1. Overview

The Pesticide Usage in Scotland publications are Accredited Official Statistics that provide pesticide usage estimates for crops grown in Scotland.

The Office for Statistics Regulation is the independent regulator of statistics and The Code of Practice for Statistics sets the standards for those producing official statistics. The code helps provide confidence in the data, analysis and statistics for all, requiring statistic producers to publish compliance documents.

The following compliance information, together with the Scottish Government's compliance statement, aim to provide confidence in the pesticide usage publications.

2. Quality management approach

How we work with data supply partners, other producers, topic experts, and other partners to identify and address quality issues

The June Agricultural Census is conducted annually by the Scottish Government's Rural and Environmental Science Analytical Services division (RESAS). This data undergoes several validation and checking processes by RESAS before supplying the Pesticide Survey Unit (PSU) with the data necessary to conduct pesticide usage surveys. This includes farm contact details and relevant cropping information. Data received from RESAS is checked by PSU to ensure it meets our data requirements, to identify and address quality issues with RESAS when required. The PSU team collect pesticide and associated agronomic data directly from farmers/stakeholders. Upon receipt, data is checked and where necessary, farmers/stakeholders are re-contacted to help ensure raw data is accurate.

How we implement quality assurance in production processes and how we monitor inputs, data, methods and outputs

Data received by PSU are checked for any obvious errors on receipt. Data entered into the PSU database are checked for any inconsistencies with use and pesticide approval conditions. Data held in the database is checked against raw data records and stakeholders contacted when necessary. Data analysis is checked internally. Reports are peer reviewed internally and by external stakeholders, including members of the Working Party on Pesticide Usage Surveys and other agricultural experts. PSU also receive statistical support from Biomathematics and Statistics Scotland (BioSS) who are accredited to ISO 9001:2015. PSU is also accredited to ISO 9001:2015 and survey methods and outputs audited against our documented Standard Operating Procedures by internal auditors annually and external auditors every three years.

How we communicate uncertainty or limitations of data to users

Sources of bias, standard errors and changes from previous years are included in the reports to inform data users of levels of uncertainty or limitations of the data.

How we balance the five dimensions of data quality outlined in the European Statistics Code of Practice

Relevance

The Scottish Government (SG) is required by legislation and regulation to carry out post-approval surveillance of pesticide use. This is conducted by the Pesticide Survey Unit at SASA, a division of the Scottish Government's Agriculture and Rural Economy Directorate. The surveys are part of a series of annual reports which are produced to detail pesticide usage in Scotland for arable, vegetable and soft fruit crops on a biennial basis and for fodder and forage crops every four years.

Accuracy

Data received from farmers/stakeholders is checked for errors upon receipt. Data entered into the database is checked to identify inconsistencies with use and pesticide approval conditions. Data held in the database is checked against the raw data. Where inconsistencies are found these are checked against the records and with the farmer/stakeholder if necessary.

Data presented in the reports are produced from surveying a sample of holdings rather than a census of all holdings in Scotland. Therefore, the data are estimates of pesticide usage in Scotland and should not be interpreted as exact. To give an idea of the precision of estimates, relative standard errors are calculated and further detailed within each report.

Timeliness and punctuality

Statistics are released on an annual basis, typically in October, and published during a weekday, typically at 9:30am. Forthcoming publications are released online and divergence from the schedule is publicised in advance with an explanation and a new release date set.

The PSU reports provide contact details for users to provide feedback on how our statistics meet their current needs and how they can be improved.

Accessibility and clarity

PSU follow the Code of Practice for Statistics and use the Government Statistical Service and Scottish Government guidance to help produce reports that are clear and accessible to as many as possible. Reports are reviewed be peers both internally and externally and undergo accessibility checks by our Scottish Government approved publisher prior to publication. Reports are published on the Scottish Government's publication web page in accessible formats (HTML). Supporting documents containing tables and figures are published alongside the reports, providing users with information to carry out further analysis based on their

needs. Further accessibility information is available on the Scottish Government's publication - advice and guidance - web page.

Comparability and coherence

In general, comparisons over time are possible as the same survey methodology is used. Any changes to methodology from previous surveys and the level of uncertainty are noted in each report to make users aware of the limitations within a data set, and for when users make comparisons between data sets. Data from the previous two surveys are provided for comparison purposes in some tables and figures within each report, and previous datasets are available on the Scottish Government's Pesticide usage statistics web page. The Scottish survey data are incorporated with England, Wales and Northern Ireland data to provide estimates of annual UK-wide pesticide use and available from the Fera website.

3. Public involvement and engagement strategy

The Scottish Government (SG) is required by legislation and regulation to carry out post-approval surveillance of pesticide use. Alongside this, it also carries out non-statutory post-approval surveillance of rodenticide use and the uptake of integrated pest management (IPM) and, on an ad hoc basis, surveillance of data relating to other topical subjects (for example use of neonicotinoids, or bracken control methods) where there is a need for evidence to support Scottish Government understanding and policy making. Forthcoming publications over the next twelve months are available in spreadsheet format.

Farmers and stakeholders who engage with the survey work are asked whether they wish to be notified when reports are published. Publication of pesticide usage surveys are posted via the SASA X account to enhance engagement. Internal and external stakeholders with an interest in the statistics are contacted via mail chimp and email respectively.

PSU reports provide contact details for users to provide feedback on how our statistics meet their current needs and how they can be improved. There is also a feedback form available on the SASA website. Users can contact the PSU directly if they need additional or a more detailed dataset. Engagement with users occurs at meetings and conferences and from dialogue with users following direct requests for data. Data users can also access pesticide usage information for arable crops from an interactive database of Scottish Pesticide Use (SCOPES) on the SASA website. Users are encouraged to provide feedback via the SCOPES feedback form.