



NGT



PRM



SUR



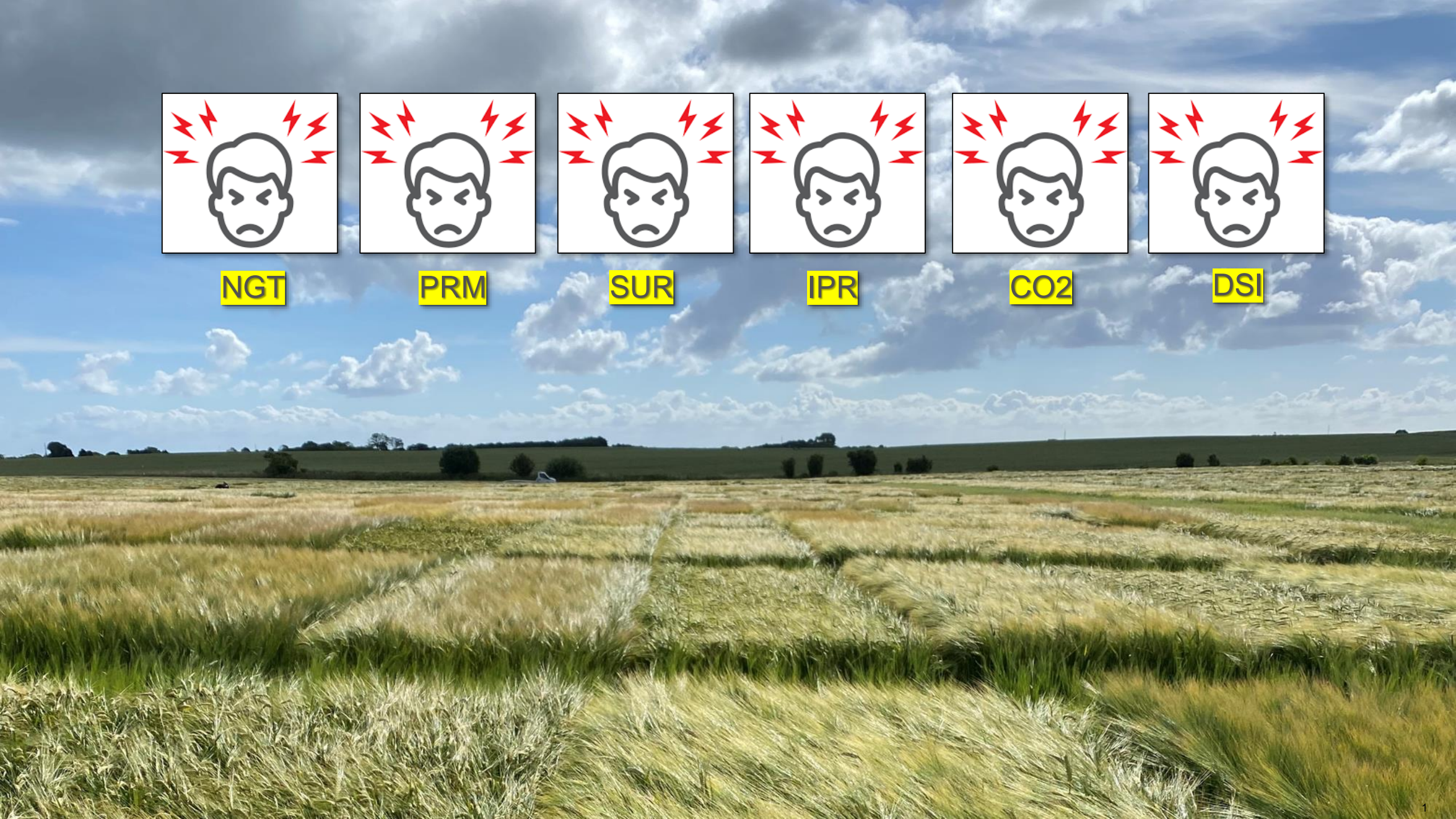
IPR

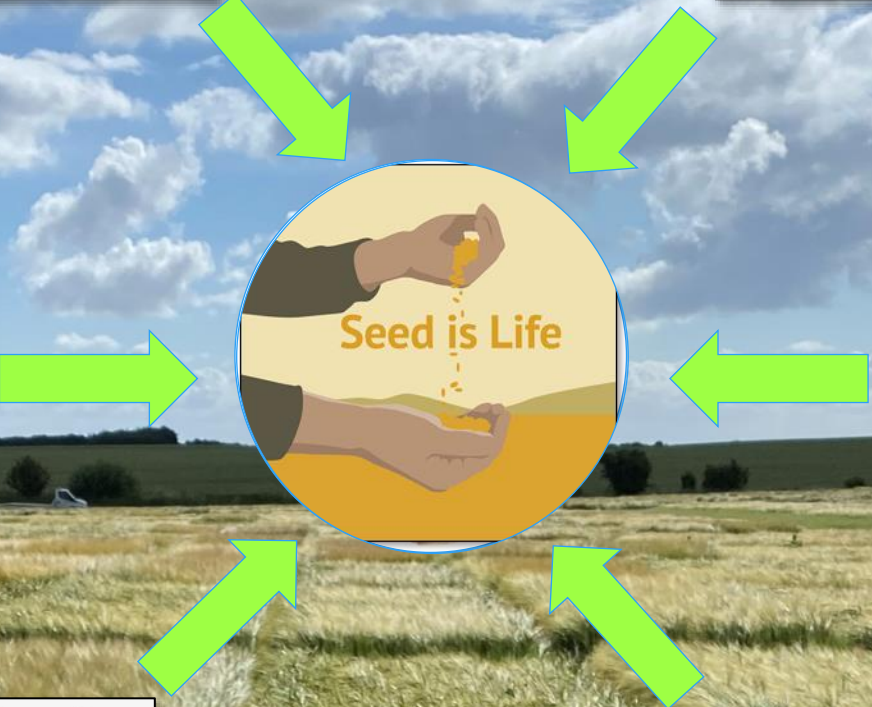
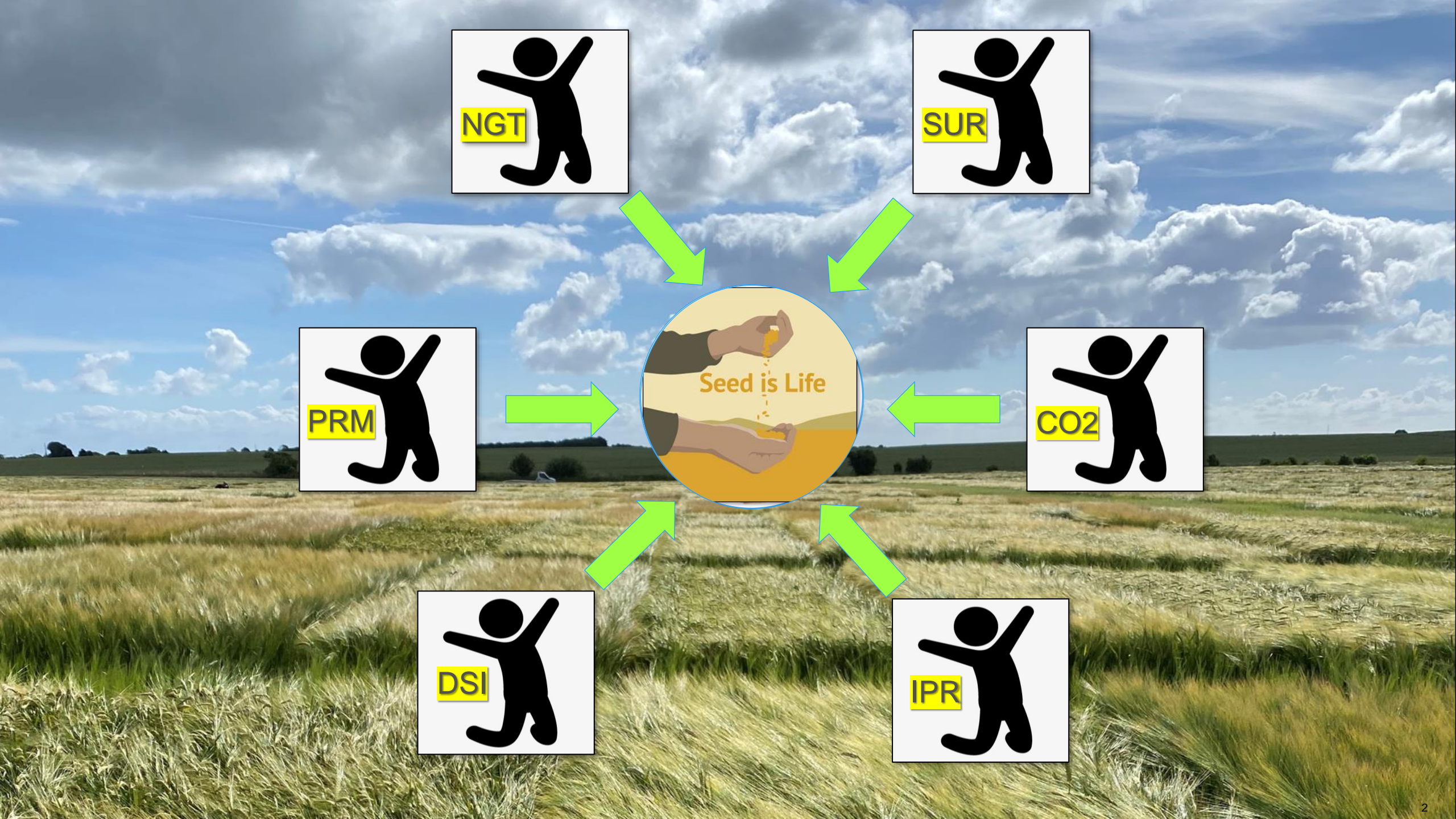


CO2



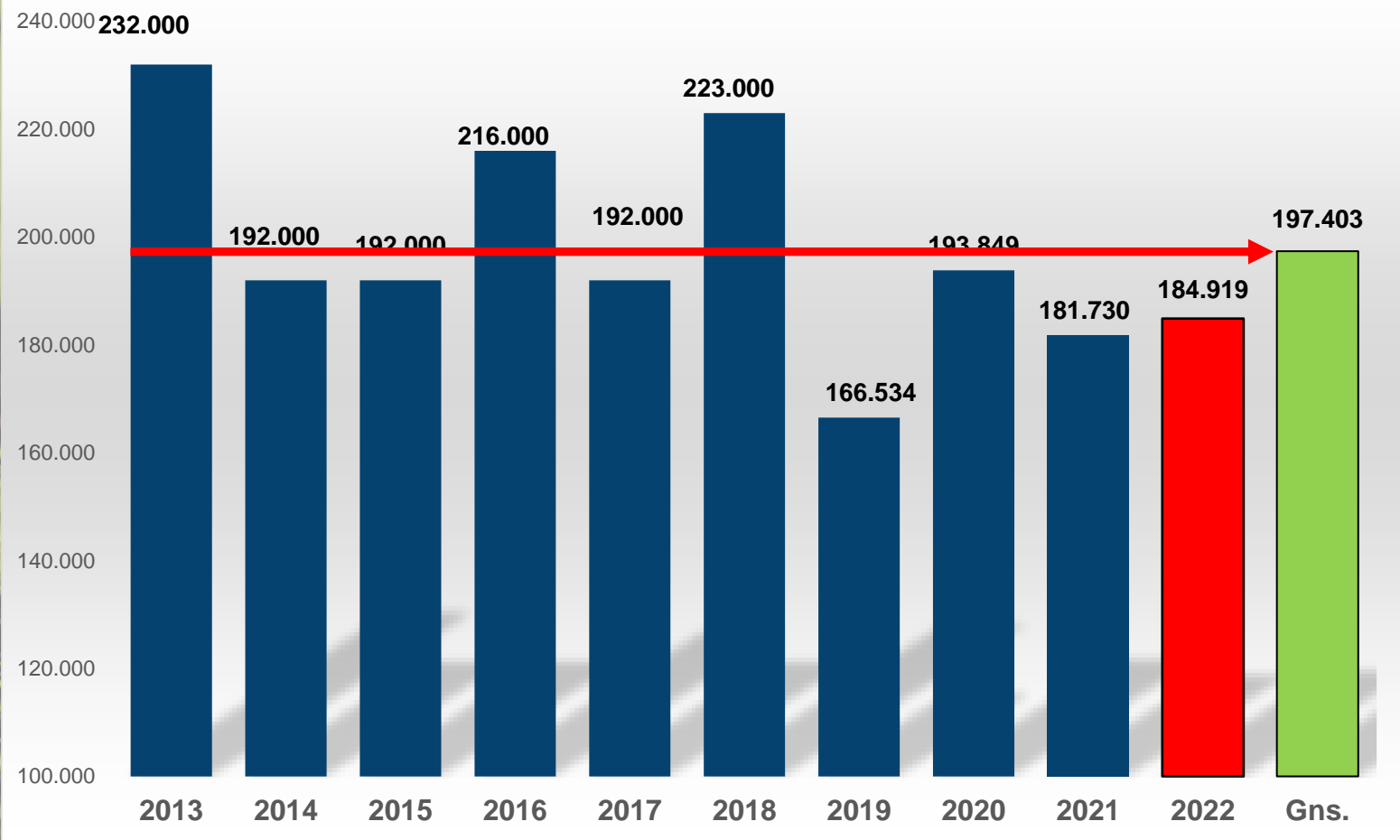
DSI





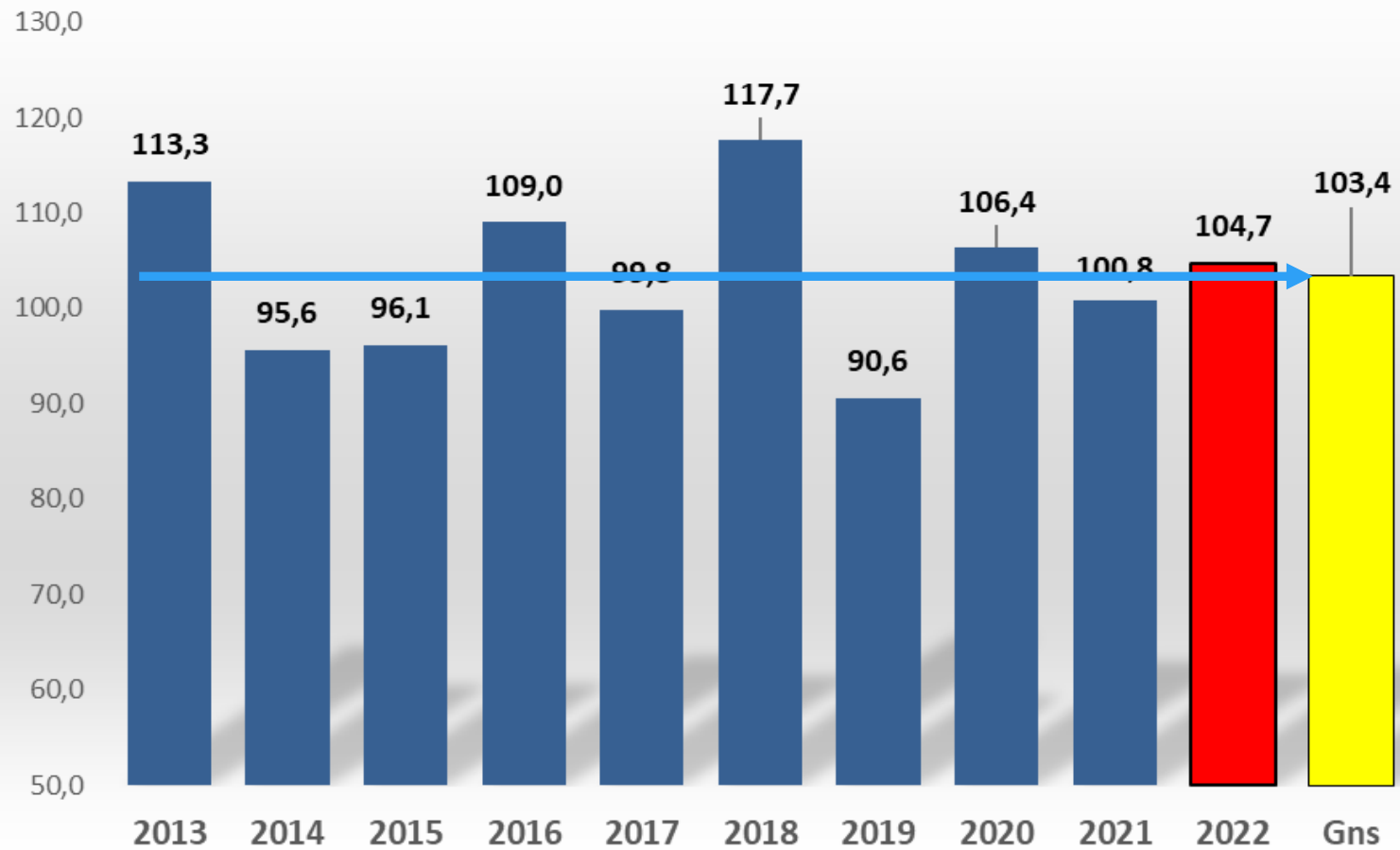


Certificerede mængder korn DK, tons

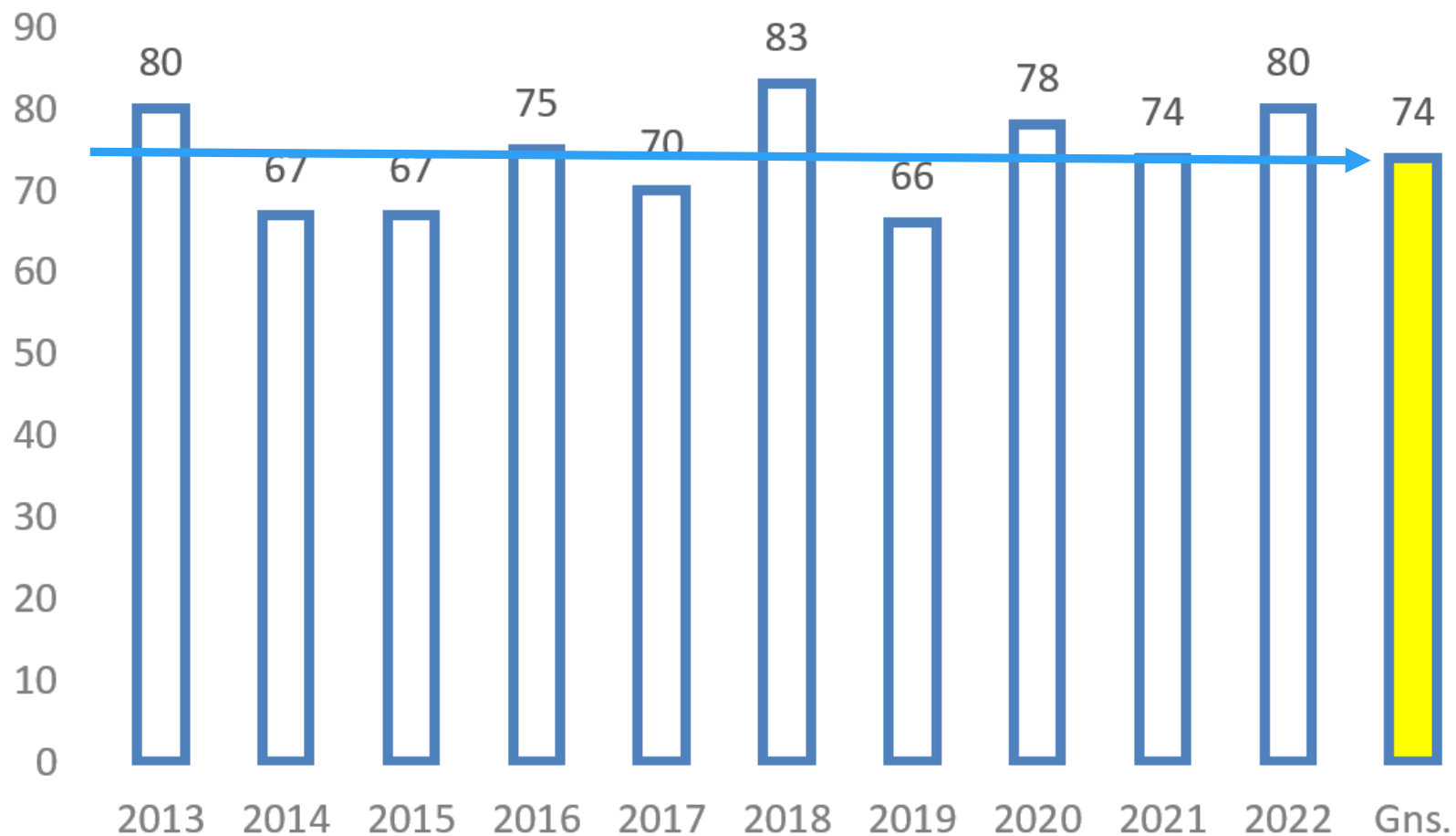




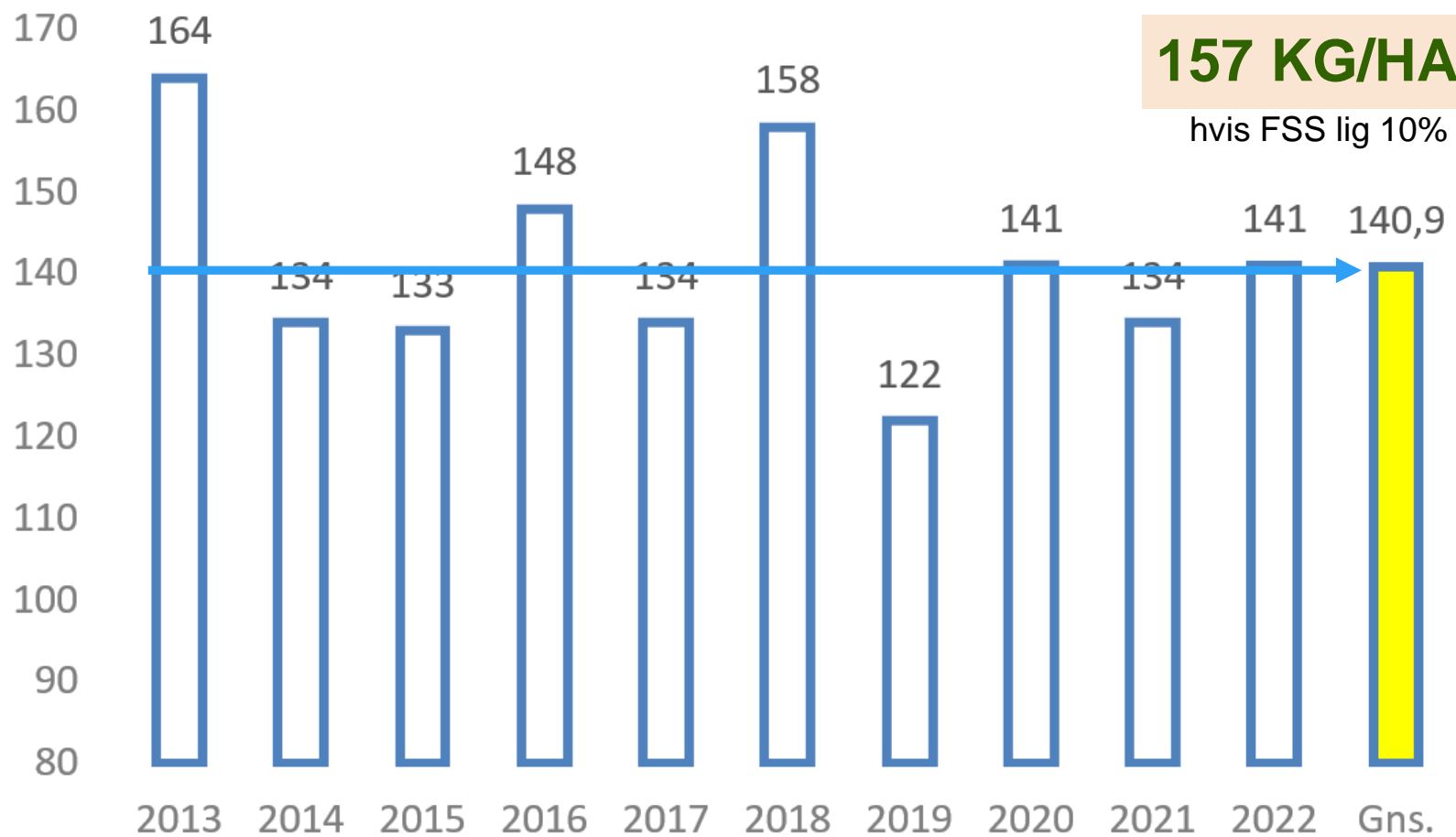
Mio. DKK, korn



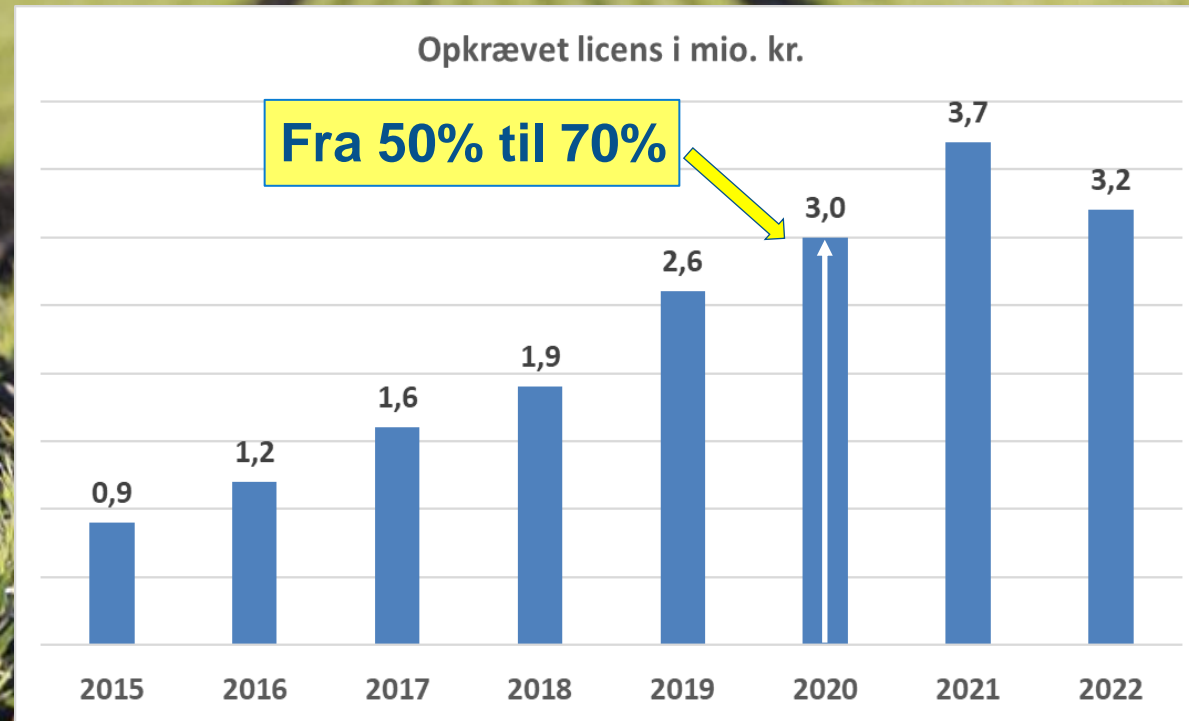
Provenu, DKK pr. hektar



Certificeret- kg/ha



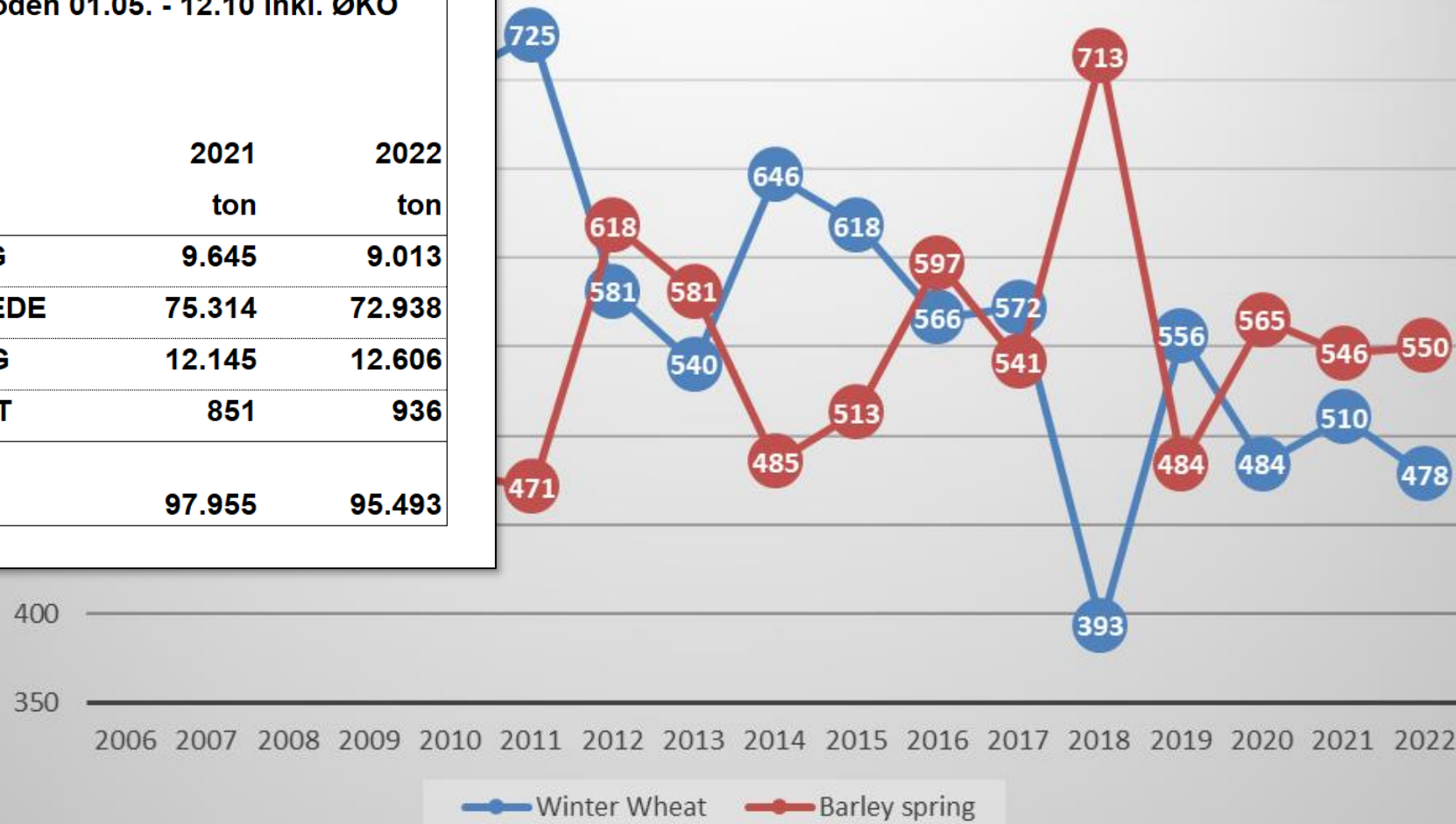
Hjemmeavlsudsæd - FSS



Foreløbig oversigt over mængder af vintersæd produceret i perioden 01.05. - 12.10 inkl. ØKO

	2021	2022
	ton	ton
Total VINTERBYG	9.645	9.013
Total VINTERHVEDE	75.314	72.938
Total VINTERRUG	12.145	12.606
Total VINTERTRIT	851	936
Total VISÆD	97.955	95.493

Wheat and Spring Barley 2005-2022 acreage in hectare





Acreage by Crop, 1000 ha													
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cereals	Grundbetaling												Guess
Winter Wheat	725	581	540	646	618	566	572	393	556	484	510	480	455
Winter Barley	131	102	109	119	119	110	125	83	100	88	76	64	70
Winter Rye	56	64	87	106	122	100	111	93	146	115	108	109	105
Winter Triticale	36	22	13	15	13	8	8	5	8	7	7	5	5
Winter Cereals tot.	948	769	749	886	872	784	816	574	810	694	701	658	635
Spring Barley	471	618	581	485	513	597	541	713	484	565	546	551	520
Oat (plus mixed cereals)	42	50	56	43	43	60	65	90	56	83	79	62	70
Spring Wheat	20	30	28	16	15	17	15	33	14	18	27	18	18
Grain Maize	10	13	13	10	8	6	5	6	5	6	6	8	8
Spring Cereals tot.	543	711	678	554	579	679	627	841	555	679	658	639	616
	1.491	1.480	1.427	1.440	1.451	1.463	1.443	1.415	1.365	1.373	1.359	1.297	1.251
Seed, oilseed, horticulture													
Winter Rape	150	127	175	165	193	163	177	143	164	145	161	196	205
Spring Rape	2	2	2	1	1	1	1	1	1	1	1	2	2
Peas	7	4	4	4	5	5	5	7	5	7	10	14	17
Beans		2	3	4	7	11	15	25	17	19	22	25	28
Lupins											3	3	4



Landbrugsstyrelsen

Delegering, udpegning, tilsyn

delegering

udpegning

Branchen

Operatør

TystofteFonden

Rapporter:

Kontrolmark, Prøvetagning, Analyser; SES

Værdi

Fagudvalget

Indstilling til sortslisteoptagelse
Teknisk udvikling,
Den integrerede afprøvning

TystofteFonden



TystofteFonden

Bestyrelse

Økonomi og udvikling

Thor Gunnar Kofoed,
Kim Bonde Petersen,
Birger Eriksen,
Klaus K. Nielsen,
Lise Nistrup Jørgensen,
Gert Hansen Juhl

TystofteFonden

Sekretariats-
funktion

Plantenyhednævnet

Certificering og Sortslisteoptagelse
Klageinstans



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Inger Holme; AU
Johannes Ravn Jørgensen; AU
Kirsten Jørgensen; KU
Søren Kjærsgaard Rasmussen; KU

Gerhard Deneken, TystofteFonden
Mette Jespersen; DLF Seeds A/S
Brian Bacher Pedersen; Nordic Seed
Leif Hagelskjær; SEGES
Steen Nørhede; Økologisk landsforening
Merete Buus; Landbrugsstyrelsen
Preben K. Hansen; TystofteFonden
Anders Søndergaard Larsen; TystofteFonden



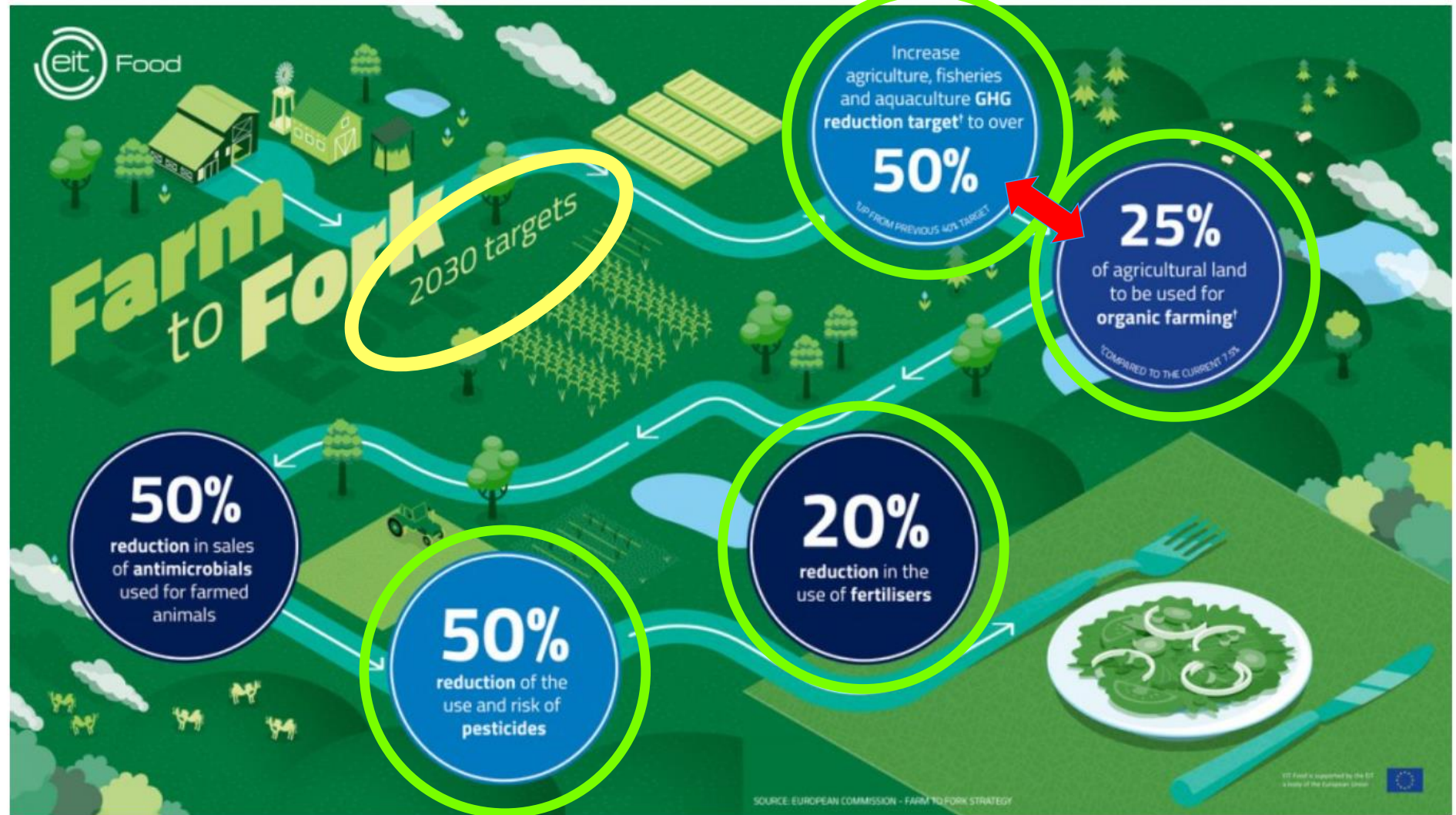
Henrik
Bønnerup



NYT FCS:

Bestyrelsen forstår problemstillingen og bestyrelsen forventer, at autoriseret kontrol af opformeringsmateriale vil blive indfaset stærkere i forbindelse med revisionen af den europæiske frølovning. Dermed mener bestyrelsen, at vi skal opgraderer ambitionsniveauet og udvikle systemet til at være **modulært, skalerbart, cloudbaseret** samt frøcertificeringssystemet skal udvikles med **salg til 3. part** for øjet (lette sprogsift i interface), dvs., som et skalerbart rammesystem med **nationale tilpasningsmuligheder**. Kravspecifikationer og programmering skal udarbejdes på engelsk. Desuden skal udviklingsværktøjerne være generelt anerkendte og internationalt accepterede.

CLIMATE
 PACT AND CLIMATE



PROMOTING
 CLEAN
 ENERGY



PROTECTING NATURE



FROM FARM
 TO FORK



The
 G

LEADING THE
 GREEN CHANGE
 GLOBALLY



MAKING
 HOMES EN
 EFFICIENT

Production losses of more than 23 percent can be expected if the EU strategies are implemented by 2030

Production losses until 2030 (in percent)

Crop/Region	EU	DE	FR	IT	ES	UK
Wheat	26	32	29	23	22	31
Corn	22	30	22	19	19	23
Other cereals	23	31	22	22	21	23
OSR	24	28	25	19	19	26
Sunflower seeds	22	28	22	19	19	23
Other oilseeds	22	28	22	19	19	23
Raw sugar	21	19	25	27	27	26
Potatoes	23	29	24	22	22	26
Pulses	20	30	18	24	24	19
Green maize	23	30	24	22	22	26

hffa

On average, hectare-weighted, production losses of more than **23 percent** might be the outcome for the EU in total if the strategies are fully implemented by 2030:

- **10 percent** from non-productive land
- **13 percent** from lower yields due to input change.

Sensitive areas in France

Sensitive areas :

- Mainly Natura 2000 areas, national Parks, regional natural Parks
- Total area : 14 Mha
 - 3,4 Mha of arable crop = 25% of total arable crops hectares in France
 - More than 60 000 farms in sensitive areas

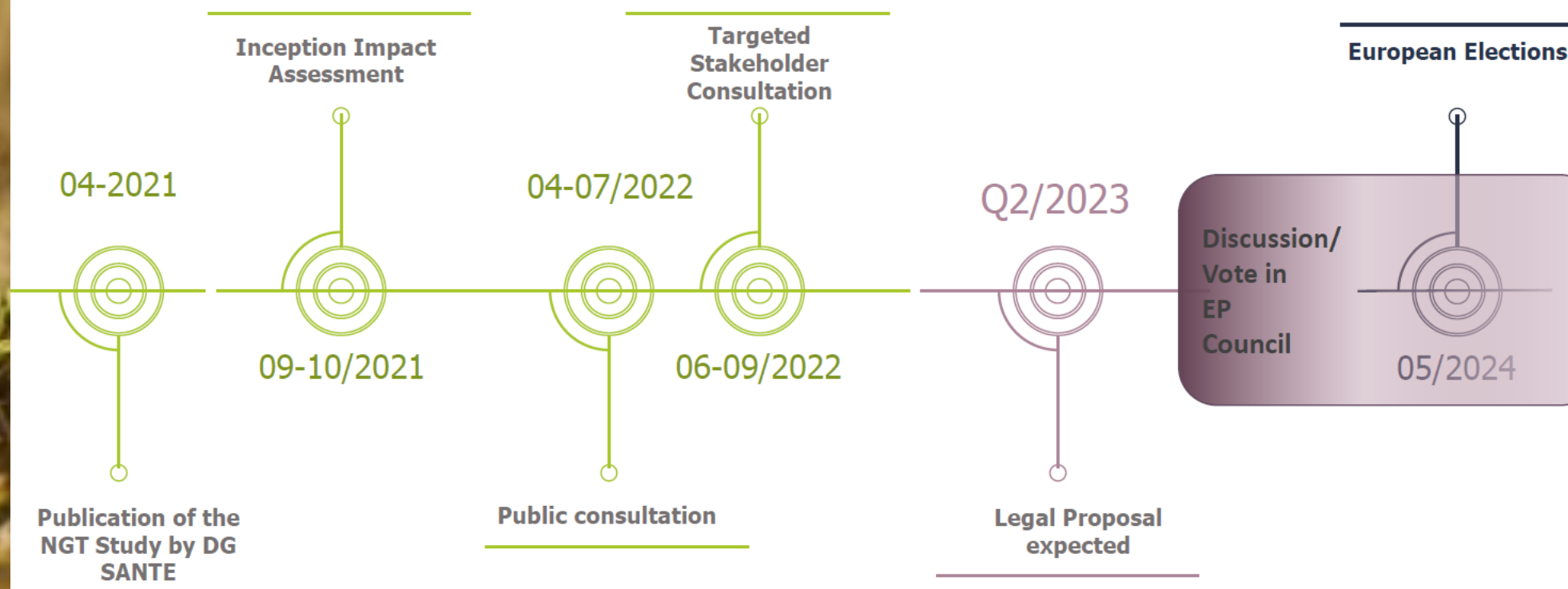
Mapping of sensitive areas in France



STATUS NGT/CRISPR

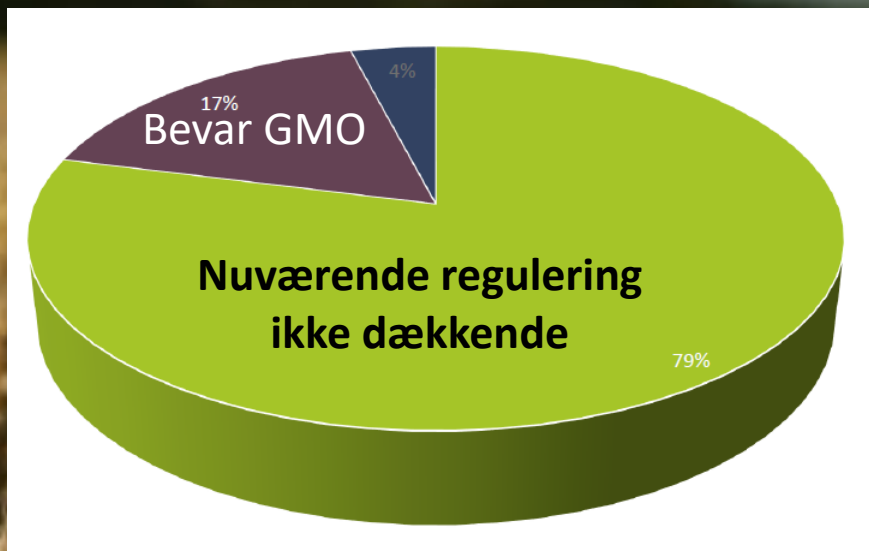


Where are we on NGTs?



euroseeds.eu

STATUS NGT/CRISPR, ELEMENTER I REGULERING



Risikovurdering

Sporbarhed/mærkning/gennemsigthed

Bæredygtighed

STATUS NGT/CRISPR, ELEMENTER I REGULERING

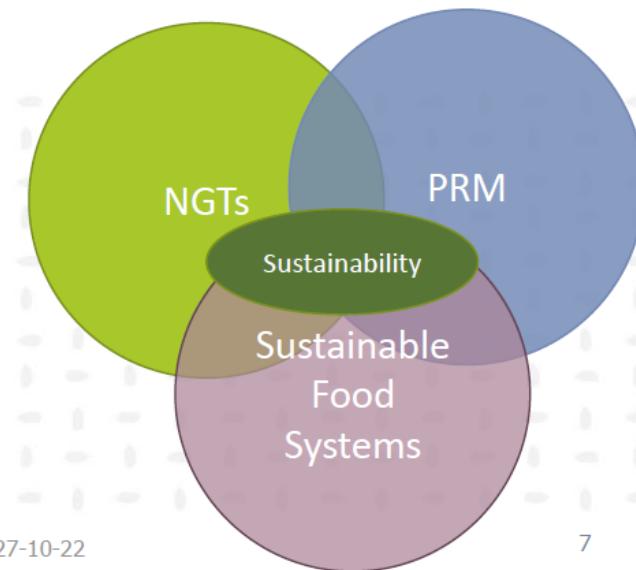


Our main messages

- Any GMO-light approach is unworkable, specifically for SMEs; under such conditions NGTs will not deliver on the goals of the farm to fork and biodiversity strategy.
- Any potential pre-assessment process that concludes that a plant resulting from NGTs is conventional-like should result in a decision to also treat those plants as conventional varieties.
- The seed sector supports transparency and consumer choice by making information about the use of NGTs publicly available (common catalogue)
- The seed sector does not support a NGT-trait specific **sustainability** assessment and labelling.

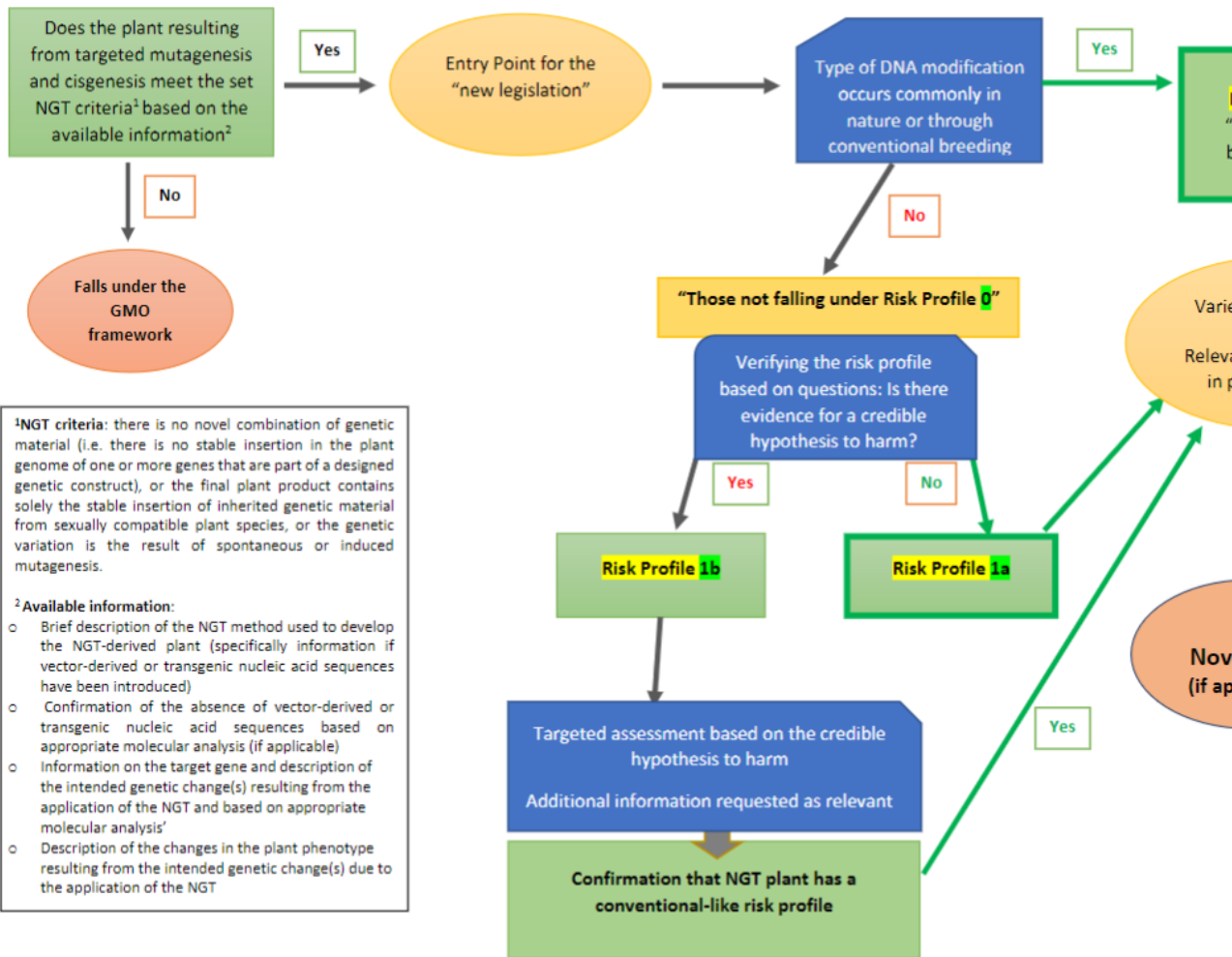
GMO "light" duer ikke

NGT = konventionel, da reguleres som konventionel



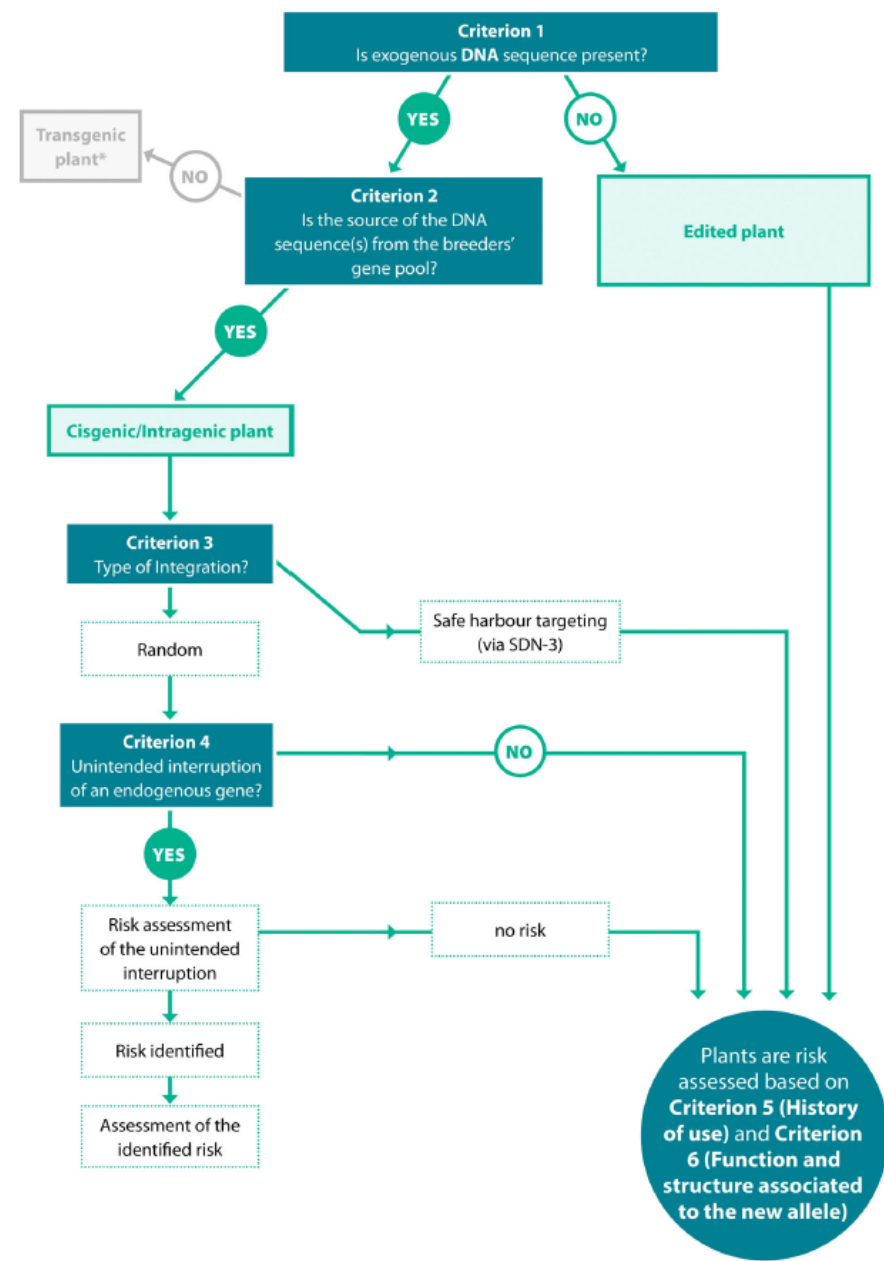
Gennemsigtighed =
Sortsliste

EFSA KRITERIER FOR RISK ASS.



¹NGT criteria: there is no novel combination of genetic material (i.e. there is no stable insertion in the plant genome of one or more genes that are part of a designed genetic construct), or the final plant product contains solely the stable insertion of inherited genetic material from sexually compatible plant species, or the genetic variation is the result of spontaneous or induced mutagenesis.

- ²Available information:
- o Brief description of the NGT method used to develop the NGT-derived plant (specifically information if vector-derived or transgenic nucleic acid sequences have been introduced)
 - o Confirmation of the absence of vector-derived or transgenic nucleic acid sequences based on appropriate molecular analysis (if applicable)
 - o Information on the target gene and description of the intended genetic change(s) resulting from the application of the NGT and based on appropriate molecular analysis¹
 - o Description of the changes in the plant phenotype resulting from the intended genetic change(s) due to the application of the NGT



CRISPR-cas kan bruges på forskellig måde

Annex 1b

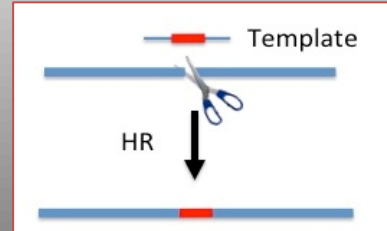
Induceret mutagenese



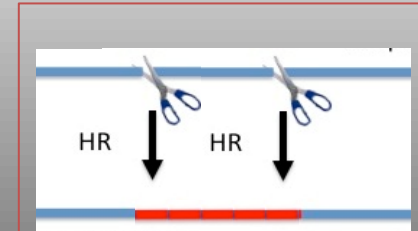
SDN-1



Editering



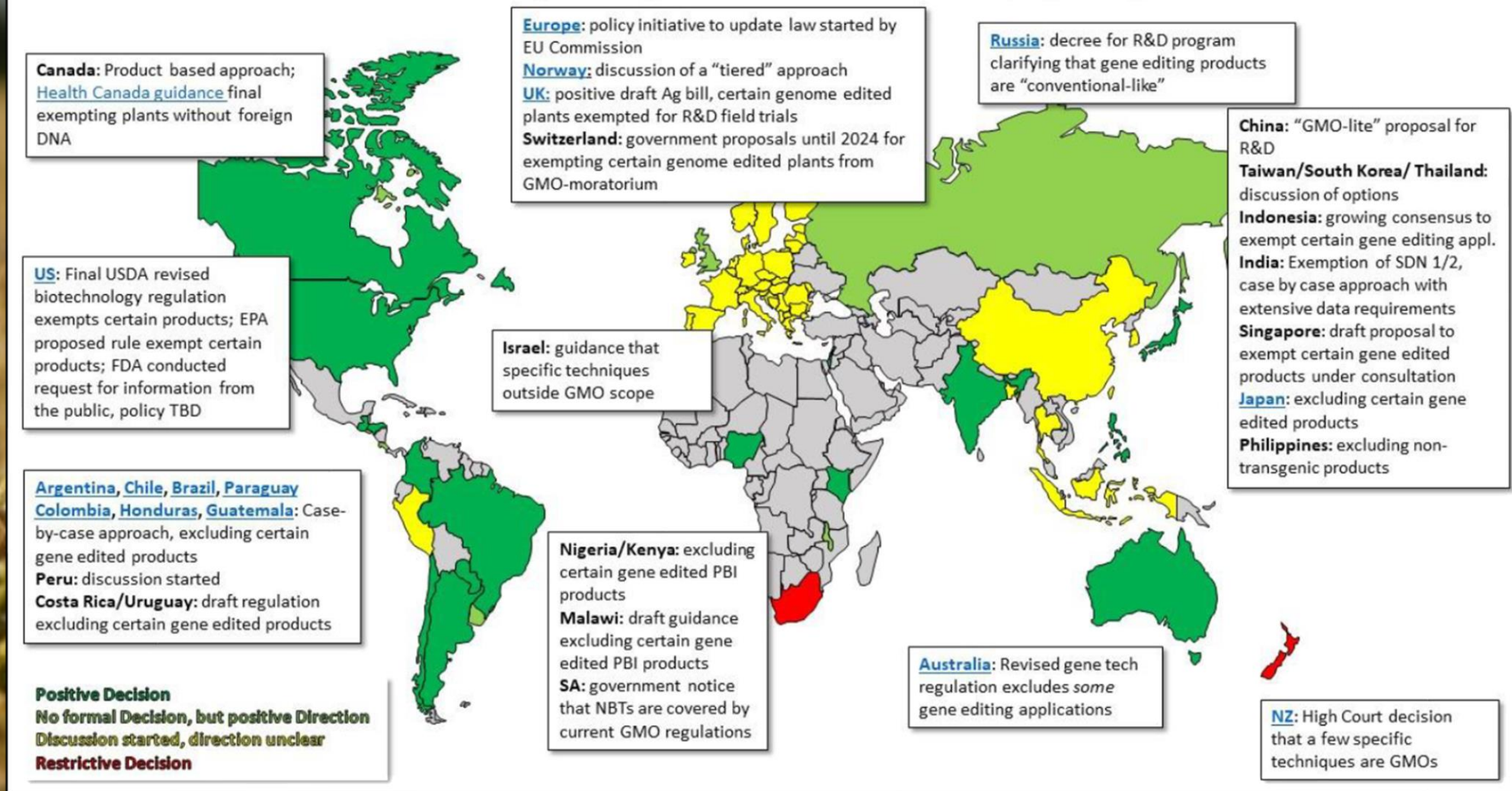
Allel-skifte



Cisgenese

STATUS NGT/CRISPR

Policy developments around the world (09/2022)



LOW ACRYLAMID CRISPR WHEAT

NIGEL G. HALFORD, ROTHAMSTED, UK



THE TIMES
Thursday September 2 2021 | thetimes.co.uk | No 73566 | £2.20 (€45 to subscribers)
Based in the UK

BEACH CLOSED

Covid prison
How Australia lost its freedom

Plus Confessions of a food addict

Britain to grow cancer-cutting wheat for making healthier bread

Wheat **Science Correspondent**

British scientists will grow a new strain of wheat using a revolutionary form of genetic editing as part of an effort to make healthier loaves.

The trials will be the first in Europe for a wheat that has been genetically edited using a tool known as Crispr. It comes as the government consults on whether to use post-Brexit freedom to break with European Union rules that have limited the use of the technology in agriculture.

The trial, which had to be approved by the government, will be run by four scientists at Rothamsted, which will grow the crop outside. The grain has been genetically edited to reduce levels of asparagine, a naturally occurring amino acid. When wheat is used to make bread and toast, asparagine is converted into acrylamide, which is thought to be carcinogenic.

Professor Nigel Halford, leading the project, said the aim was to produce healthier wheat without changing the taste, that would not be considered to be genetically modified (GM).

GM was originally used as a label for crops whose genes had been transferred from one organism into another, sometimes across non-related species, in ways that do not happen naturally.

The Crispr tool enables the genetic material of a plant to be precisely edited, without new material being added.

Scientists have argued that Crispr is fundamentally different from conventional GM, in part because the changes that result could occur through natural mutation.

In 2018 the EU Court of Justice ruled that Crispr-edited crops should be subject to the same stringent regulations as conventional GM organisms, which some scientists said would slow research.

For the wheat at Rothamsted, *Continued on page 2, col 3*

- Adgang til alle platformens patenter
- Standard kontrakt
- Baseball Arbitration
- EU plus Ukraine
- Q1 2023

10 European plant breeding companies and trait developers

syngenta



Elsoms
The Seed Specialists



Ackermann
The Barley Breeder
since 1903



Agricultural Crop Li
an initiative to facilitate access
to patented traits



STATUS INTELLECTUAL P

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CVR.DK 11

31. October

Discussion paper on intellectual property for plant varieties

- with focus on large field crops
- for internally discussions in the seed indus

Summary:

- UPOV should also in the future, be the main IPR system for plant varieties.
- Full support of the UPOV-system by farmers and farmers organizations is a precondition for the system. This might requires strengthened legislation in the EU for Farm Saved S
- EPO's rule 28(2) about "essential biological processes" should consistently be strengthened to close loopholes (eg. patenting of chemical characterized compounds).
- The limited breeders exemption should be incorporated in the legislation in all EU c
- Mutations created through mutagenesis, either randomly (chemical, radiation) or by gene editing (SDN-1) should not be patentable.
- Random and SDN-1 mutations can always be found naturally (which EPO's "disclaimer" should therefore rightly be considered as a "essential biological processes" (not patentable)).
- Furthermore, it is also questionable whether it is not a misinterpretation to call a pre-existing gene an invention. Since the gene already exists and the function is given, it should be regarded as a discovery and not an invention, and discoveries of this kind would not



Position on suitable forms of patent protection in plant breeding

BDP calls for free access to genetic material and advocates to **limit the patentability of plants**

Requests of BDP:

BDP requests the following:

- 1) **Biological material that might also occur or come into being in nature shall not be patentable, irrespective of the way it has been generated.**
- 2) **The possibility to use patented material for breeding purposes, as currently provided for e. g. under German and French patent laws, needs to be introduced throughout Europe.**
- 3) **The current legal system needs to be consistently implemented:**
 - a) **Consistency is needed in the implementation of the decision of the Enlarged Board of Appeal of the European Patent Office ("EBA") G3/19, according to which patents shall not be granted for breeding methods that are based on crossing and selection (essentially biological processes), nor for biological material produced with these processes.**
 - b) **Consistency is also needed in the implementation of rule 28(2) EPC-IR, according to which the scope of patent protection for technical inventions shall not extend to biological material that has been obtained by an "essentially biological process".**

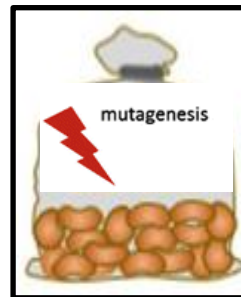
Det franske dekret om *in vitro* mutagenese

ANNEX II

List of varieties that meet the conditions for revocation of registration in the catalogue due to their obtainment via an *in vitro* random mutagenesis technique mentioned in 2(a) of Article D531-2 of the French Environmental Code

- Rapeseed:

71 30 CL
 7130 CL
Aquarel CL
Belize CL
Caramino CL
 Carlton CL
Cebra CL
 Cello CL
 Chart CL
 Chevy CL
 Chip CL
Ciclus CL
 Clavier CL
 Click CL
 Conrad CL
 Contra CL
Cubus CL
 Cultus CL
Darja CL
 Decibel CL
 DK 7150 CL
 DK 7160 CL
 DK 7170 CL
 DK 7175 CL
 DK Imagine CL
 DK Imagis CL
 DK Imaret CL
 DK Imax CL



GENETISKE RESOURCER (GR) – BENEFIT SHARING – DSI (DIGITAL SEQUENCE INFORMATION)



- Current ABS legislation applies to physical
Fysiske GR – men manglende betaling af benefit-sharing generated

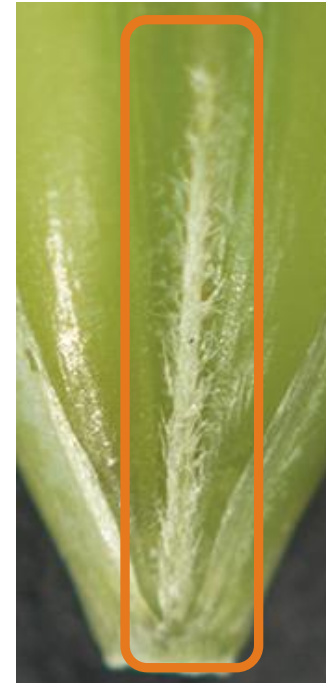
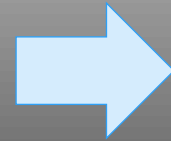
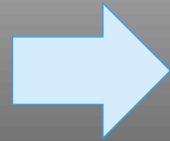
- Some argue that more and more R&D is done
Fysiske GR ikke længere en nødvendighed pga. sekvensdata: DNA-markører / CRISPR

ABS legislation

- Political response: apply ABS regulation also on
Politisk respons: DSI er GR og skal pålægges betaling (1% af omsætning på seed)

post-2020 GBF

Det genetiske rum (Gerhard-begreb) er udfordret navnlig i vårbyg - Selvstændighed. Sagen ønskes taget op i UPOV "Additional Characteristics" ? Biomarkører ?



Danish Preferred varieties

APPROVED VARIETIES

Evergreen
KWS Irina
RGT Planet
Flair
Laureate
Ellinor
Prospect
Skyway

CANDIDATE VARIETIES - INDUSTRY TEST

2021

Firefoxx
CB Score

2022

KWS Thalís
LG Flamenco
Gambit
SY Solar

CANDIDATE VARIETIES - STRESS TEST

2023

6 nye sorter
anmeldt
til stresstest -
3 sorter
til eksamen

KWS Curtis
Florence
NOS 115.043-49

Arguments for using populations/variety mixtures



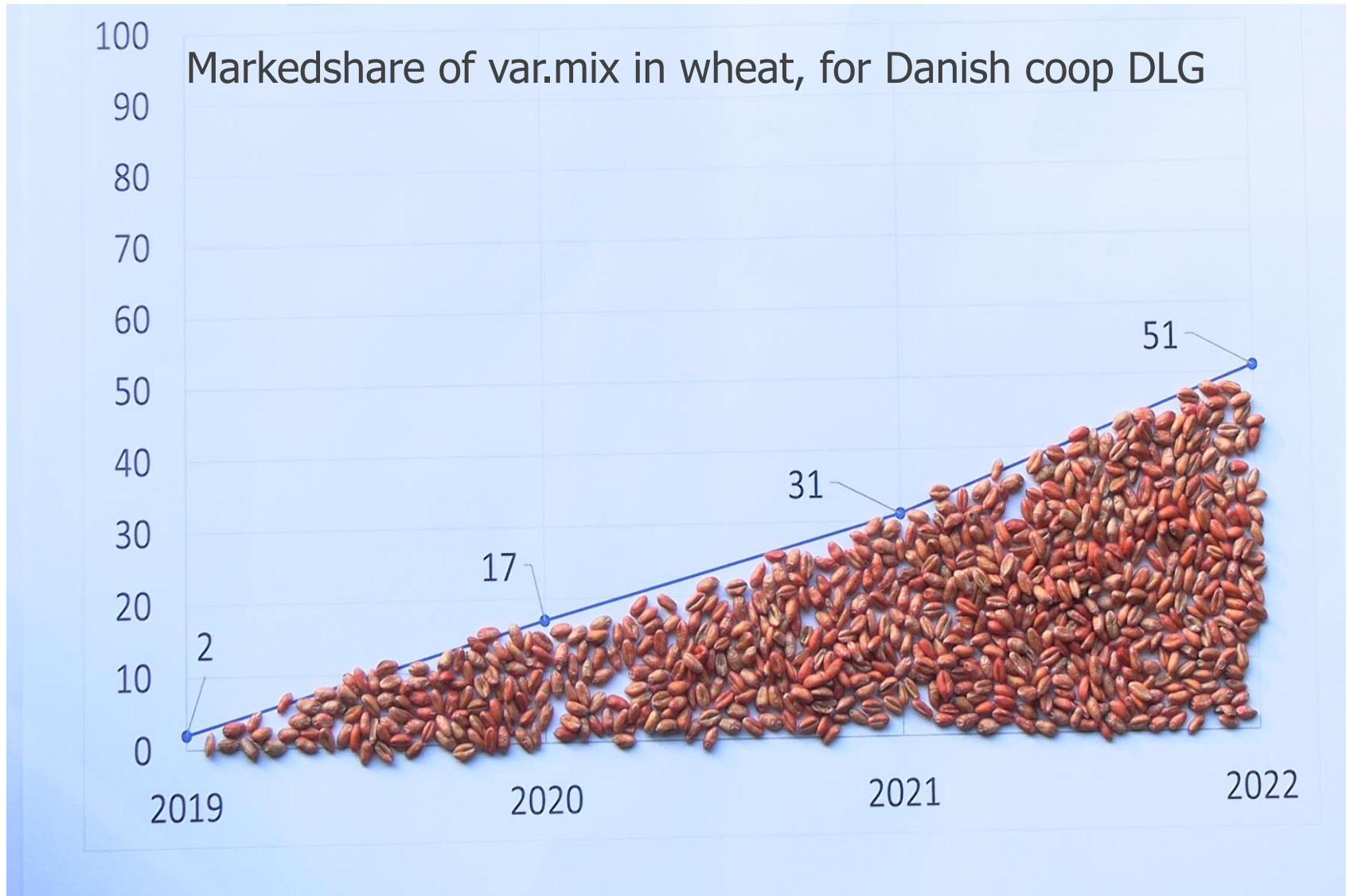
Diversity
Resilience
Adaptation
Reduced diseases
pressure

Heterogenous material	versus	Pure varieties
Farm Saved Seed	versus	Certified Seed
Diversity	versus	Productivity

Wheat Mix Star
Heerup, Kvium; RGT Stokes

Yield increase 1,8%*
Better disease profile

*Data from the Danish National Trials 2022



**Yield
increase
1,4%**

**Septoria
reduced by
34%**

**33%
less effect
of spaying**



Winter wheat certified seeds sales, Denmark

Crop year	Wheat total tons	Variety mixtures tons
2019	75.673	1.334
2020	72.393	7.571
2021	78.092	18.718
2022, est.	74.000	28.000

38%

