UK National Reference Laboratory for GMOs in Food and Feed
Annual workplan 2025 - 2026

A summarised list of objectives and tasks for the UK National Reference Laboratory (NRL) for GMOs in Food and Feed can be found below:

Objective 1 - Secretariat services

1.1 Design an annual work programme (e.g. Gantt chart) outlining all the activities the NRL intends to perform that year

1.2 Notify the CAs immediately by email to the FSA's NRL co-ordinator of any unusual occurrences resulting from any of the core functions of the NRL

1.3 Ensure that the CAs receives monthly updates of any developments related to the core functions of the NRL (e.g. via email, meetings, logs, reports, newsletters)

1.4 Organise and participate in quarterly meetings with the CAs to review contract management requirements and update on progress against work programme

1.5 If appropriate and relevant, provide a note of meetings with other organisations e.g. other NRLs, OLs, or EURLs within 10 working days of the meeting

1.6 Review finances monthly and communicate spending monthly, including a break-down of costs, with the CAs. Ideally, invoice the FSA monthly

1.7 If deemed appropriate, informal check-ins with the CAs may also be organised to ensure any potential or evolving issues are flagged and work is kept on track

1.8 Provide a draft annual report (in a format to be determined and discussed in consultation with CAs) of work summarising all activities completed as part of their annual work programme

Objective 2 - Advice and representation

2.1 On request, provide scientific and technical assistance within NRL's areas of competence to the CAs for the implementation of Multi-Annual National Control Plan (MANCPs) and coordinated control programmes

2.2 On request, provide scientific and technical advice to the CAs, including, but not limited to methods and results interpretation

2.3 Represent the UK at relevant international meetings (e.g. CEN, ISO, BSI etc.), and working groups

2.4 Co-ordinate the participation of GB OLs and other relevant laboratories in international method validation studies and other initiatives

2.5 Advise the CAs, OLs and other relevant laboratories on best scientific practice in testing for official controls purposes and undertaking activities in consultation with the CAs that facilitate and promote their application in the UK within the policy aims of the CAs

2.6 Keep abreast of and advise CAs, OLs of developments and research for sampling, testing and detection of GMOs, including horizon scanning for future developments in this space

Objective 3 – Compliance assessment

3.1 Participate in PTs and method validation studies organised by national or international organisations relevant to NRL areas to demonstrate competence

3.2 Participate in national and international training activities to ensure the NRL scientists remain at the forefront of scientific and technical developments in their area

3.3 Maintain accreditation for analyses relevant to the NRL area of competence

Objective 4 – Communication of results and data use

4.1 Make any outputs available for review by the CAs prior to publication. NRL outputs should refer to FSA funding

4.2 At the end of the NRL agreement, the NRL will summarise and transfer all the information and data related to the NRL function to the subsequent NRL and to CAs

Objective 5 – Research duties

5.1 Recommend to, and finalise with, CAs an annual programme of research activities

5.2 Provide updates and disseminate results of research activities to the CAs

5.3 Notify the CAs immediately by email of any deviations or significant unexpected situations which may affect the cost, specifications, and timing of the annual work programme

5.4 Contribute to the development of standardised operating procedures, relevant codes of practice and guidance documents for use by OLs and other relevant laboratories, as requested by the CA

5.5 Where required, develop a database to store relevant information in relation to GMO official control testing

5.6 Publish the SOP for the method in the relevant matrices on the NRL website and make available to OLs

5.7 Transfer the method SOPs developed in the lab's capacity as the NRL to the next NRL

5.8 Maintain any method validated in appropriate matrices for the duration of their tenure as an NRL

Objective 6 – Incident management

6.1 Provide summary of analyses the NRLs could do rapidly in the event of an incident

6.2 At FSA, FSS, LA, PHA and OL request, provide analytical advice, interpretation of results, and recommendation of follow-up actions

6.3 At CA request only, provide for rapid testing under direction of the CAs in the event of an incident relating to GMOs where capacity is reached within the OLs

6.4 Should an incident occur where there is currently no method, and at CA request, the NRL will prioritise and dedicate effort towards developing and validating in-house the new method(s) required

6.5 If used, summarise the use of this service and include within the NRL monthly report and provide updates at NRL quarterly meetings

Objective 7 – OL Network

7.1 Create list of OLs and monitor maintenance of accreditation on a yearly basis

7.2 Organise regular network meetings or communications (e.g. newsletters), as appropriate, and on at least an annual basis, to ensure NRL update and engagement with OLs and the CAs

7.3 Request feedback from attendees of OL network meetings and implement any appropriate changes for subsequent meetings

7.4 Create and maintain a dedicated website for communication of the work of the NRL to CAs, OLs and LAs

7.5 Where relevant, validate the reagents and lots of reagents, establish and maintain up-to-date lists of available reference substances and reagents and of manufacturers and suppliers of such substances and reagents

Objective 8 – OL Assessment, training, and PT schemes

8.1 In collaboration with the CAs (and other NRLs such GB NRLs or NI NRLs, if appropriate) to assess the capability and capacity of the OLs conducting testing across the UK every two years

8.2 In consultation with the CAs and based on OL needs, develop a programme of activities for the OLs, which could include meetings, method demonstrations or training, checking of samples or PT schemes

8.3 Provide training activities to build GMO laboratory capability and promote best laboratory practice in respect of analysis

8.4 If appropriate, provide a PT scheme for OLs and verify their performance. Where the NRL has provided the PT scheme, the NRL will monitor OLs' PT participation and results

8.5 In discussion with CAs, and if necessary other NRLs, develop and agree a poor performance protocol if OLs consistently underperform at PTs or training events

Objective 9 – Supporting GMO authorisation reference laboratory

9.1 Liaise with the FSA appointed laboratory on GMO authorisation process and applications

9.2 Where necessary, provide support and advice to the FSA appointed laboratory for GMO authorisation on the validation of methods of analyses, reference materials

Proposed Annual Workplan for 2025 – 2026 for the UK NRL for GMOs in food and feed

- Provide monthly updates to the Competent Authorities (CAs) and participate in quarterly review meetings
- As required, respond to any requests for advice, guidance, assistance with specific methods of analysis and emerging issues, from the CAs and Official Laboratories (OLs)
- Participate in relevant meetings and expert working groups (for example European/International working groups), including contribution to the development of standardised methods where relevant. On a yearly basis, it is envisaged that this will include at least one international GMO meeting, multiple meetings to support international GMO scientific Working Groups, and multiple meetings as a Scientific Advisory Board member for the EU Horizon projects
- Where applicable, provide any necessary technical and scientific support and advice to the CAs as part of any GMO incident management response (coordinated control plans)
- Keep abreast of relevant developments in the GMO sector and advise CAs and OLs as appropriate
- Participate in relevant proficiency test scheme(s) informing the CAs of results. The NRL has registered for participation in the GeMMA proficiency test round GeMMA U132 (due to start January 2026)
- Maintain ISO 17025 accreditation for GMO analysis. The National Measurement Laboratory (hosted by LGC) is transitioning from its Teddington site to a new site in Guildford over the summer of 2025. A number of UKAS audits have been scheduled in order to demonstrate continued GMO competence at the Guildford site and transfer of ISO 17025 accreditation
- Formulate an annual work programme inclusive of research activities in collaboration with the CAs
- Communicate with OLs informing them of relevant information in a timely and effective manner and hold an annual OL network meeting (or equivalent) to communicate news and developments
- Provide technical support for OL participation in relevant Proficiency Test rounds. Through regular contact with the OLs, the NRL continues to provide close technical support during Proficiency Test rounds
- To assess OL capability, testing capacity and training needs for GMO analysis once every two years. As agreed by the FSA, this will be administered by the Government Chemist (GC) survey, currently set to commence in June 2026
- Continued maintenance and operational development of the NRL webpages on the National Measurement Laboratory's (LGC) website

- Preparation of an annual report summarising the activities conducted throughout the performance year. Following approval from the Competent Authorities, a copy will be placed on the NRL webpages.
- Provide assistance to OLs in support of their analytical capability for GMO testing, with a particular emphasis on acquiring and maintaining ISO 17025 accreditation in this area

Proposed NRL annual research/training activities:

More specifically, example NRL research (training) activities will include (but not be limited to):

Provision of research/training activities (general)

- Continue to contribute to the development and publication of standardised operating procedures, relevant codes of practice and guidance documents for use by OLs and other relevant laboratories, as requested by the CA
- Sourcing and provision of appropriate published guidance documents on GMO analysis to CAs and OLs
- Where relevant, help establish GMO event specific testing and testing for GMOs in rice and rice products originating from China
- Where relevant, act as a source of advice and a route to access analytical GMO related approaches outside of the UK
- Advice on incorporating laboratory instrumentation related to GMO analytical capability into a laboratory's pre-existing Quality Management System
- Provision of advice to CAs and OLs on new and emerging technologies for GMO analysis, inclusive of Next Generation Sequencing and digital PCR. A live webinar on an introduction to crop breeding techniques is planned for July 2025 where Defra, FSA and FSS colleagues will be invited
- Provision of advice on proficiency test rounds and improving proficiency test scores
- Provision of advice on sampling exercises to the CAs. The NRL will provide technical support to the FSA on an FSA led sampling exercise on GM soya during summer 2025, through provision of advice on accreditation, DNA extraction and sample matrices
- Reach out to and provide assistance to any additional OLs who have expressed an interest in and have recently acquired general qPCR capacity for GMO analysis

Provision of research/training activities (scientific and technical)

- Provide technical support for GMO analysis
- Provide further support and advice on qPCR experimental design
- Provision of advice to OLs on technical and scientific matters associated with participation in GMO proficiency test rounds
- Provision of advice on method validation and method verification
- Provide advice on reference material availability, appropriate PT scheme availability and method availability

- Advise on analytical aspects associated with primers, probes and Certified Reference Materials
- Advise on adaptations to pre-existing protocols and methods
- Provide continued and regular support/consultation on all aspects of laboratory work including instrumentation, instrumentation maintenance, sample storage facilities, DNA extraction, DNA quantity and quality, qPCR set-up, generation of qPCR data, results interpretation and reporting of results. The NRL will continue to explore the use of a DNA synthesiser (DNA script SYNTAX STX-200) to support any emerging GM incidents in the UK and to assess its capability to rapidly generate appropriate control materials
- Provide advice on assessment of performance characteristics associated with a method, use of calibration curves, application to processed food, PCR inhibition and other quality metrics, compliance with legislative thresholds, and estimation and expression of measurement uncertainty
- The NRL will hold one bespoke training event for an Official Laboratory this performance year. It is anticipated that this will be a qPCR training event including Glasgow Scientific Services for September 2025
- The NRL has agreed to provide advice on their experiences in the scientific sector pre- and post EU exit, as part of FSA actions involved in the ongoing negotiations on the EU/UK Sanitary and Phytosanitary agreement
- The NRL will work as a central contact point between OLs and the EC Joint Research Centre, asking for expressions of interest to access a pre-spotted plate GMO screening system

Provision of research/training activities (ISO 17025 accreditation related):

- Provide technical advice for OLs acquiring/maintaining ISO 17025 accreditation
- Provision of advice on fixed and flexible scopes of accreditation
- Support OLs in their application for ISO 17025 accreditation. Since 2023, three OLs have acquired ISO 17025 accreditation for GMO analysis
- Provide consultancy and advice on any queries raised by accreditation bodies as part of regular audits and assessments. During an audit of an OL by UKAS, the NRL was available to provide immediate advice and assistance regarding technical enquiries
- The NRL will retain updated information on OL GMO analytical capabilities and accreditation statuses, providing these to the CAs on request

Mechanisms used to capture and assess research/training needs

- The NRL will hold regular meetings with those Official Laboratories who have expressed an interest in gaining/maintain qPCR analytical capability for GMO analysis. It is envisaged that the NRL will have three to four meetings across

the year per OL, with at least four OLs being supported, where individual training and research requirements will also be assessed

- Act upon feedback and prioritise training needs from sources inclusive of the Association of Public Analyst (APA) training officer, the GC survey of OL capabilities (or equivalent) and the annual OL Network Meeting (or equivalent)
- Remain abreast of emerging analytical issues or developments in relation to sampling, detection, identification and quantitation of GMOs and how this may impact on Official Controls and testing methods
- Remain up to date on emerging development and research requirements in the EU as a recognised international expert in GMO analysis through attendance at relevant EU meetings, workshops, training and participation in scientific expert working groups

The following table gives indicative dates for specific tasks associated with the Annual Work Programme:

Objective	Task	Brief Description	Month 1 Apr	2 May	3 Jun	4 Jul	5 Aug	6 Sep	7 Oct	8 Nov	9 Dec	10 Jan	11 Feb	12 Mar
1		**Secretariat services**												
	1.1	Design Annual work programme	■	■	■									
	1.2	Notify CAs of unusual occurrences	As required											
	1.3	Monthly updates to CAs	■	■	■	■	■	■	■	■	■	■	■	■
	1.4	Quarterly review meetings			■			■			■			■
	1.5	Meeting summaries to CAs	■	■	■	■	■	■	■	■	■	■	■	■
	1.6	Financial activities	■	■	■	■	■	■	■	■	■	■	■	■
	1.7	Ad-hoc meetings with CAs	As required											
	1.8	Annual report										■	■	■
2		**Advice and Representation**												
	2.1	Support for Control Plans	■						■					
	2.2	Scientific and technical advice to CAs	As requested											
	2.3	International meeting representation	Dependent upon meeting schedule											
	2.4	OL participation in international initiatives	■	■	■	■	■	■	■	■	■	■	■	■
	2.5	Advice on GMO controls	■	■	■	■	■	■	■	■	■	■	■	■
	2.6	Keeping abreast of GMO activities	■	■	■	■	■	■	■	■	■	■	■	■
3		**Compliance assessment**												
	3.1	PT round participation										■	■	■
	3.2	Participation in national/international initiatives	■	■	■	■	■	■	■	■	■	■	■	■
	3.3	Maintain ISO 17025 accreditation	■	■	■	■	■	■	■	■	■	■	■	■
4		**Communication of results and data use**												
	4.1	CA data review prior to publication	■	■	■	■	■	■	■	■	■	■	■	■
	4.2	Transfer of data										■	■	■

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5		**Research duties**												
	5.1	Annual programme of research activities	■	■	■									
	5.2	Progress updates to CA	■	■	■	■	■	■	■	■	■	■	■	■
	5.3	Deviations from annual work programme	As required											
	5.4	Contribute to SOPs and guidance	■	■	■	■	■	■	■	■	■	■	■	■
	5.5	Development of Compendium	■	■	■	■	■	■	■	■	■	■	■	■
	5.6	Publication of suitable SOPs	At the end of relevant research projects, following CAs approval											
	5.7	Transfer of SOPs to next NRL	At end of NRL tenure											
	5.8	Maintenance of methods	As required											
6		**Incident management**												
	6.1	Summary of rapid analysis capability	■											
	6.2	Provide advice to support incident management	As requested											
	6.3	Provision of rapid analysis for CA	As required, in consultation with CAs											
	6.4	Develop suitable methods	As required, in consultation with CAs											
	6.5	Summarise service usage	■			■			■			■		
7		**OL Network**												
	7.1	Monitor OL accreditation	■			■			■			■		
	7.2	OL network meetings and communications	■	■	■	■	■	■	■	■	■	■	■	■
	7.3	Feedback from meetings	■	■	■	■	■	■	■	■	■	■	■	■
	7.4	NRL webpages maintenance	■	■	■	■	■	■	■	■	■	■	■	■
	7.5	Advice on reagents and controls	As required											
8		**OL Assessment, training, and PT schemes**												
	8.1	Formal survey of OL capabilities							■	■	■	■	■	■
	8.2	Develop programme of activities for OLs	■	■	■									
	8.3	Training activities	As appropriate, in consultation with CAs											
	8.4	Provision of PT support for OLs	■	■	■	■	■	■	■	■	■	■	■	■
	8.5	Develop poor performance protocol							■	■	■			
9		**Supporting GMO authorisation reference laboratory**												
	9.1	Liaise with GMO authorisation laboratory	■	■	■	■	■	■	■	■	■	■	■	■
	9.2	Support/advise GMO authorisation laboratory	As requested by the GMO authorisations laboratory											