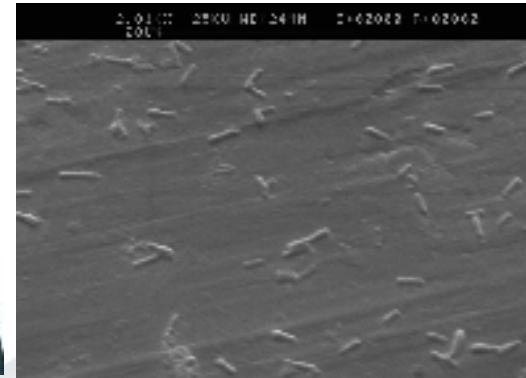
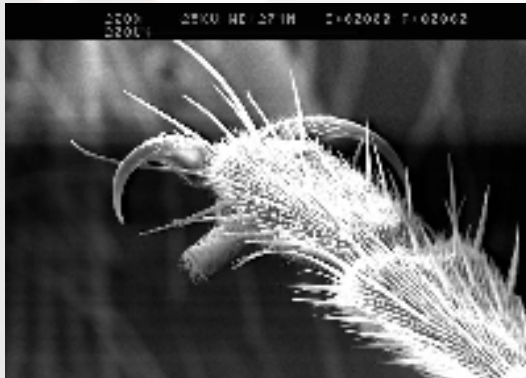




Pest management – industry update



Dr Matthew Davies

Head of technical department (Killgerm Chemicals)

Visiting research fellow (Aston University)

Industry supervisor – PhD project (University of Reading)

Honorary lecturer – pest management (University of Birmingham)



University of
Reading



Supported by

Killgerm
www.killgerm.com

The role of rats and mice in the dissemination of pathogens and antimicrobial resistance



Ana-Carolina Yamakawa
(University of Reading)



Dr. Soon Gweon
(University of Reading)



Dr. Matthew Davies
(Killgerm Chemicals Ltd)

Rodent-borne bacteria – University of Reading



- Ana-Carolina Yamakawa & Dr Soon Gweon
- Pest control professionals – thank you!



Rodent-borne bacteria – University of Reading



• What have we been doing?



You know when you're in safe hands!
www.killgerm.com

Rodent droppings - sampling method

- Wear nitrile gloves and follow hygiene principles to protect against rodent-borne disease



PRECAUTIONS AGAINST WEIL'S DISEASE

- A** Always wear protective clothing (coveralls and gloves), and cover any cuts or abrasions with waterproof plasters
- B** Do not eat, drink or smoke while working. On completion of work always wash your hands
- C** Whenever you visit your doctor or hospital on account of illness show this card



- Identify a site of Brown Rat, House Mouse or Wood Mouse droppings:



Brown rat
Approx 17mm long



House mouse
Approx 6mm long
(Similar to Wood mouse)

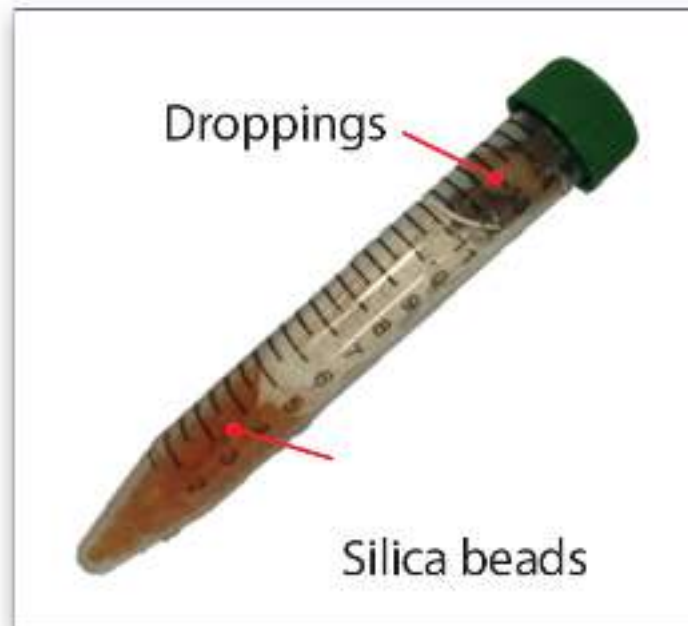


Wood mouse
Approx 6mm long
(Similar to House mouse)



Rodent-borne bacteria – University of Reading

- Insert (by gloved hand / spoon / scoop wiped with a disinfectant wipe) as many fresh faecal pellets as needed to fill up the tube with silica beads.
(If the silica beads have changed colour to green, do not use them. Select another tube.)

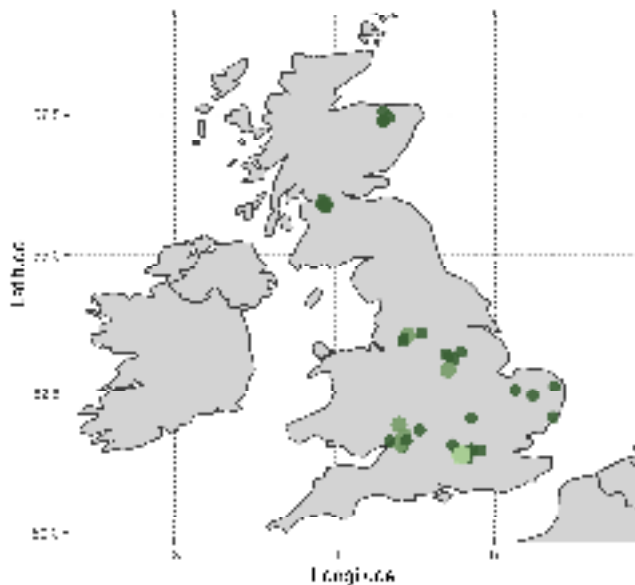


- Close the tube.
- Place the tube into the provided addressed envelope
- Complete the record form and place into the same envelope
- Seal the envelope and arrange postage, ideally on the same day.
(Freeze samples in the tubes if same-day postage is not possible).

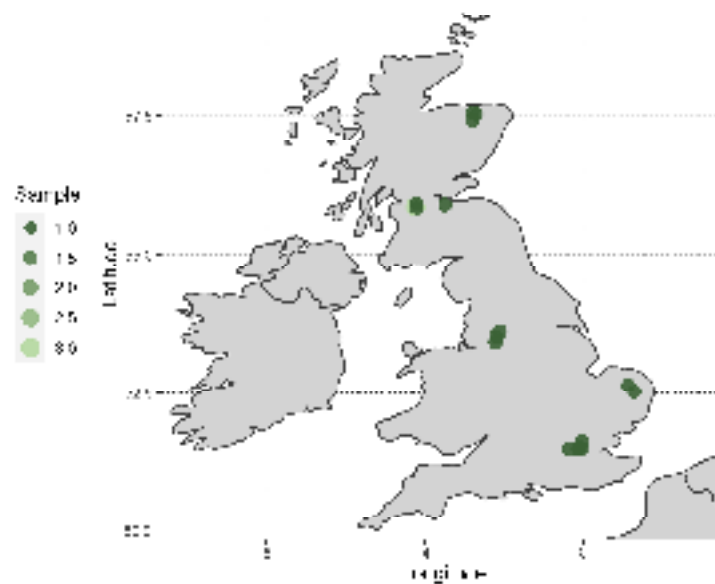
Rodent-borne bacteria – sampling maps

- 100 samples: 64 Brown rat (*Rattus norvegicus*), 23 house mice (*Mus musculus*), 13 wood mice (*Apodemus sylvaticus*).

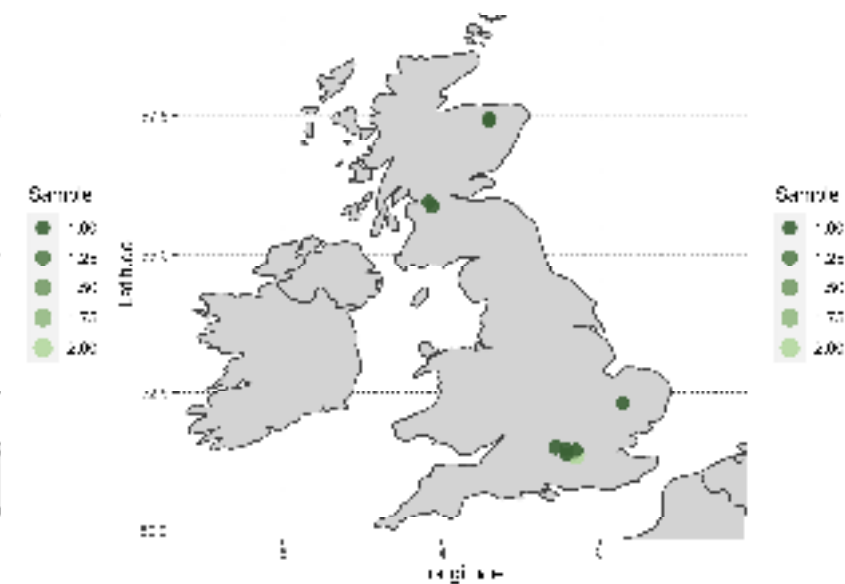
Brown rat samples distribution
United Kingdom



House mouse samples distribution
United Kingdom



Wood mouse samples distribution
United Kingdom



CIEH – research presentation



CIEH Pest Control Conference

Half-day conference: Thursday 2 October 2025

09.15 **Registration and online login**

09.30 **Welcome and introduction**

Chair: Matthew Davies, Head of Technical Department, Killgerm Chemicals Ltd, and
Chair of Rodenticide Resistance Action Group (RRAG)

09.35 **Keynote: reforming the qualification framework across the industry**

Speakers:

- John Horsley, Technical Support Officer, BPCA

10.10 **Strengthening biosecurity goals – risks and threats from the increase in pests**

Speaker: TBC

10.50 **False widow spiders – real public health threat or media hysteria?**

Speaker: Brandon Collier, Doctoral Student – Venom Systems & Proteomics Lab,
University of Galway

11.15 **Comfort break & sponsorship videos**

11.30 **TBC**

Speaker: TBC

11.55 **Update on research: the role of rats and mice in the dissemination of pathogens**

Speaker: Ana Carolina Yamakawa, Master of Veterinary Science, University of Reading

12.20 **Bedbugs in 2025: new frontiers in managing infestations and public awareness**

Speaker: Alexia Naylor, Business Manager, Bed Bug Foundation

12.45 **How to best pest proof a premises: specific cases and resistance**

Speaker: Duncan Bosomworth, Technical Manager, National Pest Technicians Association (NPTA)

13.15 **Utilising trapping technology in non-chemical control of rats: local authority reports**

Speaker: Tim Bloomer, Area Sales Manager – South West, Midlands & Wales, Killgerm

13.40 **Closing remarks**

13.45 **End of conference**

The Campaign for Responsible Rodenticide Use UK

(CRRU UK)



Stewardship update – 2025

Strengthening measures and Code of Best Practice update

CRRU UK

A training resource for:

Continuing Professional Development

What is CRRU UK?

Our role

CRRU UK is an organization responsible for coordinating rodenticide product stewardship in the United Kingdom.

CRRU UK ensures the responsible and effective use of ALL rodenticides through the promotion of best practice supply and use practices and training of users to protect wildlife.



<http://www.thinkwildlife.org>



You know when
you're in safe hands!

www.killgerm.com

Who are CRRU UK?



Mark Cook
Chemicals Regulation Directorate
Health and Safety Executive
UK



NPTA
tomorrow's association
for today's technician



Chartered Institute of
Environmental Health



Killgerm Chemicals Ltd, Wakefield Road, Ossett, West Yorkshire, WF5 9AU
t: +44 (0) 1924 263420 e: enquiries@killgerm.com



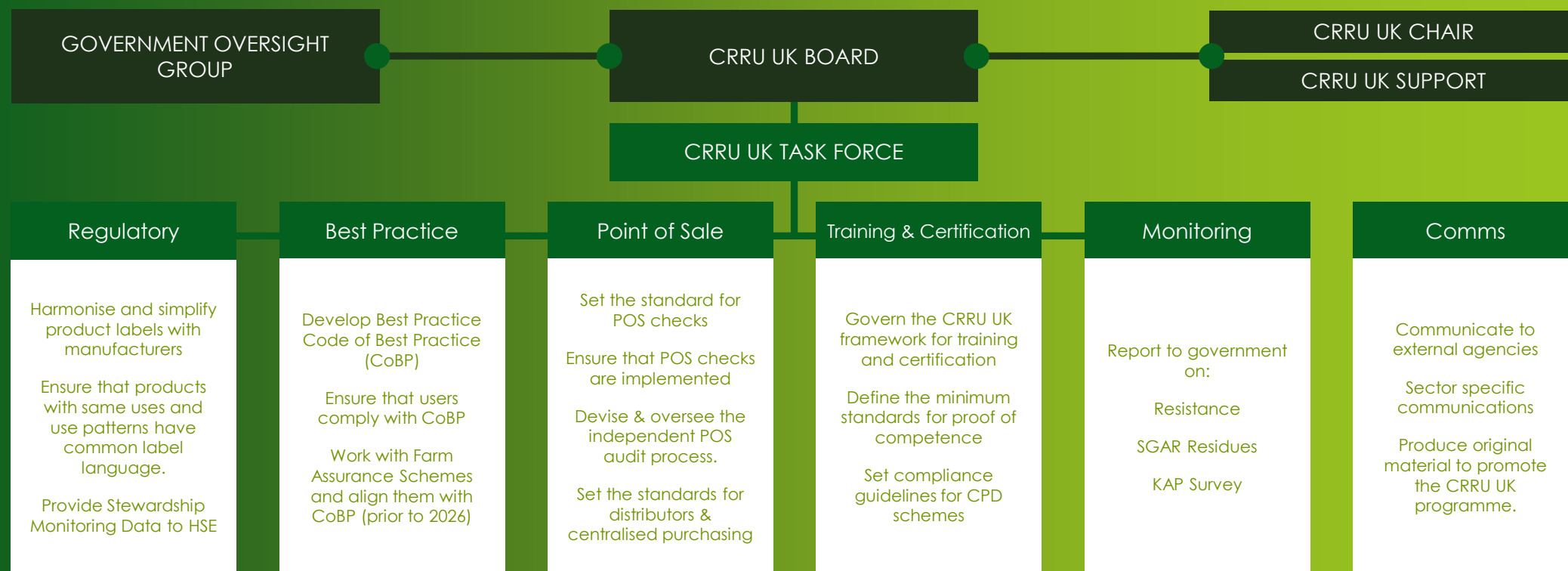
Here when
YOU need us!

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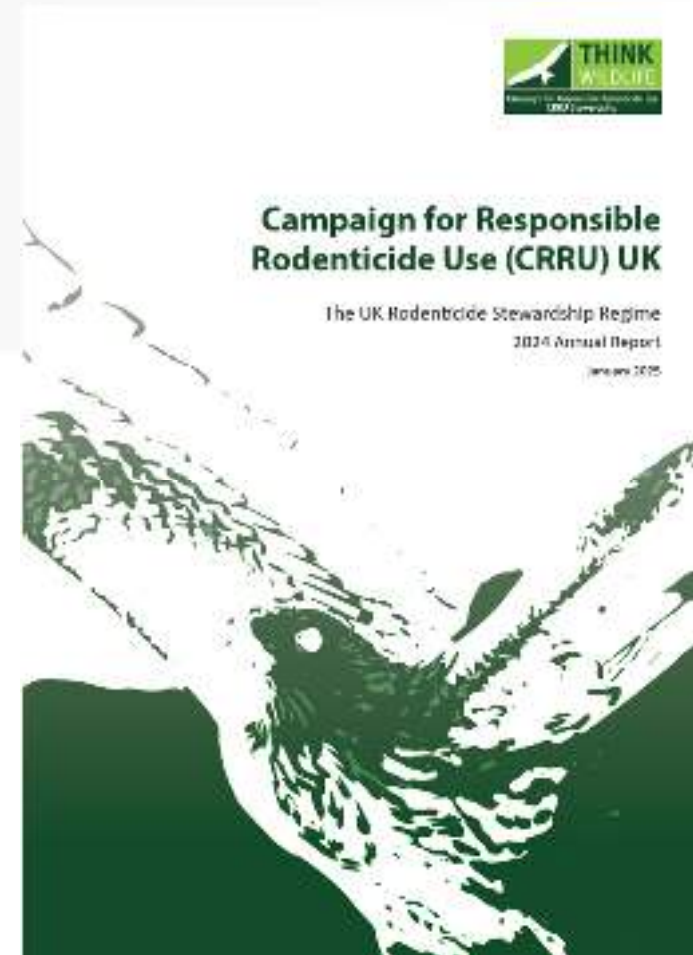
CRRU UK Organisation



How do we track Stewardship?

Tracking performance

- **Training data**
 - Training uptake
 - Farm Assurance Scheme membership
 - Best practice guidance
- **POS audit performance**
- **Monitoring**
 - User awareness (KAP)
 - **Barn owl liver residues**
 - Rodenticide resistance



CRRU UK Have Implemented Two Stewardship Strengthening Measures

Strengthening measure 1

Open area use – no anticoagulant use

- Legal Authorisations removed from all SGARs 4th July 2024 for 'open area' and 'waste dump' applications
- This has impacted products containing bromadiolone & difenacoum
- A voluntary move instigated by CRRU UK and approval holders aimed to reduce SGAR contamination
- Products purchased before 4th July 2024 could be used until 31st December 2024
- After 31st December 2024 it became illegal to use any SGAR in an 'open area' or on a 'waste dump'



Strengthening measure 1

Open area use – no anticoagulant use

- What are examples of open areas? **Away from buildings**
 - public parks and gardens
 - railways (embankments, cuttings etc.)
 - canals
 - the banks of natural water courses
 - reservoirs
 - footpaths
 - bridleways
 - cycle paths
 - allotments
 - airports/air-fields
 - field margins
 - hedgerows / feed hoppers



Strengthening measure 1

Waste dumps – no anticoagulant use

- 'Waste dumps' are also now considered to be a separate use scenario
- Only baits may be applied at waste dumps that permit such use on the label
- This scenario covers control of rats and disposal of rats in waste dumps and landfills where the exposure is assumed to be higher than that described in the open area scenario
- For example, waste dumps **do not include municipal waste management** facilities (e.g. recycling centres) where treatment is undertaken to prevent risks to public health in urban settings

Strengthening Measure 2



CRRU Requirements

Take action in 2025 if you plan to purchase and use **professional use rodenticides** from 2026 onwards.



IMPORTANT CHANGES IN PROOF OF COMPETENCE REQUIREMENTS FOR PURCHASERS AND USERS FROM 1ST JANUARY 2026

WHAT TRAINING CERTIFICATION DO YOU NEED?



EITHER

Proof of certification to a CRRU UK approved training course **within the past 5 years**

CERTIFICATE



OR

Proof of qualification to a CRRU UK approved training course **more than 5 years ago** and current membership of a CRRU UK approved Continuing Professional Development (CPD) scheme

5 year exam certificate expiry date approaching?

EITHER

repeat the training and requalify

or

join a CRRU UK approved CPD scheme

To find out more:

<https://www.thinkwildlife.org/training/certification/>



Note: Users joining a CRRU UK approved CPD scheme for the first time will need to join in 2025 and nominate their membership in that year to be ready for the changes from 1 January 2026

It is recommended that professional pest controllers maintain annual membership of a CRRU UK approved CPD scheme, as an element of best practice, even if their exam certificate is within 5 years old.

Training & Certification Requirements

Rodent glue traps - licensing



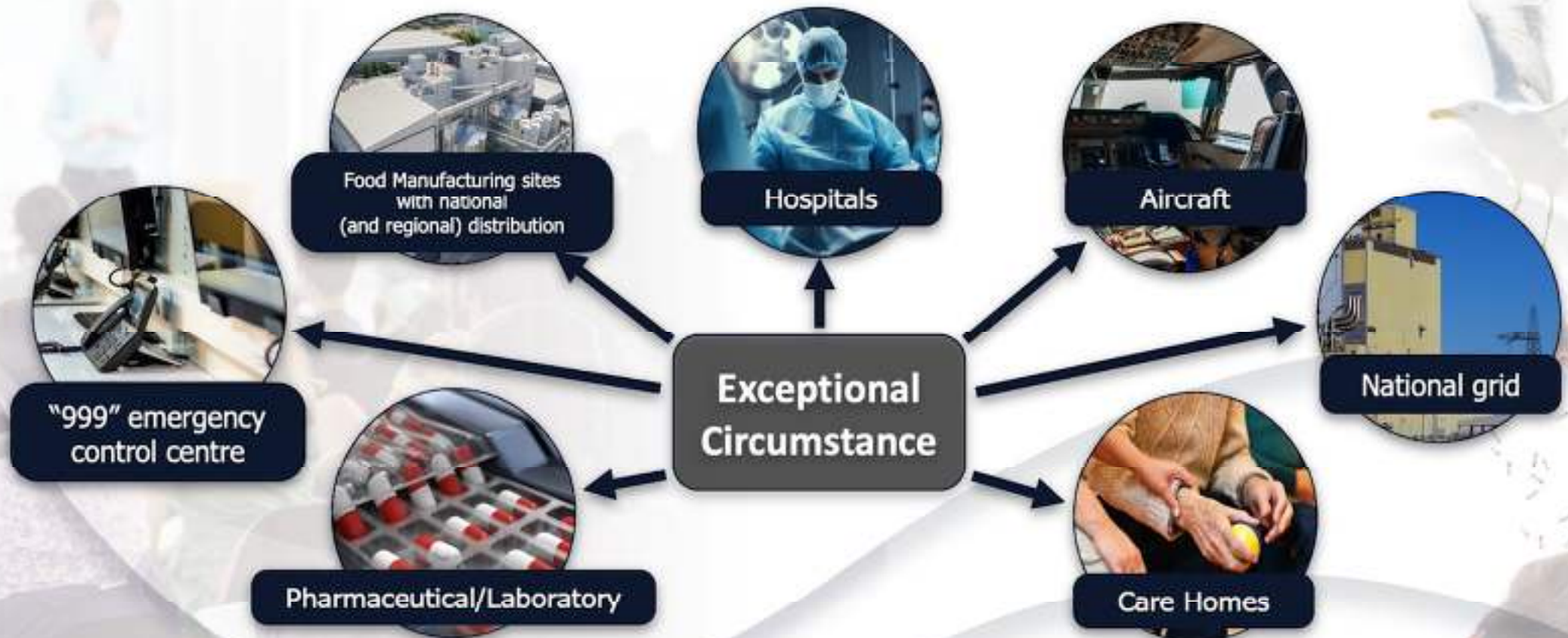
• Class Licence

- Registered for in advance
- Used in **exceptional** circumstances in **specific situations** which are **time critical** such as aircraft, hospital surgery rooms and critical infrastructure site at imminent risk of fire or equipment failure.

• Individual Licence

- Applied for at time of need
- Single use
- Allow you to deal with a **particular problem** at a **particular site**.
- Issued in **exceptional** circumstances where there is a large-scale threat to public health and safety such as a care home, food manufacturing etc.

Exceptional Circumstances



NOT Exceptional Circumstances



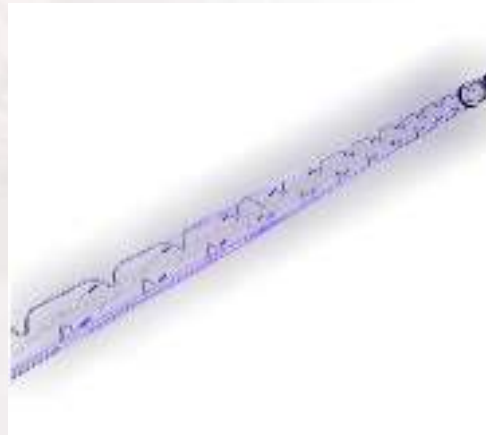
Rodent glue traps - alternatives



UV LED tech - flying insect control



- Finally, some good news for a change!
- Advances in UV LED technology for flying insect control units...
- Normal UV tubes for fly control remain available until at least 2028



UV LED tech - flying insect control



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Integrated Pest Management of 'Filth' & 'Drain' Flies



Thank you



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Dairy Products

What could go wrong?

Dr Andy Bowles



Common pathogens

Microorganism	Control	Comments
<i>Mycobacterium bovis</i> ,	Pasteurisation (P) or equivalent	Causative organism of tuberculosis
Salmonella spp	P, pH 4.4 a_w 0.95	pH Yoghurt 4-6, cheddar 6, milk 6.4-6.6
E.Coli o157	P, pH 4.4 a_w 0.95	a_w milk 0.97
Campylobacter	P, pH 4.9, a_w 0.98	Environmental contaminant
Staph. aureus	P, pH 4.2 a_w 0.86	Sub clinical mastitis
<i>Listeria monocytogenes</i>	P a_w 0.92	Environmental contaminant

Chemical contaminants

Substance	Control
Antibiotics	Effective AB management
Aflatoxin M1	Control of feedstuff
Detergents	CIP management
Water	Process control

Environmental contaminants

Lead

Polycyclic aromatic
hydrocarbons

Dioxins and PCBs

Residues



Veterinary

Antibiotics
Anti-inflammatory drugs
Anthelmintics



Pesticides

Organochlorines
Organophosphates
Pyrethroids

Adulteration/Substitution



Water



Milk powder



Non-dairy fat



Protein
spiking

Adulteration/Substitution



Species



Inferior milk



Non-dairy



Organic

Key issues for dairy inspection

1. Source, storage and reception of raw milk
2. Is pasteurisation a CCP?
3. Layout and design – equipment
4. Layout and design - pipework
5. Start up and product change over procedures
6. Process control
7. Manual cleaning
8. Reclaim
9. Sampling
10. Waste

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Dr Andy Bowles FCIEH, FIFST
Specialist Food Law Solicitor

andy.bowles@abcfoodlaw.co.uk



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01603 319863

Primary Production



Are we interpreting the laws correctly?

What is primary production?



ACTIVITIES PRIOR TO HARVESTING OR
SLAUGHTER



INCLUDES HUNTING, FISHING, MILKING,
REARING OF ANIMALS, GROWING OF
CROPS OR FORAGING.



"primary production" means the production, rearing or growing of primary products including harvesting, milking and farmed animal production prior to slaughter. It also includes hunting and fishing and the harvesting of wild products;

(EC Regulation 178/2002)

Primary products include:

- Products of plant origin, e.g. grains, fruits, vegetables, herbs, mushrooms, sprouted seeds.
- Products of animal origin, e.g. eggs, raw milk, honey, fishery products, live bivalve molluscs.
- Products harvested wild either from plant or animal origin, e.g. mushrooms, berries, snails etc.



Still Primary production

- Packaging without further treatment
- Washing , sorting, removing leaves
- drying of cereals,
- gutting, removing fins, refrigeration and wrapping of fish.
- Centrifugation of honey to remove honeycombs.
- Game in fur or feather

Not Primary
Production



Article 4 and Annex I of
852/2004 covers PP

There is no requirement
for a formal HACCP plan
in primary production

Primary Production is exempt from approval

But Regulation 853 may still apply!

Regulation 852/2004 & Regulation 853/2004 does not apply to

- the direct supply, by the producer, of small quantities of primary products to the final consumer or to local retail establishments directly supplying the final consumer; (article 1.2(c) of 852/2004 & article 1.3(c) of 853/2004)



Small quantities of PP to the final consumer & local retailers

- Farmers to sell primary products (vegetables, fruits, eggs, raw milk etc.) directly to the final consumer e.g. farm gate sales or sales at local markets, to local retail shops for direct sale to the final consumer and to local restaurants.
- Individuals who collect products in the wild such as mushrooms and berries to deliver their yield directly to the final consumer or to local retail shops for direct sale to the final consumer and to local restaurants.



small quantities to the final consumer or to local retail outlets directly supplying the final consumer

- “Final consumer” means the ultimate consumer of a foodstuff who will not use the food as part of any food business operation or activity

(178/2002 Article 3.18)

- *Small quantities of POAO – no legal definition but FSA guidance suggests some figures*
 - *Up to 24 pints p/d raw drinking milk*
 - *Less than 360 eggs p/w*
 - *Up to 25 tonnes fishery produce per year*
 - *Up to 25 tonnes live bivalve molluscs*
 - *<10,000 birds or lagomorphs per year*
 - *Wild game limited by demand*



Member States shall establish, under national law, rules governing the activities referred to in paragraph 2(c). Such national rules shall ensure the achievement of the objectives of this Regulation

UK Rules

Reg 33 & schedule 5
covers on-farm poultry
slaughter

Reg 34 & schedule 6
covers the restrictions
on the supply of raw
drinking milk

So what does it mean when we say that the regulations do not apply to 'the supply of'?



Does it mean....

- The whole business activity is exempt?
- Or just the selling/supplying activity?

For example

- A hunter shoots deer and supplies the carcass in fur to a local butcher.
 - A forager harvests mussels from the local shoreline and supplies to local restaurants.
 - A beekeeper produces and supplies their honey to a few local shops.
 - A farmer slaughters turkeys on his farm and supplies in feather
- 
- A large yellow triangle is positioned in the bottom right corner of the slide, pointing towards the top right.

The
whole
business
is exempt
means

- Reg 852/2004 won't apply
- Reg 853/2004 won't apply
- Only Reg 178/2002 and the Food Safety Act will apply
- No hygiene standards but the food must be safe
- Challenges inspecting and removing products from the market.

Reg
853/2004
does not
apply but
852/2004
does

the direct supply, by the producer, of small quantities of meat from poultry and lagomorphs slaughtered on the farm to the final consumer or to local retail establishments directly supplying such meat to the final consumer as fresh meat;

hunters who supply small quantities of wild game or wild game meat directly to the final consumer or to local retail establishments directly supplying the final consumer.

Does it mean....

- The whole business activity is exempt from 853/2004?
- Or just the selling/supplying activity?
- Also that 852 annex I now applies to the primary production element of the business
- Or just annex II applies to the butchery

For example

- A hunter shoots a deer, then skins and butchers it. The meat is supplied to local butchers.
- A farm slaughters, plucks and eviscerates 500 turkeys for Xmas and supplies the meat to local butchers

Consequences of 853/2004 not applying but 852 applying

- None of the rules regarding the on-farm slaughter and hunting contained in 853 apply.
- Reg 852/2004 and annex I will apply to primary production element (possibly!)
- Reg 852/2004 and annex II will apply after the product has been turned into meat.



Compare
the
following 2
scenarios

A- The hunter kills the game and supplies to a butcher in fur. The butcher then skins and processes it

B - The hunter kills and skins the meat and supplies the meat to the butcher

FSA Wild Game Guidance

Nature Of Supply	Restrictions On Supply	Applicable Food Hygiene Regulations and Competent Authority	'Trained Person' status	Food Business Registration with LA	HACCP Plan	Official Record Keeping and Traceability
<u>Direct supply, by the producer, of wild game to the final consumer and/or to local retailers who directly supply to the final consumer</u>	Supply must be, by the producer, of small quantities of hunted wild game (primary product). Supply must be direct to the final consumer or to a local establishment who directly supply to the final consumer (for example, butchers, restaurants). Supply from the producer to local retail establishments (who directly supply to the final consumer) can be no further than your own LA, a neighbouring LA or 50 km/30 miles from the boundary of your LA.	Exempt from the scope of Food Hygiene Regulations (852/2004 & 853/2004). Your LA is the Competent Authority.	Not required but encouraged.	Registration as a food business is not required but you are encouraged to contact your LA to ensure you can make use of this exemption.	A FSMS based on HACCP Principles is not required but you are still bound by the obligation to supply safe food and should have systems in place to manage food safety risks.	Yes, General Food Law provisions (178/2002) apply.

Nature Of Supply	Restrictions On Supply	Applicable Food Hygiene Regulations and Competent Authority	'Trained Person' status	Food Business Registration with LA	HACCP Plan	Official Record Keeping and Traceability
<u>Direct supply of wild game meat to the final consumer or to local retail establishments directly supplying to the final consumer</u>	Supply must be of small quantities of wild game meat. Supply of wild game meat must be direct to the final consumer <u>or</u> to local retail establishments who directly supply to the final consumer (i.e. butchers, restaurants). Supply to local retail establishments can be no further than your own LA, a neighbouring LA or 50 km/30 miles from the boundary of your LA.	Regulation 852/2004 apply. Exempt from 853/2004. Your LA is the Competent Authority.	Not required but encouraged.	Yes, registration with your LA as a food business is required.	You must have FSMS based on HACCP principles.	Yes, General Food Law provisions (178/2002) apply.

I posed the
question to
the EU
commission
before Brexit

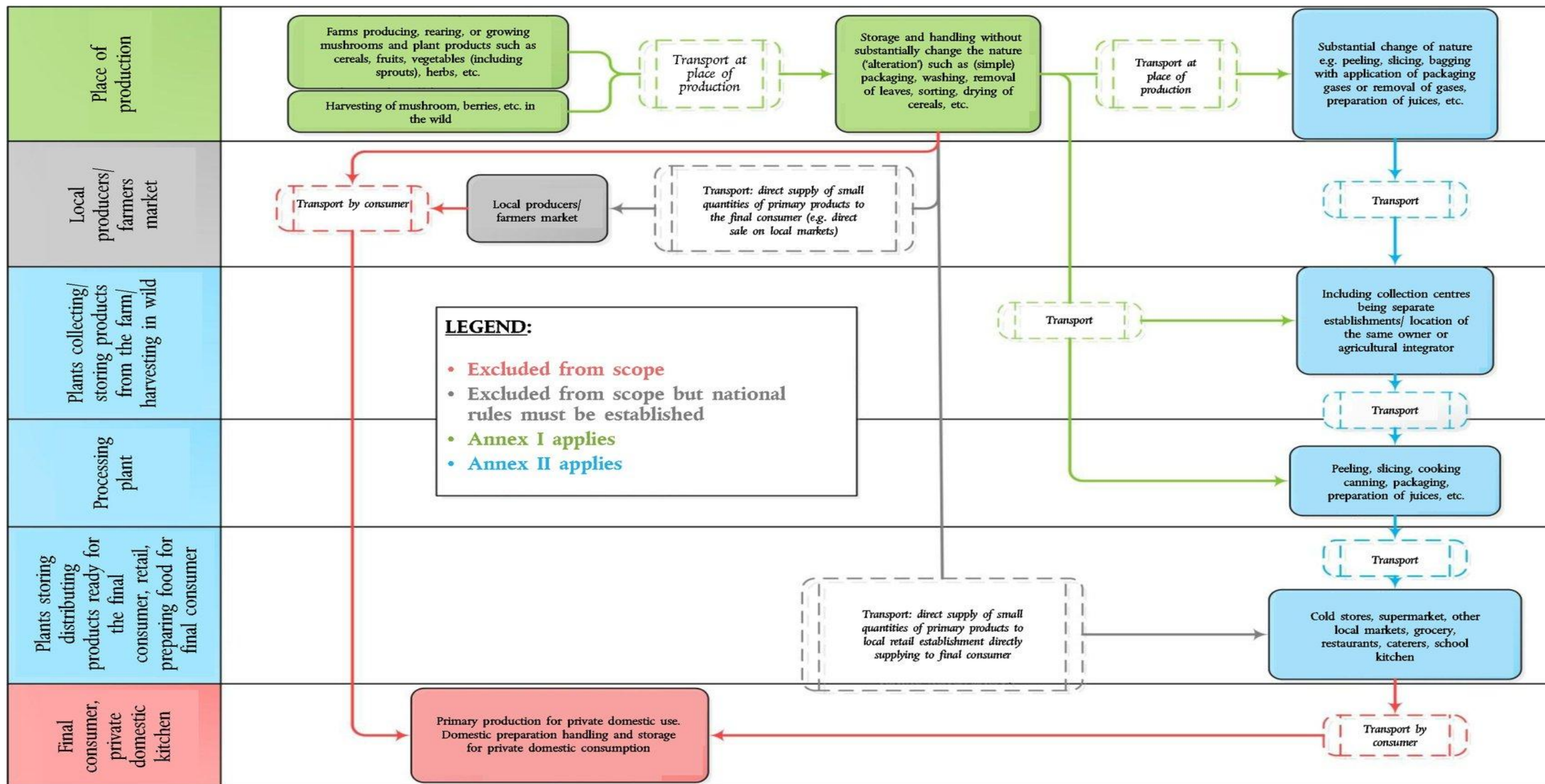


DG Sante Response

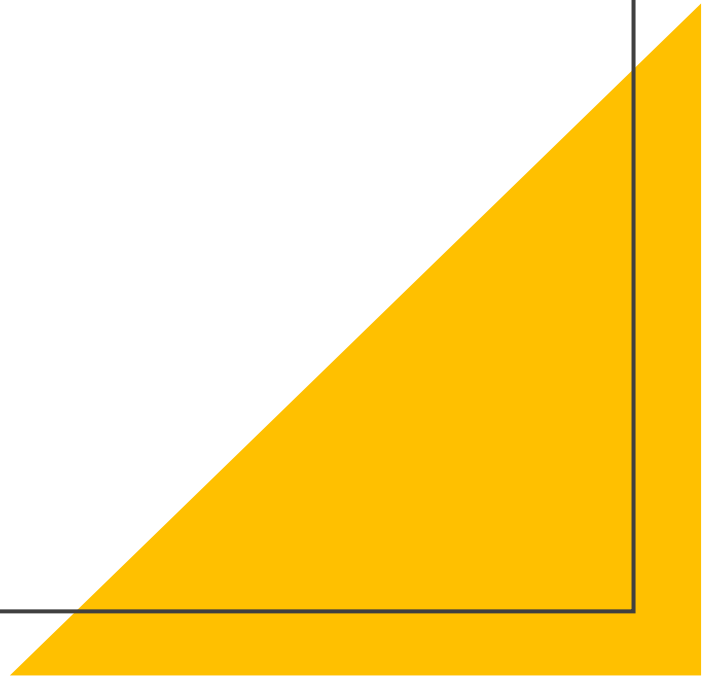
- Food hazards present at the level of primary production should be identified and adequately controlled to ensure the achievement of the public health's protection objectives of Regulation (EC) N° 852/2004 on the hygiene of foodstuffs.
- However, in the case of the direct supply of small quantities of primary products, by the food business operator (FBO) producing them, to the final consumer or to a local retail establishment, it is more appropriate to protect public health through national law, in particular, because of the lower risk due to the close relationship between the FBO and the consumer.
- That is why Regulation (EC) N°852/2004 does not apply to the direct supply, by an FBO, of small quantities of primary products to the final consumer or to local retail establishments directly supplying the final consumer.

DG Sante response

- This exclusion from the scope of that Regulation does not, however, cover production activities carried out before the small quantities of primary products are given to the final consumer or local retailers, namely activities such as rearing, growing, harvesting, washing, sorting, drying, packaging, storage, etc.. For these activities, Regulation (EC) N°852/2004 remains applicable, in particular its Annex I.
- The exclusion applies mainly to the transport of small quantities of primary products to local markets (for direct sale) or to local retail establishments directly supplying the final consumer. It also applies to direct sale activities at the farm level, notably regarding facilities/premises used to sell the primary products to the final consumer. It is important to note that this exclusion does not mean that food safety has not to be guaranteed for these activities and the Member States shall, therefore, establish, under national law, hygienic rules governing them and define what “small quantities” means."

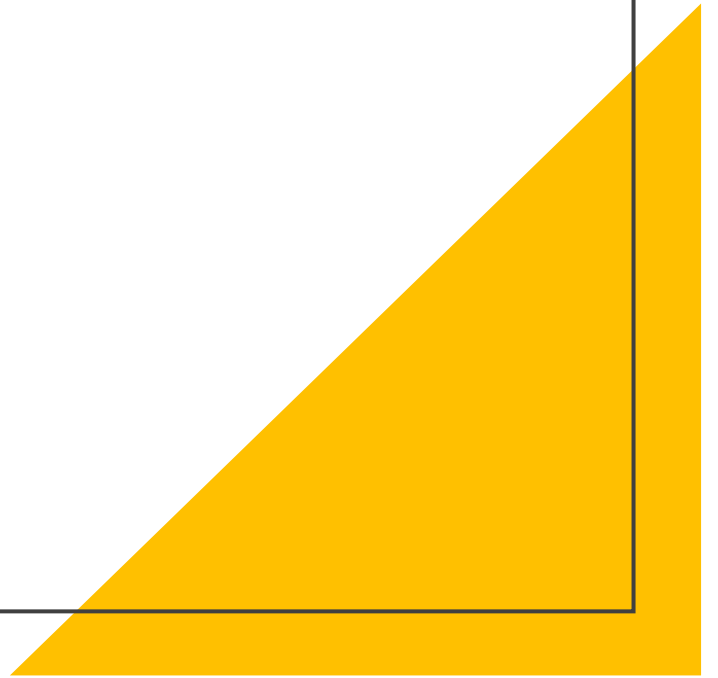


How I think that the
legislation should be
interpreted



Place of Primary Production

- Reg 852 including Annex I applies
- Reg 853 including Annex III applies
- Requires registration
- Should be subject to inspection
- Approval is not required



The 'supply' should be a very narrow scope and should only permit businesses that already produce primary products to the standards laid down in the regulations to sell small quantities of their products direct to the final consumer and local retailers



The exemption should apply to the selling activity but a business will carry out other activities still within the scope

Example – on- farm poultry

Primary production element –

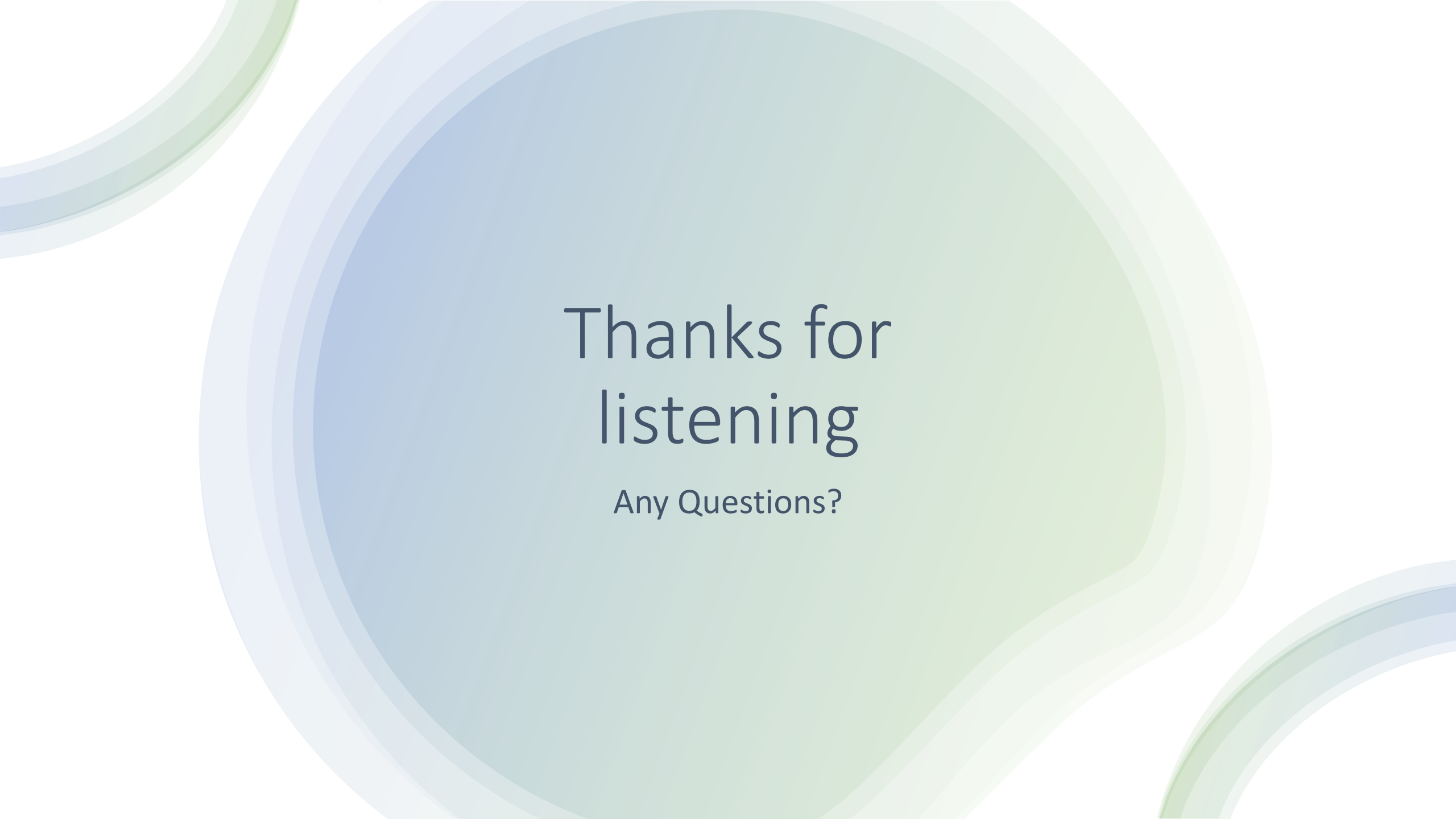
- Reg 853 rules apply.
- Approval not required but registration is
- Reg 852 annex I applies
- HACCP not required

Producing & Selling of meat

- Reg 852 annex II applies to this element
- HACCP required for this element
- Reg 853 unlikely to apply to this element if the supply is only to FC and Local retailers.
- Approval not required
- Additional rules in Sch 5 of FSHR13 will apply

Will the guidance change?

I don't know



Thanks for
listening

Any Questions?