

Coccidostat use – an example from Norway

15. april 2026

Merete Forseth

Broiler production in Norway

Broiler meat production per country (tonnes, 2023)	
USA	19 901 890
China	15 476 826
Brazil	14 833 000
Russia	5 339 500
India	5 019 410
Indonesia	4 444 253
Mexico	3 888 208
Japan	2 384 255
Turkey	2 328 791
Argentina	2 287 016
Sweden	166 880
Denmark	159 030
Finland	134 770
Norway	107 624
Iceland	9 313



- Norwegian population: 5,5 million

- Farms with > 1000 broilers: 527

- Total yearly broiler production: 74 million broilers from 4 391 flocks

Norsk Kylling

We are taking new paths to ensure sustainable chicken production, providing healthy and safe food of high quality for all of Norway

482
employees

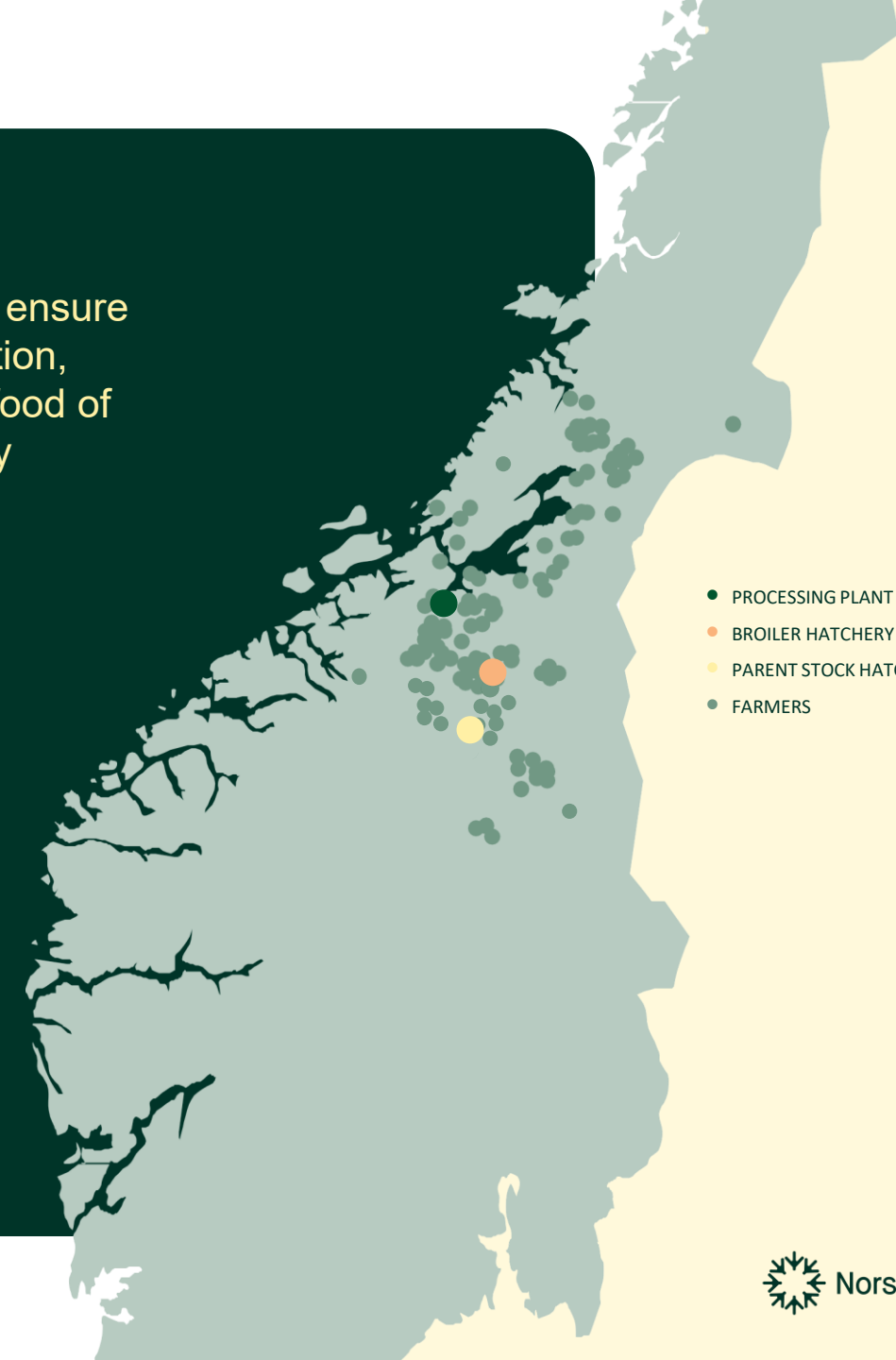
3
production sites

150
farmers

110
million dinners per annum

2,3
bn NOK sales 2025

30%
market share in retail

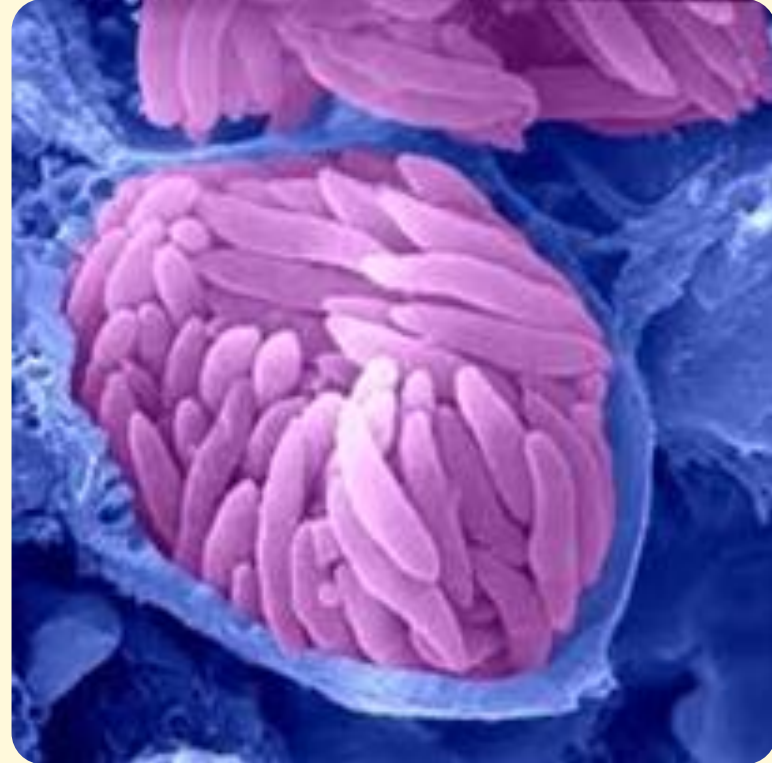
- 
- PROCESSING PLANT
● BROILER HATCHERY
● PARENT STOCK HATCHERY
● FARMERS

Coccidiosis

Parasite – Eimeria

- Intestinal lesions
- Reduced growth
- Poor feed conversion
- Haemorrhagic diarrhoea
- Mortality

→ Clostridia → necrotic enteritis.



1996 - 2016: prophylactic use of coccidiostatica in feed in Norway

September 2014: Scientists publicly express concern about the use of Narasin in the Broiler industry

NATIONEN

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ANTIBIOTIKARESISTENS KYLLINGFOR NARASIN PARASITTER RESISTENS

Forskere frykter narasin i kyllingfôr kan gi resistente bakterier

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FORBRUKER | Forside Bil, båt og motor Helse Livsstil Mat og drikke Reise Teknologi Forbrukslån

Legeforeningens president: Har ikke spist kylling i hele høst

Presidenten i den norske Legeforeningen, Hege Gjessing, er ikke overbevist om hvor sunt kylling egentlig er.



Hege Gjessing
President, Legeforeningen

Hege Gjessing: - Ikke spist en eneste kyllingfilet

Nyheter

Presidenten i den norske Legeforeningen, Hege Gjessing, er ikke overbevist om hvor sunt kylling egentlig er. Under en konferanse på mandag fortalte hun at hun ikke har spist kylling i hele høst.

7. nov. 2014 · 0:39

Nyheter Sport Kultur Humor Distrikt Mer

Innlandet Kontakt oss Mobilvideo Langlesing TV Radio

Foreslår helseadvarsel på kylling

– Jeg tar aldri i kylling med fingrene, sier forsker Marianne Sunde. Hun mener myndighetene bør vurdere å merke kylling som et risikoprodukt, skriver Nationen.



Mette Finboud Barnesen
Journalist

Publisert 11. sep. 2014 kl. 11:09

Artikkelen er flere år gammel.


Myndighetene bør vurdere å merke rå kylling som et risikoprodukt, mener forsker.
FOTO: COLOURBOX

Several prominent Norwegian scientists publicly expressed their concern about the use of Narasin in the broiler industry

The Norwegian Veterinary Institute: Half of all broilers produced in Norway contains Quinolone resistant E.coli

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Meny 

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Leger slår alarm om ny bakterie på kylling

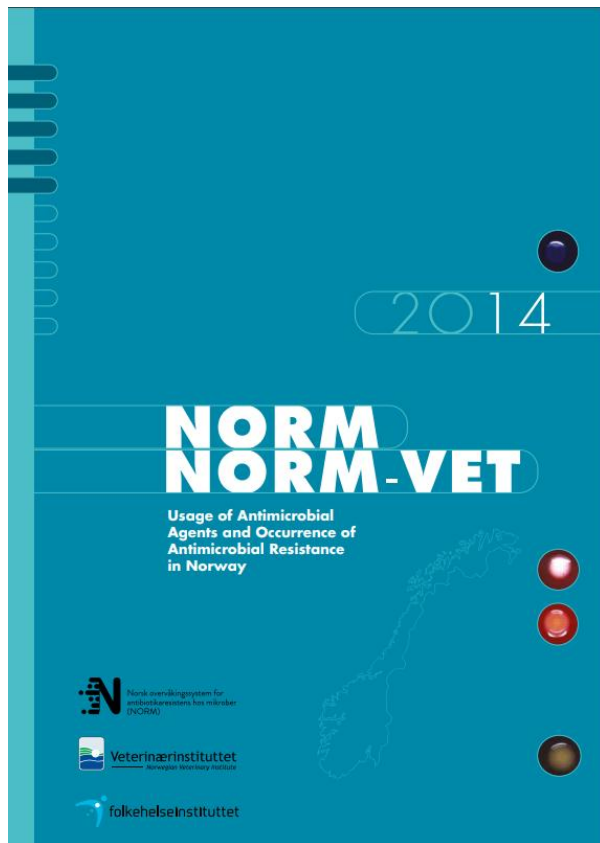
Av [Marie De Rosa](#)

Publisert: 28.11.14 14:47 

Del

Artikkelen er over 9 år gammel

Rundt halvparten av landets kyllinger er smittet med en resistent bakterie som kan gjøre legenes reserve-antibiotika ubrukelig.



Narasin in the broiler production – usage and resistance

Coccidiostats are routinely used in Norwegian broiler production and since 1996 such use has been almost totally dominated by the ionophore narasin. The annual usage of narasin has been increasing since 2007 compared to the number of broiler produced as illustrated in Figure 25.

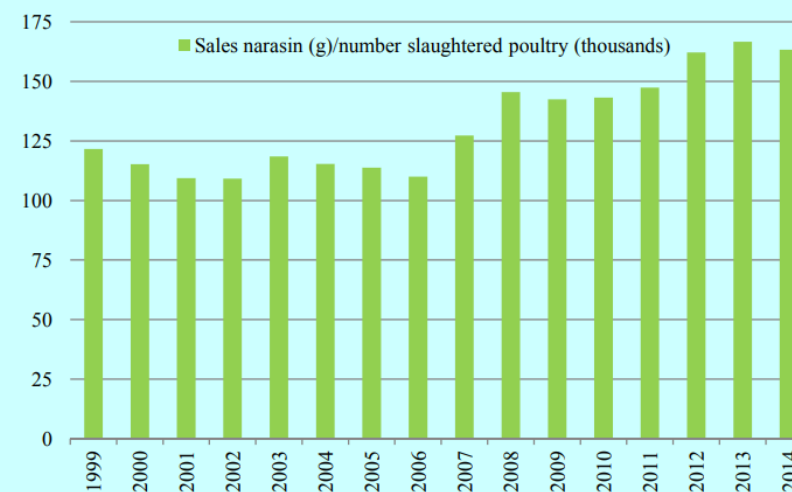
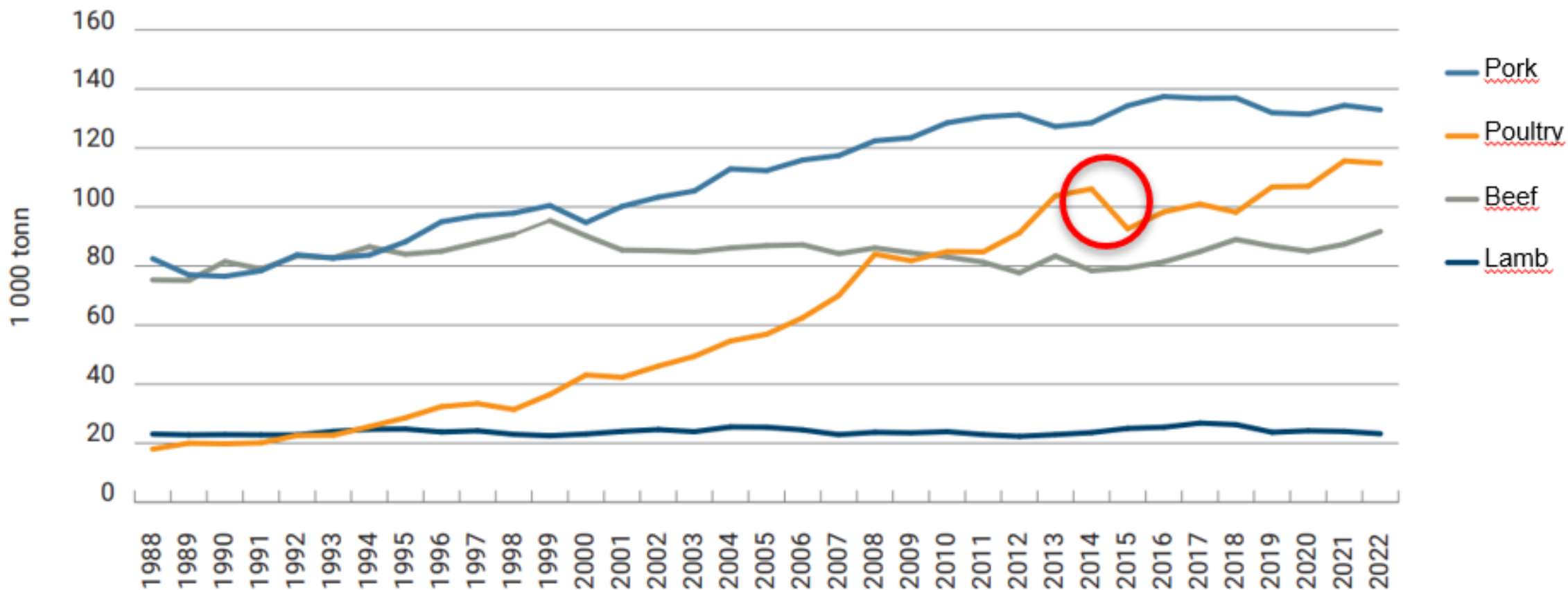


FIGURE 25. Annual sales of narasin (g active substance) per thousand slaughtered poultry in Norway during the years 1999-2014.

RESULTS: By use of a selective method *E. coli* resistant to quinolones were found in 188 of the 210 caecal samples and in 140 of the 198 broiler meat samples investigated

The development of sales per type of meat in 1000 tonnes in Norway



Source: Nortura Totalmarked

A marked drop in chicken meat consumption in 2014-2015

Desember 2014: The norwegian poultry industry commits to removing Narasin in feed by end of 2016

Utdrag fra NRK Nyheter

Norsk Kylling og Nortura vil droppe fôr med antibiotika

Både Norsk Kylling på Støren og Nortura ønsker å droppe bruken av fortilsetningsstoffet Narasin i kyllingfôr.



Glad i kylling: Leder av Matakademiet, Svein Magnus Gjørnvik, mener det ikke er grunn til panikk dersom man har kjøkkenthyggen i orden. Her demonstrerer han utskjæring av hel Stange-kylling. Foto: OLEVI NUSK

Av: STEIN BJØRNU og HILDE SKJESDOL

NRK Nyheter Sport Kultur Humor Distrikt Mer

Norge Siste nytt Dokumentar Klima NRK Ytring

Varsler eksplosjon i penicillinbruken til kylling

Eksperter tror på en eksplosiv vekst i bruken av penicillin til kylling når Nortura fjerner fortilsetningen Narasin fra produksjonen.



Publisert 5. des. 2014 kl. 06:13

Artikkelen er flere år gammel.

Nortura vil i løpet av to år ha slutt på bruken av fortilsetningsstoffet Narasin, som eksperter mener kan føre til antibiotikaresistens. Arkivbilde.

FOTO: COLOURBOX.COM / TOMMY HVITFELDT / TOMMY HVITFELDT

Widespread predictions that this would lead to an increase in disease and as a result an increase in antibiotic usage

March 2015: Norsk Kylling starts running test flocks without Narasin

	Vaccinated flocks	Average for NK 2015
First week mortality %	1,27	1,85
Total mortality %	3,73	4,55
Average weight (g)	1284	1246
Average slaughter age	32	32
Liver condemnations	0,31	0,16
Small size condemnations	0,46	0,47
Footpad lesions	23,7	15,06
Footpad lesions- class B	2	13
Footpad lesions- class C	2	7
	46 flocks	799 flocks

46 flocks vaccinated through feed sprayed with vaccine from March to Sept 2015

Farmers involved in the project got a written agreement protecting them from any financial losses

Conclusions: Lower mortality, higher feed consumption resulting in higher average weight (same FCR), increased liver condemnation

Norsk Kylling broilers become coccidiostatica free from February 2016

REMA
1000

All kyllingproduksjon i REMA 1000 er nå narasinfri

13.1.2016 12:15:17 CET | [REITAN](#)

Del     

Produkter med tydelig merking vil være tilgjengelig i alle REMA 1000-butikker fra 1.februar.

Kyllingproduktene merket Solvinge er nå, i likhet med Stangekylling, fostret opp på en annen type fôr - uten bruk av narasin i produksjonen. Det betyr at våre kunder fra 1.februar kan kjøpe produkter som er merket med 100% narasinfri produksjon.



Nortura-kylling fri for narasin

Nortura er i mål med utfasingen av narasin i fôret til kyllingene sine. Besetningen er blitt narasinfri et halvt år før skjema.

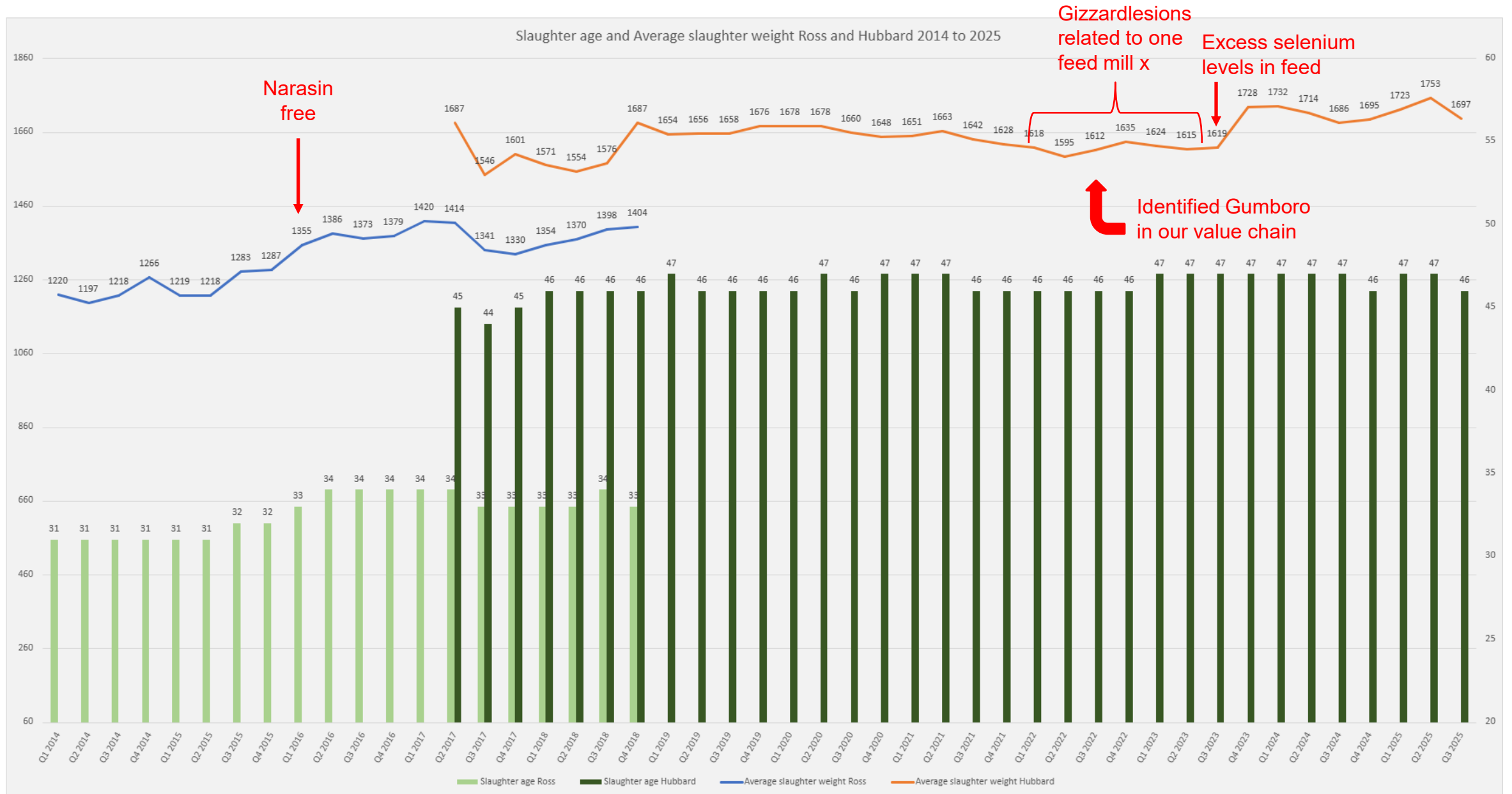


NARASINFRI: Kyllingproducenters narasinbruk skapte stor debatt på tampen av 2014. Foto: Helge Mikalsen VG

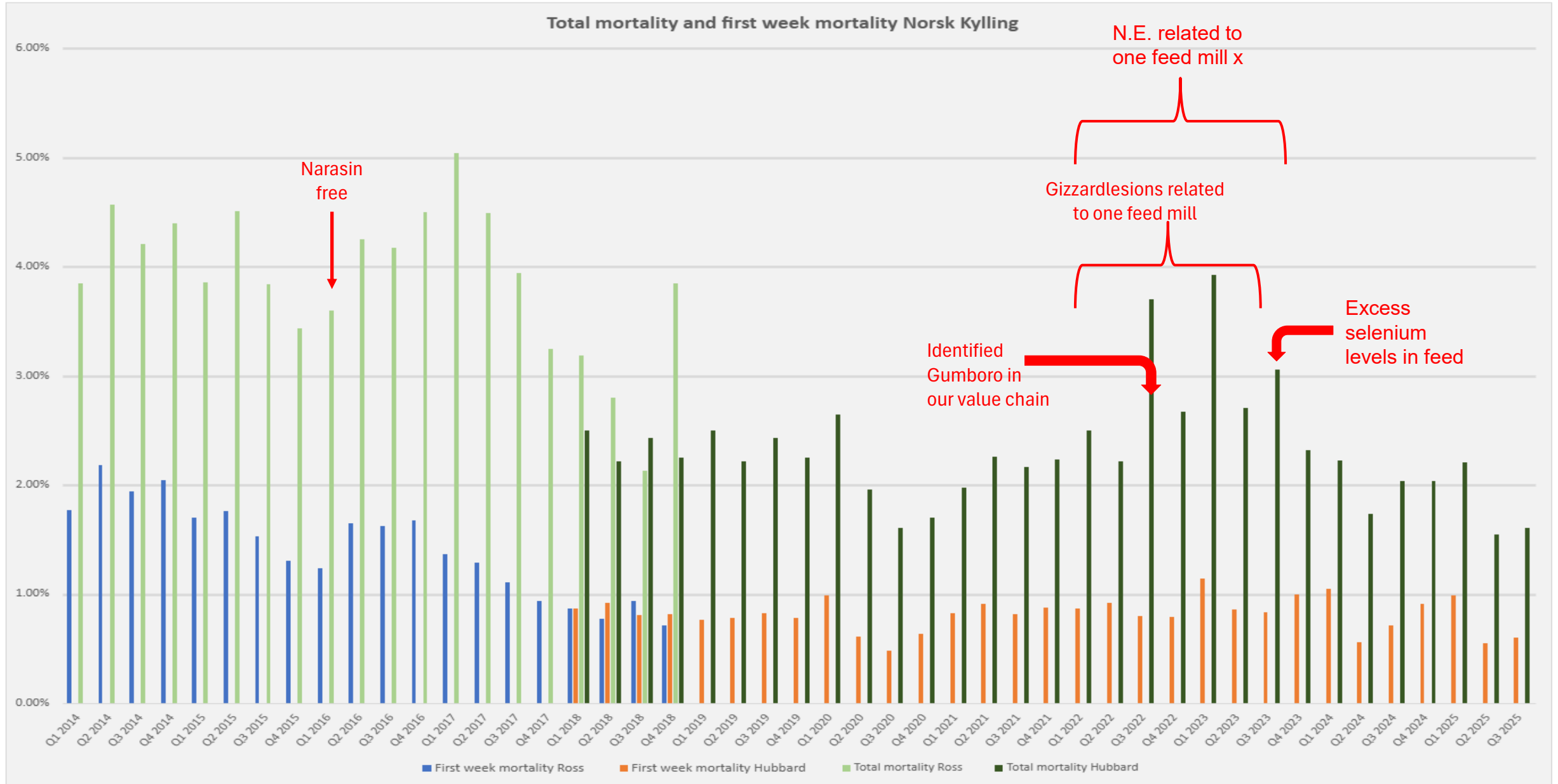
Av NTB

Publisert: 9. juni 2016

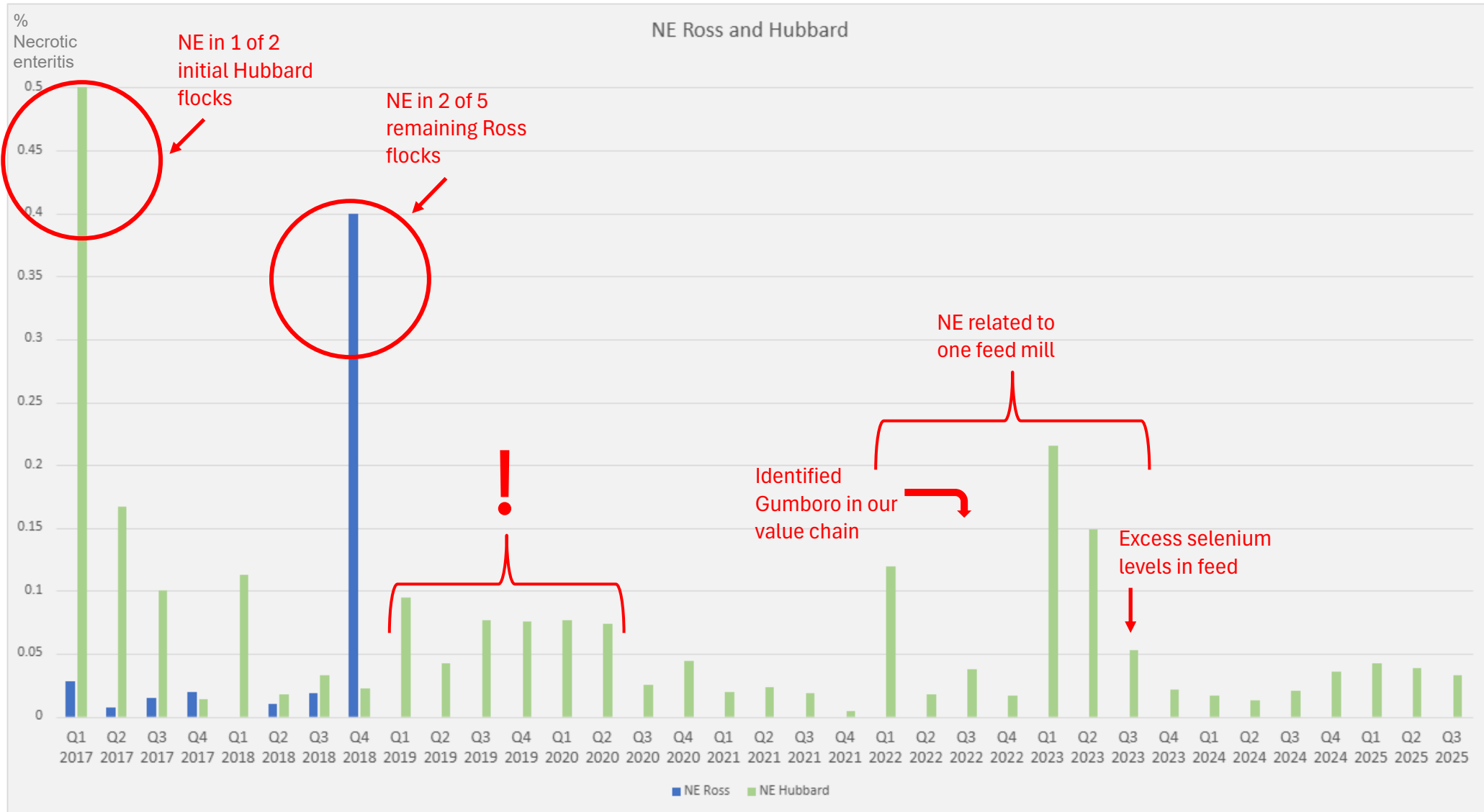
Average slaughter weight and age Ross and Hubbard 2014-2025



Total mortality and first week mortality Norsk Kylling



Occurrence of necrotic enteritis (NE) in Ross and Hubbard flocks



Antibiotic usage in broiler production in Norway

Tabel 2.6.1. Number of broilerflocks treated with antibiotics per year in Norway

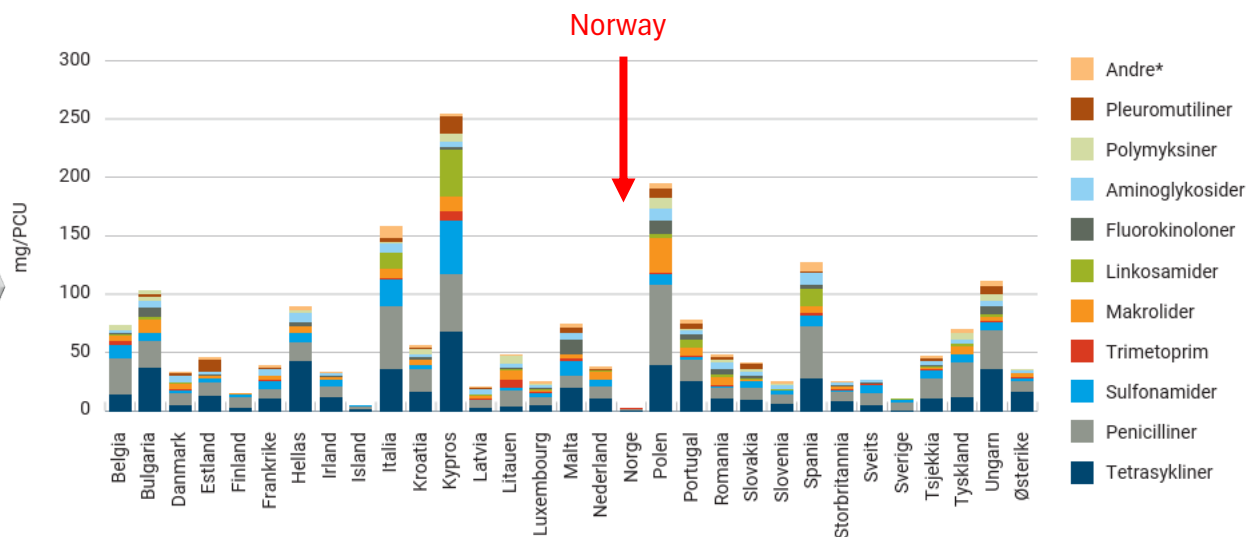
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Number of broilerflocks	8	2	1	3	7	4	2	2	0	3

Kilde: NORM/NORM-VET 2022. Forbruk av antibakterielle midler og forekomst av antibiotikaresistens i Norge. Tromsø / Oslo 2023. ISSN:1502-2307 (print) / 1890-9965 (electronic).

Slight increase in antibiotic usage in broiler production in Norway right after the stop of Narasin

Once effective 'alternative' treatments to antibiotic usage were found, ab use decreased to less than earlier

Use of antibiotics in foodproducing animals, including horses, in 31 european countries



Preventative measures

Our experience so far:



Cleaning and disinfection



Acid in drinking water -pH and hygiene



Farmer management



Feed composition and regime



Preventative measures

Our experience so far:



Cleaning and disinfection



Acid in drinking water -pH and hygiene



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Our experience so far:



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Acid in drinking water -pH and hygiene



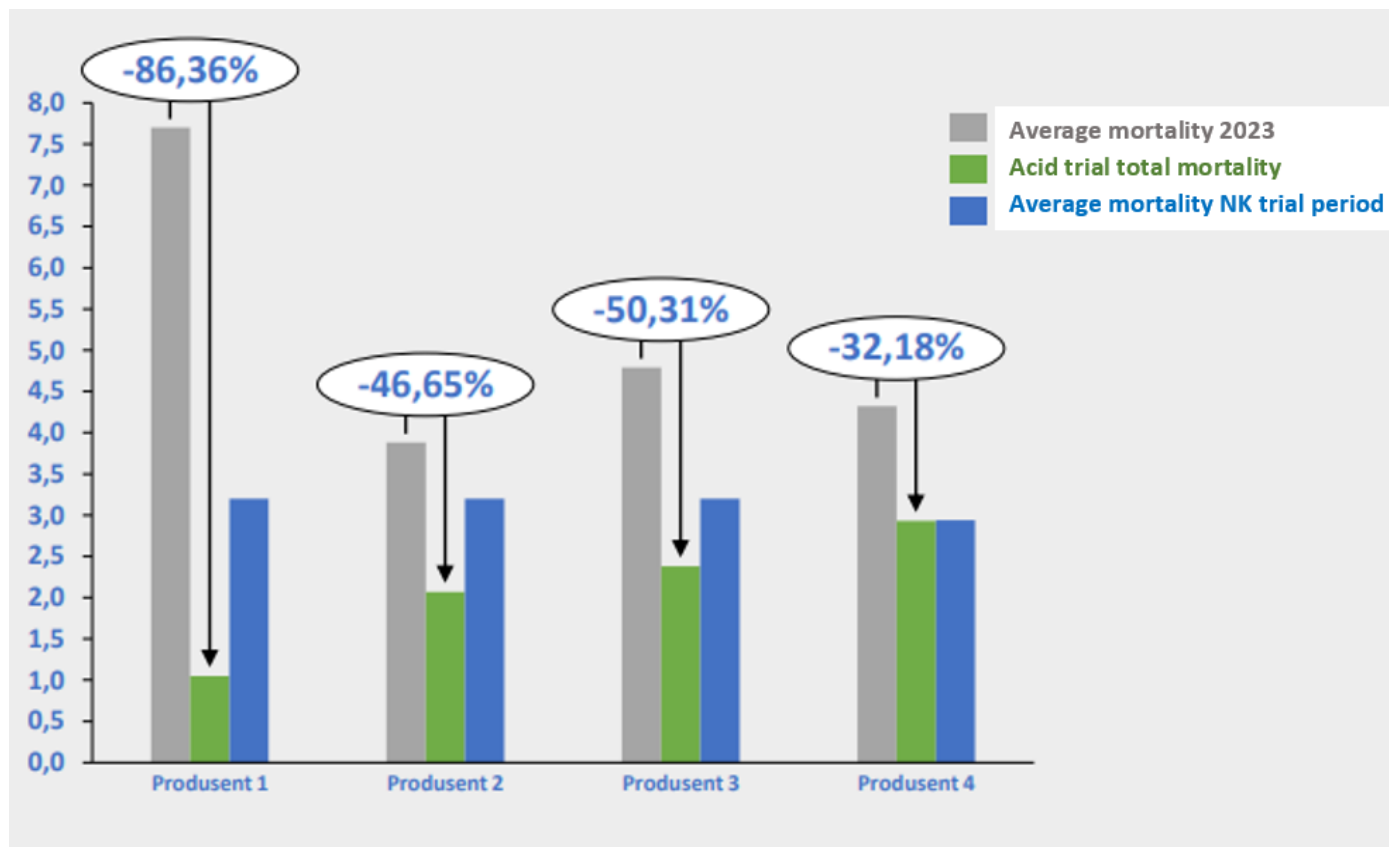
Farmer management



Feed composition and regime



Acid trial



Acid added to drinking water from hatch till slaughter

Water pH of 4

Marked decrease in mortality and no NE

4 farmers with recurring incidents of NE

Preventative measures

Our experience so far:



Cleaning and disinfection



Acid in drinking water -pH and hygiene



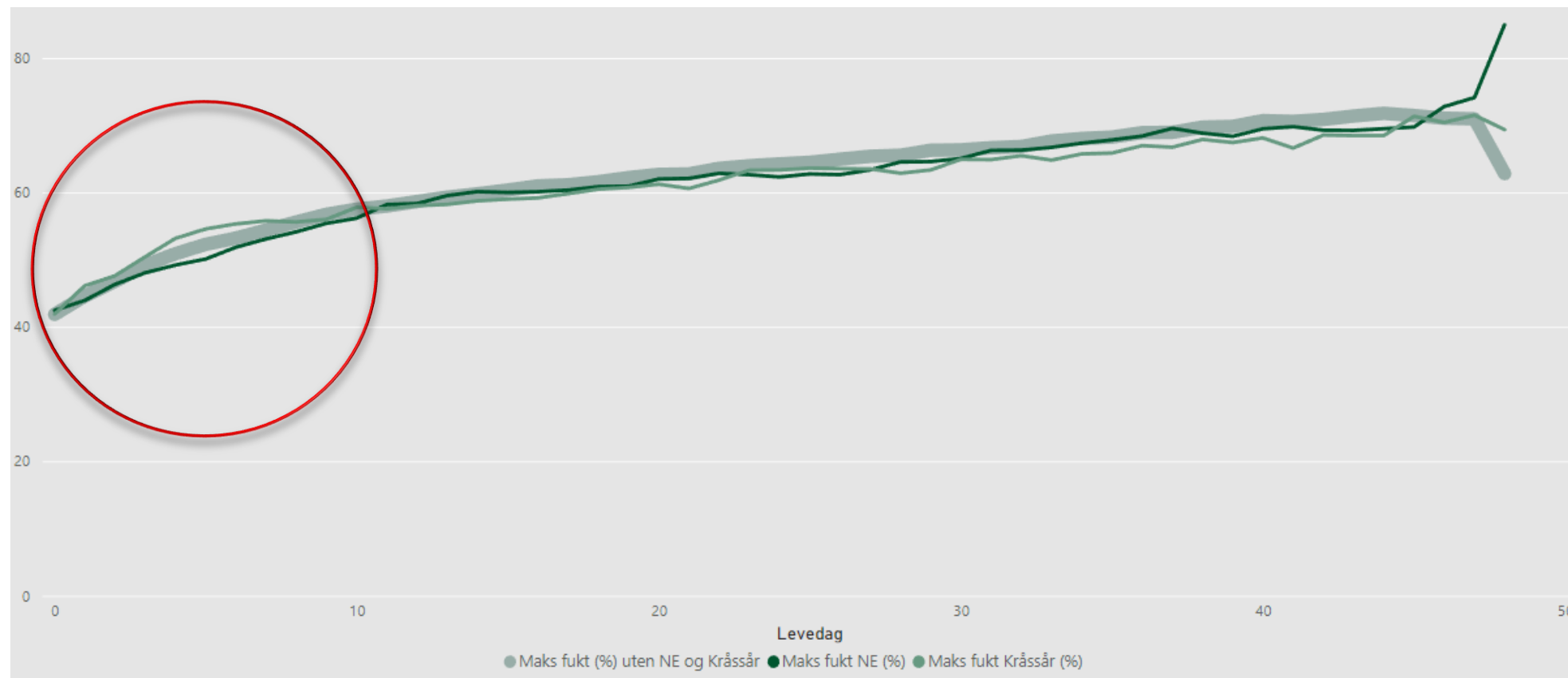
Farmer management



Feed composition and regime



Air humidity- vaccine effect



Below average air humidity the first 11 days in flocks with NE later in life

Preventative measures

Our experience so far:



Cleaning and disinfection



Acid in drinking water -pH and hygiene



Farmer management



Feed composition and regime



Feed management



Feed related increase in Necrotic Enteritis in 2022 and 2023

Feeding regime

High protein feed - when to avoid

Feed structure

When Necrotic Enteritis strikes

~~Antibiotics~~


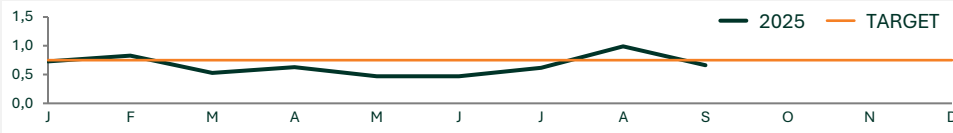

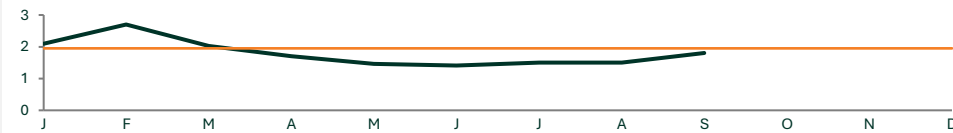

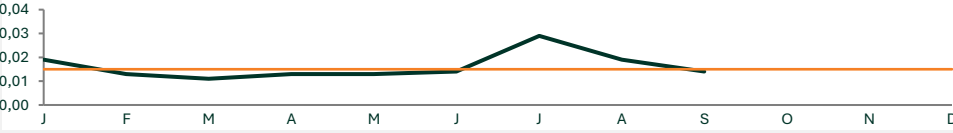

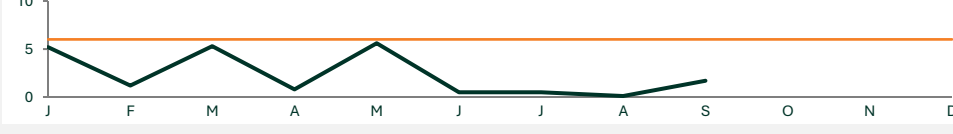

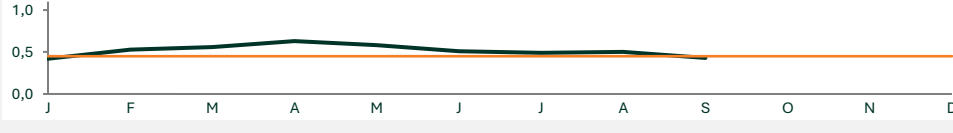

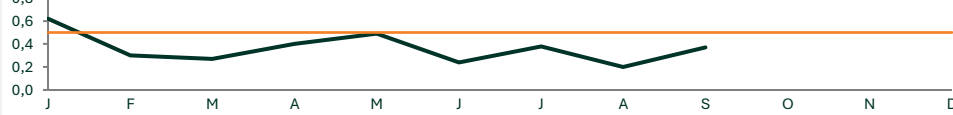
Adding acid to drinking water to reduce the pH to 4

Probiotic added to the drinking water

Last resort: Narasin feed as a treatment, rather than a prophylactic measure

5-6 days → effectively stops the outbreak

Key numbers

KPI	Avr. 2025	Target 2025	2024	Development KPI
 1st week mortality	0,66%	<0,75%	0,89%	
 Total mortality	1,8%	<1,95%	2,0%	
 Transport mortality	0,016%	<0,015%	0,02%	
 Footpad lesions	2,3	<6	5,8	
 Carcass condemnations (health)	0,52%	< 0,45%	0,44%	
 Carcass condemnations (technical)	0,36%	0,5%	0,53%	

 On target
 Better than 2024
 Below target



Thanks for your time!

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