Key actions for farmers front cover and themes

