Annual report on Activities Performed by the UK NRL for GMOs in Food and Feed

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Provision of UK National Reference Laboratory Services for Genetically Modified Organisms in food and feed

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Glossary

CA – Competent Authority

Defra - Department for Environment, Food & Rural Affairs

DNA - Deoxyribonucleic acid

dPCR – Digital PCR

EFSA - European Food Safety Authority

ENGL - European Network of GMO Laboratories

Fera – The Food and Environment Research Agency

FSA - Food Standards Agency

FSS – Food Standards Scotland

GeMMA - Genetically Modified Material Analysis Scheme

GMM - Genetically Modified Microorganism

GMO - Genetically Modified Organism

JRC – European Commission's Joint Research Centre

NGTs – New Genomic Techniques

NML – National Measurement Laboratory, hosted at LGC

NRL - National Reference Laboratory (appointed under [assimilated] (EU) law 2017/625)

OL – UK Official Laboratory

PBO – Precision Bred Organism

PCR - Polymerase Chain Reaction

SASA - Science & Advice for Scottish Agriculture

WG – Working Group

Role of the National Reference Laboratory

The Food Standards Agency (FSA) and Food Standards Scotland (FSS) are respectively designated as the Competent Authority (CA) for Official Feed and Food Controls within their area of responsibility. The UK has a legal obligation to appoint National Reference Laboratories (NRLs) pursuant to assimilated Regulation (EU) 2017/625. This regulation relates to official controls designed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules. NRLs provide advice and support to food and feed enforcement laboratories and CAs to ensure a harmonised approach to food and feed enforcement. NRLs are responsible for setting standards for routine procedures and reliable testing methods in the regulated areas of food and feed. This delivers consumer protection and effective, risk-based and proportionate regulation and enforcement.

NRLs play an important role following EU transition (1st January 2021) as they incorporate some of the activities previously performed by their lab counterparts in the EU (the European Reference Laboratories). This includes sharing and developing new and emerging disease intelligence, methodologies, reference materials and training. Following EU transition, NRLs continue to play a pivotal role in the UK enforcement process.

NRL GMO Services

As the duly appointed laboratory, LGC carries out the provision of services for the UK NRL for GMOs. The NRL for GMOs provides support to the UK OLs for GMO control and identifies and participates as an independent expert at international GMO meetings and networks to further harness expertise and knowledge in the area.

The NRL liaises with and provides advice to the CA appointed laboratory responsible for the scientific assessment and validation of detection methods for GMOs in food and feed as part of the UK GMO authorisation of regulated products procedure.

The basic duties of NRLs include:

(a) Co-operate internationally in their area of competence, including collaborating and participating inter-laboratory comparative tests organised by international laboratories (where appropriate);
(b) Co-ordinate, for their area of competence, the activities of OLs responsible for the analysis of official controls samples to ensure the verification of compliance with feed and food law;
(c) Where appropriate, organise comparative tests between the official national laboratories and ensure an appropriate follow-up of such comparative testing;
(d) Ensure the dissemination of any information required by the CA;
(e) Provide scientific and technical assistance to the CA, especially for the implementation of Multi Annual National Control Plans;
(f) Participate in relevant national and international networks, workshops and training courses and, where necessary, conduct training courses for the staff of OLs;
(g) Upon request by the appropriate authority, actively assist in relevant foodborne incident and outbreak situations, should be equipped with, or have access to, the necessary equipment to perform their tasks in emergency situations and in cases of non-compliance of consignments, by carrying out confirmatory analysis;
(h) Carry out research, evaluation and development of new and existing methods for the analysis of UK regulated and officially monitored foods and feed and emerging new risks to UK food safety;
(i) Provide advice and expertise on standardisation of methods at CEN and ISO;

(j) Obtain and maintain accreditation for official reference and other relevant regulatory methods for food and feed within the NRL area of competence;
(k) Be responsible for carrying out other specific duties as required by the CA, where appropriate and by prior agreement;

LGC has maintained the position of the UK NRL for GMOs in food and feed since the inception of the role in 2009, following open competitive tenders in 2009, 2013, 2017 and 2021. LGC's appointment by the FSA is pursuant to UK legislation (assimilated Regulation 2017/625). As the NRL for GMOs, LGC conducts the following activities, as specified in the contract with the FSA:

Core Function
Objective 01 – Secretariat services
Objective 02 – Advice and representation within the UK and internationally
Objective 03 – Production of standard operating procedures, codes of practice, guidance documents and databases
Objective 04 – Compliance assessment via audits, ring trials and provision of reference materials
Objective 05 – Co-ordination within the UK of international initiatives
Objective 06 – Liaison and support work on GMO food/feed authorisation
Objective 07 – Communication of results and data use

Core Function

Production of the NRL annual report

This report details the activities carried out during the 15th year of the NRL operation (April 2024-March 2025) in relation to the duties of the NRL.

Objective 01 – Secretariat services

Tasks:

a) **Disseminating relevant information/advice to the OLs, CA, when required, and other relevant laboratories in a timely and effective manner;**
b) **Co-ordinating the activities of OLs and other relevant laboratories in food and feed below;**
c) **Creating and maintaining an efficient two-way channel of communication with OLs and relevant laboratories and international organisations, including information on analytical methods and relevant legislation;**
d) **Providing regular updates to the CA on NRL activities, and up-to-date information on UK OLs and other relevant laboratories to the CA as requested;**
e) **Creation and maintenance of a dedicated website for communication of the work of the NRL including provision of advice and support to OLs, information on methods of analyses, Standard Operating Procedures (SOPs), latest developments and other background information.**

Example activities in relation to these Tasks:

- **Kept the FSA informed of the following topics:**
  - Submission of cost estimates to the FSA for additional continued NRL assistance as part of the FSA GMO analytical capability building exercise (targeted grants) for OLs for the financial year 25/26.
  - Discussed with the FSA that robust procedures were in place to mitigate any potential disruption of NRL services during the limited transition period of the NML (LGC) moving from the Teddington to Guildford sites in May 2025.
- **NRL webpages maintenance:**
  - The NRL webpages were updated in line with a refresh of the LGC Group website, designed to enhance user experience, showcase impactful work, and make it easy for visitors to access information and connect with business areas faster. The technical content of the NRL webpages remained unchanged.

Objective 02 - Advice and representation within the UK and internationally

Tasks:

- **Provide details of analytical methods including reference methods to OLs and co-ordinate application of these methods through proficiency testing (see 4c);**
- **Provide impartial expert advice as requested to the CA, OLs and other relevant laboratories on analytical methodology in the context of official controls and risk assessment;**
- **Represent the UK at relevant international meetings, networks and working groups, consulting the CA on objectives and requirements before each meeting and providing the CA with an internal report of the meeting within 10 working days of each meeting;**
- **Participate in activities organised by international organisations and contributing to the scientific input at international meetings and in manner which supports UK policy based on best available scientific knowledge;**
- **Provide advice to the CA, OLs and other relevant laboratories on best scientific practice in testing for official controls purposes and undertaking activities in consultation with the CA that facilitate and promote their application in the UK within the policy aims of the CA;**
- **Keep abreast of and advise the CA, OLs and other relevant laboratories of research and development for the sampling, testing and detection of GMOs;**
- **Identify and inform the CA, OLs and other relevant laboratories of emerging analytical issues or developments at a national or international level and recommending action to address them;**
- **Provide technical assistance to the CA in cases of contested results of analyses;**
- **Where appropriate, partake and/or keep abreast of standardisation activities (e.g. CEN, ISO, etc.) relevant to the work area.**

Example activities in relation to these Tasks:

- **Provision of advice and input into discussions with UK Competent Authorities:**
    - Communicated to the FSA the acquisition of a new DNA synthesiser at LGC. This can provide utility for production of control materials in response to emerging UK issues in the food/feed supply chain, as well as provide intelligence on traceability of PBOs and products/organisms as a result of NGTs.
    - Provision of advice to the FSA regarding those UK OLs which possess the analytical capability to perform testing for GMOs in rice and rice products originating from China.
    - Provided the FSA with an update on UK OLs which possessed ISO 17025 accreditation for GMO analysis.
    - Provided views to the FSA in relation to the proposed reforms to the market authorisations process for regulated products inclusive of responding to the public consultation on this. From the 1st April 2025, a Great Britain wide statutory instrument (SI) implementing the changes was published.
    - Supplied the FSA with a summary of key points from the recently published 46th ENGL Steering Committee meeting notes.
    - A copy of the amended EC Polish Presidency proposal on regulation of NGT plants with a focus on patents and the associated summary text was supplied to the FSA.

- Provided ideas in response to the FSA (Scientific Sampling and Laboratory Policy Team) online survey to gather requirements for research and development projects for food and feed analysis, for the 2025/2026 financial year.
- Following consultation with a group of OLs, made the FSA aware of some of the high operational and financial challenges that OLs were experiencing when acquiring and maintaining ISO 17025 accreditation for GMO analysis.

- **Provision of impartial expert advice to the Official Laboratories and other relevant laboratories on analytical methodology in the context of official controls**
- Provided advice to an OL regarding approaches for DNA analysis for the potential presence of pathogens in environmental water supplies.
- Provided advice to an OL regarding the scope and limitations of available GMO screening approaches, as well as the need to use validated event specific protocols to achieve full quantitation.
- Provided an OL with a copy of the draft protocol for the JRC screening pre-spotted plates.
- Held discussions with an OL regarding likely authorisations routes in the UK for products/organisms regarded as PBOs.
- Following a request from the FSA, the NRL contacted relevant OLs to encourage them to reach out to relevant Local Authorities to make them aware of any applicable capability for testing for GM rice.
- Following a request from the FSA, the NRL contacted relevant OLs with GMO analytical capability to encourage them to apply for funds from the FSA in the framework of GMO analytical capability/maintenance, as part of the 2024/2025 financial year's FSA analytical capability building grants.
- Staff from the NRL helped review the draft finalised copy of the JRC screening pre-spotted plate protocol issued by the JRC.
- Analytical advice was provided to a European based laboratory regarding DNA extractions and Proficiency Test samples.
- Provided immediate assistance to a European based laboratory in the form of advice on a test sample involved in a proficiency test round.
- Provision of advice and assistance to an EU NRL regarding DNA extraction from pollen in honey.
- Discussions and exchange of ideas with an EU NRL regarding ISO 17025 accreditation for GMO analysis using dPCR.
- Discussions and advice to a European based laboratory regarding proficiency test rounds and associated Z-scores.
- Received positive feedback from an EU NRL regarding UK NRL advice on accreditation for dPCR testing.
- Provided advice to an EU NRL regarding analysis of plasmid control samples.
- Provided advice to an EU NRL regarding the analytical implications of "GMO Free" labelling.

- **Attendance and input at the European Network of GMO Laboratories (ENGL) Working Groups (WGs) as a recognised independent scientific expert:**

- Provided input into the development of draft guidance documents and attended meetings for the following two ENGL working groups:
  - ENGL Working Group on NGT microorganisms.
  - ENGL Working Groups on NGT animals.

- **Attendance at other international meetings, seminars and working groups discussing best measurement practice guidance on GMO analysis:**
  - Staff from the NRL participated as a recognised independent expert in GMO analysis at the 35th ENGL plenary meeting at the EC-JRC (Italy) in November 2024.
  - A staff member from the NRL was invited as a recognised independent expert in GMO analysis to provide a presentation at the 20th anniversary celebration of the EURL, held at the EC-JRC (Italy) in November 2024.
  - A staff member from the NRL was invited as a recognised independent expert in GMO analysis to present and run an interactive element on DNA extraction at the EC -RC (Italy) site, as part of a workshop on GMO analytical approaches in December 2024.
  - "EU HORIZON project DETECTIVE (DETECTION OF NGT PRODUCTS TO PROMOTE INNOVATION IN THE EUROPEAN UNION)":
    - A staff member from within the GMO NRL was appointed to be part of the Scientific Advisory Board associated with the DETECTIVE project.
    - The project is aimed at investigating detection of NGT products and organisms in the food/feed supply chain.
    - Ongoing attendance at meetings including consortium and Work Package meetings, as well as provision of presentations and reviewing project progress and outputs.

- **Publications:**
  - The European Commission published a report entitled "Sequencing strategies for the traceability of GMOs – methods and related quality aspects". Staff from the NRL and LGC are named authors on the publication as recognised independent experts. A copy of the guidance document was provided to the FSA and OLs.

- **Keep abreast of research and development for the sampling, testing and detection of GMOs and advise the CA, OLs and other relevant laboratories:**
  - Attended an EFSA webinar which assessed the adequacy of current guidance for the evaluation of NGT animals and provided a link to the FSA.
  - Attended a webinar "PlantEd-AAB Webinar – Technical Advances and Policy Updates on Gene-Editing in Plants" regarding an update on the regulation of NGT plants in the EU organised by the PlantEd-AAB partnership.
  - Forwarded an EFSA statement to the FSA regarding the use of Whole Genome Sequencing for microorganisms, which is of interest for risk assessment, regulated products and GMO related areas.
  - The NRL reported to the FSA evidence of dPCR being increasingly used in the EU for GMO analysis.
  - Brought to the attention of the FSA the announcement from JRC (Geel) regarding future production of EU Certified Reference Materials for GMOs.

- **Keep abreast of standardisation activities (e.g. CEN, ISO, etc.) relevant to the work area.**
    - Continued maintenance of competency for ISO 17025 flexible scope of accreditation for GMO analyses held by the NRL, with additional laboratory-based personnel cross-trained in technical/practical elements.

- **Miscellaneous:**
    - At the express request of the FSA, staff from the NRL provided a rapid review of an FSA final report which involved DNA extraction.
    - Attended the kick-off meeting for the Bezos Centre for Sustainable Proteins (Imperial College London) in January 2025.
    - A staff member from the UK NRL was appointed by BELAC (the Belgian Accreditation Body) to act as a technical auditor for GMO related activities to ISO 17025, ISO 17034 and ISO 17043 during an assessment of a European laboratory.
    - A member of the NRL staff confirmed their approval to remain on the FSA Register of Specialists (RoS) for GMO analysis and related matters.
    - Organised the June 2024 and attended the February 2025 meeting of the UK GM Technical Meeting between LGC, SASA and Fera, aimed at discussing emerging issues and sharing information on GMO technical and analytical issues.

Objective 03 - Production of standard operating procedures, codes of practice, guidance documents and databases

Task:

a) **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.**
b) **Where required, develop a database to store relevant information in relation to GMO official control testing, e.g. GMO methods, SOPs, codes and guidance**

Activities in relation to these Tasks:

- **Example activities in relation to development of guidance documents:**
- The European Commission's Joint Research Centre published guidance on sequencing strategies for the traceability of Genetically Modified Organisms, inclusive of method and quality requirements.
    - The document provides guidance on quality criteria and good practice in the use of DNA sequencing data and hardware, with a focus on GMO-related aspects, which is further illustrated through the use of four realistic scenarios. The document incorporates both traditional sequencing and Next Generation Sequencing (massive parallel sequencing) applications. Guidance is provided on quality aspects associated with DNA extraction, cycle sequencing reactions, reads and data analysis, as well as library preparation, bioinformatics pipelines, databases and data storage where appropriate. A set of recommendations towards the establishment of minimum performance parameters for GMO analyses for DNA sequencing techniques is also provided.
    - Staff from the NRL and LGC are named authors on the publication as recognised independent experts. A copy of the guidance document was provided to the FSA and OLs.
- Input into discussions and writing of draft guidance documents for the following European Network of GMO Laboratories (ENGL) Working Groups, as an invited independent international scientific expert:
    - ENGL Working Group NGT – microorganisms. The mandate/aim of this group is to provide a report on the bespoke challenges and feasibility to detect microorganisms obtained by NGTs in food and feed. Anticipated to be published in 2025.
    - ENGL Working Group NGT – animals. The mandate/aim of this group is to provide a report on the bespoke challenges and feasibility to detect animals obtained by NGTs in food and feed. Anticipated to be published in 2025.

Objective 04 - Compliance assessment via audits, ring trials and provision of reference materials

Tasks:

a) **Ensure consistency and quality of testing approaches applied by UK OLs and other relevant laboratories, including advising on corrective action following adverse reports on OLs from UKAS;**
b) **Source and provide suitable reference materials and testing kits to OLs;**
c) **Plan and coordinate GMO proficiency testing for UK OLs and other relevant laboratories as appropriate (taking into account the number of relevant laboratories), analysing and evaluating the outcome, informing the CA and OLs of the results and advising on appropriate follow-up action;**
d) **Co-ordinate the participation of UK OLs and other relevant laboratories in international method validation studies and other initiatives, informing the CA and OLs of the results and advising on further action;**
e) **Where relevant, participate in proficiency tests and method validation studies organised by international organisations, informing the CA of the results and implementing any corrective measures required;**
f) **Co-ordinate training exercises for OLs and other relevant laboratories to promote best laboratory practice in respect of GMO analysis;**
g) **Provide OLs with advanced notification of proficiency testing rounds to enable OLs to implement such activities in a timely manner.**

Example activities in relation to these Tasks:

- **Proficiency test rounds**
    - The official FAPAS report for the GeMMA U114 proficiency test round was published with the NRL receiving a Z-score of +0.2. These results were communicated to the FSA.

- **Maintenance of ISO 17025 flexible scope of accreditation for GMO analysis**
    - LGC's ISO 17025 flexible scope of accreditation for GMO analysis was subject to a successful audit from UKAS in July 2024.

- **GMO analytical Capability Building Exercise**
    - As part of building a resilient and sustainable OL system, the FSA have provided open and targeted Capability Building Grants to develop analytical capability in specific areas. The NRL continues to work with the FSA and several OLs in terms of technical, scientific and practical laboratory support.
    - A brief summary of example NRL activities in support of GMO analytical capability building includes:

- <u>Official Laboratory #1</u>
    - Held three regular catch-up meetings inclusive of discussions on preparing for a UKAS audit for ISO 17025 for GMO analysis and responding to queries raised during the audit.
    - Provision of a face-to-face knowledge exchange and training event held at LGC in June 2024. The NRL hosted a visit from six expert scientists from the OL. A series of

seminars on GMO analyses were provided, followed by a laboratory tour inclusive of discussions on laboratory workflows, accreditation and demonstrating the suitability of laboratory instrumentation. During a working lunch, staff from the National Reference Laboratory hosted a live question and answer panel session, responding to questions on scientific topics ranging from DNA extraction to measurement uncertainty estimation. The visitors commented on how beneficial they found the day, expressing their thanks for the opportunity to discuss face-to-face DNA analytical approaches with expert staff from within the National Reference Laboratory, and going away from the event with a greater understanding of analytical laboratory requirements and capabilities.

  - Provision of analytical advice in support of a successful application to UKAS for ISO 17025 accreditation for GMO analysis.
  - Provision of immediate assistance during a live audit for award of ISO 17025 accreditation for GMO analysis.
  - Provision of technical advice and assistance following the audit on options for responses to UKAS following some minor queries.
  - Input into discussions on the terminology used in the scope of accreditation as shown on certificates.
  - Provided advice on new technologies and new methods for food authenticity testing using DNA, in the framework of GMO analysis.
  - Provision of advice on real-time PCR experimental design in support of participation in GMO proficiency test rounds.
  - Provision of advice regarding DNA extraction approaches from oil for food authenticity testing.
  - Provision of an EC guidance document on method verification for GMO testing.
  - Discussions regarding the operational and financial challenges for acquiring and maintaining ISO 17025 accreditation for GMO analyses.
  - Discussions regarding the increased interest and uptake of Next Generation Sequencing for GMO testing as witnessed by OLs, NGS manufactures and the scientific press.
  - Provision of advice on sample size and handling associated with a proficiency test round.

- Official Laboratory #2
  - Held four regular catch-up meetings inclusive of discussions on sampling for GMOs, details on analytical instrumentation for GMO analysis, method verification and scopes of accreditation.
  - Consultation with the NRL in the framework of GMO analysis for related molecular biology-based activities for grant priorities with the FSA targeted analytical capability building grants.
  - Communications between the NRL and the OL on active sampling for rice and rice products originating from China.
  - NRL and OL discussions on acquiring molecular biology-based analytical capability in areas which showed synergy to GMO analysis, including the analysis of allergens.
  - Further support to the OL regarding allergen detection kits, allergen detection approaches, and CEN standards in the framework of FSA capability building

- Discussions and exchange of experiences regarding a new DNA extraction instrument that the OL had recently acquired and how this was now incorporated into their operational workflow following successful method validation.
- The NRL provided feedback to the FSA and the Joint Knowledge Transfer Framework for Food Standards and Food Safety Analysis (Government Chemist/Defra/FSA/FSS) regarding the benefits that the OL found on having on-site workshops and training activities.
- Discussions on analytical capability building with specific reference to testing for GMO soya, as well as NRL assistance and advice on soya testing following a review of some real-time PCR datasets provided by the OL.

- Official Laboratory #3
  - Held three regular catch-up meetings inclusive of discussions on a maize sampling exercise, DNA extraction approaches, best measurement practice advice for real-time PCR experiments, and maintenance of ISO 17025 accreditation.
  - Provision of advice to the OL on DNA extraction and methods of analysis as part of a planned GMO maize sampling exercise.
  - Provision of written advice to the OL following a query regarding best approaches for DNA extraction and analytical method performance associated with a GMO maize sampling exercise. This advice was further followed up and supplemented through provision of additional support and recommendations.
  - Held discussions with the OL on funding for GMO analytical capability building and maintenance.
  - Exchange of information on training needs, accreditation, instrumentation and trends in the EU regarding GMO analysis.
  - Discussions on further NRL help and assistance following the OL recently having acquired a new real-time PCR instrument.
  - Provision of advice on minimum performance criteria associated with real-time PCR experiments to demonstrate fitness for purpose of methods for GMO analysis.
  - Provision of advice on results from DNA extractions associated with a test sample included in a GMO proficiency test round.
  - The NRL reviewed a data set of DNA extraction results associated with a GMO proficiency test round and provided additional advice and practical recommendations to help optimise the approach.

- Official Laboratory #4
  - Held two regular catch-up meetings inclusive of discussions on accreditation, parallel molecular biology-based approaches for allergen analysis, and a sampling exercise for rice originating from China.
  - Discussions held with OL regarding training requirements in the framework of analytical GMO capability building and maintenance.
  - Provision of advice and recommendations on GMO screening approaches.
  - Provision of advice and information on the JRC screening pre-spotted plates, which offer a “ready to run” practical GMO screening solution.

- Contacted the JRC on behalf of the OL to ask for their name to be added to a notification list for future production of the JRC screening pre-spotted plates.
- Discussions held on related activities in novel foods, PBOs and the traceability of sustainable proteins.
- Provided recommendations and an official guidance document on the application of flexible scope of accreditation for GMO analysis.

- In total, the NRL provided over 125 responses in relation to requests for advice on GMO analyses and held 12 meetings with OLs in support of these activities.
- Demonstrable output and impact of the NRL working alongside UK OLs for GMO analytical capability building have been evidenced through two laboratories successfully acquiring ISO 17025 flexible scope of accreditation for GMO analysis within the reporting period.
- The NRL has received written positive feedback from the OLs on the consistent help, advice, training and support it provides with respect to the analytical capability building exercise.

Objective 05 - Co-ordination within the UK of international initiatives

Task:

a) **Where appropriate, co-ordinate the recommendations of international organisations related to the standardisation of testing methods.**

Example activities in relation to these Tasks:

- The NRL continues to maintain a dedicated physical and electronic register for control materials received prior to EU exit on the 1st January 2021, held in a secure cold facility.
- The full list of the registered plasmid control materials is provided in Annex 2.

Objective 06 - Liaison and support work on GMO food/feed authorisation

Tasks:

a) **Liaise with the FSA appointed laboratory on GMO food/feed authorisation process and applications.**
b) **Where necessary, provide support/advice to the FSA appointed laboratory for GMO authorisation on the validation of methods of analyses, reference materials.**

Example activities in relation to these Tasks:

- The GMO NRL and GMO Authorisations (method validation services) positions are both operated by LGC.
- Staff from both areas are kept fully abreast of developments within each position, augmenting both functions in terms of delivery priorities whilst also providing cost saving opportunities due to synergistic activities.

Objective 07- Communication of results and data use

Tasks:

a) **The Contractor shall ensure that the CA receives regular updates of any developments related to the core functions of the NRL;**
b) **The Contractor shall notify the CA immediately by email of any deviations or significant unexpected situations which may affect the cost, specifications and timing of the annual work programme;**
c) **The Contractor shall notify the CA immediately by email of any unusual occurrences resulting from any of the core functions of the NRL;**
d) **The Contractor shall provide annual reports of work summarising all activities completed as part of their annual work programme, to the CA by 31st March each year. Annual reports will be approved by the CA prior to publication by NRLs on NRL dedicated websites. If requested by the CA, the Contractor may also need to provide interim reports during the annual work programme;**
e) **Any results or reports arising from the work of the NRL will not be communicated to any external parties without the written permission of the CA;**
f) **The use of the data for presentations and/or papers will not be permitted unless written permission has been sought and given by the CA;**
g) **The Contractor will maintain records. Retention periods will be agreed and defined in the contract and if necessary the contractor will assist with transfer of archived reference material; in other work related to the core functions of the NRL, the specified deadlines agreed between the CA and the Contractor should be met;**
h) **If necessary, at the end of the Contract all information and data gained from, and required for, NRL function over the course of the Contract will be handed over to the CA. This will include assisting with transfer of archived reference materials;**
i) **Provide an internal report of meetings with other organisations within 10 working days of the meeting.**
j) **The Contractor will engage in quarterly dialogues with the CA to review contract management requirements and update on progress against work programme. Informal monthly check-ins with the CA may also be organised to ensure any potential or evolving issues are flagged and work is kept on track;**
k) **The Contractor will organise regular network meetings, as appropriate and on at least an annual basis to update their official controls networks and CA on method updates, enforcement, training and other relevant information issues and to discuss PT programmes and results;**
l) **The Contractor will review NRL finances regularly and communicate spending, including a break-down of costs, with the CA on a monthly basis.**

Example activities in relation to these Tasks:

- The GMO NRL 2023/2024 annual report and the GMO NRL Annual Workplan 2023/2024 were successfully published on the NRL webpages.
- Monthly logs, providing detailed descriptions of all activities engaged in as part of the GMO NRL function, are provided to the FSA.
- All invoices have been issued in a timely fashion based on the agreed invoicing profile.
- Four GMO NRL Quarterly Review Meetings were successfully held with the FSA and FSS, with copies of all presentations and action logs shared with the FSA and FSS.

- The UK NRL is in constant contact with the FSA by email, phone and Microsoft Teams in relation to queries, updates, developments and deliverables.
- The UK NRL is available for provision of advice on GMO analysis to all UK OLs by email, phone, MS Teams and face-to-face meetings where appropriate.
- The NRL participated in the FSA Food and Feed Laboratory Workshop 2024 where all NRLs, the Competent Authorities and OLs were invited. The NRL provided a presentation outlining their work, participated in break-out sessions, and were part of the Question & Answer panel session.
- Contract Change Notice (CCN4) FS616029 for additional training activities to build OL capability was signed in June 2024 and activities completed in March 2025.
- A meeting between the NRL and the FSA was held to mark successful completion of the current NRL contract and activities planed and delivered in the 2024/2025 financial year.
- Following open competitive tender, LGC received confirmation from the FSA of their intention to award the GMO NRL contract to LGC for April 2025 to March 2029. with the possibility of extension beyond this date.

Annex 1: Additional links to NRL annual reports, work programmes and advisory notes

Copies of previous reports, work programmes and advisory notes can be found on the NRL webpages.

Annex 2: List of ENGL Control materials housed by the NRL

GM	Species	ENGL plasmid no.
Event 558 (GMM)	*Bacillus subtilis*	pENGL-00-EM-01/18-01
281-24-236	Cotton	pENGL-00-14/05-01
3006-210-23	Cotton	pENGL-00-14/05-01-B
COT102	Cotton	pENGL-00-05/16-01
DAS 81910-7	Cotton	pENGL-00-06/16-01
GHB119	Cotton	pENGL-00-04/11-01
GHB614	Cotton	pENGL-00-14/07-01
GHB811	Cotton	pENGL-00-04/18-01
LL25	Cotton	pENGL-00-13/04-01
MON1445	Cotton	pENGL-00-15/04-01
MON15985	Cotton	pENGL-00-24/04-01
MON531	Cotton	pENGL-00-16/04-01
MON88701	Cotton	pENGL-00-01/13-01
MON88913	Cotton	pENGL-00-05/07-01
T304-40	Cotton	pENGL-00-05/11-01
GM Strain AG3139	*E. coli*	pENGL-00-04/08-01
GM Strain 19E	*E. coli* K-12	pENGL-00-06/08-01
3272	Maize	pENGL-00-03/06-01
5307	Maize	pENGL-00-07/11-01
59122	Maize	pENGL-00-03/05-01
Bt11	Maize	pENGL-00-10/07-01
Bt11	Maize	pENGL-00-12/05-01
BT176	Maize	pENGL-00-18/04-01
DAS-40278	Maize	pENGL-00-10/10-01
DP-4114	Maize	pENGL-00-02/14-01
GA21	Maize	pENGL-00-15/05-01
GA21	Maize	pENGL-00-29/04-01
LY038	Maize	pENGL-00-01/06-01
MIR162	Maize	pENGL-00-08/08-01
MIR604	Maize	pENGL-00-04/05-01
MON810	Maize	pENGL-00-25/04-01
MON863	Maize	pENGL-00-01/04-01
MON87403	Maize	pENGL-00-02/15-01
MON87411	Maize	pENGL-00-01/15-01
MON87419-8	Maize	pENGL-00-02/17-01
MON87427	Maize	pENGL-00-03/12-01 MON87427
MON88017	Maize	pENGL-00-16/05-01
MON89034	Maize	pENGL-00-06/06-01
MZHG0JG	Maize	pENGL-00-04/16-01
MZIR098	Maize	pENGL-00-04/17-01

GM	Species	ENGL plasmid no.
NK603	Maize	pENGL-00-27/04-01
T25	Maize	pENGL-00-08/04-01
T25	Maize	pENGL-00-08/04-01
TC1507	Maize	pENGL-00-02/04-01
VCO	Maize	pENGL-00-07/12-01
DP73496	Oilseed rape	pENGL-00-02/12-01
MON88302	Oilseed rape	pENGL-00-09/11-01
Ms1	Oilseed rape	pENGL-00-11/04-01
Ms11	Oilseed rape	pENGL-00-03/16-01
Ms8	Oilseed rape	pENGL-00-06/04-01
Oxy-235 genomic DNA	Oilseed rape	Oxy-235 oilseed rape
Rf1	Oilseed rape	pENGL-00-09/04-01
Rf2	Oilseed rape	pENGL-00-10/04-01
Rf3	Oilseed rape	pENGL-00-07/04-01
RT73	Oilseed rape	pENGL-00-26/04-01
T45	Oilseed rape	pENGL-00-14/04-01
Topas 19/2	Oilseed rape	pENGL-00-12/04-01
EH92-527-1	Potato	pENGL-00-09/05-01
Bt63	Rice	pENGL-00-EM02/06/01
40-3-2	Soybean	pENGL-00-08/05-01
A2704-12	Soybean	pENGL-00-13/05-01
A5547-127	Soybean	pENGL-00-01/08-01
CV127	Soybean	pENGL-00-01/09-01
DAS44406-6	Soybean	pENGL-00-01/12-01 DAS44406-6
DAS-68416-4	Soybean	pENGL-00-11/10-01
DAS81419-2	Soybean	pENGL-00-03/13-01 DAS81419-2
DP-305423-1	Soybean	pENGL-00-07/07-01
DP-356043-5	Soybean	pENGL-00-04/07-01
FG72	Soybean	pENGL-00-04/10-01
GMB151	Soybean	pENGL-00-01/18-01
MON87460	Soybean	pENGL-00-04/09-01
MON87701	Soybean	pENGL-00-05/09-01
MON87705	Soybean	pENGL-00-01/10-01
MON87708	Soybean	pENGL-00-02/11-01
MON87751	Soybean	pENGL-00-03/14-01
MON87769	Soybean	pENGL-00-07/09-01
MON89788	Soybean	pENGL-00-05/06-01
SYHT0H2	Soybean	pENGL-00-04/12-01
H7-1	Sugar beet	pENGL-00-28/04-01
MON71200	Wheat	pENGL-00-EM-02/18-01