

New genetic engineering (NGT) Deregulation & Consequences for Organic Farming

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Overview

1. Basics: Laws, Statutes and Guidelines
2. Proposal of the EU Commission for the deregulation of NGT
3. Effects of the planned deregulation of NGT
4. Perspectives / Fields of Action
5. Organic breeding

1. Basics: Laws, Statutes and Guidelines

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Organic farming – without genetic engineering!

EU Organic Regulation 2018 / 48

Guidelines of organic associations

IFOAM - Standards

Organic farming – without genetic engineering!

EU Organic Regulation 2018 /
48

Article 5

Organic production is a sustainable management system based on the following general principles:

(f) the appropriate design and management of biological processes based on ecological systems and the use of natural resources within the system and according to methods to which the following applies:

(3) no use of GMOs and products produced from or by GMOs, with the exception of veterinary medicinal products;

(4) Carrying out risk assessments and, where appropriate, carrying out precautionary and preventive measures.

Organic farming – without genetic engineering!

Naturland guidelines

Guidelines for organic associations

3. Non-use of GMOs and GMO derivatives

Genetically modified organisms (GMOs) and their derivatives are incompatible with organic farming.

Products produced in accordance with the Naturland guidelines must therefore be manufactured along the entire production and value chain ***without the use of genetically modified organisms (GMOs)*** and/or GMO derivatives.

The definition in Article 2 of Directive 2001/18/EC of the European Parliament and of the Council, as well as the exclusion criteria for genetic engineering of Regulation (EU) 2018/848 and the subsequent legal acts in the respectively valid version shall apply.

Organic farming – without genetic engineering!

IFOAM - Standards

2.3 Inappropriate technologies - General principle

Organic farming is based on the precautionary principle and avoids significant risks by using appropriate technologies and rejecting unpredictable technologies.

2.3.1 The deliberate use or negligent introduction of genetically modified organisms or their derivatives is prohibited.

This includes animals, ***seeds, propagating material***, feed and inputs such as fertilisers, soil conditioners or plant protective agents, but vaccines are excluded.

Organic farming – without genetic engineering!

Matter of attitude!

IFOAM - Standards

- **Principle of Health:**

Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible.

→ Serving the wholeness and integrity of life systems (immunity, resilience, regeneration, sustainability).

- **Principle of Ecology:**

Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.

→ Support for the functionality and diversity of site-specific, ecological production systems.

Organic farming – without genetic engineering!

Matter of attitude!

IFOAM - Standards

- **Principle of Fairness:**

Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities.

→ serve the values of equality, respect and justice in responsibility for our common world.

- **Principle of Care:**

Organic Agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

→ increase efficiency and productivity in a precautionary and responsible manner.

→ abstain from techniques that intervene directly at the DNA level.

2. Proposal of the EU Commission for the deregulation of NGT

Proposal of the EU Commission for the deregulation of NGT

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on plants obtained by certain new genomic techniques

and their food and feed, and amending Regulation (EU) 2017/625

Brussels, 5.7.2023

Proposal of the EU Commission for the deregulation of NGT

Reasons for and objectives of the proposal

- New genomic techniques (NGTs) provide new opportunities to alter the genetic material of an organism allowing the rapid development of plant varieties with specific characteristics.
- In many cases, these new techniques can lead to more targeted and precise modifications to the genome than conventional breeding or established genomic techniques, ***and these modifications could or could not be produced in nature or obtained by conventional breeding methods.***

Proposal of the EU Commission for the deregulation of NGT

General objectives

- ***maintaining a high level of protection of human and animal health and of the environment, in accordance with the precautionary principle;***
- enable the development and placing on the market of plants and plant products contributing to the ***innovation and sustainability objectives*** of the “European Green Deal” and of the “Farm to Fork” Strategy and Biodiversity Strategies;
- ensure the effective functioning of the internal market in NGT plants and products,..... and ***enhance the competitiveness of the Union agri-food sector*** at the Union and global levels, including a level-playing field for operators.

Proposal of the EU Commission for the deregulation of NGT

Specific objectives

- *procedures for the deliberate release and placing on the market ensure, that NGT crops and their food and feed are as safe as their conventional counterparts, while not creating unnecessary regulatory burdens;*
- NGT plants released and placing on the market feature traits that can contribute to a sustainable agri-food system.

Proposal of the EU Commission for the deregulation of NGT

1.b) Core elements

Current Union legislation on GMOs
(Directive 2001/18/EC)
is an EU directive



Implementation into national law by member states (MS) with the possibility of modification (e.g. opt-out rule)

change towards a
Regulation



Immediate implementation by MS
without the possibility of modification

New risk assessment
for products
from NGT process



Dividing the NGT into two groups, which are to be deregulated differently

(Transgenic engineering remains regulated as before in the existing release directive).

Proposal of the EU Commission for the deregulation of NGT

Category 1 (CAT 1)

- Are considered *equivalent to plants from conventional breeding or could also occur in nature*.
- Changes are allowed at up to 20 locations in the genome.
- No more GT approval procedure (*no risk assessment*).
- Are to go through the normal variety registration process (DUS/VSCU).
- Must be listed in a publicly accessible database, with a note of the change (redactions are possible due to confidentiality).

Proposal of the EU Commission for the deregulation of NGT

Category 1 (CAT 1)

- **Should remain *banned for organic farming*.**
- **Must be *labeled up to the seed packaging*, then no more.**
- **Declaration that the varieties should belong to CAT 1 shall come from the companies and is "technically" verified by the authorities;
→ which means: the documents are checked for plausibility.**

Proposal of the EU Commission for the deregulation of NGT

Category 2 (CAT 2)

Will **not be equated** to conventional breeding with achievable changes

→ must continue to be labelled as GMOs in the market.

Get an **"adapted"** test procedure:

- **Reduced risk assessment**, but still traceability.
- However, the obligation to present the verification procedure is lifted if it is credibly assured that it is not technically possible.

Monitoring for environmental impacts minimized

(not necessary if there is "probably" no risk).

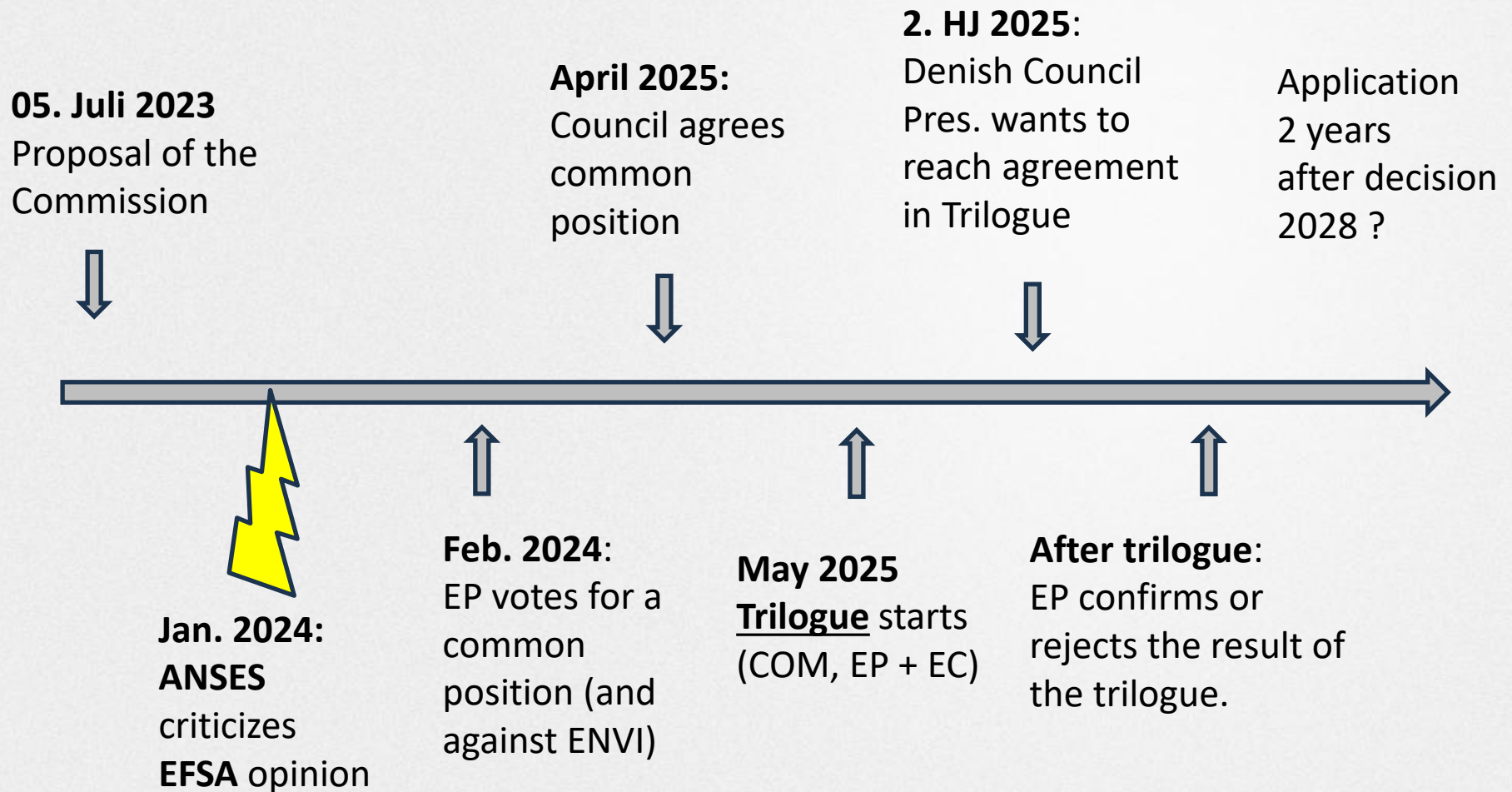
Proposal of the EU Commission for the deregulation of NGT

Category 2 (CAT 2)

- Are intended to make a significant contribution to the sustainability of agriculture (Attention! new in seed law: VSCU "sustainability").
- No opt-out possible for MS either, but obligation to create coexistence rules.
- Advice to applicants by the authorities on risk hypotheses.

Proposal of the EU Commission for the deregulation of NGT

Process to date / Outlook:



Tilogue negotiations – EP and EC positions

ENVI- Committee (Rapporteur J. Polfjärd)

(supported by industry (EUROSEEDS) and European farmers' associations (COPA-COGECA):

As proposed by the Commission, but ***no ban on NGT in organic farming and no labelling on seed packaging.***

EU Parliament:

- As proposed by the Commission, i.e. with a ban on NGT in organic farming (7 years, then evaluation) and labelling on seed packaging,
- ***plus labeling of the end product.***
- ***The question of patents should be solved!***

EU-Council (Agriculture ministers of MS)

- As proposed by the Commission, i.e. with a ban on NGT in organic farming (7 years, then evaluation) and labelling on seed packaging,
- Coexistence measures or opt-out possibility for member states to NGT 2
- Special measures in special areas (e.g. Mediterranean islands) to avoid unwanted NGT presence in organic farming.
- Patents of NGT 1 are to be made public.

3. Impact of the planned Deregulation of NGT

Effects of the planned deregulation of NGT

Lack of risk assessments → no knowledge of effects on the environment, animals, plants and humans or ecosystems → ***Outcrossing possible / Genedrive***

Coexistence issues → ***Contamination possible***

- Intercrossings (culture-specific!)
- in the further process (harvesting, transport, ...)
- Lack of liability rules: → Damage remains with the injured party!
- High costs for GMO-free seed work for protection expenses.

Patents → Restrictions due to licensing obligations from cultivation to trade to breeding.
 → Restrictions on starting material for non-GMO breeding work,
 → Risk of patent infringement, high costs
 → ***further market concentration!*** → ***Loss of agrobiodiversity***

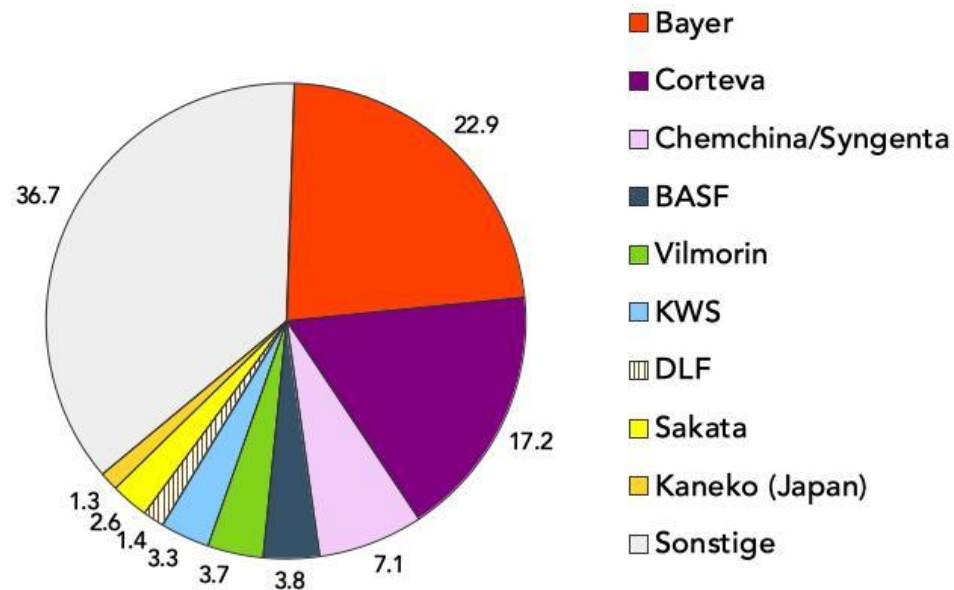
Dependencies on conventional breeding companies

→ ***Availability of varieties for organic farming will decrease!***

Effects of the planned deregulation of NGT

Dependence!

Global Seed Market
(2020, in %)



Konzentrationsrate:
CR 2 = 40,1
CR 4 = 51,9
CR 6 = 58,0

Quelle: ETC Group 2022

The 6 largest companies are controlling 58 % of the global seed market.

Effects of the planned deregulation of NGT

Patents !

Traditional plant breeding and food security at risk!

according to recent research by ***No Patents on Seeds!*** more than **1,000 conventionally bred plant varieties** are already affected by European patents! ***And this despite the fact that the patenting of plants and animals in the EU is explicitly excluded from the European Patent Directive!***

In connection with new genetic engineering, the situation will become even more acute, since, according to the Commission, these are or should be "***technical innovations***" quite legally.

→ Patenting cannot be prevented under the current legal framework.

More than 150 patents have already been applied at the European Patent Office for processes and results by and with NGT.

4. Perspectives and fields of action

Demands of the Umbrella Association for Organic Plant Breeding, BOELW and IFOAM EU:

In order to enable a minimum level of coexistence, the following is still needed for all varieties/plants from GMO/NGT processes:

1. adequate risk management;
2. continuous labelling of GMO/NGT seeds and products resulting from them across the entire value chain;
3. suitable detection methods to ensure that seed production and breeding are GMO-free;
4. Protection against the negative effects of patents.

Perspectives -- Fields of Action

Problem area: coexistence

- a) Political decision-making process
Influencing national politics (Ministry of Agriculture, MEPs) in order to achieve improvements to the COM proposal in the trilogue.
- b) Develop a catalogue of measures to **prevent contamination** or unintentional use of NGT (update BioXgen):
- Supporting cooperation between different organisations;
 - Cooperation with Processing + Trade;
 - Ideas on situation, if provability exists;
 - Information concept towards consumers on the difference between **Free-from-genetic engineering and working-without-genetic engineering**.

Current: BOELW expert working group "Organic without NGT" founded

Perspectives -- Fields of Action

Problem: Dependence

Problem area: *Breeding:*

- the new genetic engineering methods will be increasingly used in conventional breeding.
- Varieties developed using these methods are not allowed to be used in organic farming.
- No organic seeds can be offered from these varieties.



Without active countermeasures, a shortage of varieties for organic farming is to be expected!

Perspectives -- Fields of Action

Detachment from dependency

Original area of responsibility of the entire organic sector!

- **Integration of processing and trade into the responsibility of the variety selection.** → If necessary, change of variety and supplier.
→ **Don't leave farmers alone with the problem!**
- Contact with conventional breeders, companies and seed trade
Safeguarding GMO-free existing varieties and securing GMO-free new variety development.
- → Seek dialogue with organizations to solve the problem: Association of German Plant Breeders, Farmers' Association, etc.
→ Reference to the importance of the organic market!

Perspectives -- Fields of Action

Detachment from dependency

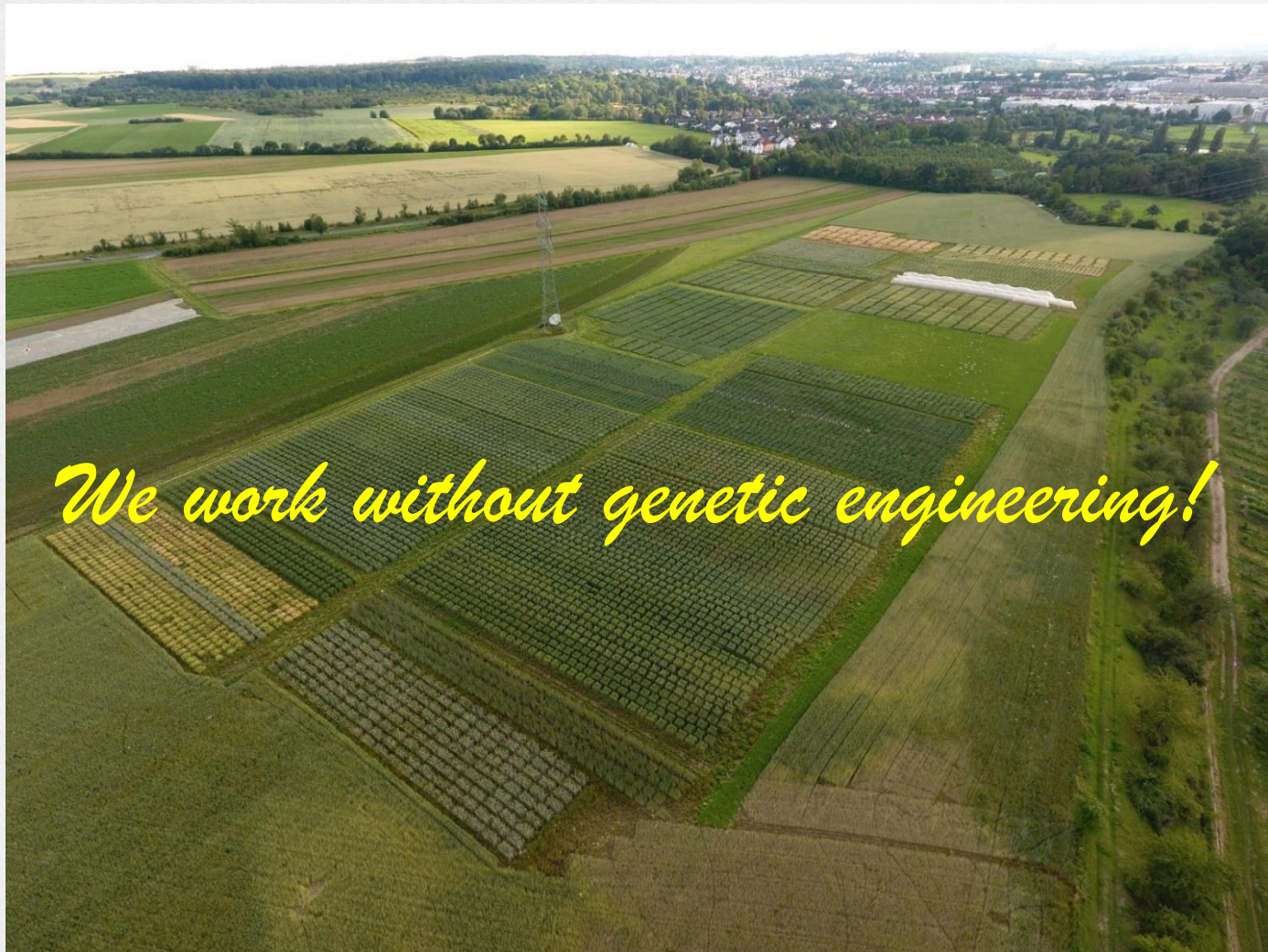
Consequence: → *strengthen own breeding of the organic sector!*

- Testing and use of varieties from organic breeding,
- Forging partnerships!
- Support for organic variety development!

Organic seeds of organic varieties from certified organic breeding offer the guarantee for the 100% implementation of consistent organic agriculture - and in the future also for GMO-free.

5. Organic breeding

Organic breeding



- The genome is respected as the smallest indivisible unit.
→ physical and technical interventions in the plant genome are excluded.
- The cell is respected as an indivisible, smallest functioning unit of life.
→ physical-technical interventions in isolated cells on culture medium are excluded.
- The ability of a variety to reproduce itself in a species-appropriate manner must be preserved.
→ Techniques that prevent natural fertility are excluded.
- The development of genetic diversity is carried out within natural crossbreeding.

- A variety must be usable for further variety development and seed propagation.

- Farmers must be able to produce their own seeds.
- Breeders' and farmers' privileges must be secured, patents are excluded!



- The principles of organic farming (health, ecology, fairness, care) and are the guidelines of breeding activities.
- All breeding measures (with the exception of meristem culture) take place under certified ecological conditions.

- Strengthening organic plant breeding as a way out of dependency.
- Expansion of Organic Plant Breeding to more crops, more breeders (perspectives, training...) Cooperation with universities.
- Expansion of breeding sites and acquisition of further locations.
- Strengthening cooperation with research institutes (participatory approaches)
- Securing and preserving plant genetic resources
(*in-situ* = gene banks and *ex-situ* = on-farm conservation)
as starting material for breeding;
→ Establish funding opportunities.

Organic breeding

Tasks:

- Supporting organic farmers in the introduction and use of organic varieties.
- Marketing concepts
- Quality instead of quantity.



Identification of
organic breeding
at the point of sale

Development and implementation of
financing models for organic breeding.



BioSaar is currently developing a new
model for a fair reproduction
partnership.

More information here:
biosaat.eu/nachbaupartnerschaft



New genetic engineering – without alternative?

Our answer is:

"We are taking breeding into our own hands!"

Organic breeding
for organic farming without genetic
engineering!





Thank you for your attention!