



EFFAB
European Forum of
Farm Animal Breeders

FABRE • TP
Farm Animal Breeding
& Reproduction
Technology Platform



Regulatory landscape for NGTs in farm animals: Status in Europe

Ana Granados (EFFAB/FABRE TP)

6th November 2025



Research institutes & academia



Private sector (EFFAB members)



EFFAB and FABRE TP activities

Engaging in dialogue with
policymakers and stakeholders



Advocating for proportionate
and science-based policy and
legislation



Supporting and promoting
responsible animal
breeding through CODE
EFABAR



Promoting and supporting
Research & Innovation



* KNOWLEDGE PROVIDER FOR EU PROJECTS



EU authorities, NGOs and
stakeholders

Members of EFFAB & FABRE TP



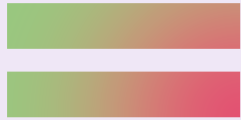
Engaged in transparency



**CODE •
EFABAR**
The commitment
to responsible breeding

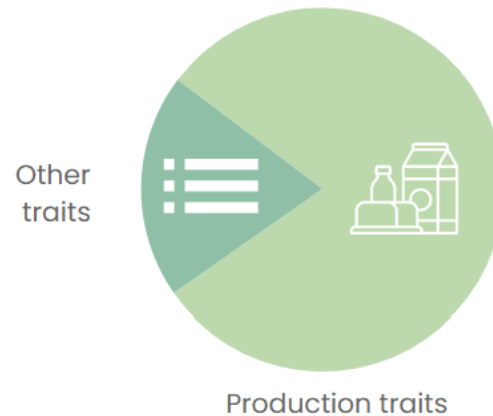


A BREEDING PROGRAM



A BALANCED AND
RESPONSIBLE
COMBINATION OF
MANY DIFFERENT
TRAITS

1970's – 1980's



2000's – Today



The commitments of Animal Breeders for **responsible and balanced breeding** are reflected in **CODE EFABAR** ;
the code of good practices for sustainable animal breeding





Addressing the 3 Pillars of Sustainability and Animal Health and Welfare

1

THE ENVIRONMENTAL BENEFITS OF BREEDING

Methane emissions
reduced
by 1% annually

Nitrogen excretion cut
by 3.5% every 5 years

2

POSITIVELY IMPACTING THE ECONOMICS OF FARMS

30% less feed usage
compared to 30 years ago,
boosting environmental and
economic outcomes

3

SOCIAL IMPACT IN OUR FARMS AND COMMUNITY

High-quality germinal
products and breeding
animals for diverse farming
systems **support farmers'**
livelihoods in European rural
and coastal areas

4

ENHANCING ANIMAL HEALTH AND WELFARE

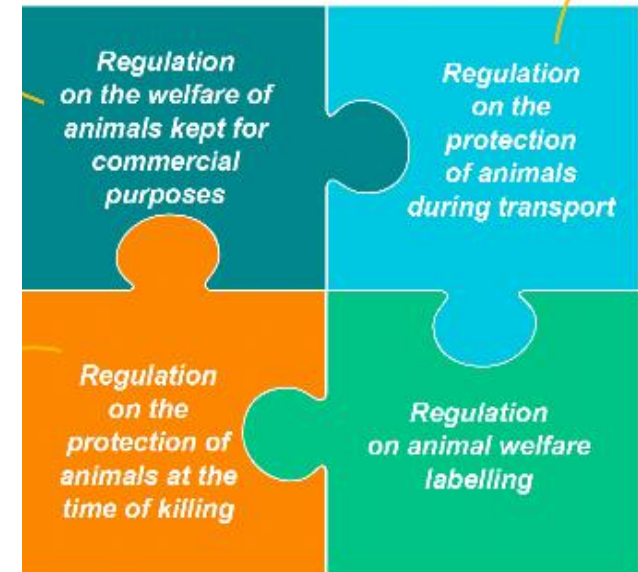
Animal Welfare traits prioritised
Disease resistance enhanced
Antibiotic use reduced





EU Legislative initiatives

LEGISLATIVE INITIATIVES (2019–2024)



LEGISLATIVE INITIATIVES (2024-2029)

EU competitiveness: Looking ahead

DRAGHI REPORT



Strategic Dialogue
on the Future of
EU **Agriculture**



Public hearing
The Common Agricultural Policy post-2027
06/11/2023 | 10:00-13:00 | ROOM JDE62 | EESC | Rue Belliard 99 | 1040 Brussels

Commission launches new Livestock Workstream
as Part of the Vision for Agriculture and Food

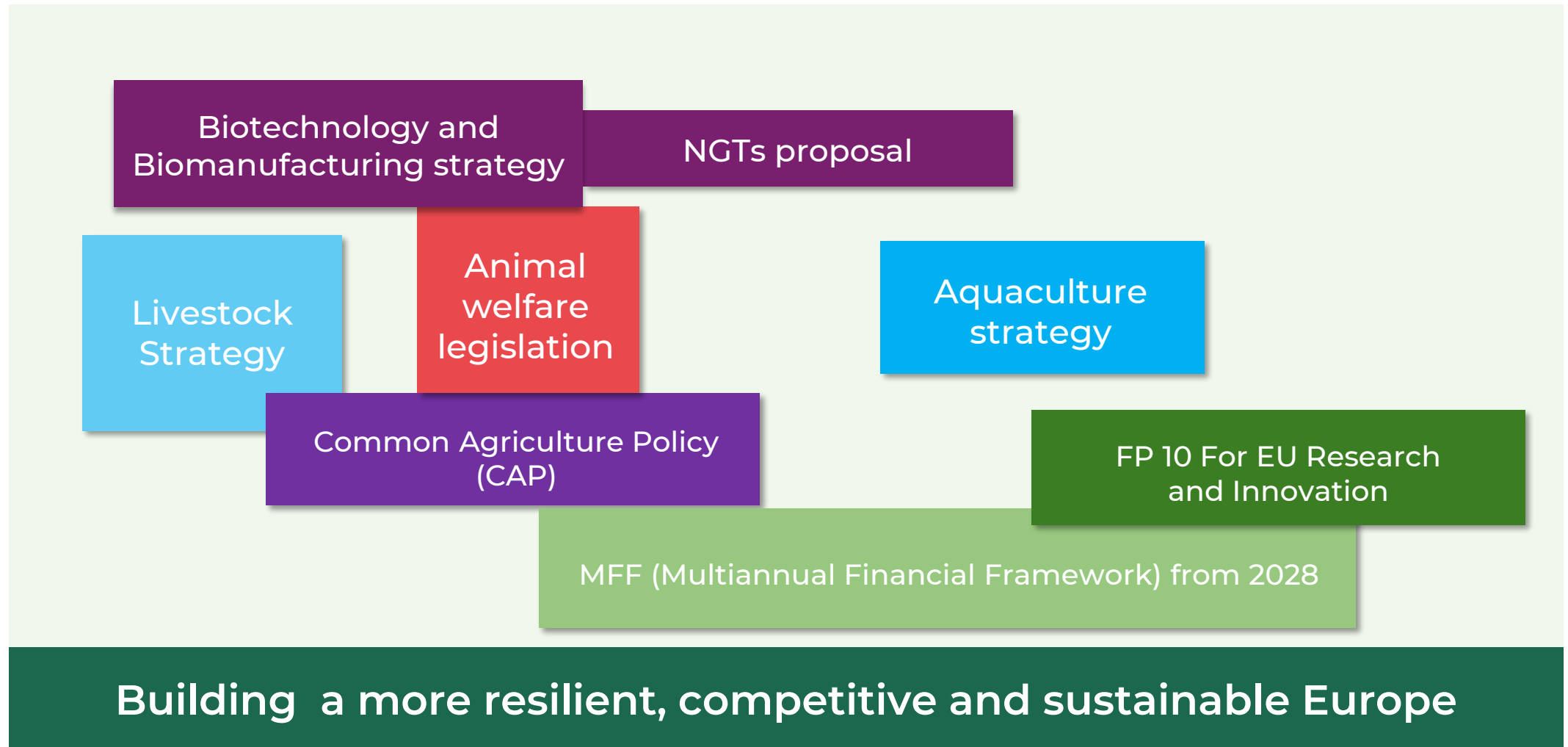


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LEGISLATIVE INITIATIVES (2024-2029)

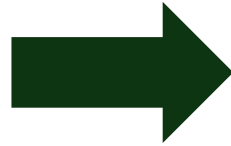


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EU Legislative Process- Triangle of Decision



European Commission
(main Executive Body)
"Promoting the common interest"

*Proposes/ executes
legislation*

Committee of the Regions

**European Economic and
Social Committee (EESC)**

Advisory Roles



European Parliament

European Parliament
(co-deciding power)
"Voice of the People"



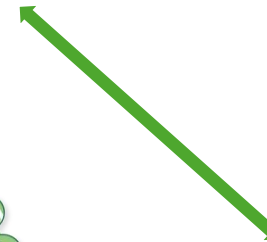
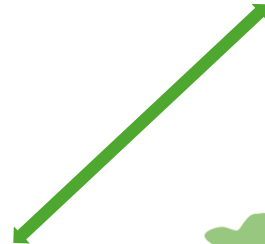
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**Council of the
European Union**

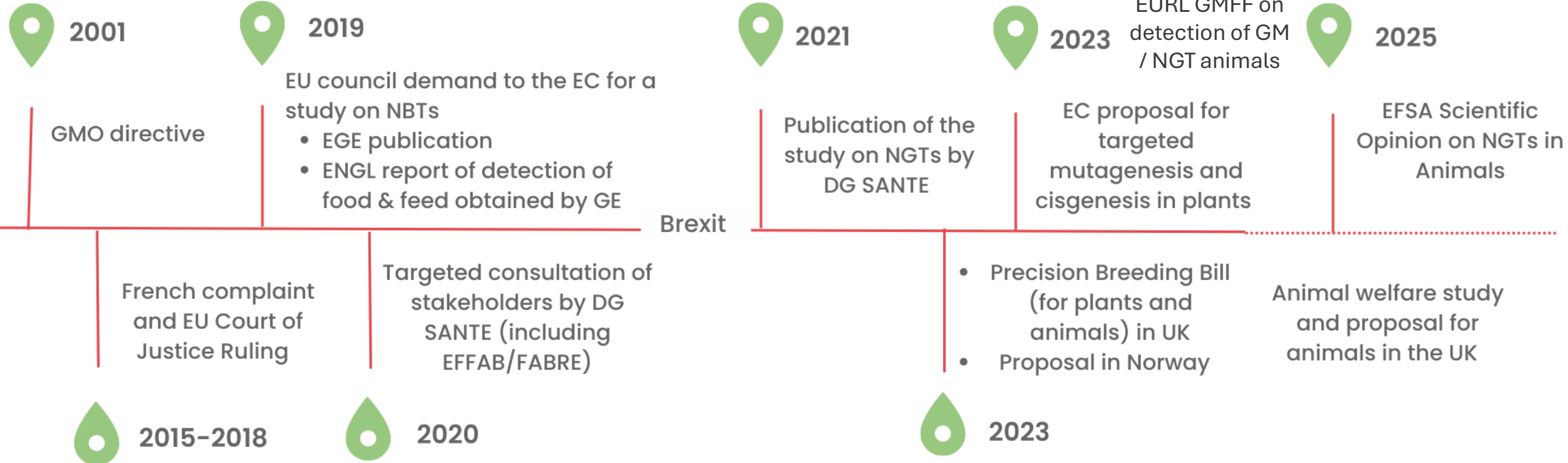
Council of the EU
(co-deciding body)
"Voice of the Member States"





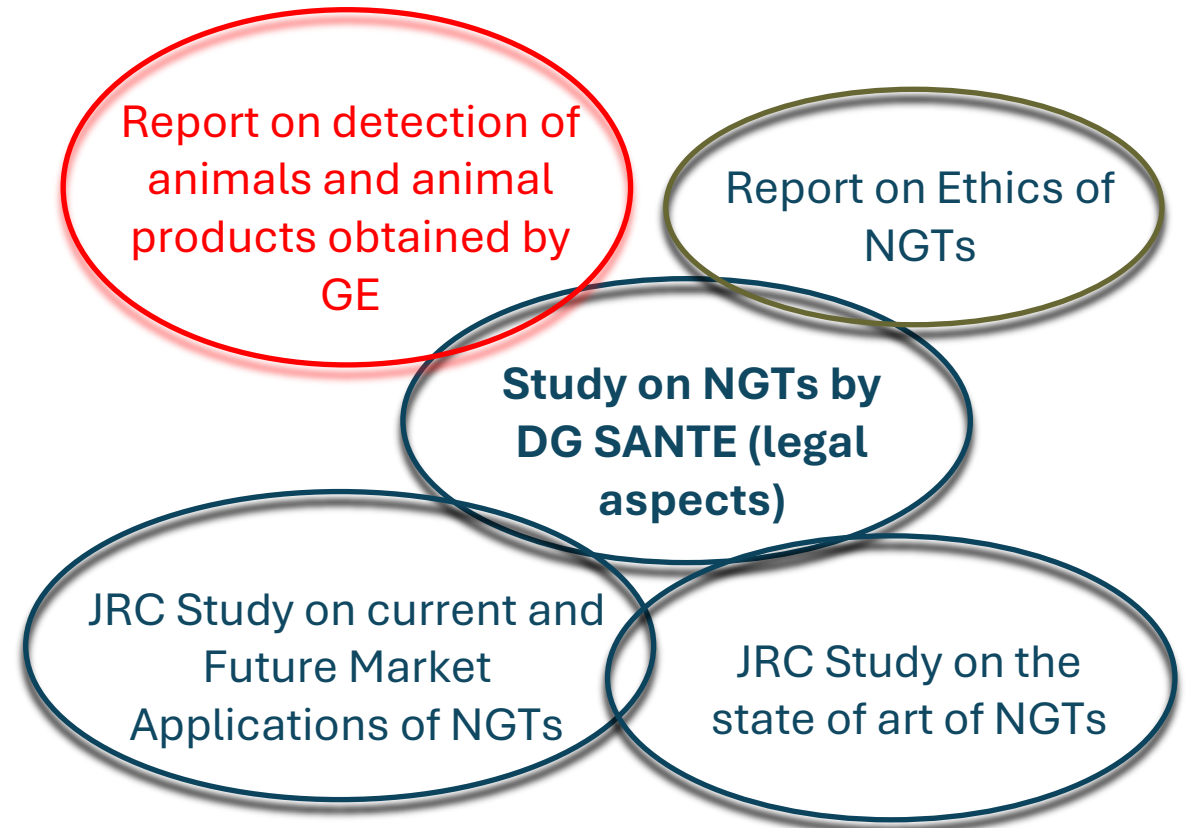
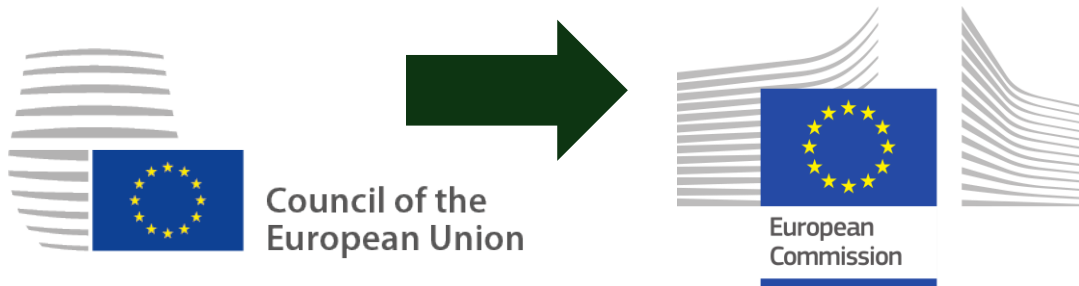
EU NGTs approach

Regulatory landscape for Gene Editing



Objective of the 2021 EU Study on NGTs

- Provide clarity on NGTs after the ruling in 2018 (EU Council request)
- Assist in deciding on any further action in this policy area, if appropriate
- In the political context of the European Green Deal Farm to Fork strategy



EU Legislative context for NGTs

- GMO directive **is not fit for purpose** for some NGTs and products : Current risk assessment procedures are too **rigid** and difficult to adapt to new technologies
- It needs to be **adapted to scientific and technological progress**
- NGTs can contribute to **sustainability**
- Consider an appropriate mechanism to **evaluate benefits** of NGT products
- **Knowledge gaps** identified in this study. More effort should be made to **inform and engage with the public** and assess their views.
- Safety data available for a number of techniques in plants
- **For other organisms (animals) and other NGTs, continue to build up the required scientific knowledge, in view of possible further policy actions**



EU Legislative context for NGTs



The EU Council requested **to submit a proposal or other measures**, if appropriate, as a follow-up to the study

NGTs can contribute to the Green Deal and Farm to Fork objectives of **innovation and sustainability of the food systems**, as well as to a more **competitive economy**, which are at the centre of current priorities of the European Union.

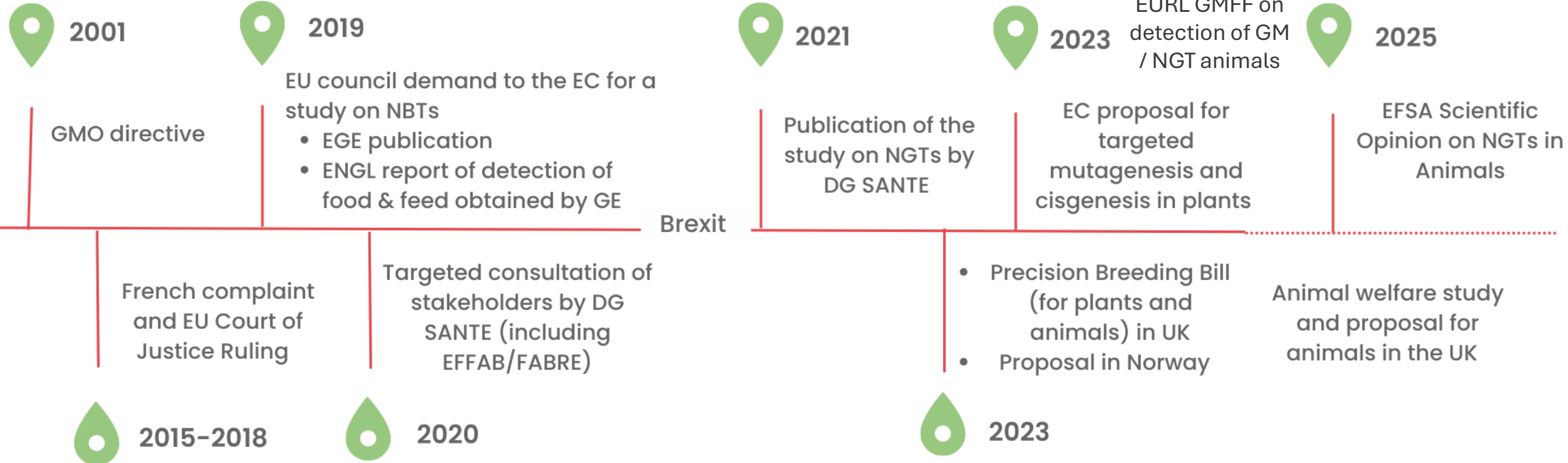
- The Commission published a proposal on plants derived from targeted mutagenesis and cisgenesis

- Impact assessment
- JULY 2023

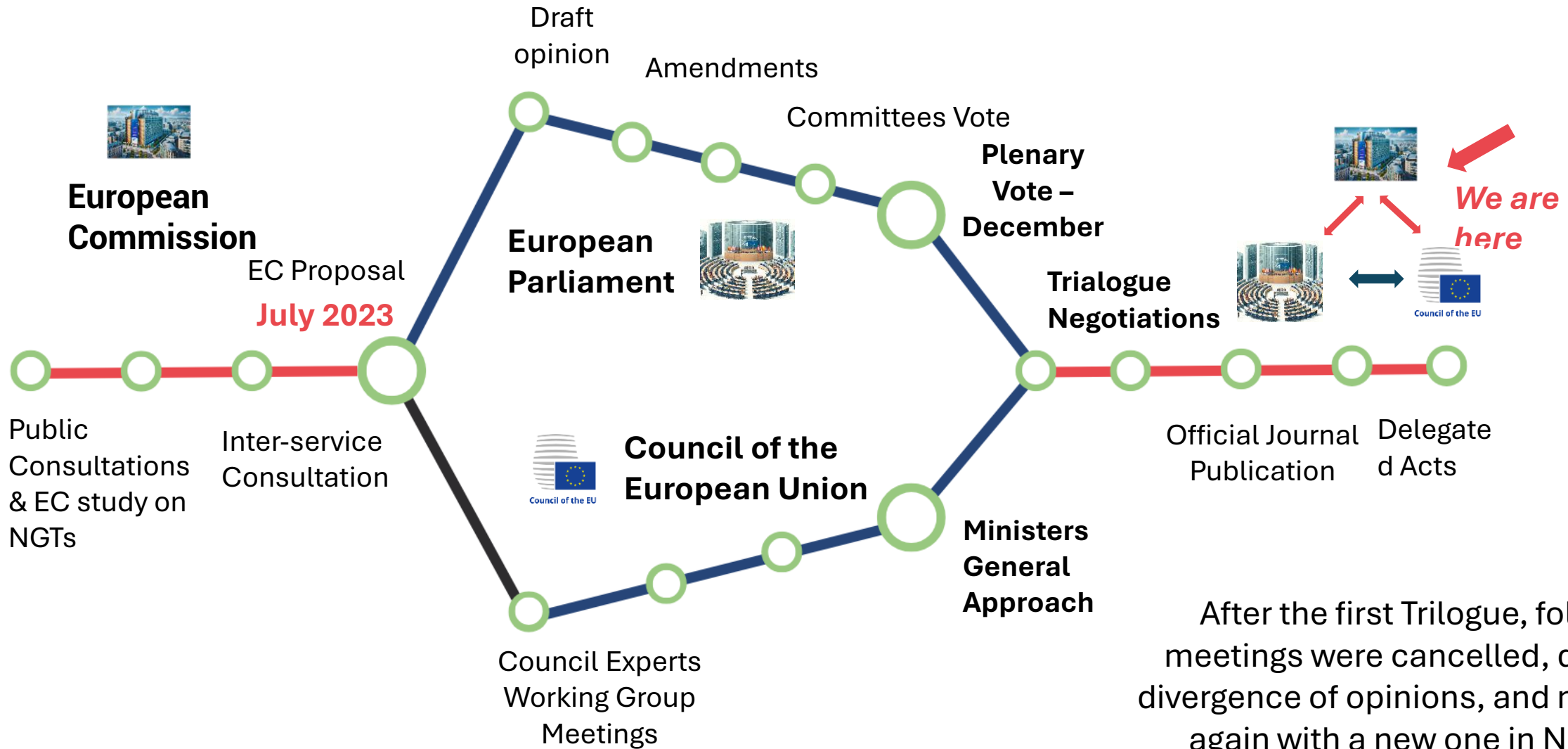
- For other organisms (**animals**) and other NGTs, **continue to build up the required scientific knowledge, in view of possible further policy actions**



Regulatory landscape for Gene Editing



NGTs in plants in the EU





EFSA Scientific Opinion on NGTs in farm animals

Current Status in the EU for farm animals

Strict separation between risk assessment and risk management

European Food Safety Authority



- Guidance on the risk assessment of food and feed from GM animals and AHAW aspects (2012)
- Guidance on the environmental risk assessment of GM animals (2013)

European Commission & Member States

- Authorisation: EU Commission
- Enforcement: Member States

No animal applications received so far
NGT/GE animals = GM animals (legal definition)

EC Mandate on NGTs applied to animals



Risk management



Risk assessment

1. to identify potential novel hazards/risks from new developments in biotechnology applied to current and near-market animals
2. to assess the adequacy of the current EFSA risk assessment guidance covering all aspects of molecular characterisation, food feed safety & welfare and environmental impact

Public
consultation

Dec 2022

Sept 2023

Jan-March 2025

August 2025



Part 1. Mapping of
known cases of
“NGTs” applied to
animals for agri, food
& feed uses

Part 2. EFSA Scientific
opinion on “NGTs”
applied to animals for
agri, food and feed
purposes, covering
aspects of MC, FF,
AHAW and ERA risk
assessment

EC Mandate on NGTs
applied to animals

EFSA Scientific Opinion: definitions

- **ETGs : established genomic techniques** (before the publication of Directive 2001/18/EC) (“GMO directive”)
- **NGTs: new genomic techniques** (after the publication of Directive 2001/18/EC)
 - *targeted mutagenesis (e.g. SDN-1 or SDN-2 to induce nucleotide modification, insertion, deletion or inversion) and*
 - *targeted insertion of a DNA cassette encoding a transgene, intragene or cisgene of interest. (e.g.: SDN-3)*
- **Conventional breeding**

EFFAB and FABRE TP GE potential applications

- Porcine Reproductive Respiratory Syndrome (PRRS)
- Foot and mouth disease
- Avian influenza
- Sexing in ovo
- Sea lice resistance
- Infectious anaemia
- Classical swine fever
- Bovine tuberculosis
- Hornless cattle
- Sterile fish to avoid mixing with wild species
- Heat stress

Precision engineering for PRRSV resistance in pigs: Macrophages from genome edited pigs lacking CD163 SRCR5 domain are fully resistant to both PRRSV genotypes while maintaining biological function

Christine Burkard, Simon G. Lillico, Elizabeth Reid, Ben Jackson, Alan J. Mileham, Tahar Ait-Ali, C. Bruce A. Whitelaw, Alan L. Archibald

Published: February 23, 2017 • <https://doi.org/10.1371/journal.ppat.1006206>

CrispResist

Harnessing cross-species variation in sea lice resistance



A Sterile Solution: How Crispr Could Protect Wild Salmon

Partners in research

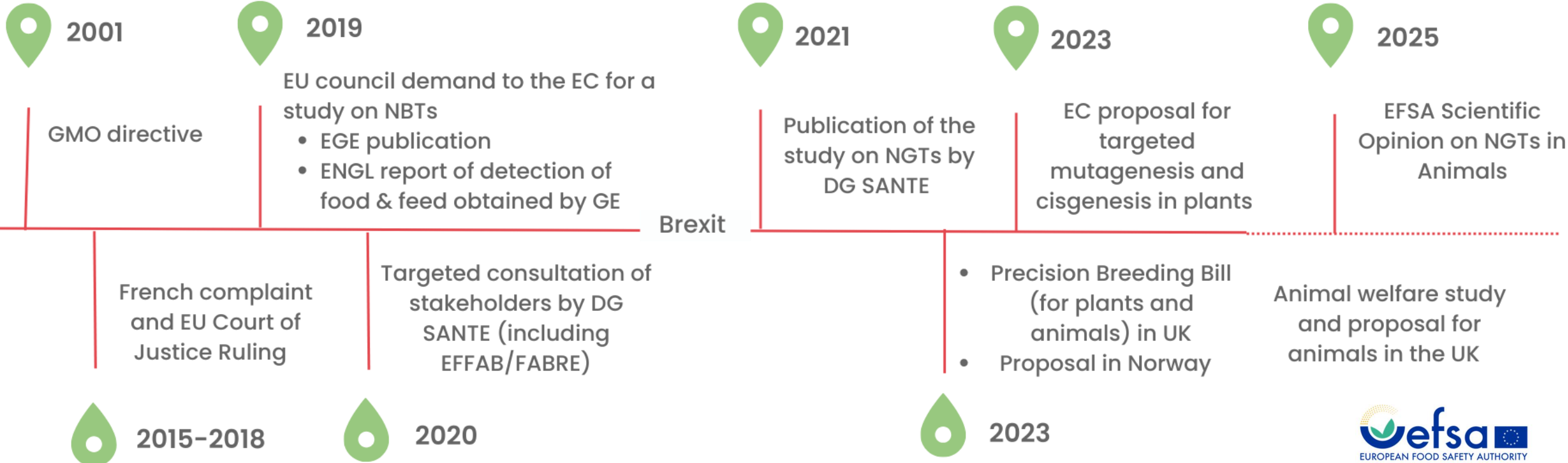
Published on June 30, 2022



New partnership to study innovative sex sorting technology for the egg laying industry

Hendrix Genetics is partnering with Australia's national science agency, CSIRO, to test the viability of an innovative point of lay sex sorting technology for the egg laying industry.

European Regulatory landscape for Gene Editing



- Animal welfare assessment?
- EU and UK plant legislation

In Summary:

- The EU plant proposal opens opportunities for farm animals
- EFSA Scientific opinion →
 - to update EFSA guidelines?
- Challenges for traceability and labelling, which remain as defined in current legislation
- EFSA welfare Scientific Opinions
- Collaboration at the International level is key → 6th IWRAAAB – Nov 2025





THANK YOU

If you have any questions our door is always open

Please get in touch with us at ana.granados@effab.info
geena.cartick@effab.info & Barbara.barbosa@effab.info
or through our social media channels



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