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The Piglet Feed Range of Nuscience Group

Outstanding Technical Performance and Cost Effectiveness

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Introduction

Piglet Feed Concept

Piglet Feed Range

Nuscience Concept in Field Trials

Introduction

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Nuscience Concept in Field Trials

Introduction

Challenges in piglet feeding	Nuscience piglet product range
High nutritional requirements	Fits the nutritional requirements
Limited feed and water intake	Promotes feed intake
Inadequate endogenous enzyme and acid secretion	Stimulates the development of the digestive and absorptive capacity
Development of intestinal morphology and bacterial flora	
Limited gut health	Guarantees optimum gut health
Legal aspects (eg. EU ban of AMGP)	Provides the best solution for legal limitations
Different rearing strategies in the market	Offers a solution for each rearing strategy in the market

Introduction

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Piglet Feed Concept of Nuscience Group

FEED INTAKE

Nuscience Feed Intake Component
Lactose Content and Sources
High Value Protein Sources

Optimum Amino Acid Balance
Lactic Acid

Fumaric Acid
Aromabiotic

PIGLET HEALTH

Introduction

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Nuscience Concept in Field Trials

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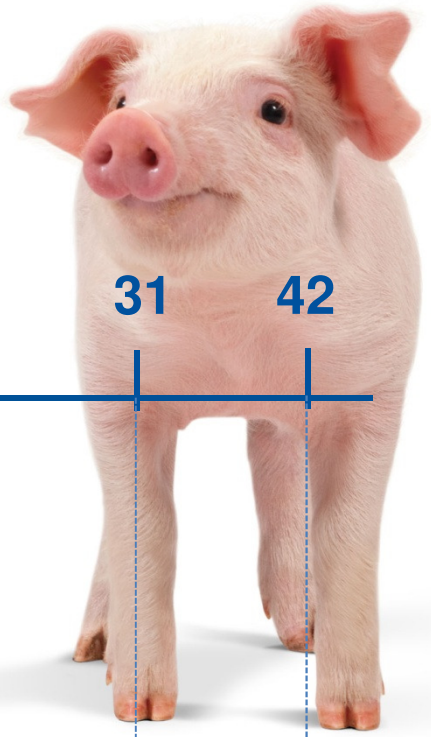
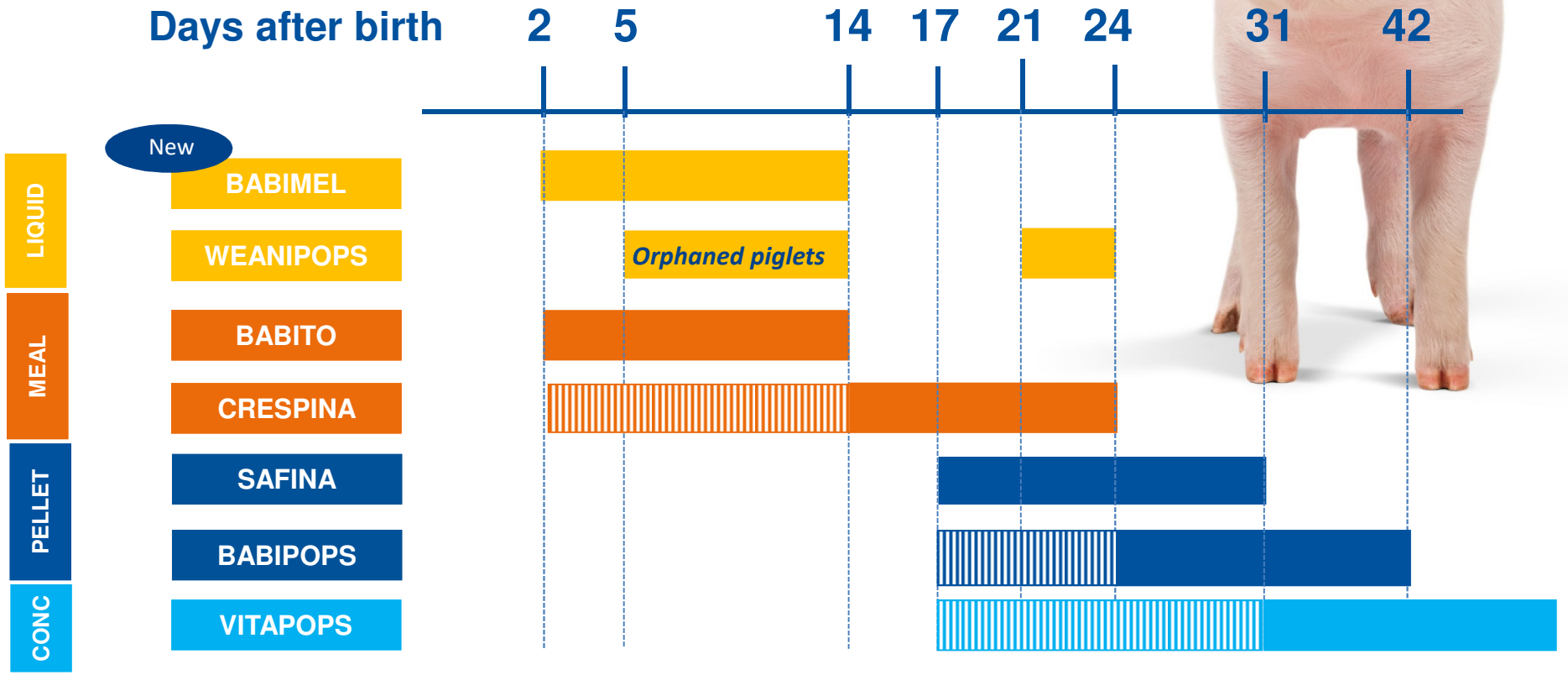
Overview





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New

babimel

the milky start

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New Babimel

Nutritional challenges for newborn piglets

- High nutritional requirements of newborn piglets
- Limited native immunity
- Poorly developed gastro-intestinal tract
- Used to liquid feeding

- Fast evoluating genetics
- Increasing litter sizes
- Lower birth weights
- Milk production is not adapted to increasing litter sizes

- Lower piglet uniformity
- Higher mortality of suckling piglets
- Lower weaning weights

Solutions in practice : foster sows, rescue decks, artificial sows, …

Disadvantages : expensive, hygiene of such feeding systems, …

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New **Babimel**

Application

Product : Complete porridge for newborn piglets

Use :

- Mix with fresh water (40°-45°C) in a ratio of 1 to 2 à 2.5
- Feed two times a day to suckling piglets on top of the sow milk
- In small portions in round additional feeders
- No need for expensive feeding systems
- Porridge with long-lasting homogeneity

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New **Babimel**

Product characteristics

- High content of fats suitable for newborn piglets
- High content of soluble and easily-digestible proteins/immunoglobulins
- High content of top quality dairy products
- High content of palatable and functional feed ingredients

Why Babimel ?

- A unique *long-lasting homogeneous* mixture Babimel/water (1/2) without the need for special expensive feeders.
- The tastiness and the homogeneous texture *encourage newborn piglets to eat* , resulting in *healthier, more uniform and heavier piglets at weaning.*

New **Babimel**

Field trial in Belgium

	Treatment 1	*Treatment 2*
# sows	**54**	**59**
# live born piglets	**708**	**748**
Birth weight, kg	**1.27**	**1.25**
Day 2 -> Day 11	**Yoghurt product**	**Babimel**
Day 12 -> Weaning	50% Yoghurt 50% Prestarter	**50% Babimel** 50% Prestarter
# weaned piglets	658 (92%)	702 (94%)
Weaning weight (kg)	5.91	6.13
Feed intake yoghurt /Babimel per piglet (g)	195	***205*** *+ 5 %*

weanipops

the soluble start

Weanipops

Application

Product : A soluble prestarter diet for early weaning piglets next to their weaning diet (also suitable for orphaned piglets)

Use :

- Mix with fresh water (40°-45°C) in a ratio of 1 to 2
- Feed two times a day to weaning piglets on top of the weaning diet
- Can also be fed ad libitum to orphaned piglets during ten days from 5 days of age
- In small portions in round additional feeders
- No need for expensive feeding systems
- Porridge with long-lasting homogeneity

Weanipops

Product characteristics

- High content of fats suitable for early weaned piglets
- High content of soluble and easily-digestible proteins / immunoglobulins
- High content of top quality dairy products
- Selection of unique heat-treated cereals
- High content of palatable and functional feed ingredients

Why Weanipops ?

- A unique *long-lasting homogeneous* mixture Weanipops/water (1/2) without the need for special expensive feeders.
- The tastiness and the homogeneous texture *encourage young piglets to eat* immediately after weaning, resulting in a *healthier gut, better intake of nutrients and finally a higher growth rate.*

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Weanipops

Research trial

Measuring the integrity of the small intestinal wall in weaning piglets after feeding Weanipops on top of the weaning diet.

	Treatment 1 ***10 piglets***	***Treatment 2*** ***10 piglets***
Day 21 -> Day 24	Weaning diet	Weaning diet **Weanipops**
Day 24 -> Day 26	Weaning diet	Weaning diet
Day 26	Dissection	Dissection
Ileal crypt depth (µm)	178.8 ± 20.6	***221.8 ± 20.1***
Ileal villus height (µm)	287.4 ± 64.8	***301.6 ± 68.0***
V/C ratio	1.65 ± 0.40	1.41 ± 0.34
Mannitol recovery (%)	10.52 ± 6.18	***15.29 ± 7.76***
Lactulose recovery (%)	31.86 ± 9.76	***16.45 ± 10.07***

Reference values

A recovery of < 14% mannitol in the urine => a carbohydrate malabsorption
A recovery of > 1% lactulose in the urine => a disaccharide hyperpermeability "leaky gut syndrome"

Weanipops

Feeding Weanipops on top of the weaning diet :

- results in more intestinal mucosa activity
  (deeper crypts and therefore less severe villus shortening)

- results in less impairment of the integrity of the small intestinal wall

Feeding Weanipops on top of the weaning diet :

- increases feed intake (less severe drop in feed intake)
- secures the morphological structure and integrity of the small intestinal wall
- supports the health and functionality of the small intestine
- stimulates the performance and health of piglets during (post)weaning period

Weanipops

Field trial in Italy

	Treatment 1	*Treatment 2*
Day 2 -> Day 15	**Babito**	**Babito**
Day 15 -> Day 24	Weaning diet	Weaning diet
Day 24 -> Day 28	Weaning diet	Weaning diet + **Weanipops**
Weight on day 2 (kg)	1.83	1.74
Weight on day 28 (kg)	7.59	***8.11***

babito

earliest feedintake

Babito

Application

Product : Creep feed in meal form for newborn piglets

Use :

- Always supply clean drinking water next to Babito
- Mix in the beginning 1/3 of Babito with 2/3 of water to help the piglets to adapt to the solid creep feed
- When feed intake is high enough, switch to a Nuscience prestarter (Crespina or Safina) or mix with a Vitapops based starter feed

Babito

Product characteristics

- High content of fats suitable for newborn piglets
- High content of highly digestible proteins / immunoglobulins
- High content of palatable and functional feed ingredients
- High content of heat treated cereals

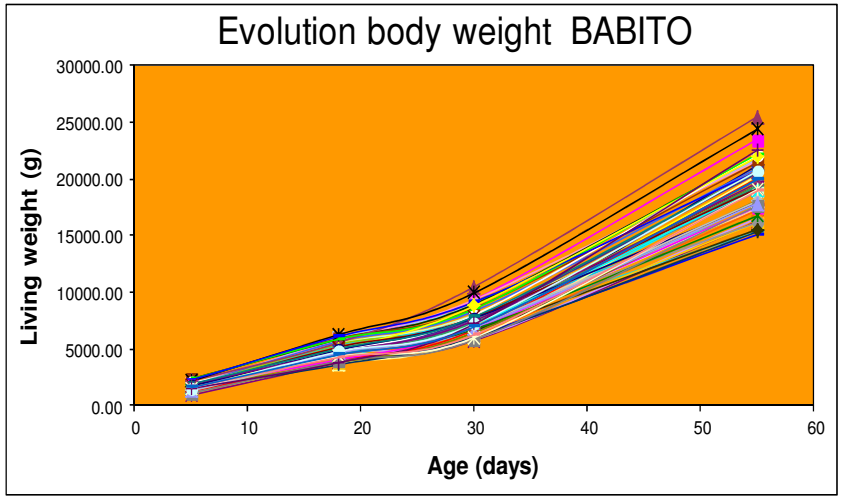
Why Babito ?

- More vital piglets / *lower mortality rate*
- Piglets are *better prepared to weaning* / no delay in growth around weaning
- *Obviously more uniform litters* at weaning and afterwards
- *A higher weight* at weaning (0.5 kg) and higher post-weaning performance

Why Babito ?

More uniform litters at weaning and afterwards

A higher weaning weight and higher post-weaning performance



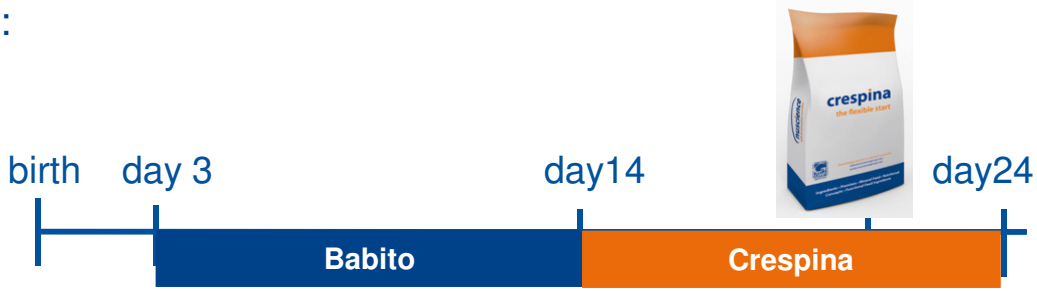
crespina
the flexible start

Crespina

Application

Product : A prestarter diet in meal form for early weaning piglets

Use :



- In small portions in round additional feeders
- Always supply clean drinking water next to Crespina
- Its typical and very rich composition makes Crespina suitable as weaning feed as well as creep feed
- It can be mixed with fresh water (40°-45°C) in a ratio of 1 to 2

Crespina

Product characteristics

- High content of easily-digestible energy and protein sources
- High content of top quality dairy products and *blood plasma*
- High content of palatable and functional feed ingredients

Why Crespina ?

- The ideal nutrient profile for early-weaned piglets *supports growth.*
- The tastiness and choice of feedstuffs *stimulates feed intake .*
- The high content of functional feed ingredients *supports health.*
- Most important : *an increased post-weaning growth rate*

Crespina

Field trial in Belgium

	Treatment 1	*Treatment 2*
Day 17 -> Day 24	Weaning diet	**Crespina**
Day 24 -> Day 28	Weaning diet	**Crespina**
Day 28 -> Day 38	Starter diet	Starter diet
Weight on day 17 (kg)	5.18	5.20
Weight on day 28 (kg)	7.12	7.18
Weight on day 38 (kg)	8.81	***9.20***
Daily weight gain (g/day) day28->38	168.8	***210.2***

+ 41.4 g/d

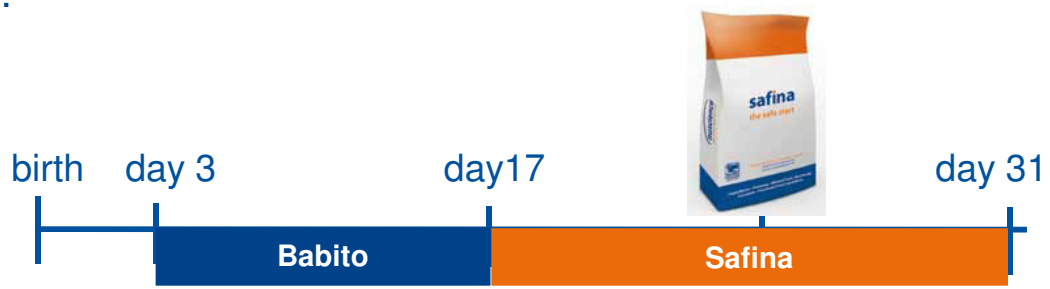
safina

the safe start

Application

Product : A prestarter pellet for piglets from 17-21 days of age

Use :



Product characteristics

- High content of dairy products and other palatable feedstuffs
- High content of functional and health supporting feed ingredients (synergetic combination of MCFA and specific organic acids)
- The ideal nutrient profile for weaning piglets from high litter sizes and with high lean accretion

Safina

Why Safina ?

- Excellent growth and feed intake
- Little risk for diarrhea and mortality
- Best support of the immune system
- Excellent piglet uniformity

Field trial in Germany

	Treatment 1	***Treatment 2***
Day 3 -> Day 28	Creepfeed competitor	**Babito**
Day 28 -> Day 47	Weaning diet competitor	**Safina**
Weight on day 28 (kg)	7.38	7.60
Weight on day 47 (kg)	11.24	12.35
Daily weight gain (g/day)	203.1	***250.2***

+ 23.2%

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babipops

the taste is the difference

Babipops

Application

Product : A weaning pellet for piglets from 24-28 days of age

Use :

Product characteristics

- An adequate content of dairy products and palatable feedstuffs
- An adequate content of functional and health supporting feed ingredients (synergetic combination of MCFA and specific organic acids)
- A nutrient profile fulfilling the nutritional requirements of weaning piglets

Babipops

Why Babipops ?

- Cost-efficient transition during the weaning period
- Optimum growth and feed intake
- Less diarrhea and mortality
- Support of the immune system
- Good piglet uniformity

Field trial in Belgium

	Treatment 1	*Treatment 2*
Day 24 -> Day 35	Competitor prestarter	**Babipops**
Day 35-> Day 70	Starter diet	Starter diet
Weight on day 24 (kg)	6.34	6.35
Weight on day 35 (kg)	7.08	7.68
Weight on day 70 (kg)	20.58	22.87
Daily weight gain (g/day)	309.6	***359.1***

+ 15.9%

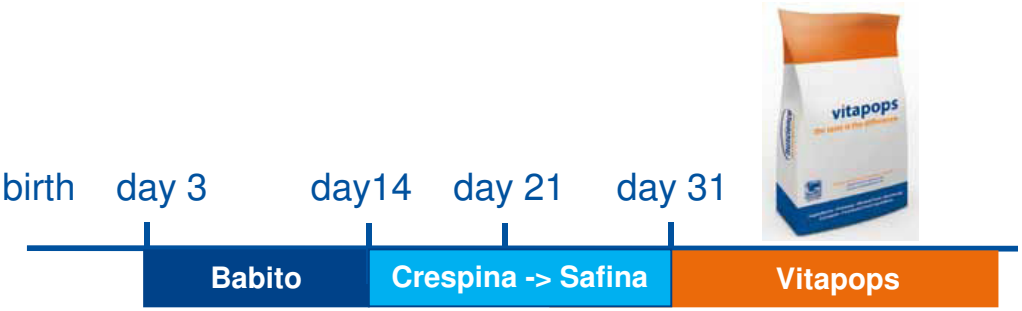
vitapops

the taste is the difference

Vitapops concentrate

Products and application

Vitapops 15
Vitapops 10
Vitapops 9
Vitapops 6



Product characteristics

- A unique combination of aromas and sweeteners
- The use of top quality dairy products
- An ideal profile of essential nutrients
- Synergy between MCFA's and specific organic acids

Why Vitapops ?

- Optimum growth and feed conversion
- Less diarrhoea and lower mortality
- Support of the immune system
- Good piglet uniformity

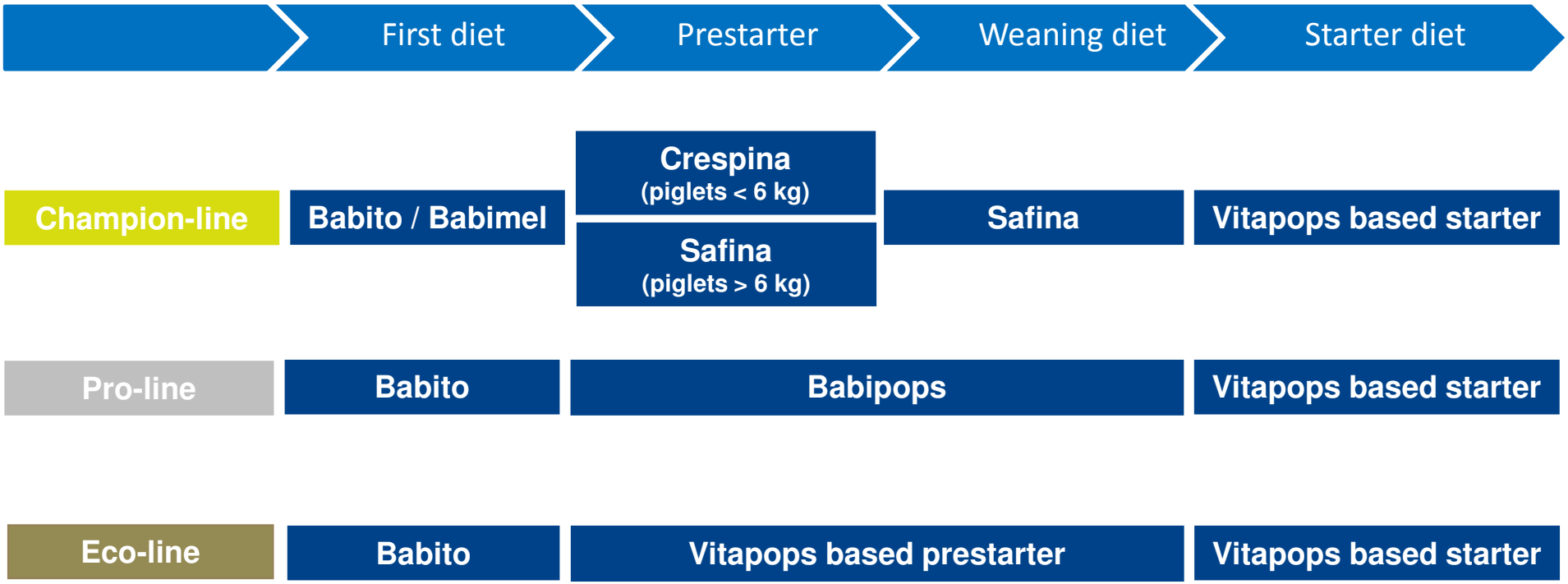
Field trial in Germany

	Treatment 1	***Treatment 2***
Day 21 -> Day 56	Concept A	**Vitapops (15%/6%)**
Start Weight (kg)	6,9	**6,9**
Final Weight (kg)	16,1	17,7
Daily feed intake (g/day)	424,7	459,8
Feed conversion	1,61	***1,51***
Daily growth rate (g/day)	264,1	***305,5***

+ 15,7 %

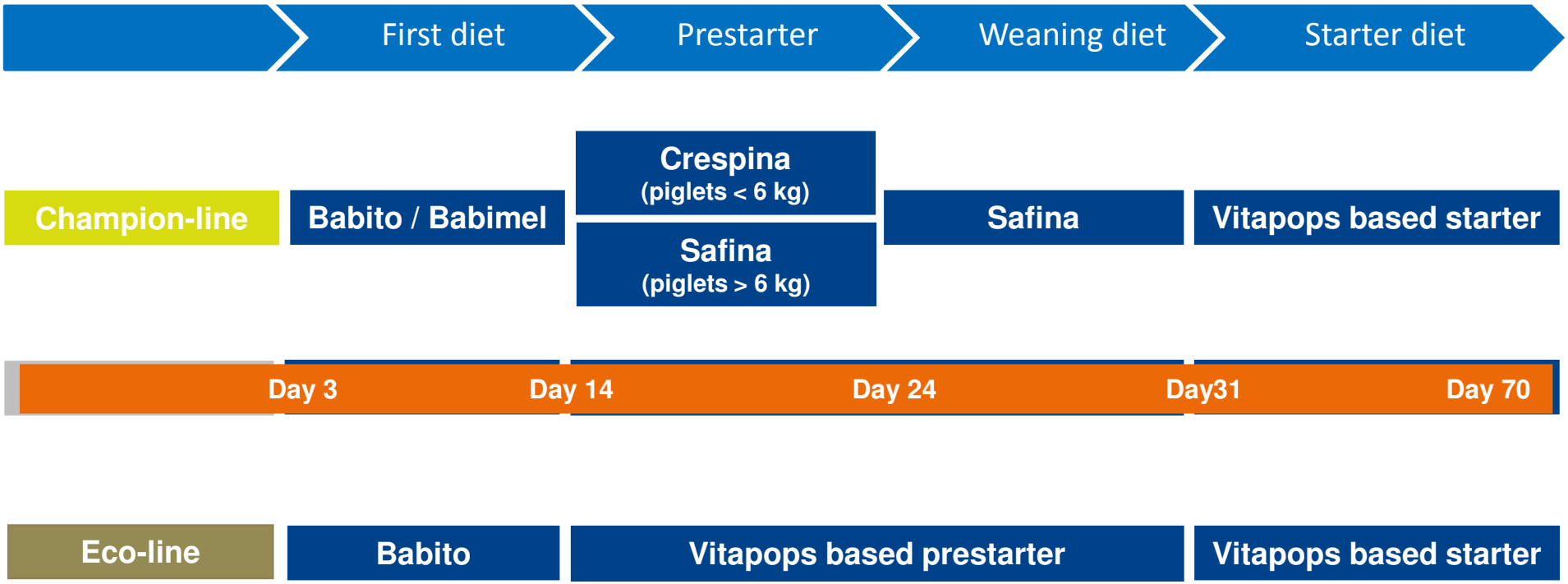
Nuscience Prestarter Lines

Three Nuscience Prestarter Lines



Nuscience Prestarter Lines

Practical application in Belgian market



Introduction

Piglet Feed Concept

Piglet Feed Range

Nuscience Concept in Field Trials

Nuscience Concept in Field Trials

Field trial 1

Trial data

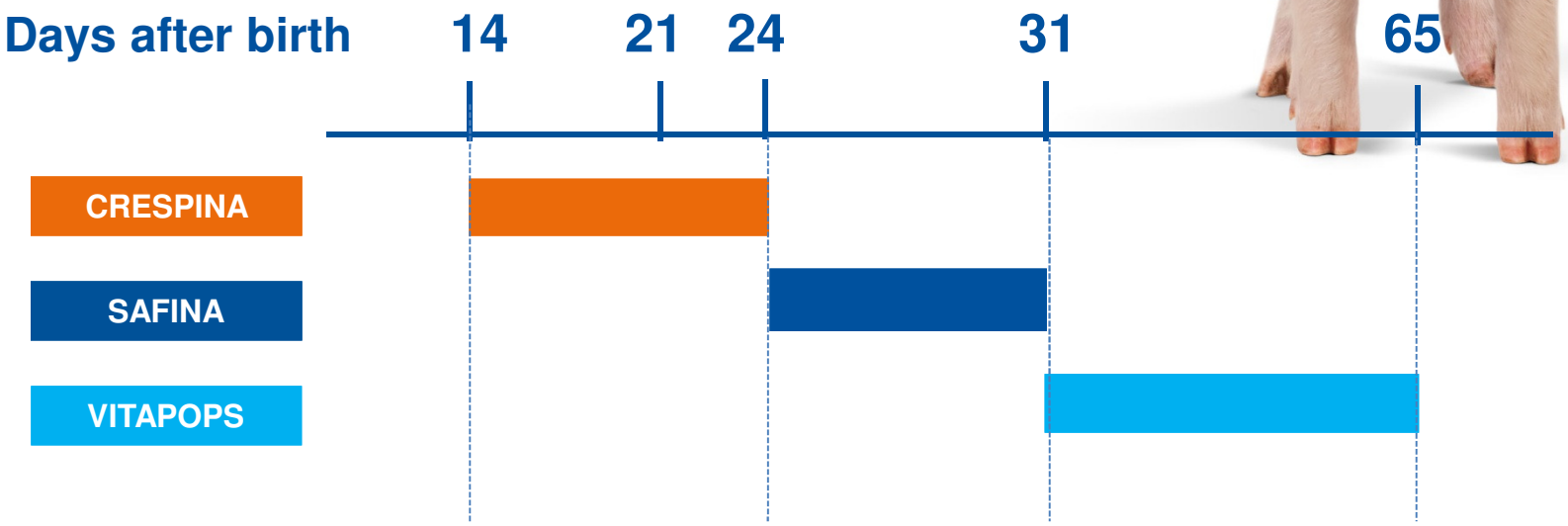
Farm : Aalter (B)

Amount of piglets : 1045

Genetics : Danbred x Piétrain

Piglets weaned at 21 days

Trial period : weaning till 44 days after weaning



Nuscience Concept in Field Trials

Field trial 1

	Control	*Nuscience*
Day 14 -> Day 21	**Crespina**	**Crespina**
Day 21 -> Day 24	Control prestarter	**Crespina**
Day 24 -> Day 31	Control weaner	**Safina**
Day 31 -> Day 65	Control starter	Starter diet + **Vitapops 10%**
Weight on day 21 (kg)	5.86 ± 0.99	5.85 ± 1.01
Weight on day 65 (kg)	20.93 ± 2.42	21.52 ± 1.52
Daily growth (g/day)	342.6 ± 39.7	356.3 ± 24.9
Daily feed intake (g/day)	535.7	532.0
FCR	1.56	1.49
Mortality	10/526 (1,9 %)	8/519 (1,5%)

+ 3%

+ 4%

Nuscience Concept in Field Trials

Field trial 1

ECONOMICAL CALCULATION

Nuscience feed concept

Feed Cost			€ 6446.5
Piglet yield	Piglets	511	
	Piglet kg	511 x 21.52 kg = 11 000 kg	
	Piglet yield		€ 15950
Total profit			**€ 9503.5**

Control feed concept

Feed Cost			€ 6205
Piglet yield	Piglets	516	
	Piglet kg	516 x 20.93 kg = 10 800 kg	
	Piglet yield		€ 15660
Total profit			**€ 9455**

Nuscience Concept in Field Trials

Field trial 2

Trial data

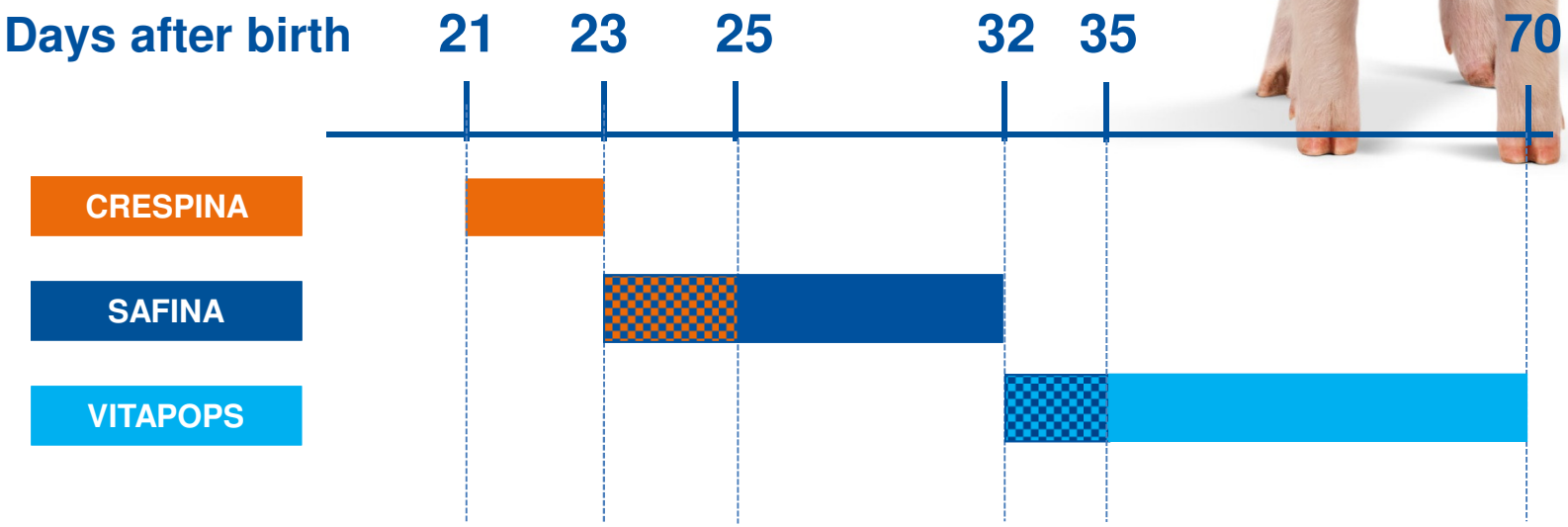
Farm : Staden (B)

Amount of piglets : 588

Genetics : Hypor x Piétrain

Piglets weaned at 21 days

Trial period : weaning till 49 days after weaning



Nuscience Concept in Field Trials

Field trial 2

	Control	*Nuscience*
Day 21 -> Day 23	Control prestarter	**Crespina**
Day 23 -> Day 25	Control prestarter+weaner	50% **Crespina** + 50% **Safina**
Day 25 -> Day 32	Control weaner	**Safina**
Day 32 -> Day 35	Cotrol weaner + starter	50% **Safina** + 50% **Vitapops** based starter
Day 35 -> Day 70	Control starter	**Vitapops** based starter
Weight on day 21 (kg)	6.15 ± 0.87	6.18 ± 0.66
Weight on day 70 (kg)	19.44 ± 3.10	19.95 ± 3.34
Daily growth (g/day)	271.2 ± 51.4	281.0 ± 47.9
Daily feed intake (g/day)	439.3	438.4
FCR	1.62	1.56
Mortality	8/294 (2.7%)	8/294 (2.7%)

+ 3%

+ 4%

Nuscience Concept in Field Trials

Field trial 3

Trial data

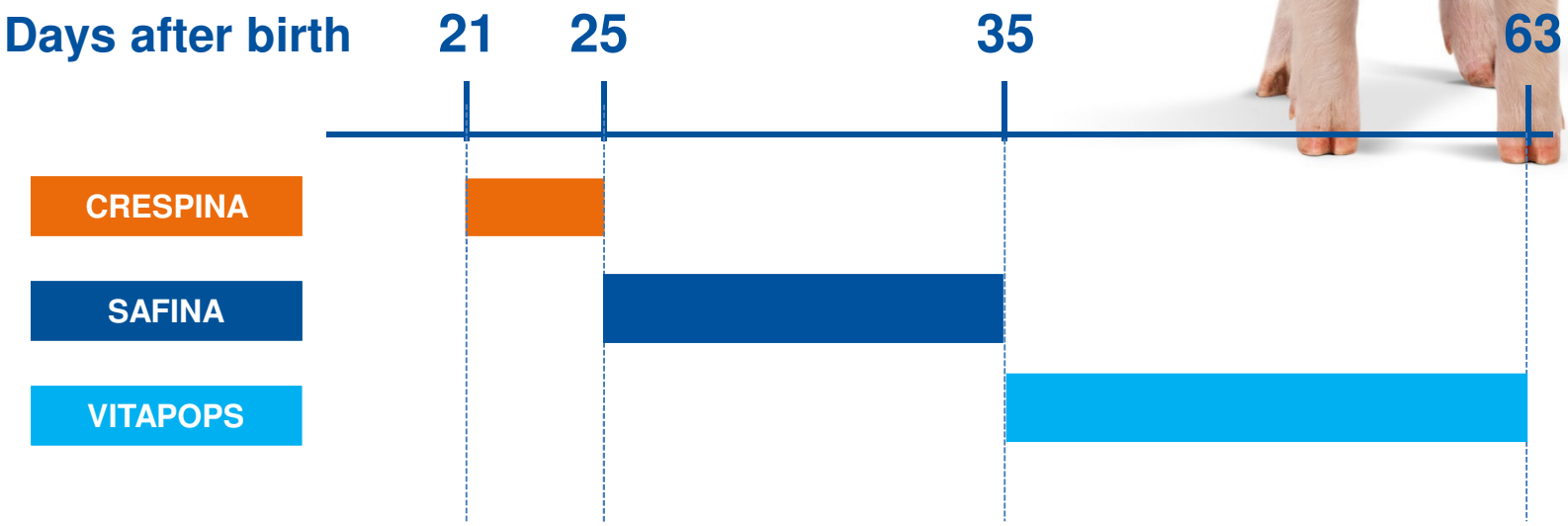
Farm : Rijkevorsel (B)

Amount of piglets : 394

Genetics : Topigs x Piétrain

Piglets weaned at 21 days

Trial period : weaning till 42 days after weaning



Nuscience Concept in Field Trials

Field trial 3

	Control	*Nuscience*
Day 21 -> Day 25	**Crespina**	**Crespina**
Day 25 -> Day 35	Control weaner	**Safina**
Day 35 -> Day 63	Control starter	**Vitapops** based starter
Weight on day 21 (kg)	5.56 ± 0.82	5.56 ± 0.91
Weight on day 70 (kg)	16.34 ± 2.40	16.70 ± 2.17
Daily growth (g/day)	256.7 ± 40.3	265.2 ± 43.7
Daily feed intake (g/day)	410.9	415.2
FCR	1.60	1.57
Mortality	5/197 (2.5 %)	1/197 (0.5 %)

+ 2%

+ 3%

- 2%

Nuscience Concept in Field Trials

Nuscience (Pre)starter Concept

Excellent Piglet Performance !

Cost-effective !

→ Pink Models

Conclusions

Goal

Excellent piglet performance

Excellent benefit for client

Keys

- Dedicated production lines for young piglets
  mash feed, crumble or 2 mm pellet
- High value raw materials / functional feed ingredients for young piglets
  - *Availability*
  - *Experience*
  - *Knowledge*
  - *QA*

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Nuscience piglet prestarters
for outstanding technical performance and cost effectiveness !!

babito
earliest feedintake

safina
the safe start

babimel
the milky start

weanipops
the soluble start

crespina
the flexible start

vitapops
the taste is the difference