



HORNSYLD KØBMANDSGAARD

Alternatives to zinc HK Concept

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Põllumajandusfond:
Euroopa investeringud
maapiirkondadesse



Agenda:

- Introduction to Hornsyld (HK)
- Quality of rawmaterials
- Feed composition
- Feeding of piglets before weaning
- Alternatives to zinc - HK-Concept
- Take home messages



Agro



Building materials



Oil



TripleA - soyaprotein



Hornsyld Købmandsgaard



Produktion af Færdigfoder

- 270.000 ton/år
- 52 % Swine
- 26 % Poultry
- 20 % Cattlefeed
- 2 % Hobby

AAA
tripleA



Raw material quality

Purpose:

Deliver a consistent quality every time



Purchase of grains



- Hornsyld (HK) handles every year big amounts of grain
- Wheat, barley, rye, oats and triticale
- Import of corn from Eastern Europe (mainly for poultry)
- All rawmaterials has to be of good quality
- Crucial for the production results of our customers
- Important that the grains are handled correct before and after harvest



- We are the first step in the food chain after the primary producers
- The primary producers are also subject to requirements regarding feed safety
- It is our responsibility only to accept raw materials where the demands for feed and feed safety is ok



Unfortunate storage of grains on farms



- Grain quality like this will not stimulate feedintake of the piglets
- If you dont have control of the quality – feeding without zinc will be more difficult



Alternatives to zinc



HK-Concept



PLAN

Phasing out zinc does not happen overnight

- There is only 7 months to Zinc has to be phased out
- We have had 5 years to find a solution
- In DK 95% still uses zinc
- It goes to slow
- HK has been working with a concept without zinc the last two years
- We have now tested concept which works
- We recommend the farmers to start up with a few sections



HK-concept for phasing out zinc

Concept

- **TripleStart Concept** is a "Safe solution",
- Low protein – higher amino acid levels
- Focus on gut health and stability around weaning
- Best solution for farms where the health status is more challenging
- **Premium Concept** is targeted farms with a high health status
- High protein – focus on high daily gain and low FCR
- **Specifically selected raw materials**
- High Feed intake
- Improve gut health
- Strengthen the immune system



2021-2022	Premium	TripleStart 3
Anvendelse	3-9 kg	3-9 kg
Blandingstype (norm)	Stand.	HK
Varenr.	230020	230080
Indhold:		
FEsv -enzym pr. 100 kg	122	123
FEsv pr. 100 kg	120	121
Råprotein I %	19,0	17,6
Vit. A, i.e. / gram	10000	10000
Vit. D3+HyD i.e./ gram	800	800
Vit. E (alfatokeferol), mg/FEsv	200	200
Kobber mg pr. kg	135	135
Indhold gram pr. FEsv		
Ford. Råprotein	142	130
Ford. Lysin	11,5	12,0
Ford. Methionin	3,7	4,0
Ford. Treonin	6,8	7,7
Ford. Tryptofan	2,3	2,3
Ford. Valin	7,1	7,1
Ford. Leucin	9,9	8,9
Ford. Histidin	3,0	2,9
Ford. Fosfor 300% fytase	3,5	3,5
Total fosfor	5,6	5,6
Calcium	5,5	5,5
Natrium	2,5	2,5
Råvarer I %		
Byg	10-15	15-20
Hvede	35-50	30-45
Majs		
Havre	3-5	3-5
AX3 Digest	+	+
HK SPC 51		
Sojaskrå, Afskallet		
Kartoffelproteinconc.	+	+
Hydrolyseret gær	+	+
Mælkeprodukter	+	+
Kagemix	+	+
Hørfrø- ekstruderet	+	+
Sojaolie/palmeolie	+	+
Benzoesyre, Vevovital	+	+
HK – Agro Acid	+	+
Zero-Zinc C4A	+	+
Probiotika	+	+
Smags og aromastoffer	+	+
NSP Enzymer	+	+
Leveringsform		
Foderlægemiddel Zink ppm		
Sækkevare (15 kg) varenr.		230081
Pillestørrelse	3,8	2,5
Min. bestilling løsvare, ton	6	3

+Råvarer indgår altid



The 5 most important properties of AX3 Digest

HK – Soyaprotein concentrate

68% protein

95 % digestibility

High water binding capacity

Low PH (PH4,1)

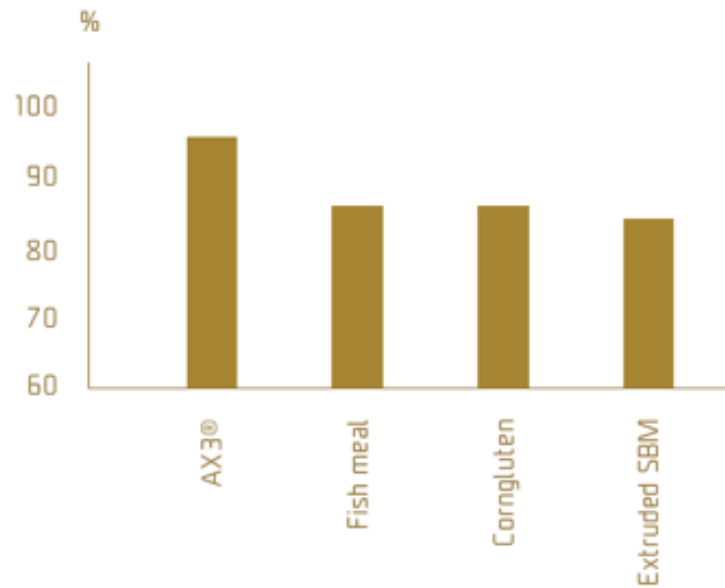
Low acid binding capacity (ABC4)



68% protein

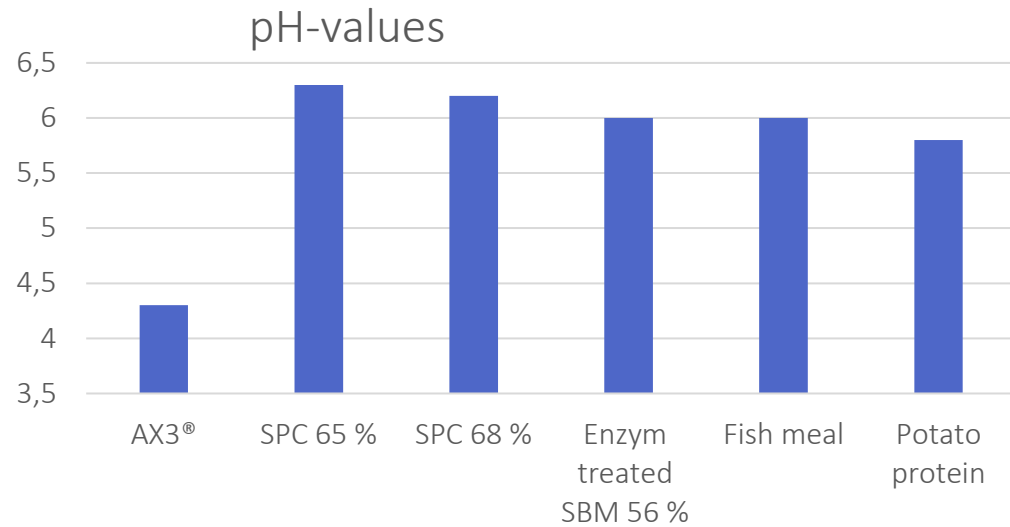
Important that we manage to get enough protein in to the pig that has a small feedintake

No content of ANF's and minerals
ANF and minerals typically gives problems with diarrhoea



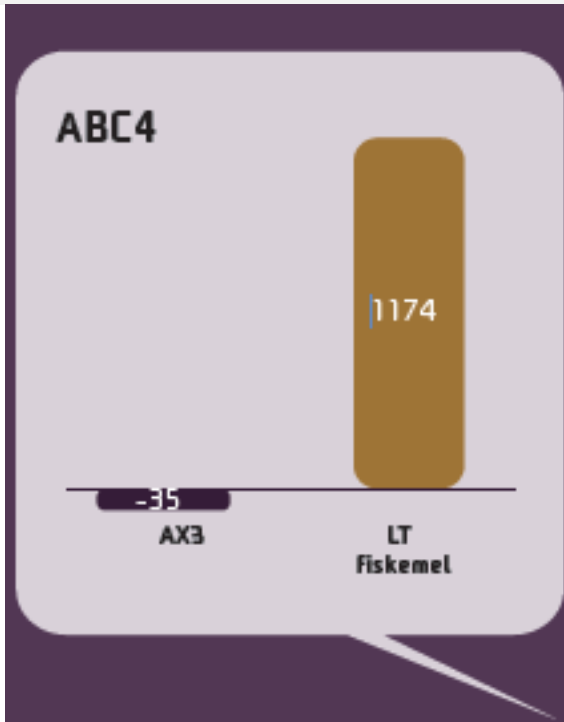
95% Digestibility

- AX3 has a high waterbindings capacity
- It becomes a homogen mass in the pigs stomach and contributes to longer passage rate and thereby the digestibility increases
- The viscosity gives optimal conditions for nutrient uptake and reduced risk of diarrhoea
- The high digestibility secures that even small amounts of feed leads to optimal growth



Low Ph

- At pH 4 there is no growth of pathogene bacterias
- The low Ph value supports the low acid binding capacity
- This is optimal for pepsin, which is the most important digestibility enzyme
- When the ph is under 7, it is not optimal for the degradation of protein



Low ABC4 value –

- A feed with a high ABC value, binds the small amount of HCL (acid) the pig produces in the stomach to be able to digest the feed
- AX3Digest with a low ABC value secures, that pigs own acid production is used for digestion
- **(ABC=Acid Binding Capacity) the maximal amount of strong acid or base, which have to be added 1 kg feed to reach pH4**

Other important raw materials– zinc concept

- **Yeastprotein**
 - Rich on glutamate, inositol and nucleotides
 - Glutamate improves taste/feedintake
 - Inositol helps with cell growth
 - Nukleotides strengthen the immunesystem and gut health
- **Flaxseed**
 - Omega 3 +6
 - Improves the specific immune system
 - Higher feed intake and daily gain fx. In case of disease
- **ZeroZinc**
 - Acidproduct which contains different fatty acids
 - Inhibits growth of salmonella, E.coli etc. And grampositive bacterias

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Focus on management – part of the HK concept

Start up

- In cooperation with the veterinarian
- Important to know the health status of the farm
- We want to know the production data of the farm before startup
- We guide the farmer on farm how to use the feed
- It shall not be complicated – but it is important that the responsible in the stable understands the correct way of feeding



Focus on feedintake before weaning

- Only 50% of the pigs at 6 kg has learned to eat before weaning
- Pigs which have learned to eat before weaning – grows up to 50 g/day more after weaning
- Less diarrhoea



Feeding of piglets before weaning

- As high feedintake as possible
- >400 g feed before weaning
- Keep account of how much they are eating
- Piglets do not eat old feed
- They shall eat up min. 3-4 times/day
- Piglets can not grow of feed which lies in the slurry !!





Weaners - feedingplan 5,5 kg pigs - complete feed

Feedingkurve for feeding two times/day

		skimmilk	Triplestart 3	total	
			Gram pr.	feed-mix	
		Added 10%	50 pigs	50 pigs	
Dage			1 feeding	1 feeding	
0	Monday	215	1935	2150	
1	Tuesday	275	2475	2750	
2	Wednesday	300	2700	3000	
3	Thursday	375	3375	3750	
4	Friday	425	3825	4250	
5	Saturday	450	4050	4500	
6	Sunday	475	4275	4750	
7	monday	525	4725	5250	
8	tuesday	640	5760	6400	
9	Wednesday	750	6750	7500	
10	Thursday	850	7650	8500	

Guidance

1. Milk and feed mixes in a feeding truck (dry)
2. feed is weighed in a bucket (follow the feeding curve)
3. Add water and feed **(1:1)** (soaked feed) not liquid feed
4. **Soaked feed is fed out twice a day in long feed cribs min. 5 days.**
5. The ekstra milk is used in min 10 days for the smallest piglet.

Test of HK-concept – by Pig advicer Henrik Aarø Hansen

Hornsyldkøbmandsgård forsøg med smågrisefoder
Forsøg nr. 4/ 2021

Start Vægt.	4,78kg. 153 kg.	4,78kg. 153kg
Vægt pr. gris 1 uge Total Vægt. 1uge	5,50kg. 176 kg.	5,44kg. 174 kg.
Vægt pr. gris 2 uge Slut Vægt 2 uge	7,53 kg. 241 kg	7,59 kg. 243 kg.
Daglig tilvækst 1 uge Daglig tilvækst 2 uge Daglig tilvækst hele perioden	102 g 290 g 196 g	94 g 308 g 201g
Foder Type.	Tør/ Våd Fordret i langkrybber 3 gange daglig	Tør / Våd Fodret i langkrybber 3 gange daglig
Antal Grise.	32	32
Gram foder / kg tilvækst 1 uge Gram foder / kg tilvækst 2 uge Gram foder hele perioden	1696g 908 g 1114 g	1619g 1362g 1422g
Firma Blanding.	Forsøg 1 Store piller Hornsyld købmandsgård.	Triple start 3 Hornsyld købmandsgård.

Forsøget udført af Henrik Aarø-Hansen Aarø Svinerådgivning i perioden 28-5-2021 til 11-6-2021.

Kommentarer næste side.

- Feeding in longcribs water/feed 1:1)
- No diarrhoea – white nice pigs
- Very fine pigs at the end of the test period
- Among the best test conducted regarding diarrhoea and uniformity

Piglet trial 2018– better results by using AX3Digest

- Trial with 3200 piglets
- **AX3Digest** was tested against high quality Danish fishmeal
- **No Zinc was added in the weaning period**
- Up to 16% AX3 in the weaning diet



	Control Group	Trial Group	
	Danish Fishmeal	AX3Digest	Difference
Daily gain, g/d	525	541	+ 16 g/d
FCR, Kg/kg	1,48	1,44*	- 40 g/kg daily gain
Weight, Kg	28,7	29,5*	+ 0,8 kg / pig

*Significant

- **Saved feeding costs and higher daily gain**

Take home message

- No single product can replace zinc
- Important to know the quality of the raw materials
- Important to know the health status of the farm before starting up
- Feeding before weaning is important for the results after weaning
- Feeding management fx. water/feed (1:1) is a great part of the success
- HK feed with AX3 Digest shows promising results in controlling diarrhoea after weaning



Questions

