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SIRA Sampling Protocol for the BMPA Quality Assured Ham and Cooked Pork and BMPA Quality Assured Pork Sausage and Pork Modules

Background

Traceability is integral to the BMPA pork scheme. The core requirement of the BMPA pork scheme is that participants have a robust and effective traceability system in place for the identification and movement of product throughout the site. This is supported by a requirement for scheme participants to undertake regular internal checks with verification of the traceability systems and associated documentation during the independent BMPA surveillance audits.

This combination of SIRA with the BMPA pork scheme provides greater confidence in the integrity of the assurance chain. It demonstrates the willingness of the pork sector to embrace the latest techniques to ensure that consumers can have every confidence in the integrity of assured pork supply chain enabling the industry to improve traceability and provide consumers with an enhanced level of confidence in pig meat carrying the Red Tractor logo and indications of British provenance.

Rationale for sampling at the point of production

Sausage

In previous research, it has been found that SIRA is not a reliable method when applied to retail sausage samples. The reason is that the isotope signature of the meat and the isotope signatures of other ingredients such as rusk, herbs and spices are hard to distinguish in analysis. Therefore, the alternative is to sample the meat before mixing with other non-meat ingredients.

Ham and Cooked Pork

The SIRA technique has demonstrated that it works in cooked ham. The inclusion of water (in the cure) and the application of heat (some evaporation) has some impact on the isotope signature, but these effects are generally low and reasonably predictable. A number of correction factors can be applied to the analysis by the laboratory when assessing the origin of the sample.

In the manufacture of highly comminuted reformed ham, the raw material at point of manufacture e.g. tumbling, may be from a combination of several different muscle types and batch codes that could have several kill dates and therefore the pigs could be sourced from several hundred source farms. Obtaining a sample at the 'point of production' would mean that it is confined to a single container thereby reducing the number of potential kill dates and source farms.

Objective

This protocol outlines the sampling of BMPA Quality Assured Ham and Cooked Pork and BMPA Quality Assured Sausage material for SIRA at the point of production, which is aligned to the BMPA unannounced surveillance audit.

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The design of this protocol is to minimise any disruption to the day-to-day operations of the scheme participants. SIRA will be used to generate information that enhances the way the BMPA pork scheme operates.

Frequency of sampling

A sample shall be taken at every unannounced surveillance audit.

Introduction of SIRA sampling programme

The sampling programme shall be aligned to the BMPA pork scheme unannounced surveillance programme of audits.

Protocol

Supplies of packaging

AHDB Pork shall arrange to forward supplies of packaging to the BMPA service provider prior to the commencement of the SIRA sampling programme. The service provider shall distribute supplies of packaging to the audit team aligned to the unannounced surveillance audit programme and the SIRA sampling.

The supplies shall comprise:

- Clear plastic tamper evident sample bags

The contact name and address details for sample bag supplies are as follows:

BMPA Pork Scheme Administrator
 Client Services Team
 Intertek/Sai Global
 12 Davy Avenue
 Milton Keynes
 MK5 8NL
 Email: ukfoodadmin@intertek.com

Expectations of the service provider

The service provider shall align the SIRA sampling to the schedule of unannounced surveillance audits and have appropriate systems in place for the following:

- communication to BMPA and AHDB Pork
- distribution of packaging to the audit team
- management of unique coding for sites (unique identification number)
- auditors are fully conversant with the requirements of this protocol

Time constraints for sampling of product in production

On arrival at the site, the service provider shall inform the site representative that the SIRA sample is to be taken within 20 minutes of arrival. Where this time scale has not been met, the service provider shall inform the BMPA and AHDB by email on the same day and the reasons why the timescale was not met. The BMPA reserve the right to seek further clarification where this is deemed necessary.

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Scope of product to be sampled, sample selection, verification and recording of traceability details

Scope

The scope of the SIRA test sample to be taken shall be restricted to assured pork raw material (BQAP) which may be chilled or frozen.

Sample selection

The sample shall be taken in full visibility of the site representative where there is a clear indication that it is intended for use within an assured product and prior to the addition/mixing of any non-meat ingredients. Where pork raw material, is not available in the main production area, a sample shall be selected in the production pre-holding chill from raw material clearly labelled as being BQAP. The SIRA sample shall be taken from a container e.g. tote bin of raw material.

Portioning of the sample

For safety reasons, where a sample requires to be portioned to meet the weight tolerances, the service provider auditor shall request that the site undertakes the portioning. To ensure that the integrity of the traceability of the sample is retained during any portioning the process, it shall be supervised by the service provider auditor. The service provider auditor shall verify that the equipment used for portioning i.e. knife is visibly clean and that there are no residual pieces of meat on the equipment that may compromise the integrity of the SIRA analysis.

The sample may be comprised of either minced product or a single piece of tissue which may be of a mixture of lean and fat. The sample size shall not be less than 150g and ideally not greater than 300g. From this, the laboratory will hold a subsample that can be accessed if required for a re-test or independent testing by the manufacturer.

Verification of traceability

The service provider auditor shall verify the traceability details on the container of the pork raw material. These shall be cross referenced to the production records that are applicable to the container and sample taken. It is envisaged that the traceability information on the container shall comprise the following (not exhaustive):

- date of production
- batch code
- recipe and process sheet
- assured status e.g. BQAP
- raw material used/product code
- supplier
- goods received number
- finished product type
- kill number
- customer name

Full details of the traceability information on the container label shall be recorded by the auditor and retained for future reference. The information shall include the time the sample was taken. Ideally, a photo of the label shall be taken by the site representative and held on file. Reference may be made to it at a later date if deemed necessary. Traceability information may be captured by photographs in the Food Forensics app.

The auditor shall request that the site undertakes a full trace exercise from the point of production back to the point of intake on the batch relating to the sample. Copies of the kill sheets along with

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other supporting traceability documentation shall be retained by the scheme participant. Details of the trace exercise shall be retained by the site and may be subject to further audit by the service provider.

Application of unique identification number and sealing of packaging

Where Food Forensics sample bags are used the bag barcode provides the unique identification number for sample.

Each sample bag includes a unique identification number and barcode; space is provided to record specific details on the bag.

The following procedure shall be undertaken by the service provider:

- The sample shall be placed in the tamper evident sample bag.
- The service provider shall record all relevant information relating to the sample within the space provided on the sample bag or on the Food Forensics app.
- The auditor shall record and sign her/his name in the section 'collected by'. The auditor's signature shall be confirmation that the sample was selected by the auditor.
- The pen ink shall be black, and the numbering shall be clear and legible. Marking ink (felt tip) is not to be used as the properties of this ink degrades very quickly.
- The sample bag has a detachable strip which contains the unique identification number, this strip should be removed and retained by the service provider auditor if not using the Food Forensics app.
- The service provider auditor shall record the unique identification number on the audit report.
- The foil strip shall be removed from the sample bag and the bag sealed by pressing the blue section to the white section to close the bag securely.

Storage

The site representative shall freeze the sample in the sealed bag, and it shall be stored in such a way that protects the integrity of the packaging and labels until it is ready to be sent to the laboratory.

Dispatch of sample to laboratory

The site shall make arrangements for the SIRA sample to be posted to the laboratory using a guaranteed delivery service avoiding Fridays. The sample shall be posted in appropriate packaging to protect its frozen state.

The site shall send the sample to the following address:

Food Forensics,
5, Frensham Road,
Sweetbriar Industrial Estate,
Norwich,
NR3 2BT

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If this information is not captured on the Food Forensics app it must be written on the outside of the bag and should comprise of:

- Date of audit
- Time of dispatch
- BMPA pork module e.g. Sausage
- Unique sample identification number
- Company name
- Site address

The site shall inform AHDB Pork and the BMPA Technical Policy Advisor by electronic mail when a sample has been collected including the time of dispatch. The email shall be sent to joshni.raj@ahdb.org.uk and copied to the service provider auditor and info@britishmeatindustry.org

A. Analysis and reporting

Food Forensics shall carry out the analysis of the sample and review the results on behalf of AHDB Pork. AHDB Pork shall send, in confidence, a summary of the results relating to the samples collected to the BMPA Technical Policy Advisor. The report shall indicate if further investigation is required. The outcome of the analysis shall be reported to the site if no further follow up is required. Results are reviewed and trended by Food Forensics on a quarterly basis. Scheme participants with outlying results or trends of outlying results will be highlighted to AHDB within a review document and, upon agreement with AHDB, will be investigated further. The determination of the outlying results will be carried out by Food Forensics based on analyst interpretation of the results. The scheme participant may be required to provide additional information to AHDB during this stage.

B. Follow up on traceability exercise

Where a sample requires further investigation, BMPA Technical Policy Advisor shall contact the scheme participant to request contact details. These details will be passed to Food Forensics who will in turn contact the scheme participant to request the backward trace that was carried out at the time of the unannounced audit. The site shall provide details of the supplying cutting plant, abattoir and inform them the purpose of the enquiry. The site shall provide information on the batch of farms where the pigs originated. A copy of the kill sheets covering the identified batch of farms shall be scanned and emailed to AHDB/Food Forensics within one working day. This shall clearly show the name, location and identifiers for the source farms (CPH number, assurance number, slap mark). The kill sheets shall be clearly numbered chronologically. The scheme participant shall be asked to confirm the details of any non-British pork handled on site. These requests may vary depending on the circumstances. Food Forensics shall discuss with AHDB and conduct follow up analysis if required. Results from follow up analysis will be fed back to AHDB who will in turn feedback to BMPA. The outcome of the analysis shall be reported to the packing site. The outcome of the analysis shall be reported to the packing site if no further follow up is required.

C. AHDB Pork second tier follow-up assessment

Where a sample is subject to further investigation, AHDB may request the provision of additional reference samples and/or further analysis of the results against a more specific sub-batch of samples from the reference database. This is a much more sensitive test than comparison with the national database.

Where a follow up is required, a forward trace shall be undertaken on the container of raw material that the SIRA sample was taken from to the finished product. It is recognised that the forward trace cannot be undertaken until the product has been fully processed through to final pack. The traces shall

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incorporate a mass balance exercise for both British and non-British pork processed on the day the sample was taken. Details of any non-British pork handled at the site shall be noted. Information on the

products made using the material including copies of pack labels shall be noted. Details of the trace exercise shall be retained by the site and may be subject to further audit by Food Forensics

F. Audit follow-up

If an audit follow up is required, the BMPA shall notify the service provider for the site that a request has been made. The service provider shall arrange for an unannounced audit to be undertaken at the final packer to review these records and of its supplier(s) within 14 days of receipt of notice. When the site visit is carried out the traceability documents shall be reviewed by the service provider and the results made available to the BMPA within 5 working days.

The site visit shall be in addition to the routine site audits and the cost shall be met by the scheme participant. The report from the service provider showing the outcome of this review and any actions to be taken shall be made available to AHDB by BMPA.

The results of the follow up assessment shall be reported to the scheme participant(s) and considered by the BMPA Pigmeat and Technical Advisory Committee (PTAC) in accordance with the BMPA Scheme Rules.

In the case where a scheme participant fails to satisfy the traceability and mass balance audit with respect to accurate country of origin declaration, then the BMPA PTAC shall consider that this constitutes a major non-conformance and this shall be managed in accordance with the BMPA pork scheme rules and procedures.

If after the follow up analysis there is a low probability of UK origin, BMPA shall seek an explanation from the scheme participant(s) concerned.

Having considered all available evidence (i.e. previous SIRA traceability audits, regular traceability audits, previous audit conformance, submissions from scheme participants etc.) the BMPA may conclude that this was an isolated error by the scheme participant. In such circumstances the BMPA may request AHDB to conduct targeted SIRA surveillance of the scheme participant. Repeated low probability results from subsequent SIRA assessments carried out by AHDB shall be brought to the attention of the BMPA for further investigation in accordance with the scheme rules and procedures. Any repeat incidences of low probability isotope compliance coupled with inadequate traceability/mass balance reconciliation, or any form of non-cooperation with the service provider shall be deemed a serious breach of scheme rules and may lead to suspension.

G. Costs

The cost of SIRA analysis, subsequent statistical analysis, postage and packaging shall be paid by AHDB.

The cost of conducting the traceability exercise and any follow-up site visit or unannounced audit within the individual business operated by the scheme participant shall be part of the requirement of being in the scheme as it is at present.