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Evaluation of the EU legislation on food irradiation



Plan of the presentation

- State of play in the EU
- Evaluation methodology
- Findings
 - Relevance
 - Coherence
 - Effectiveness
 - Efficiency
 - EU-added value
- Conclusion





State of play - **EU legislation**

- **Directive 1999/2/EC**

- Authorised sources (gamma rays, X-rays and electron beams)
- Approval of irradiation facilities (in EU and non-EU countries)
- Labelling of irradiated food (incl. food with irradiated ingredients)
- Importation of irradiated food (only from EU-approved facilities)
- Official controls (checks in irradiation facility & marketing stage)
- Reporting (quantities of food irradiated & results of official checks)



State of play - **EU legislation**

- **Directive 1999/2/EC**

- Listing of foods authorised for irradiation
 - Establishment of '**Community initial list**' (Directive 1999/3/EC)
 - Adoption in stages of an '**Extended Community list**'
 - **Transitional measures** before adoption of the extended Community list (= MS may maintain national legislation until then)



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 - **Transitional measures** before adoption of the extended Community list (= MS may maintain national legislation until then)

! 'extended Community list' has not been adopted (2002 resolution of EU Parliament opposing extension)

- Community initial positive list
 - Transitional measures
- } still in force



State of play - EU legislation

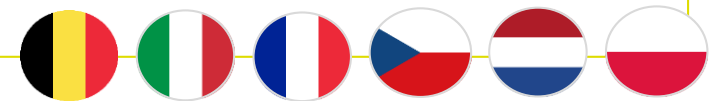
- **Directive 1999/2/EC**

- Listing of foods authorised for irradiation

EU-list (Community initial positive list)
with 1 food : “Dried aromatic herbs,
spices and vegetable seasoning”



National lists with additional
foodstuffs in 6 Member States



- Rules for trade
 - Foods on **EU-list** may be irradiated and traded in all EU Member States. MS are not allowed to ban or restrict their trade
 - **Other irradiated foods** are subject to national legislation. MS may restrict or ban irradiated foodstuffs not included in their national list

List of national authorisations

(categories are simplified)



Onions & Garlic

Potatoes

Poultry meat

Cereals

Egg white

Frozen frog legs

Schrimps

Dried vegetables and fruits

Gum Arabic

Deep frozen aromatic herbs

Rice flour

Casein, caseinates

Dehydrated blood & plasma

Shallots

Pulses

Vegetables

Fruit (incl. fungi, tomato, rhubarb)

Fish and shellfish

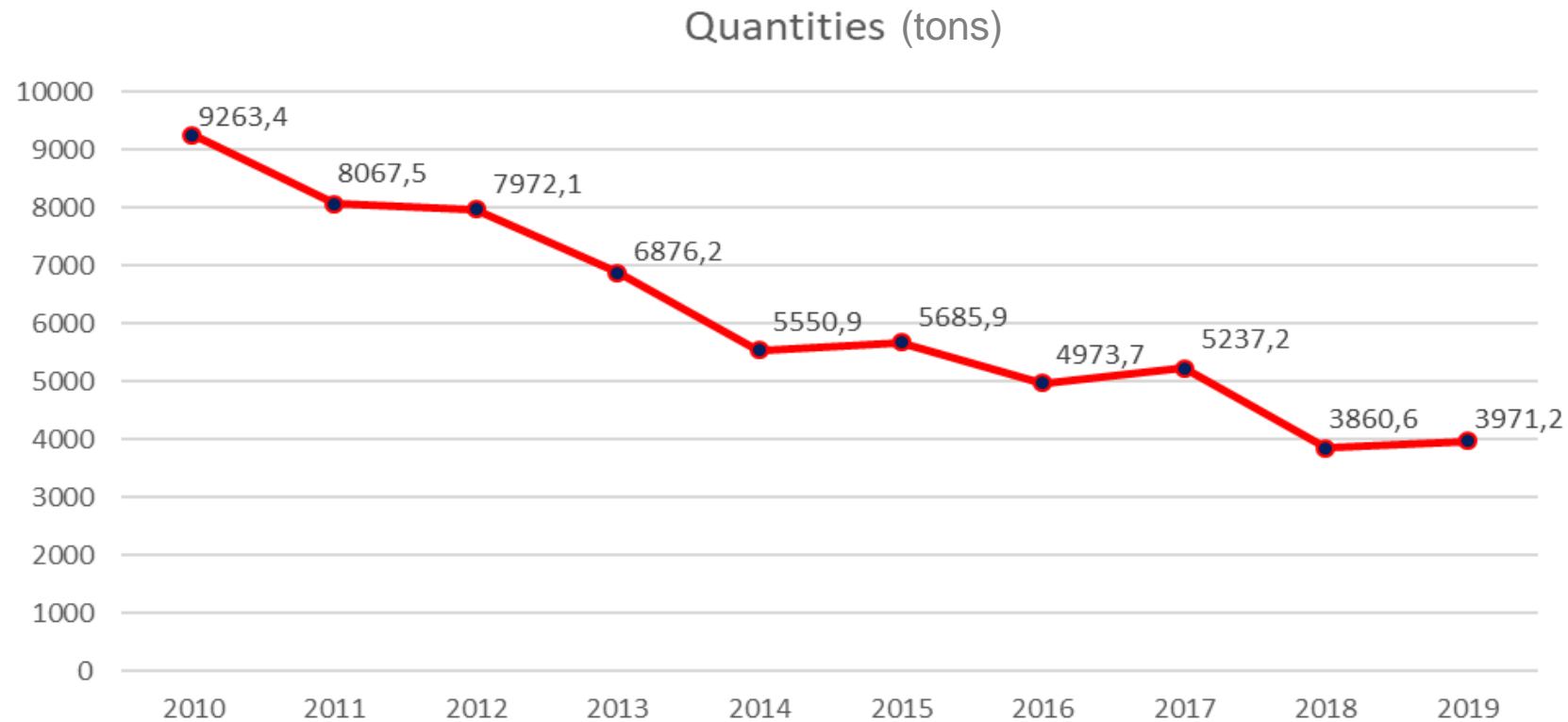


	CZ	BE	FR	NL	IT	PL
Onions & Garlic	Yes	Yes	Yes	No	Yes	Yes
Potatoes	Yes	Yes	No	No	Yes	Yes
Poultry meat	Yes	Yes	Yes	Yes	No	No
Cereals	Yes	Yes	Yes	Yes	No	No
Egg white	Yes	Yes	Yes	Yes	No	No
Frozen frog legs	Yes	Yes	Yes	Yes	No	No
Schrimps	Yes	Yes	Yes	Yes	No	No
Dried vegetables and fruits	Yes	Yes	Yes	Yes	No	No
Gum Arabic	Yes	Yes	Yes	Yes	No	No
Deep frozen aromatic herbs	Yes	Yes	Yes	No	No	No
Rice flour	Yes	Yes	Yes	No	No	No
Casein, caseinates	Yes	Yes	Yes	No	No	No
Dehydrated blood & plasma	Yes	Yes	Yes	No	No	No
Shallots	Yes	Yes	Yes	No	No	No
Pulses	Yes	Yes	No	Yes	No	No
Vegetables	Yes	Yes	No	No	No	No
Fruit (incl. fungi, tomato, rhubarb)	Yes	Yes	No	No	No	No
Fish and shellfish	Yes	Yes	No	No	No	No



State of play - **food irradiation in the EU**

Quantities of foodstuffs treated by ionising radiation in approved irradiation EU facilities within the EU since 2010





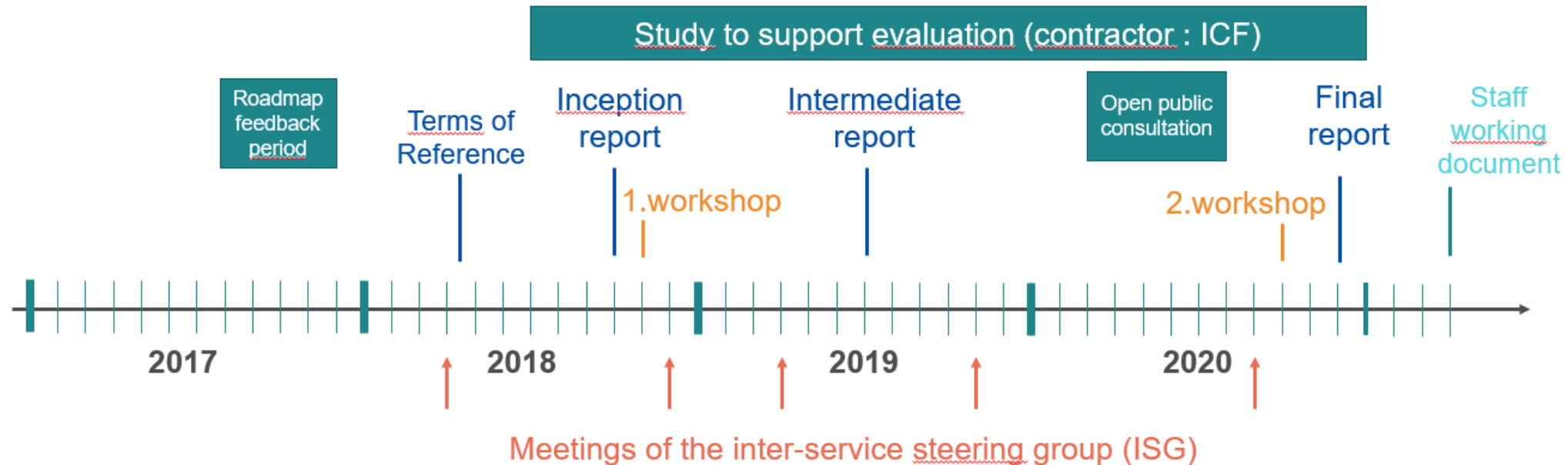
State of play - **food irradiation in the EU**

- Products being irradiated:
 - Frogs' legs **65%**
 - Dried aromatic herbs & spices **20%**
 - Poultry meat **14%**
- Belgium (**80%**)
- 23 approved facilities in 13 MS (but only 10 MS irradiating)
- Official checks (marketing stage) 2018-2019
 - 9 808 samples
 - 83 non compliant (**1%**), 88 non conclusive (**1%**)



Evaluation – **timeline**

- Launch in 2017 - Better Regulation Policy framework
- **5 Criteria:** relevance, effectiveness, efficiency, EU-added value, coherence
- Lead DG SANTE but inter service coordination
- Study to support evaluation by contractor (ICF)





Evaluation – **supporting study**

- Sept. 2018 – Dec 2020
- External, independent, evidence-based study
- Desk research & Consultations
- **5 Case studies** (combination of interviews with industry, competent authorities and experts from various EU countries and the United States)
- **3 Surveys** (NCA, Industry, FBO) & **10 interviews**
- **1 Open Public Consultation**
- **2 stakeholders workshops**



Evaluation – findings



Findings – **Relevance**

Relevance

Coherence

Effectiveness

Efficiency

EU added-value

- **for public health**

Irradiation = established food decontamination technique in EU, relevant to addressing food safety concerns in certain products (e.g. herbs and spices, frog legs)

- **for plant health**

Irradiation has the potential to contribute protecting the EU from phytosanitary risks, although no use for this purpose so far (EU stakeholders prefer other strategies to control for plant pests)

- **for environmental health**

-could not be evaluated- Lack of data on food irradiation's impact as compared to alternative treatment options



Findings – **Relevance**

Relevance

Coherence
Effectiveness
Efficiency
EU added-value

• **Objectives of the Directives**

In line with overall EU objectives (Preserving high level of consumer health protection; Harmonising MS legislation; Ensuring free movement of products within the single market)

But no objectives related to the environmental impact

• **Provisions of the Directives**

Most provisions relevant, but some (technical) ones no longer:

- Approach to doses measuring (overall average absorbed dose rather than minimum / maximum dose)
- Assigning maximum doses to food classes, not taking into account differences in processing



Findings – **Coherence**

Relevance
Coherence
Effectiveness
Efficiency
EU added-value

- **Internal coherence**

No overlap or contradictions between provisions

- **Coherence with EU food legislation**

- No major inconsistencies with the general principles of the food law and hygiene package
- Decontamination = critical point in HACCP approach (validation step, to be approved by competent authorities)
- NGOs & European Parliament expressed concerns that irradiation could be used to mask poor hygiene in production processes (but Directive 1999/2/EC explicitly provide that it should not be the case)



Findings – **Coherence**

Relevance
Coherence
Effectiveness
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EU added-value

- **Coherence with other EU legislations**
 - **Directive 2013/59/EURATOM**
Clear definition of “ionising radiation” (# UV treatment)
 - **Regulation (EU) 2018/848**
Use of irradiation not compatible with organic production
 - **EU legislation on plant health**
Applies together with food irradiation directives when food plant are subject to irradiation for plant health purpose
- **Coherence with international standards**
 - Several stakeholders called for better alignment with Codex Alimentarius (e.g. maximum absorbed dose)



Findings – Effectiveness

Relevance
Coherence
Effectiveness
Efficiency
EU added-value

Provisions of the Directives

Objectives have been met

most effectively / **less effectively** / **not at all**

Sources of irradiation and limits for absorbed doses

**Harmonised requirements but different national interpretations (e.g. UV)
+ concerns on approach for absorbed doses**

Approval of irradiation facilities

Harmonized process. Applies to both EU and non-EU facilities. Lists published by EC

Official controls and reporting obligations

**Official controls mostly effective, but their frequency differs greatly between MS.
Regular data collection and publication**



Findings – Effectiveness

Relevance
Coherence
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EU added-value

Provisions of the Directives

Objectives have been met

most effectively / less effectively / not at all

Listing of foodstuffs authorised for irradiation

Extended EU list has not been adopted

Rules for intra EU trade

**Free movement only ensured for irradiated herbs and spices
For other irradiated food : national legislations (authorisations and bans) prevail**

Rules for import

Requirements for import are considered adequate but concerns regarding their enforcement



Findings – Effectiveness

Relevance
Coherence
Effectiveness
Efficiency
EU added-value

Provisions of the
Directives

Objectives have been met

most effectively / **less effectively** / **not at all**

Labelling

- concerns on enforcement (by import)
- some EU consumers may misunderstand irradiation labelling (take it as a warning)
- critics on labelling requirements applying to all foods with irradiated ingredients, irrespective of their quantity



Findings – **Efficiency**

Relevance
Coherence
Effectiveness
Efficiency
EU added-value

- **Consumers**

Benefits could not be evaluated :

- multitude of intricicated factors & lack of data
- low proportion of irradiated food in EU consumers' diet

- **Environment**

- Benefits also difficult to determine
no comparable information with alternatives

- **Businesses**

- Low direct costs (labelling, inspections, reporting)
- Indirect cost: decrease demand linked to labelling of irradiated foodstuffs



Findings – **Efficiency**

Relevance
Coherence
Effectiveness
Efficiency
EU added-value

- **Decline in the use of irradiation**

- Main factor = concern of FBO that EU consumers will react negatively to food labelled as irradiated (*but no recent evidence demonstrating consumer negative reaction*)
- + legal uncertainty, FBO lack of knowledge, cost in compare to alternative treatment



- **Level playing field for EU & non EU operators**

- EU market: fair competition when requirements at import are met but concerns on gaps in import monitoring
- Export from EU : no level playing field. no equivalence between EU and in non-EU countries





Findings – **EU added-value**

Relevance
Coherence
Effectiveness
Efficiency
EU added-value

- **Harmonisation of legislation (limited)**
Irradiation sources and doses absorbed, labelling, approving irradiation facilities, rule for import, monitoring
- **Different national approaches remain**
List of foodstuffs authorised for irradiation and their trade (+ different emphasis on official controls)
- **Stakeholders support EU intervention**
considering harmonisation benefits the internal market and provides greater legal certainty
- **Phasing out of EU rules** would widen differences in MS legislation & may affect consumers negatively



Conclusion

- Difficulties to secure contributions from certain stakeholders (FBO & NGOs)
 - Lack of knowledge (marginal practice)
 - Perception of food irradiation as ‘controversial’
- Final report of the study delivered in Dec 2020
- Staff working document under preparation (DG-SANTE)
= Basis to identify potential need for changes in legislation
- Report of the study and staff working document will be publicly available (estimate : mid 2021)





Ressources

Annual report of the Commission

https://ec.europa.eu/food/safety/biosafety/irradiation/reports_en

List of EU-approved irradiation facilities

EU facilities

https://ec.europa.eu/food/safety/biosafety/irradiation/approved_establishments_en

Non-EU facilities

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02002D0840-20120524&qid=1607098954360>

National list of foodstuffs authorized for irradiation

[https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52009XC1124\(02\)](https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52009XC1124(02))



IFIS 2021 template

Thanks.



https://ec.europa.eu/food/safety_en

https://ec.europa.eu/food/safety/biosafety/irradiation_en

