



Alltech[®]

Working Together
for a Planet of Plenty™



Euroopa Maaelu Arengu
Põllumajandusfond.
Euroopa investeringud
maapirkondadesse

We believe

agriculture

has the greatest potential
to positively shape the
future of our planet



Our customers
have the two most
important jobs:

Nourishing
the world &
Preserving
the planet





It's a huge
responsibility ...and
opportunity



Here's how we're **Working Together**
for a Planet of Plenty™.



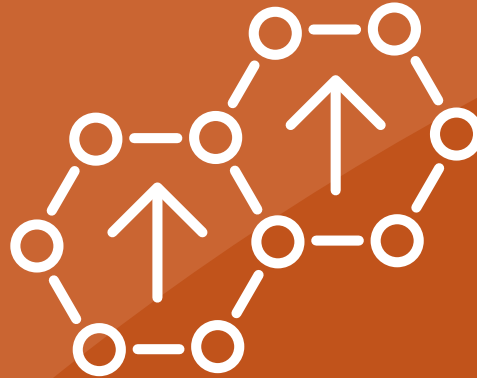
A global leader in agriculture



Specialty
ingredients



Premix



Supplements



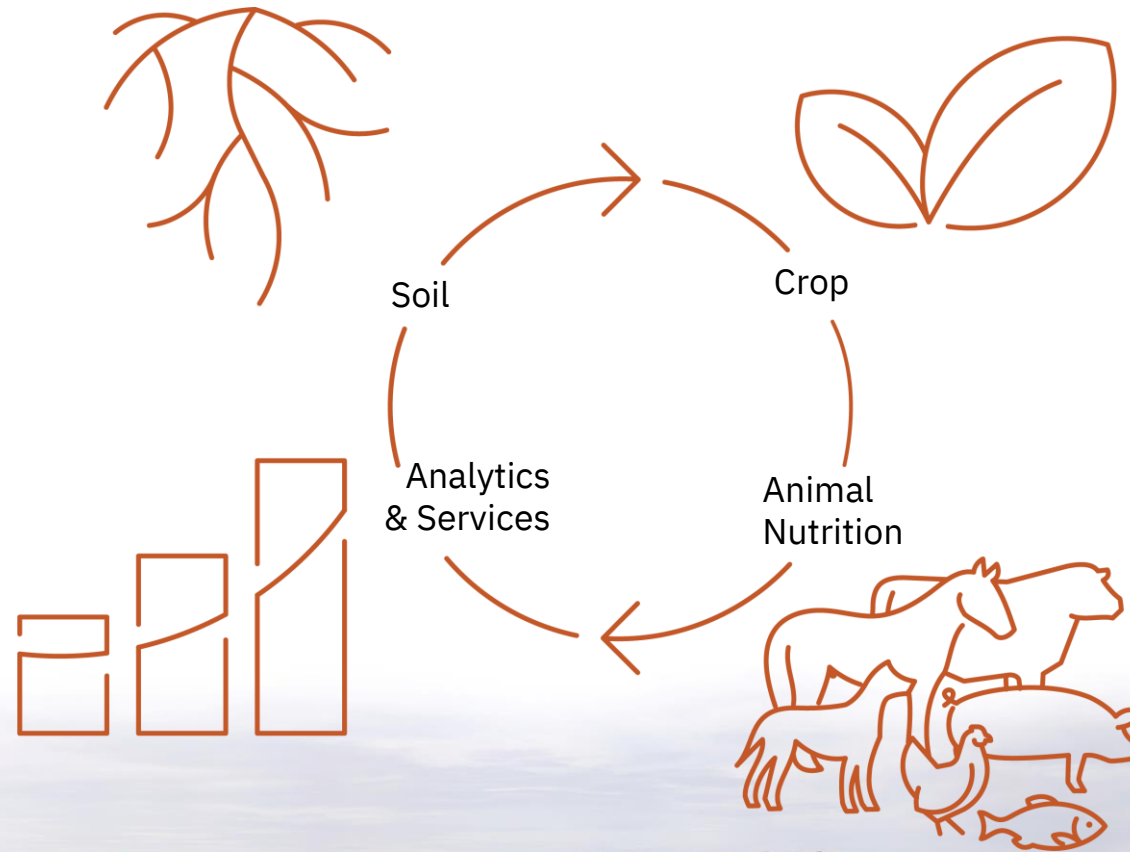
Feed



Biologicals

Backed by science and an unparalleled platform of services

The only global partner with expertise from the ground up



Backed by science

- More than 100 dedicated scientists at 5 bioscience centers
- *Working together* with 100+ universities, including more than 20 global research alliances



Meeting local challenges with global expertise

We're working alongside our customers to provide:

- On-farm support
- Mycotoxin mitigation (Alltech 37+®)
- Ingredient certifications (organic, antibiotic-free)
- Environmental analyses (Alltech E-CO₂)
- Feed ration analyses (Alltech IFM®)
- Consultation
- Training and development



With the scale to make a difference

More than **5,000** team members, supporting **40,000** customers in **120+** countries



350
communities
served

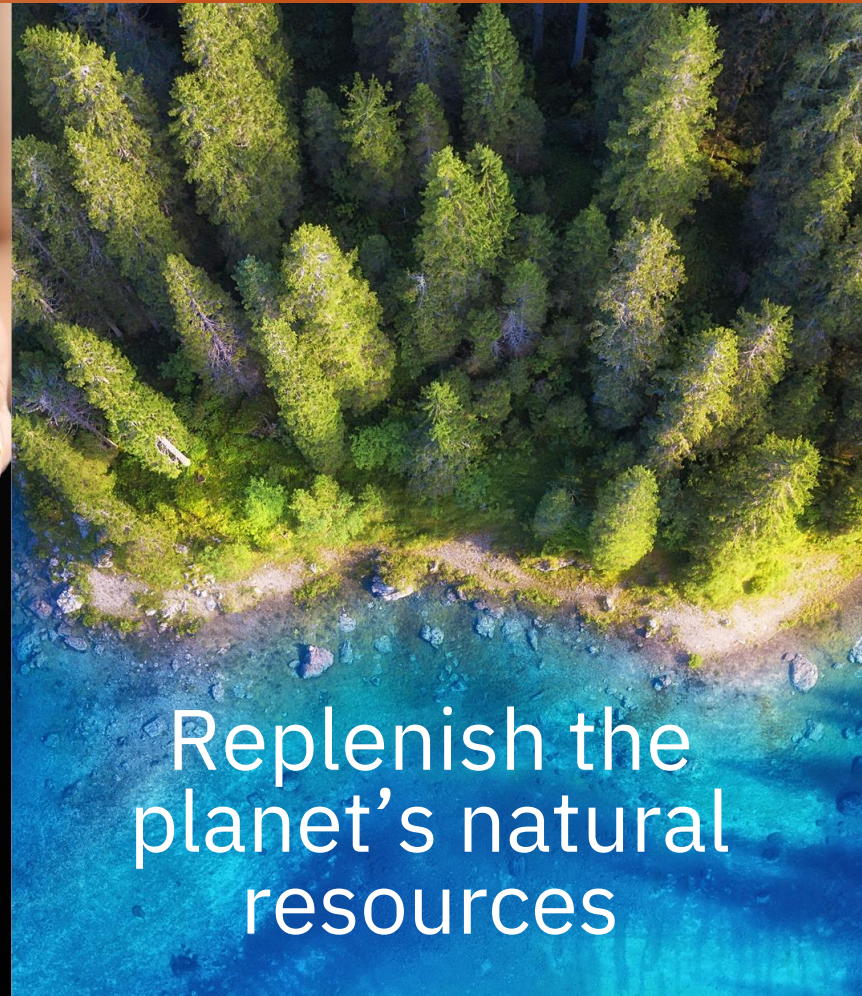
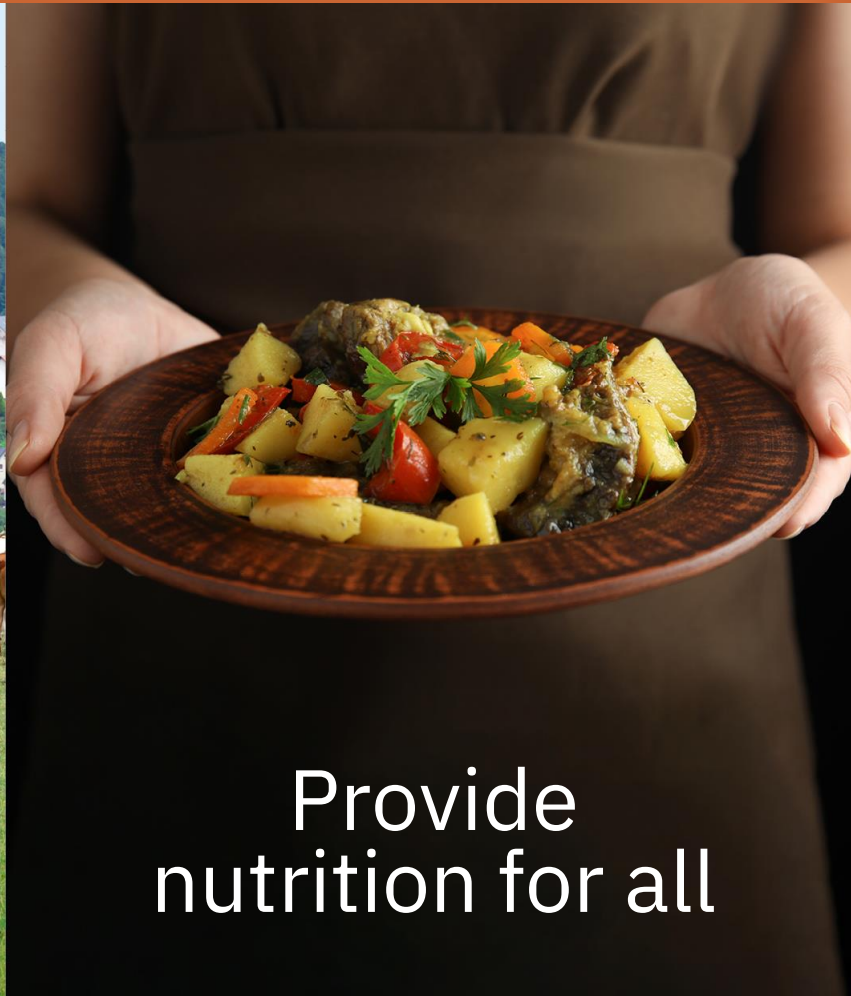
80+ manufacturing facilities strategically
located throughout the world

All of this leads to:

- Maximum **production efficiency**
- Increased **profitability**
- **Sustainability** for you, your operation and the planet



Together, we can:



Join us in

**Working
Together
for a**

**Planet
of Plenty™**

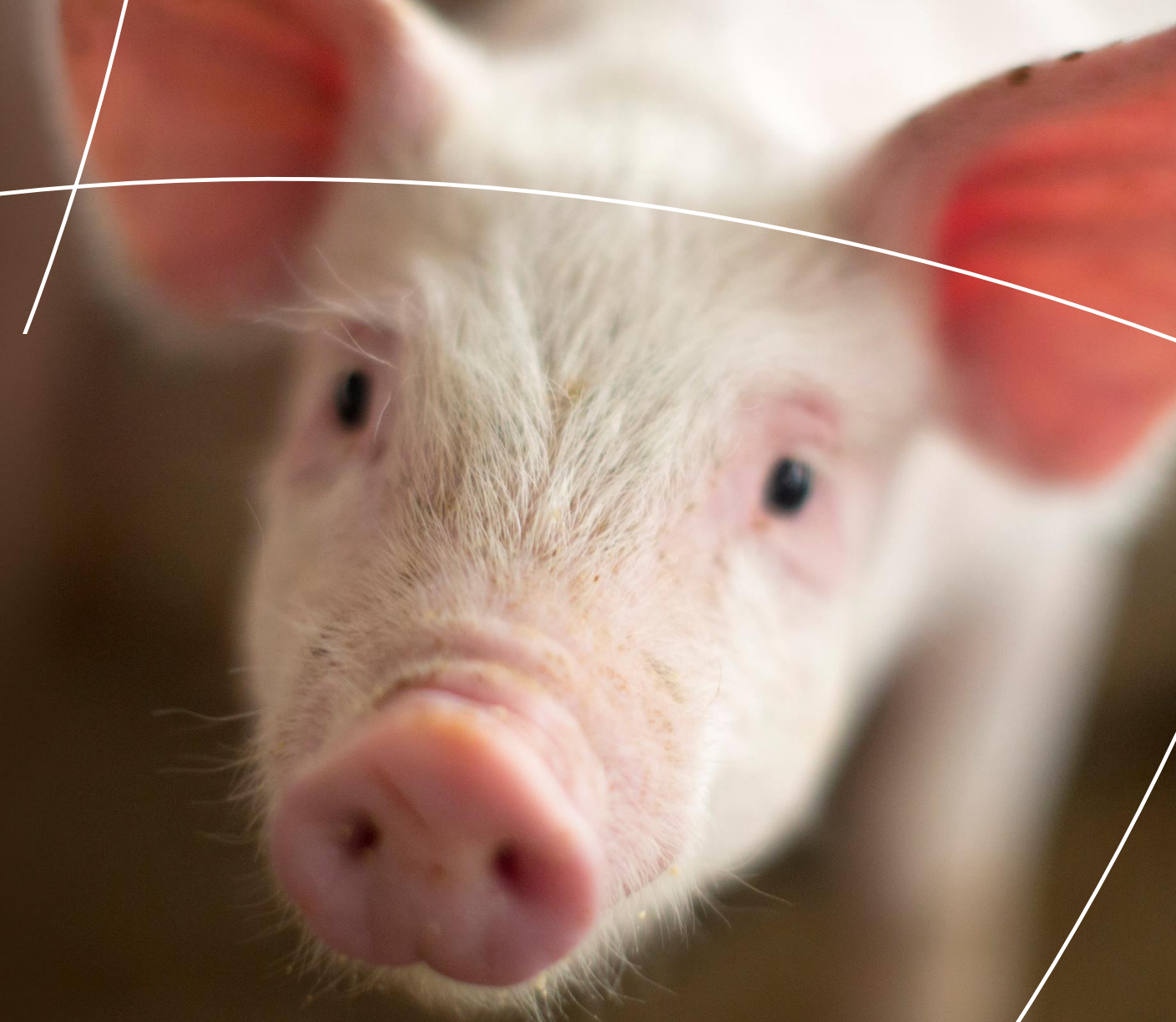


Danish

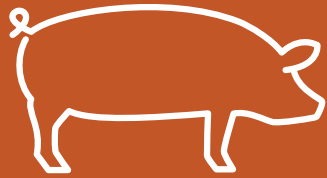
Pig production



Alltech[®]



The challenges in Denmark



Fewer pigs
10.7 M



Zinc ban



AMR
Antimicrobial
resistance



*Scientists understand that **90%** of diseases can be traced back to gut health and the microbiome, which plays a key role maintaining a pig's overall health status.*

Disturbances in the gut during a pig's lifetime can dramatically increase the risk of disease.

Optimal gut health with Seed, Feed, Weed



Seeding the gut for improved performance



Feeding a beneficial gut environment to provide a competitive advantage to favorable bacteria, which are tolerant to acidic environments, unlike most pathogens

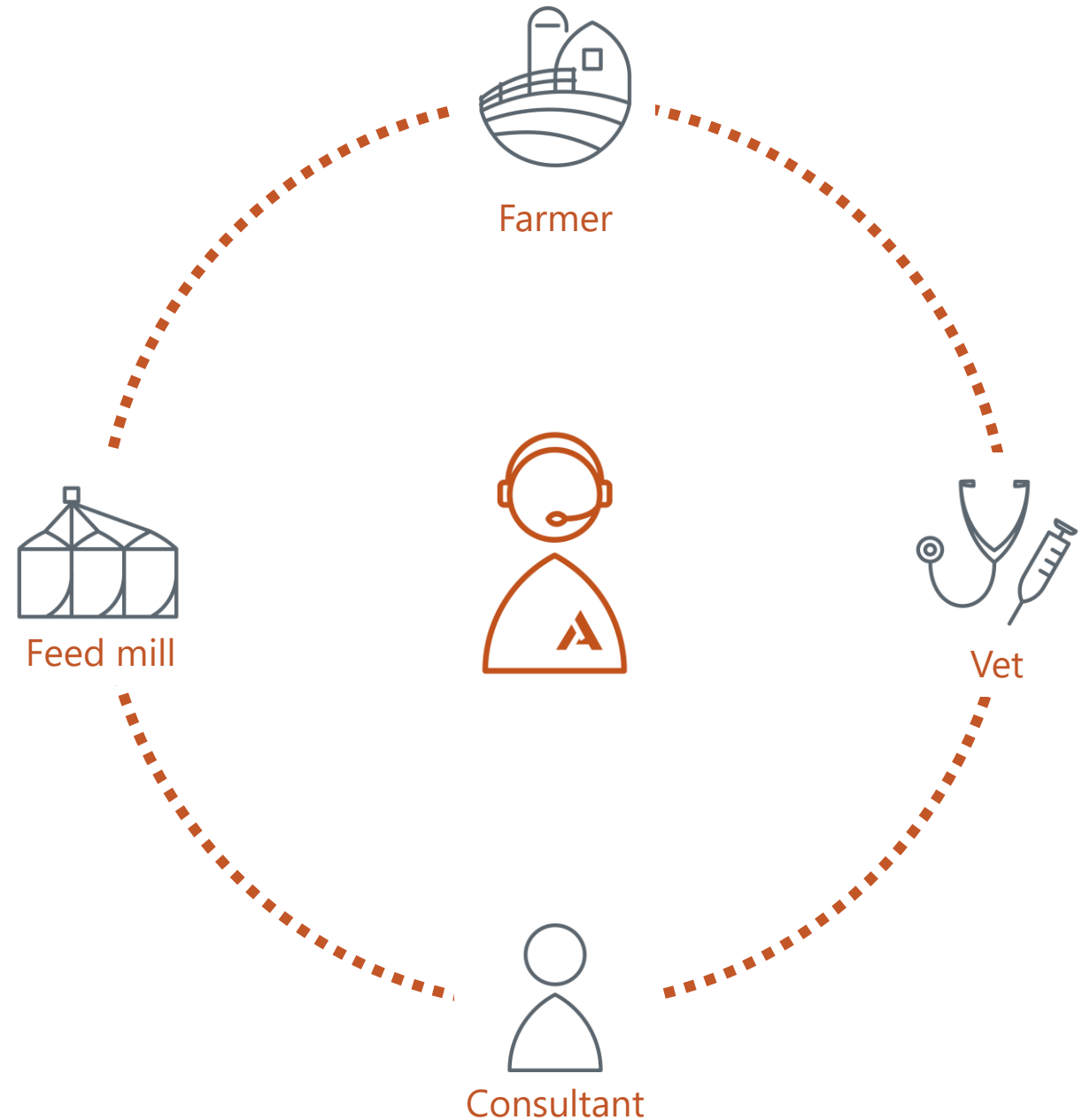


Weeding out unfavorable bacteria by selective exclusion



Holistic approach

To ensure good service, we make sure to support every link in the value chain with **360° support**.



Alltech 37+ ®



1. **Collect sample** on farm



2. The sample is **shipped to the Alltech 37+** Laboratory in Ireland



3. **The sample is tested** for 54 different mycotoxins



4. **A report is made** based on the content levels of mycotoxins (*REQ*)



5. Alltech **reviews the results** with the farmer/vet/consultant



What makes Alltech 37+ special?

Internal Ref # EU006	Mycotoxins	Levels Detected (ppb)(µg/kg)	± Stdev (ppb)(µg/kg)	Detection Limit (ppb)(µg/kg)	Lower Quantification Limit (ppb)(µg/kg)
1	Aflatoxin B1	ND	ND	0.130	0.429
2	Aflatoxin B2	ND	ND	0.539	1.780
3	Aflatoxin G1	ND	ND	0.145	0.480
4	Aflatoxin G2	ND	ND	0.148	0.480
5	Ochratoxin A	ND	ND	2.070	6.850
6	Ochratoxin B	ND	ND	2.218	7.300
7	Citrinin	478.88	20.76	0.308	1.015
8	Deoxynivalenol	1415.20	302.24	4.348	14.350
9	3-AcDON	ND	ND	2.288	7.550
10	15-AcDON	ND	ND	1.794	5.800
11	DON-3-Glucoside	ND	ND	10.973	35.210
12	Nivalenol	ND	ND	48.918	164.730
13	Fusarenon X	ND	ND	2.514	8.295
14	Beauvericin	ND	ND	0.470	1.550
15	Moniliformin	ND	ND	1.566	5.228
16	Fusarin A	ND	ND	2.376	7.840
17	T2 Toxin	0.37	4.96	0.750	2.481
18	HT2 Toxin	ND	ND	0.838	2.755
19	Diacetoxyscorpennol	ND	ND	1.500	5.017
20	Nicotianol	86.75	44.87	1.804	6.090
21	Fumonisin B1	ND	ND	20.532	68.086
22	Fumonisin B2	15.41	6.54	1.822	6.012
23	Fumonisin B3	ND	ND	4.398	14.493
24	Zearalenone	ND	ND	2.570	8.482
25	Patulin	ND	ND	16.837	55.562
26	Mycophenolic Acid	ND	ND	1.021	3.370
27	Roquefortine C	ND	ND	1.776	5.800
28	Penicillic Acid	ND	ND	7.427	24.510
29	Citreovirin	ND	ND	2.572	8.487
30	Wormmann	ND	ND	0.771	2.545
31	Oltroxin	ND	ND	5.654	18.690
32	Sterigmatocystin	ND	ND	0.185	0.612
33	Cyclopiazonic Acid	5.59	1.08	0.989	3.265
34	Vermiculogen	ND	ND	0.335	1.104
35/36	Ergometrin(e)	ND	ND	0.579	1.811
37/38	Ergotamin(e)	4.06	1.87	0.507	1.678
39/40	Ergocristin(e)	ND	ND	2.845	9.317
41/42	Ergocystin(e)	ND	ND	1.166	3.849
43/44	Ergocornin(e)	ND	ND	0.838	2.764
45/46	Ergocryptin(e)	ND	ND	0.811	2.677
47	Lysergic	ND	ND	0.461	1.522
48	Methylergonovine	ND	ND	0.049	0.161
49	Alteranol	ND	ND	1.393	4.598

Alltech MYCOTOXIN MANAGEMENT 37+[®] Mycotoxin Assessment Report

Alltech Sample ID: DG2134 Matrix: TMR Client Name: Alltech Denmark
 Internal ID: EU0995 Species: dairy cows Client Sample ID: Ole Kasmussen - TMR

Mycotoxin Group	Amount, ppb*	Lower T	Moderate T	Higher T
Aflatoxin (B1)**	-	50	100	150
Aflatoxin (B1+B2+G1_G2)**	-	50	100	150
Ochratoxin/Citrinin	-	500	1000	1500
Type B Trichothecenes**	251	100	1000	2000
Type A Trichothecenes**	-	50	100	200
Fumonisin (B1+B2+B3)	-	10000	20000	30000
Zearalenones	-	50	250	500
Emerging Mycotoxins**	8	1000	2000	3000
Fusaric Acid	963	1000	2000	3000
Other Penicillium Mycotoxins**	457	50	100	200
Other Aspergillus Mycotoxins**	-	50	100	200
Ergot Toxins	-	200	300	500
REQ (Risk Equivalent Quantity)***	405.9	50	100	150

* Mycotoxin concentrations non-detectable and below limit of detection by LC-MS/MS analysis
 **Type B Trichothecenes = deoxynivalenol (DON) + 35-acetyl DON + 3-acetyl DON + fusarenon X + nivalenol + DON-3-glucoside; Type A Trichothecenes = T-2 + HT-2 + diacetoxyscorpennol (DAS) + neosolaniol; Emerging mycotoxins = beauvericin + moniliformin; Penicillium mycotoxins = patulin + penicillic acid + roquefortine C + mycophenolic acid + wormmann; Aspergillus mycotoxins = aflatoxin + ergochlorin + verrucigenone
 ***REQ = risk equivalent quantity. This represents the sum of mycotoxin risk based on mycotoxin concentration and respective risk factor.
 † Risk limits for aflatoxins are based on global government regulations of mycotoxins for animal health. Risk limits for the effects of the other mycotoxins listed on animal performance are adopted from information collected from regulatory groups and available scientific research.

Summary of Results:

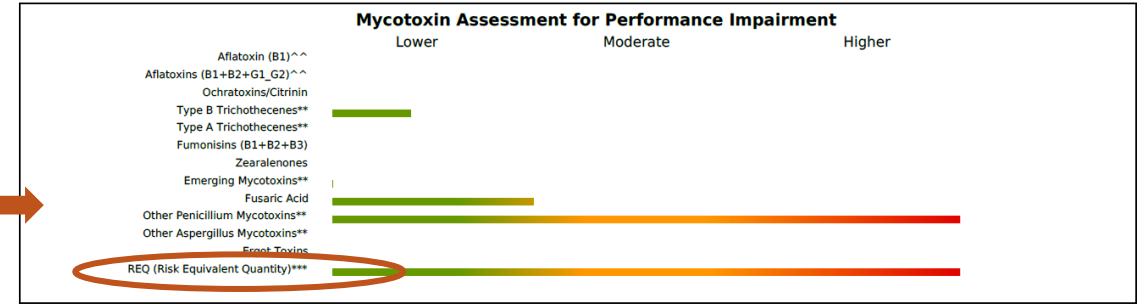
Mycotoxin assessment is complex. Impacts on animals can vary by mycotoxin type, concentration, and duration of consumption. Nutrition, health, and production status can further impact the sensitivity of animals to mycotoxins. Additionally, mycotoxins have the potential to interact so that the presence of one may increase the effect of another. ALLTECH MYCOTOXIN MANAGEMENT calculates the Risk Equivalent Quantity (REQ) that summarizes the potential risk of multiple mycotoxins on performance of animals taking into account species and physiological status.

This sample of TMR contains 5 measurable mycotoxins from the 4 mycotoxin groups indicated above, with an REQ at a higher level for dairy cows.

Symptoms Associated with Mycotoxin Contaminations

Consumption of mycotoxins by dairy cows may result in impacts on the intestinal, organ and immune systems resulting in digestive disorders or an increase in susceptibility to diseases. Overall, cows may have lower feed intake, decreased milk production or altered milk quality. Interactions between mycotoxin groups may increase these effects in cows.

Additionally, the presence of caustic, moderate or higher levels of mycotoxins can increase both chronic and acute mycotoxicosis. Other Penicillium mycotoxins may decrease beneficial microbial populations in the rumen, decrease synthesis of volatile fatty acids and change microbial protein production. Such effects may result in digestive disorders, a decrease in animal performance and altered milk production or milk quality. Suppression of the immune system could also occur. Other Penicillium mycotoxins tend to increase rapidly in stored feedstuffs or finished feeds.



REQ (Risk Equivalent Quantity)
= The overall risk

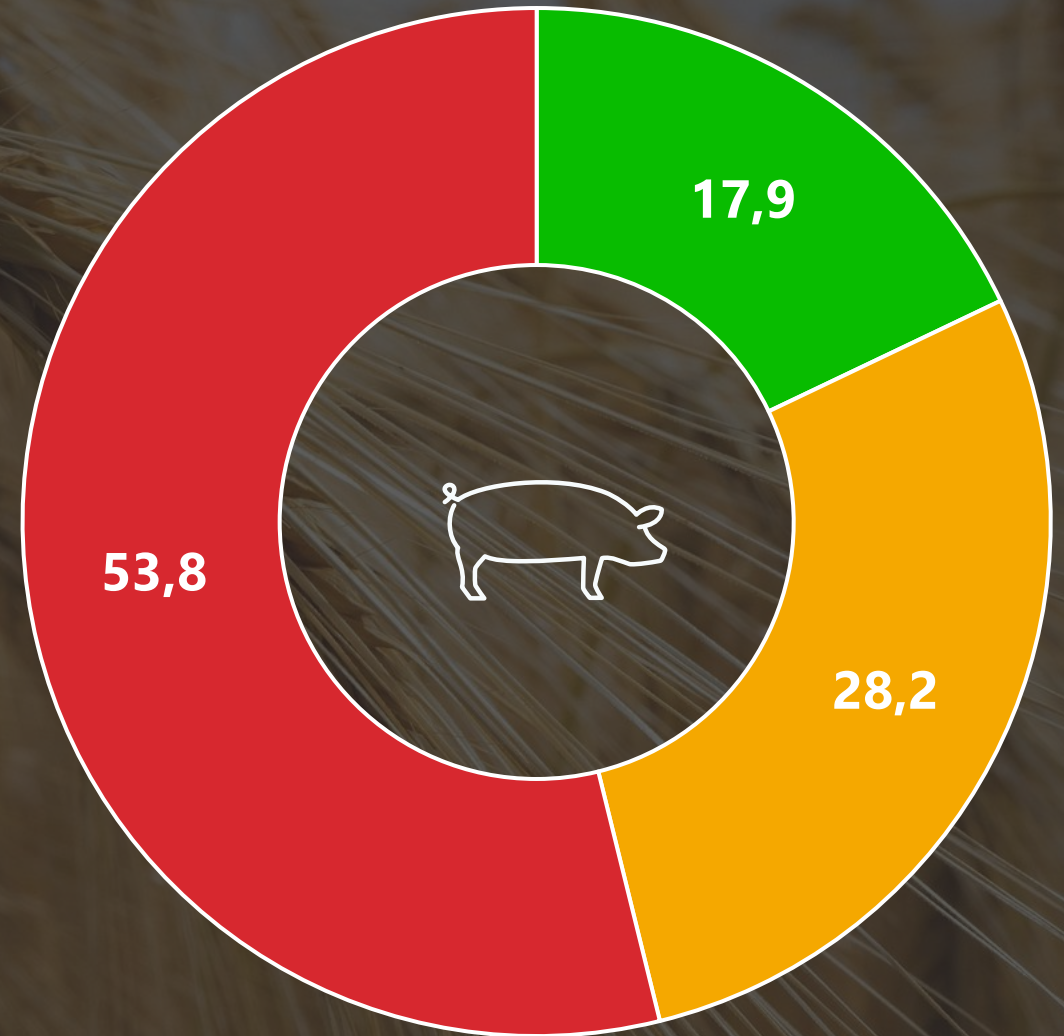
2023

Danish Harvest Results



Barley 2023

The overall risk of the
Danish barley from 2023 for
SOWS



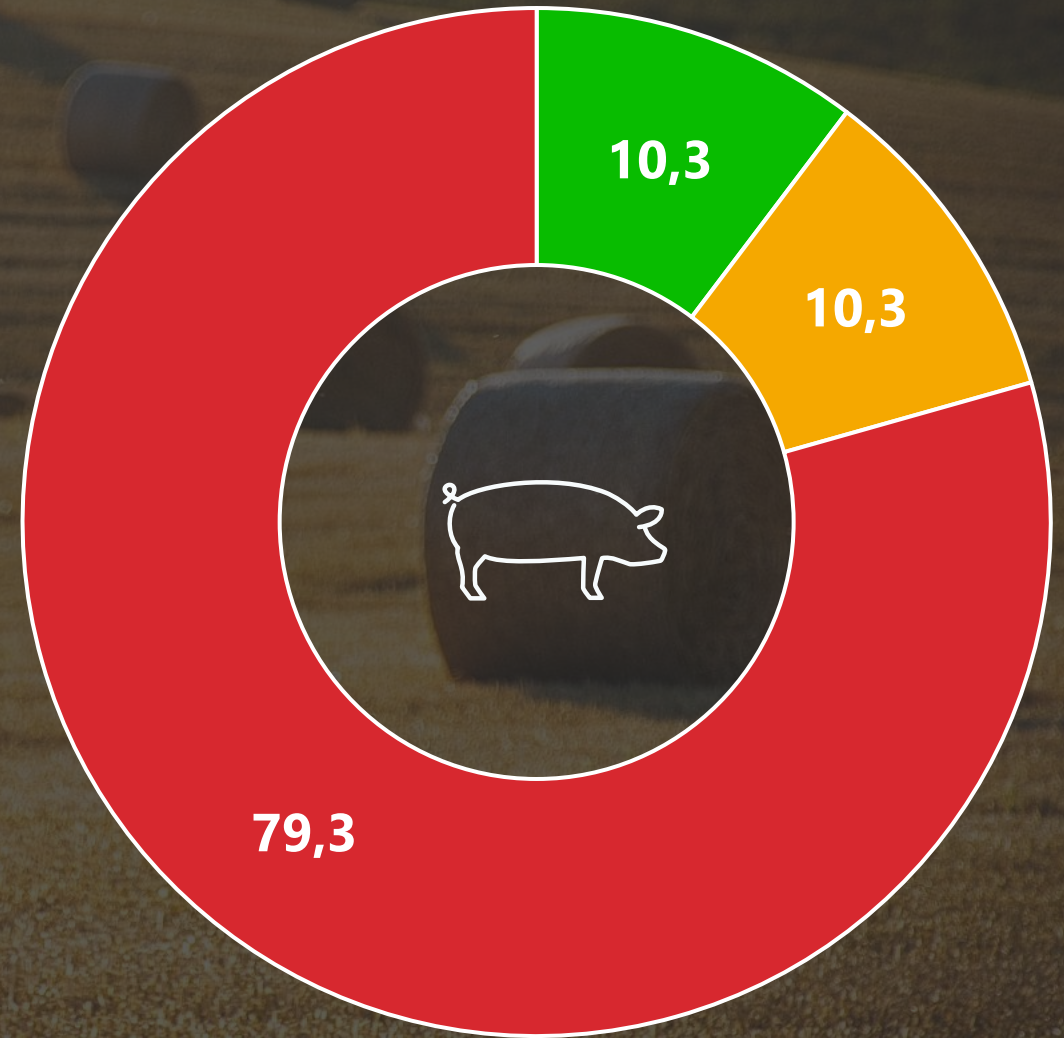
Barley

Danish barley from 2023

	Avg.	Max	Occurrence %
Emerging Mycotoxins	984,7	4.611	100%
Type A Trichothecenes	56,3	274	76,9%
Type B Trichothecenes	80,7	486	69,2%
Other Penicillium	26,7	322	41,0%
Fumonisin	3,5	40	17,9%
Fusaric Acid	0,4	17	2,6%

Straw 2023

The overall risk of the Danish straw from 2023 for **SOWS**



Straw 2023

The overall risk for sows

	Avg.	Max	Occurrence %
Emerging Mycotoxins	617,6	5.737	100%
Type B Trichothecenes	2.115,9	8.648	96,6%
Type A Trichothecenes	37,2	415	55,2%
Zeralenone	50,5	443	17,2%
Other Penicillium	1,3	23	10,3%
Fusaric Acid	0,7	20	3,4%