Animal Health through Nutrition ?

SINTOFARM

Sintofarm has developed a premix, using a combination of ingredients unique not only in Europe, most probably worldwide!

Sintacidomix

Premix

to be used in Feed for

Poultry , Swine , Calves

SINTOFARM

Sintacidomix

A well balanced mixture of Chestnut Tannin (Castanea sativa) and organic acids, to make use of the nutritional benefits of both of them.

(Synergistic effect)

SINTOFARM

Chestnut Tannin or Acids are in use for several years, mainly in feed for piglets / swine / ruminant/ rabbits, etc., more recently in poultry.

Chestnut Tannin and Acids (acidifiers) are feed additives which can (do already) replace antibiotic growth promoter.

More specific: Because serological and clinical observations are obvious, Chestnut Tannin used alone or in combination with mainly organic acids play a more and more important role in the **prevention of Enterits** (e.g. known as Wet Litter in Poultry), **reduction of Salmonella and Campylobacter shedding, E. coli** etc.)

In spite of that, it is still difficult to find publications reporting about the economical effect of Chestnut Tannin, but it is almost impossible to find results about using it in combination with acids!

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There are differences between Poultry and Swine regarding **dosages** used in feed, **duration of application** etc.

Structure of intestine tract between animals is different.

For example:

Length of the digestive section compared to length of diff. bodies:

Broiler Chicken only 6 times, Pigs 15 times, Sheep 28 times.

pH values: e.g. Broiler Chicken: Crop, Proventriculus 4.4, Gizzard 2.6, Small Intestine, Caeca, Colon: 5.7- 6.5.

Time feed is passing through the intestine tract is different.

Mode of Action

Chestnut Tannin + Acids

+ Does form a **layer of insoluble denaturated protein** on the surface of the intestine mucouse.

+ **Thickness of layer** depends on the dosage of administered Chestnut Tannin.

+ Keeping the **mucous membran clean** does

> support **activity of antioxidative enzymes**

> **prevents from colonization of harmful bacteria** on the mucouse membran.

+ **Also acts on the cell membran of harmful bacteria** forming a thin layer of insoluble denaturated protein reduceing the metabolism preventing from production of toxins.

+ **Reduction of pH value does influence protein break down** (indigested protein transported to the duodenum leads to rottenness and faulty fermentation which is a culture medium for harmful bacteria).

+ **Non-dissociated organic acids can penetrate the cell wall of certain types of bacteria** disrupting the normal pysiology, disociating in the cell releasing Hydrogen (H+) and Anion (A*).

+ **pH value in cell does decrease** but cell will try to bring the pH inside the bacteria to it`s normal level. **Energy is needed** which eventually can **stop the growth of bacteria ore even can kill it.**

+ **Accumulation of Anions (A*)** becoms toxic to the bacteria leading to **osmotic problems** for the bacteria.

ADDITIVE EFFECT

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Composition of Sintacidomix?

It contains

Chestnut Tannin

40 %

SINTOFARM

?

plus

SINTOFARM

Chestnut Tannin 40 %

+

Fumaric acid - E- 236

Lactic acid - E 270

50%

Citric acid - E 296

Caciumformiate E -238

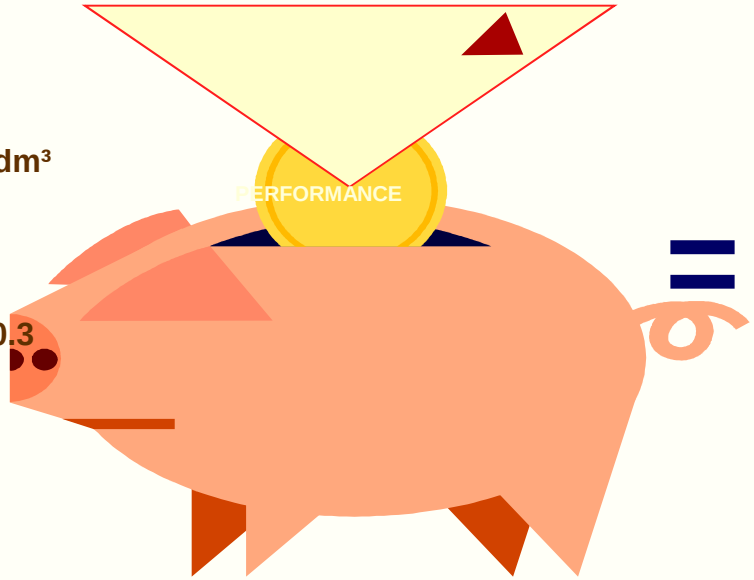
Brown ganula Moderately sour

Bulk density: 650 +- 50g/dm³

Soluble in hot water

Particle size: 0.2 -1.0 mm

pH in 5% solution: 2.7 +-0.3



= Sintacidomix

SINTOFARM

Production of Sintacidomix

Chestnut Wood selection

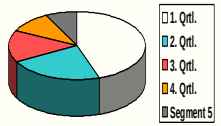
Tannin extraction

Standardization (75 % A.I.)

In line to formula calculating 40 % a.i. Chestnut Tannin

Organic ACIDS

Fumaric acid E-236
Lactic acid E-270
Citric acid E-296
Calciumformiate E-238



In line to formula peparation of a premix

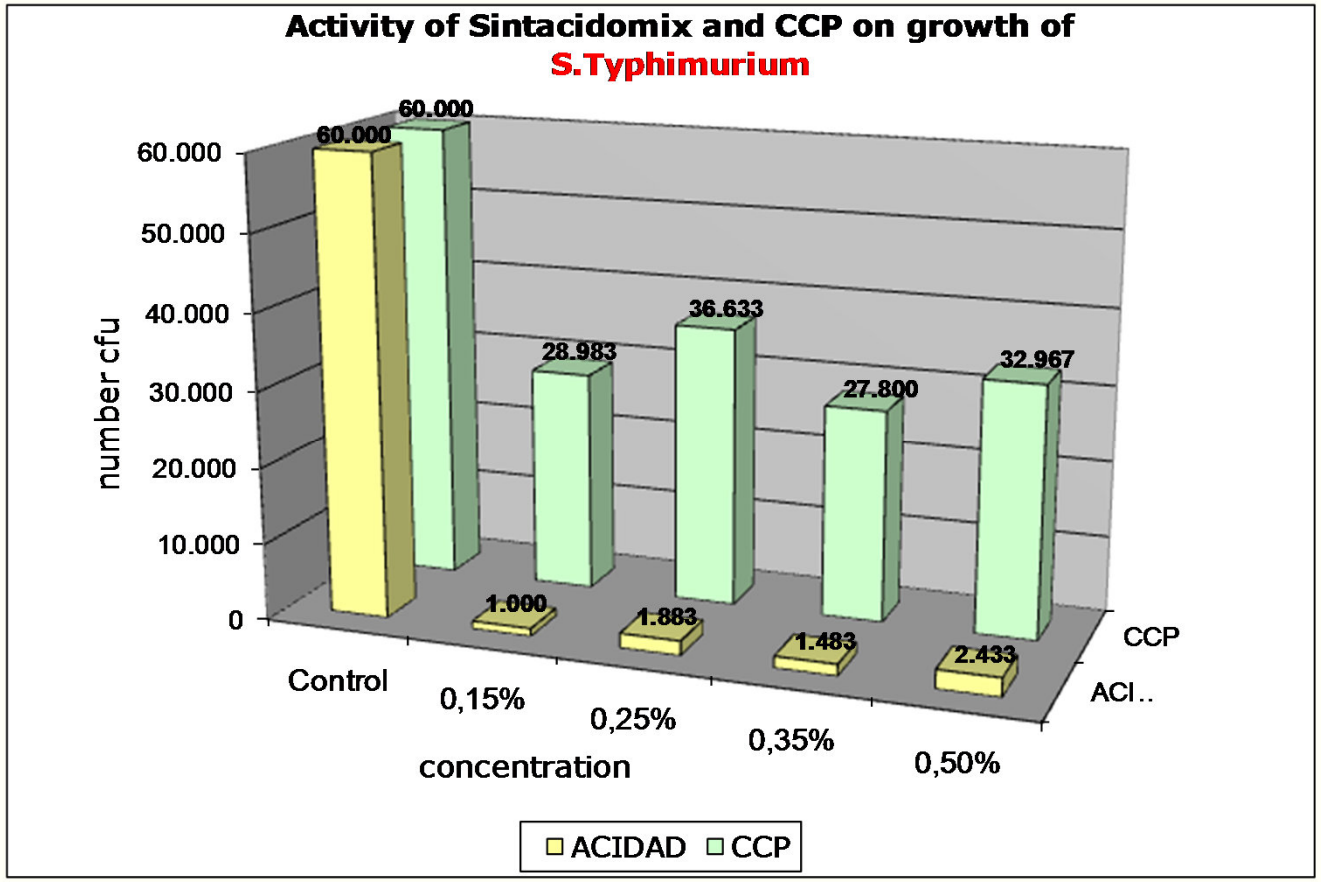
Mixture of standadized Chestnut Tannin and Acids

Each particle contains the same amount of active substances

GRANULATION

Excellent mixability (free of dust), Granulation, a good protection for other more sensitive ingredients (e.g. vitamins) in concentrates, low concentrated premixes, or feed

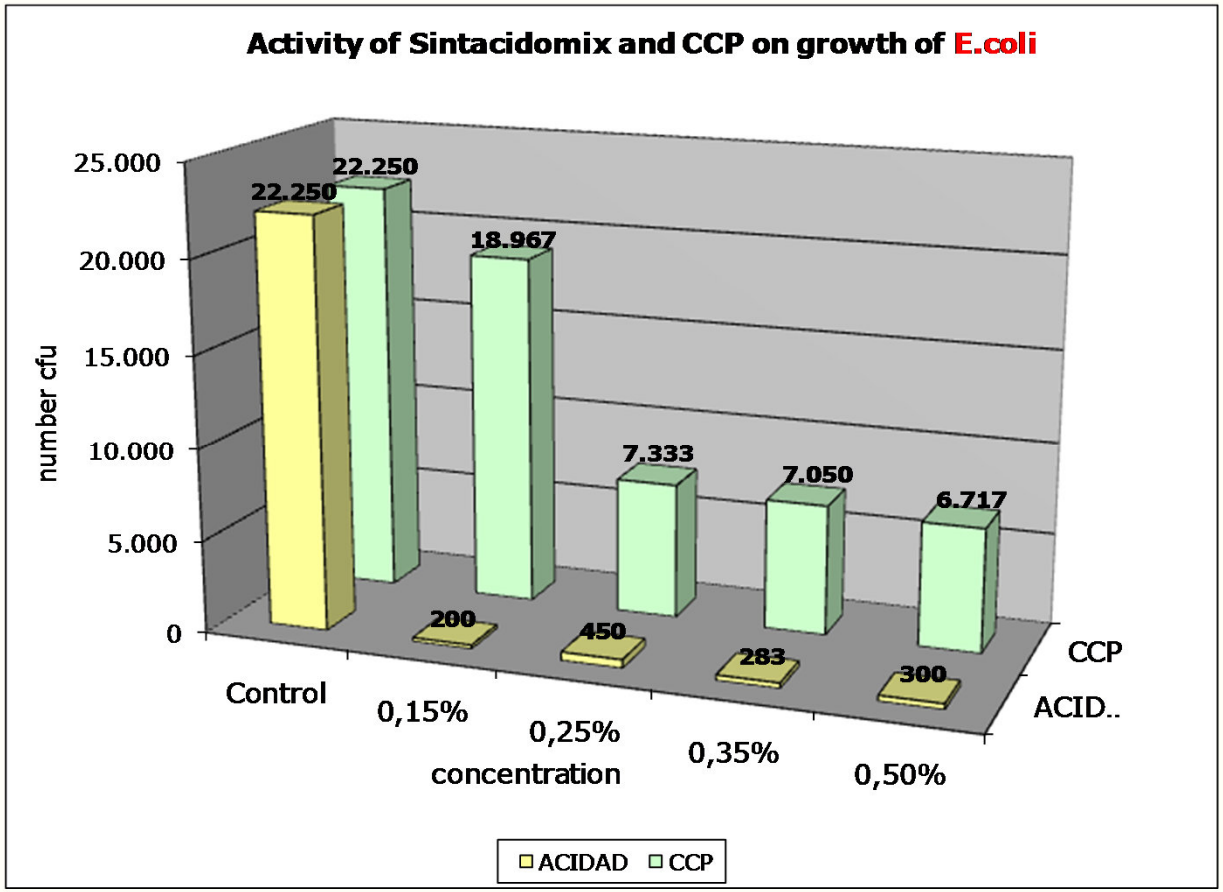
Sintacidomix: Microbial Activity



CCP-comparable commercial product

+ Veterinary Faculty, University of Ljubljana,
PhD. Vojka Bole Hribovšek, MSc. Jasna Mićunović,

Sintacidomix: Microbial Activity



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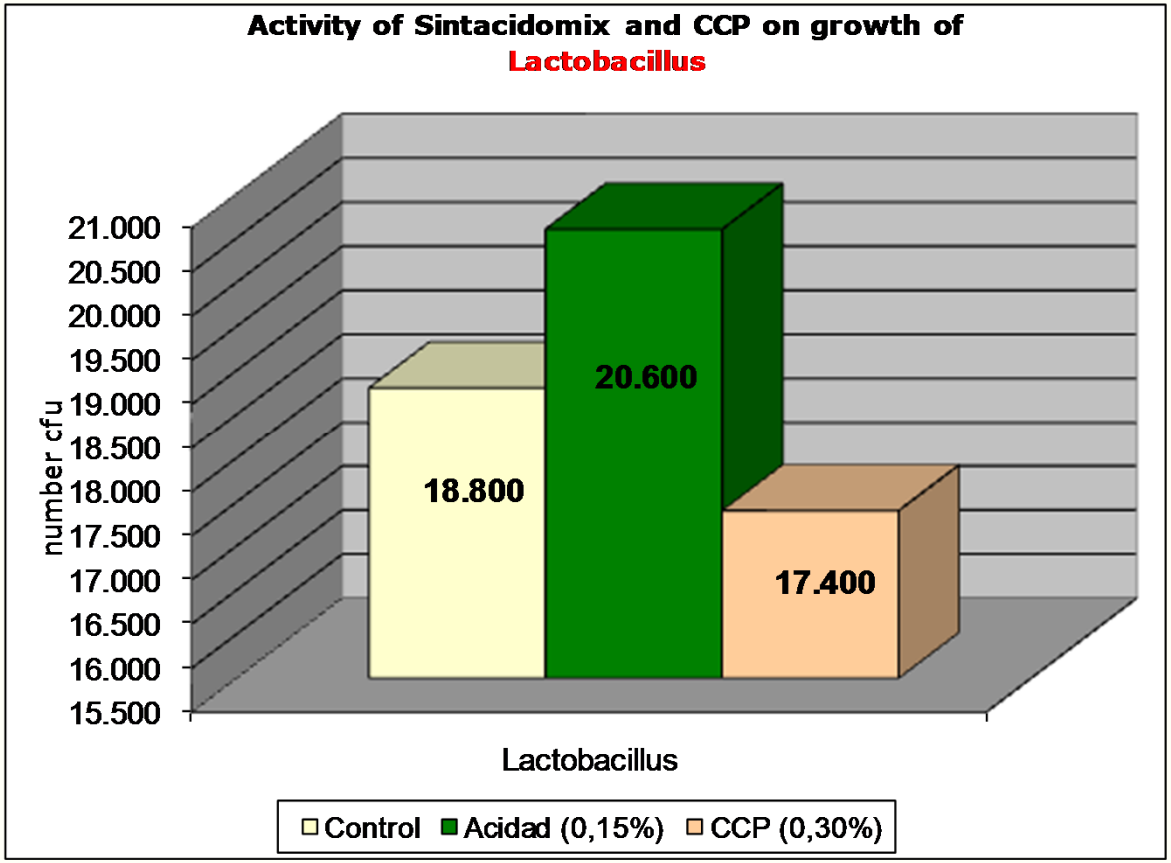
Sintacidomix: Microbial Activity



CCP-comparable commercial product

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PhD. Vojka Bole Hribovšek, MSc. Jasna Mićunović,

Overall Benefit!

Sintacidomix

does support

EUBIOSIS!

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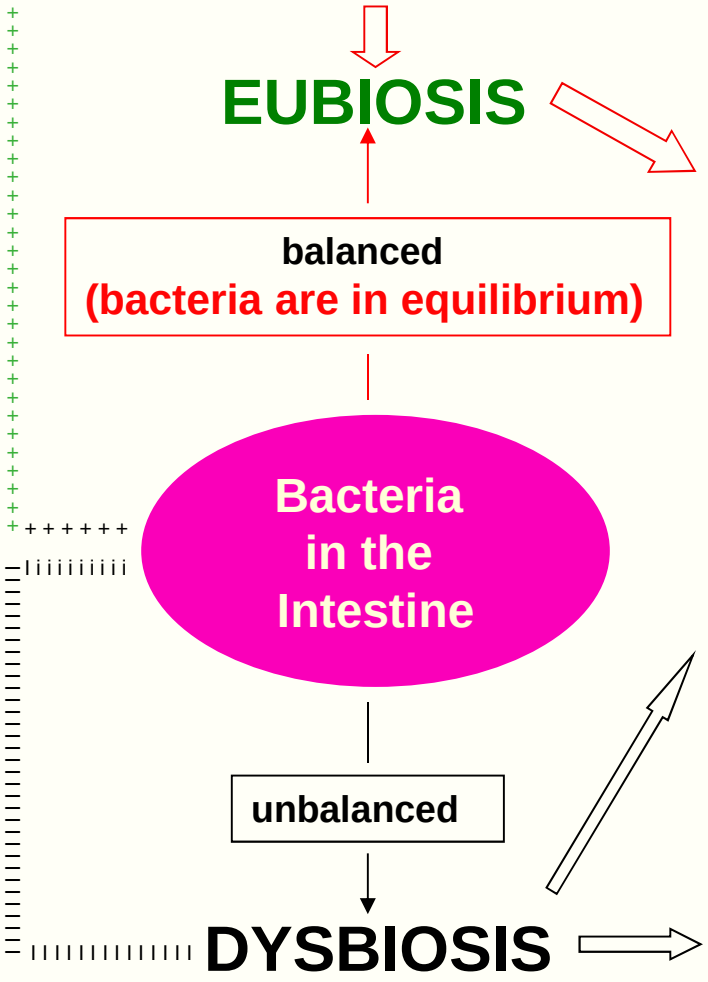
Chestnut Tannin and Acids



- Support of Digestion
- Does prevent settlement of bacteria causing diseases
- Synthesis of vitamins
- Stimulation of the immunity system

- Functional disorder
- Reduction of performance in terms of growth, FCR, mortality etc.
- Reduced immunity
- Increased susceptibility for catching diseases („wet litter“ > increased ammonia >CRD mycoplasmosis, breast blisters - downgraded birds etc)
- Illnesses caused by bacterial infections and / or toxins

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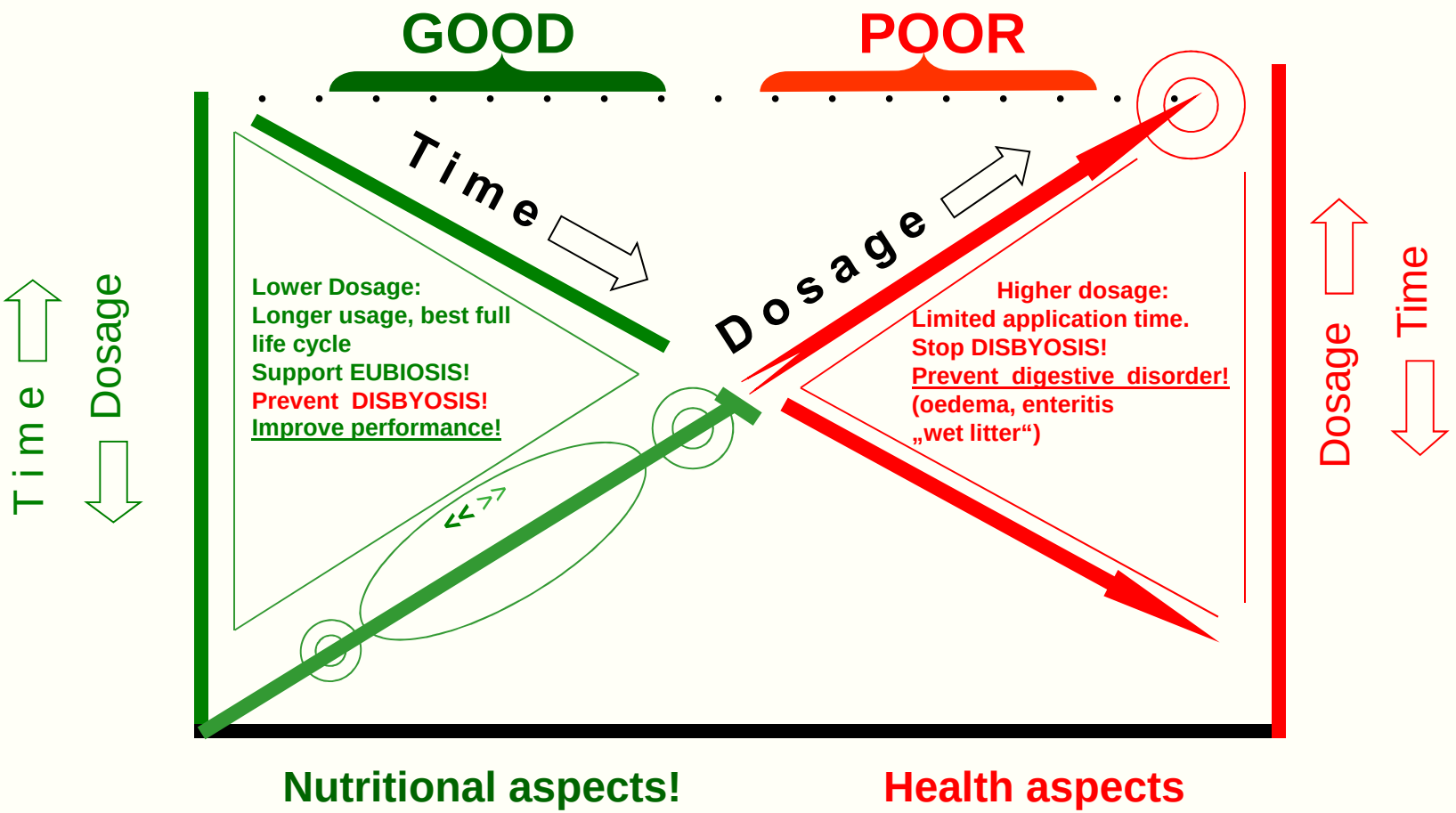
Chestnut Tannin Extract & Acidifiers

Key QUESTION is? What are the **Health - hygienic (stress) condition?**



SINTOFARM

Sintacidomix

Dosage Recommendation

Broiler Chicken	Starter	Grower	Finisher
Complete Feed	1,0 - 2,0 kg /ton (2.0 kg)	0,5 - 1,5 kg /ton (1.0 kg)	0,5 - 1,0 kg /ton (1.0 kg)

Pigles / Pigs	Pre-Starter Starter	Grower	Fattening
Complete Feed	2.5 - 3.5 kg/ton (3.0 kg)	1.5 - 2.5 kg/ton (2.0 kg)	1.0 - 1.5 kg/ton (1.0 kg)

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Trial Results with Sintacidomix

BROILER CHICKEN

Effect of Sintacidomix on some performance data in growing Broiler Chicken

F. Husveth et al. - University of Pannonia
Department of Animal Science and Animal Husbandry
Keszthely Hungary, (2008)

Effect of Sintacidomix

on some performance data in growing Broiler Chicken

Producer of Sintacidomix: Company Sintofarm

Objective: Test the efficacy of the combination SCT combined with acidifiers using the integrity of a Research Institute but to find a way to grow up broiler chicken trying to simulate field condition.

In order to simulate a kind of stress situation a mixture of litter with faeces was collected from a commercial broiler farm with permanent „wet litter“ problems (according to farm vet. mainly clostridia perfringens, but mixed infection). The sample was liquefied, filtered and then sprayed on chopped wheat straw in the pens of the Sintacidomix group (3 litre per pen).

Animals: 160 one day old chicken (Cobb 500, sex 1:1), from a local hatchery randomized allocated in 8 floor pens (20 birds per pen), Chicken were vaccinated against NDV (Pesti vitapest)and IBD (Cevac Bron).4 pens x 20 chicken per trial group.

Feed: Starter Feed: Day 0-14 (c.p. 21%, AMEn, MJ/kg 12.50), Grower Feed: Day 15-35 (c.p.19%, AMEn, MJ/kg 12.90) Finisher Feed: Day 36-42 (c.p.18%, AMEn MJ/kg 13.29). As anticoccidial Clinacox was used (up to day 35).The diets were calculated according to nutrient requirements recommended by „Cobb 500 Broiler Management Manual (2007)“.Results of analysed feed of the 2 groups met all criteria.

Trial Groups: **+ Negative Control (NOT STRESSED!)**

+ 1000 G / ton of Feed Sintacidomix (STRESSED!)

Parameter and observations: Body weight, Feed consumption, FCR, Overall health status, mortality, Culling, Moisture content in litter, Cleaningness of plumage (mainly breast and cloaca),

Statistical evaluation

SINTOFARM

Effect of Sintacidomix on some performance data in growing Broiler Chicken

TRIAL PERIOD	DAY/S	Negative Control **NOT STRESSED**	1000g / ton Sintacidomix **STRESSED**
NUMBER OF BROILER CHICKEN	1	80	80
Mortality, removed	14	78 (2 died)	79 (1 died)
	34	74 (2 died, 2 low quality)	77 (2 died)
	42	74 (0)	76 (1 taken out)
TOTAL MORTALITY, REMOVED	**1- 42**	6 (7.5%)	4 **(5.0 %)**
AV ERAGE BODY WEIGHT (GRAM)	1	47.1	47.5
	14	382.7	400.5 (+17.8 g)
	34	2050.5	2060.2 (+ 9.7 g)
	42	2741.9	2776.1 **(+ 34.2 g)**
AVERAG FEED CONSUMPTION (GRAM)	1-14	545.3	544.8 (- 0.5 g)
	15-34	3136.3	3072.5 (-63.8 g)
	35- 42	1326.8	1338.3 (+11.5 g)
	1- 42	5008.4	4955.6 **(- 52.8 g)**
FEED CONVERSION FCR	1-14	1.63	1.54 (94.5 %)
	15-34	1.91	1.88 (98.4 %)
	35- 42	1.96	1.96 (100.0 %)
	1- 42	1.89	1.84 **(97.4 %)**
MOISTURE LITTER CONTENT (%)	**42**	51.7	51.7
EEF-European Efficiency Factor representing the Economical Benefits (Gram gained / Day x Survival rate / Conversion x10)		319	343 **(107.5 %)**

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SINTACIDOMIX
Efficacy Test in Broilers

Perutnina Ptuj d.d.
and
Agricultural Faculty, Maribor

Sintacidomix

Efficacy Test in Broilers

Perutnina Ptuj d.d. and Agricultural Faculty, Maribor

Trial Design

DAYS FEED	0 – 10 Starter BRO-S	11 – 35 Grower BRO-G	36 – 42 Finisher BRO-F2
(A) Negative Control	zero	zero	zero
(B) Positive Control (Technological Additive-Preservative)	3.0 kg / ton feed	3.0 kg / ton feed	3.0 kg / ton feed
C) Sintacidomix	2,0 kg / ton feed	1,0 kg / ton feed	0,5 kg / ton feed

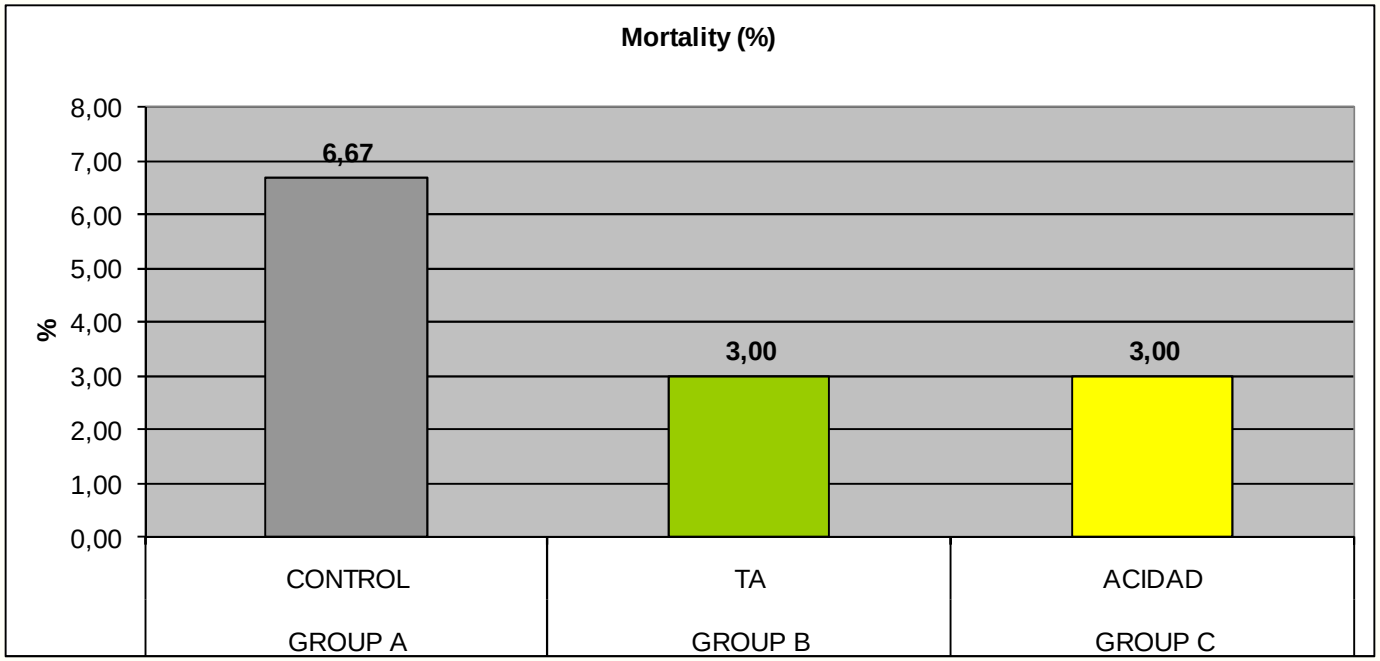
Number of chicken per Group: 300

SINTOFARM

SINTACIDOMIX

Efficacy Test in Broiler - Perutnina Ptuj d.d. and Agriicultural Faculty, Maribor

Mortality

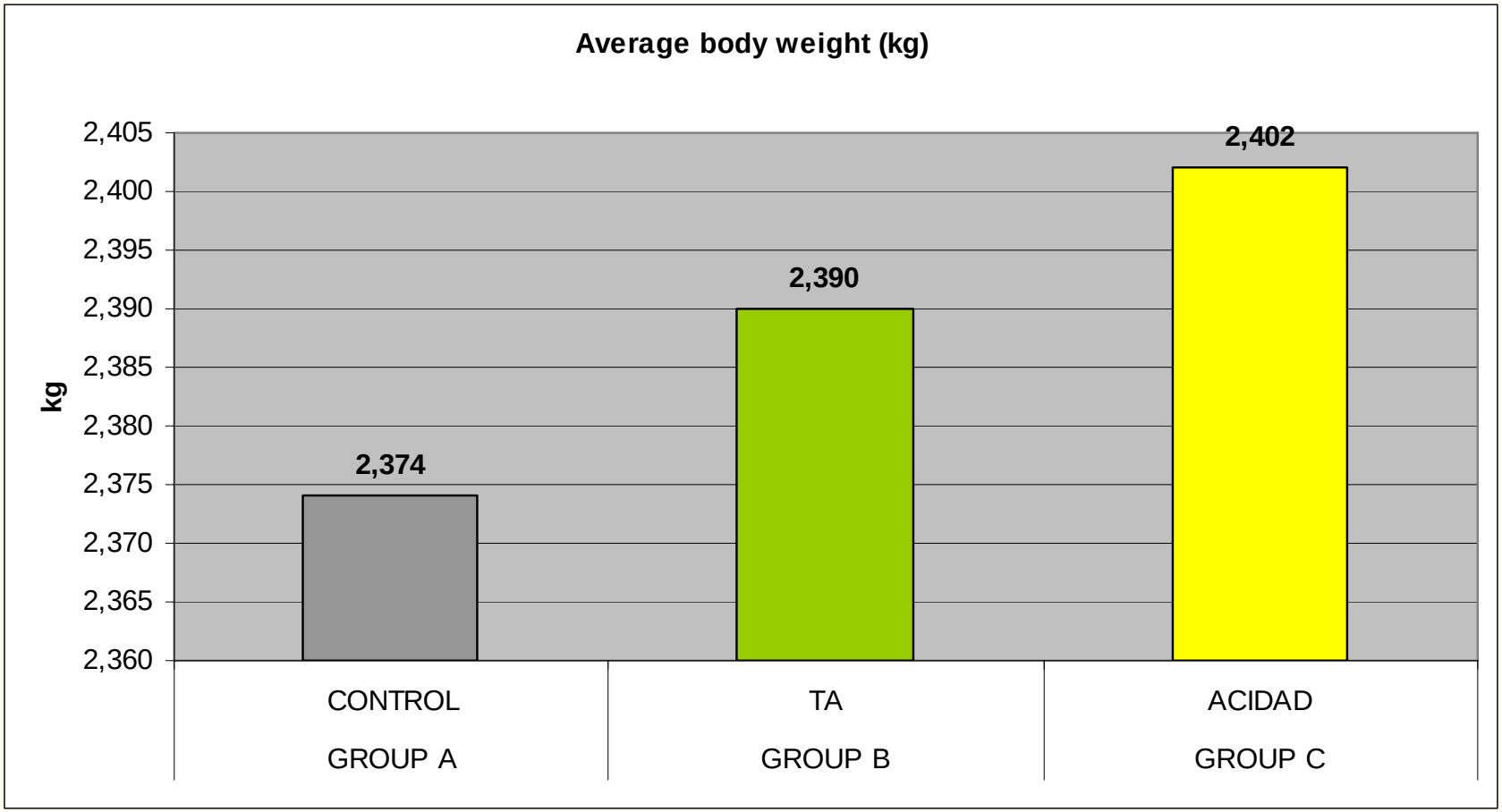


TA – technological additive - preservative

Sintacidomix

Efficacy Test in Broiler - Perutnina Ptuj d.d. and Agricultural Faculty, Maribor

Average body weight (kg)

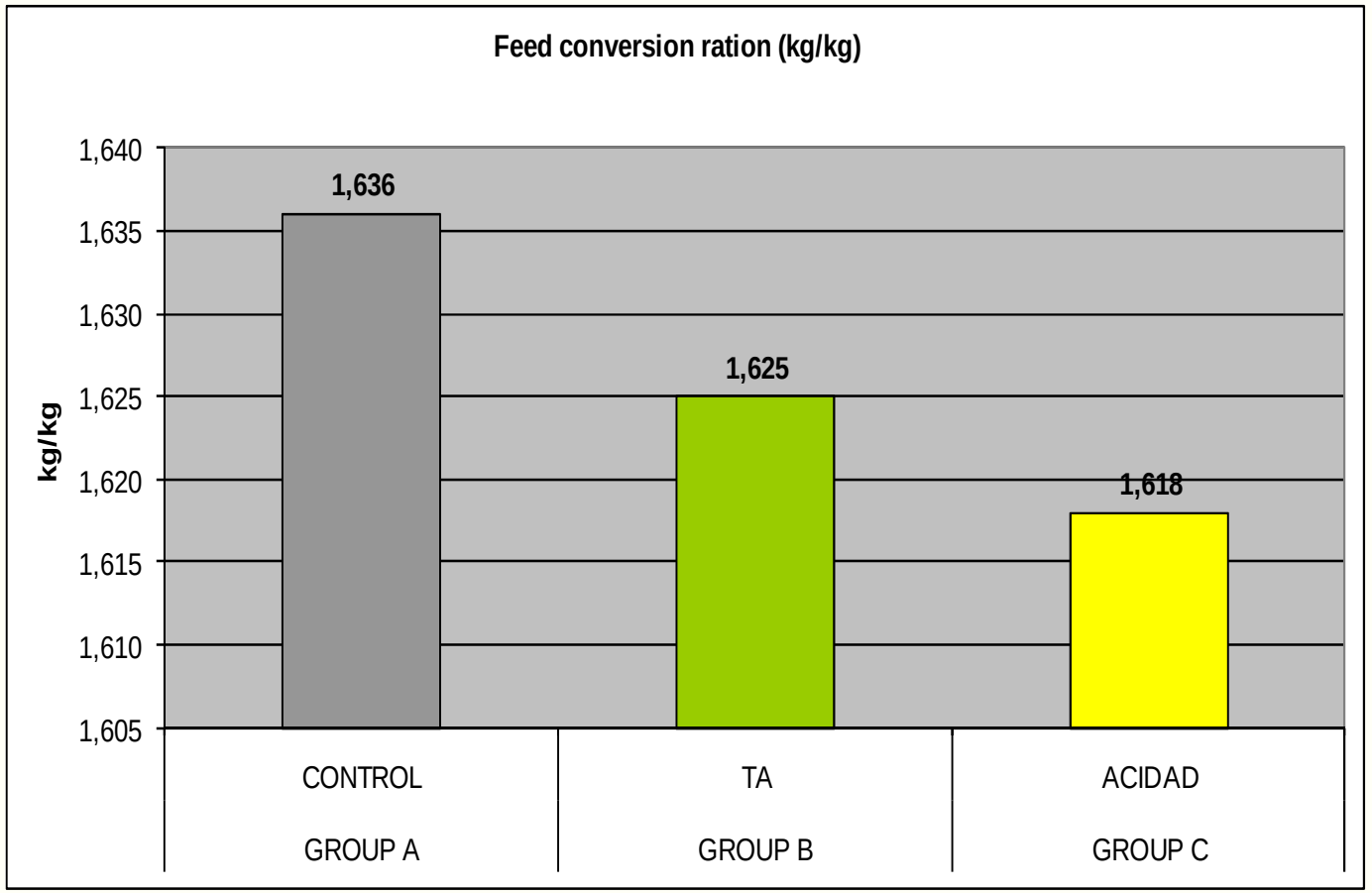


TA – technological additive - preservative

Sintacidomix

Efficacy Test in Broiler - Perutnina Ptuj d.d.and Agricultural Faculty Maribor

Feed conversion ration (kg/kg)

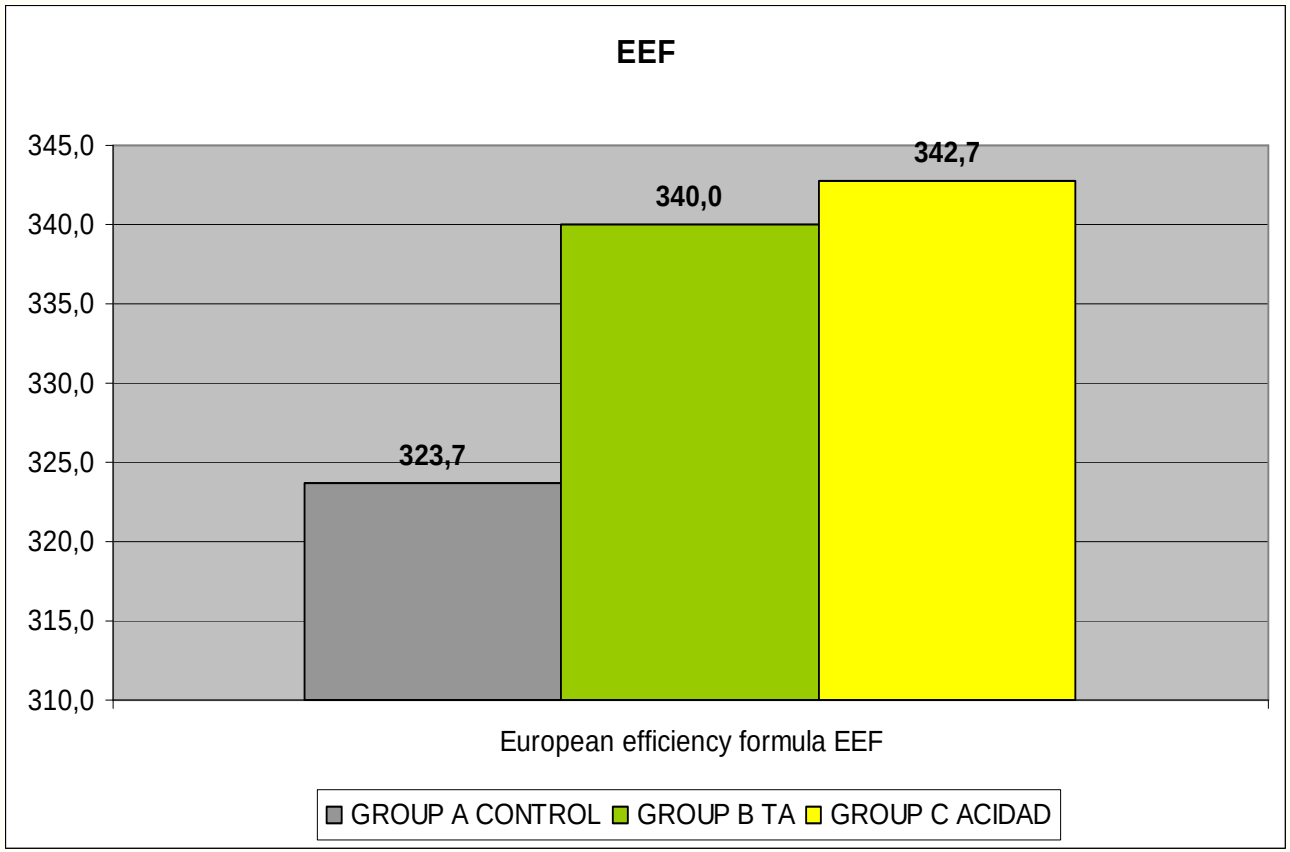


TA – technological additive - preservative

Sintacidomix

Efficacy Test in Broiler - Perutnina Ptuj d.d. and Agricultural Faculty, Maribor

European Efficiency Factor EEF



TA – technological additive - preservative

SINTACIDOMIX

in Broiler ChickenField Trial

Initiated by: Feed Mill DOVAINONIU PAUKSTYNAS,
LT 56332 Dovainonys Kaisiadorys District, Lithuania

Responsible: Darius Svaldenis - Feed Production Manager, supported by UAB ALGOL Chemicals, Lithuania

Sintacidomix in Broiler Chicken - Field Trial

Animal Species: Broiler Chicken

Trial Design: House to House Comparison

Trial duration: 42 Days

Treatments: **House 1**: **Acidifier (combination of ORGANIC AND INORGANIC ACID)**

2.500 g per ton of feed *

House 2 :SINTACIDOMIX GRANULATED

1000 g per ton of feed

Parameter: Number of birds at trial start, mortality, number of birds at trial end, final weight, feed consumption, feed conversion

*) Commercial Acidifier was used by the feed mill.

SiNTOFARM

Sintacidomix in Broiler Chicken

PRODUCT Dosage per ton of feed		Positive Control (Acidifier) 2.500 g	Sintacidomix 1.000 g
Number of Chicken	Trial Start	26.500	19.758
	Trial End (42 Days)	25.185	18.951
MORTALITY	absolut	1.315	807
	relativ	4,96 %	**4,08 %**
Final Weight	kg	60.695,85	45.861,42
Average Body Weight / Chicken	absolut	2,41 kg	2,42 kg
	relativ	(100 %)	(100,4 %)
Increased meat production based on number of chicken in the positive group (25.185)			**+ 252 kg**
Feed Consumption		112,92 tons	82,63 tons
Feed Conversion Ratio (FCR)	absolut		
	relativ	1,86	1,80
		(100 %)	**(96,8 %)**
Investment for SINTACIDOMIX per ton of feed in % compared to investment for the acdifier used in the Control Group (calculated by Farm Management)		(100 %)	**(91 %)**


Trial Results with
SINTACIDOMIX
PIGLETS
SWINE FATTENING
SINTOFARM

Effect of SINTACIDOMIX

on the performance of piglets tested

on a swine farm in the Czech Republic

The effect of SINTACIDOMIX on the performance of piglets tested on a swine farm in the Czech Republic

Responsible: Dr. Michal Chalupa, company Cyprexa

Trial duration: 56 Days

Tested feed additives:

GROUP I: Negative Control - Starter feed

GROUP II: Positive control - Starter feed with 30 kg/ton linseed (contains higher levels of short chain omega 3 fatty acids)

GROUP III: Positive Control - Starter feed with 2,5 kg Progat a combination of brewery yeast, Ca, Na, P and different amino acids.

GROUP IV: SIntacidomix- Starter feed with 3 kg TON

Number of piglets per trial group (trial start): 80

Feed: Commercial starter feed used by the farm.

Parameter: Body weight, mortality and eliminated piglets, feed consumption, feed conversion ratio (FCR), economical calculation (feed cost per kg gain).

SINTOFARM

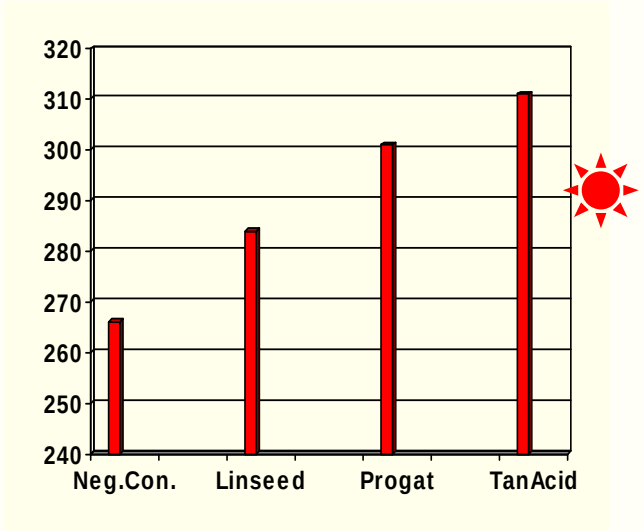
The effect of Sintacidomix on the performance of piglets tested on a Swine Farm in the Czech Republic

Parameter		Neg. Control	Linseed 30 kg/t	Comb. of yeast, amino acids etc.	Sintacidomix 3 kg / ton
Number of piglets at trial start		80	80	80	80
Number of piglets at trial end		73	73	74	70
Removed piglets	Mortality	4	3	4	2
	Runts	3	4	2	8
	Total	7	7	6	10
Av. body weight at trial start	(kg)	6,23	6.26	6,63	6,88
	(%)	(100)	(100,5)	(106,4)	(110,4)
Av. Body weight at trial end	(kg)	21,10	22,19	23,51	24,29
Duration: 56 Days	(%)	(100)	(105,2)	111,4)	(115,1)
Av. daily weigh gain	**(g)**	**266**	**284**	**301**	**311**
	(%)	**(100)**	**(106,8)**	**(113,2)**	**(116,9)**
Av.daily feed intake/piglet/day	(g)	526	526	579	548
	(%)	(100)	(100,0)	(110,0)	(104,3)
Feed Conversion Ratio	**FCR**	**1,98**	**1,85**	**1,92**	**1,76**
(kg feed per 1 kg gain)	**(%)**	**(100)**	**((93,4)**	**(97,0)**	**(88,9)**
Feed cost per kg gain	**(€)**	**0,6308**	**0,5988**	**0,6261**	**0,5586**
	(%)	**(100)**	**(94,9)**	**(99,3)**	**(88,6)**

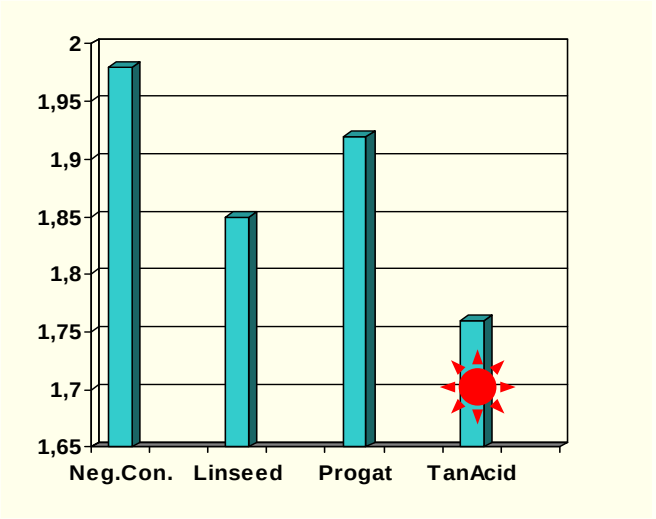
SINTOFARM

Effect of Sintacidomix on the performance of piglets tested on a swine farm in the Czech Republic

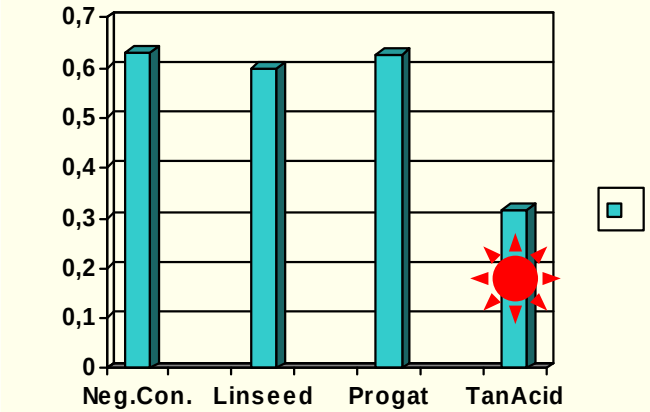
DAILY WEIGHT GAIN IN GRAM



FEED CONVERSION RATIO



FEED COST PER KG GAIN IN €



SINTOFARM

Efficacy of SINTACIDOMIX in weaned piglets

Prof. Dr. Jordanov, Dr .K. Gantchev, Dr. D. Dimitrov
Dr. G. Dimitrov, A. Dimitrova

Farm „Silva“, L. Karavelovo, near Varna, Bulgaria
Date November 2006 till February 2007

SINTOFARM

Efficacy of Sintacidomix in weaned piglets tested under field condition

TRIAL DESIGN: (Piglets weaned at day 32 = 1st Trial Day)

Trial Groups	Number of piglets	Application in Days (via Feed)	Feed	Feed Additives in Gram per Ton of Feed
Control	94	**Day 1-15 (15 Days)** **Day 16-35 (20 Days)** **Day 36-55 (20 Days)**	**Starter X-12** **Starter X-12** **Grower X-14**	**1.700 g Colistin** **1.700 g Colistin** **zero**
Trial Group	94	**Day 1-15** **Day 16-35** **Day 36-55**	**Starter X-12** **Starter X-12** **Grower X-14**	**1.700 g Colistin** **3.000 gSintacidomix** **1.500 gSintacidomix**

SINTOFARM

Efficacy of Sintacidomix in weaned piglets tested under farm (field) condition

RESULTS

Parameter		Positive Control	Sintacidomix
Day 1-15 Day 16-35 Day 36-55		**1.700 g/t Colistin** **1.700 g/t Colistin** **ZERO**	**1.700 g / T Colistin** **3.000 g / t Sintacidomix** **1.500 g / t Sintacidomix**
Number of piglets at trial start		94 (12 pens)	98 (12 pens)
Av. Weight at trial start	kg	8.09	7.96
	%	(100)	(98.4)
Av. Weight at trial end	kg	32.26	**34.79**
	%	(100)	**(107.8)**
Av. Growth	kg	24.17	26.83
	%	(100)	(111.0)
Av. Daily Weigh Gain	g	439	**488**
	%	(100)	**(111.0)**
Av. Feed Consumption	kg	57.5	**59.00**
	%	(100)	**(102.6)**
Feed conversion	FCR	2.38	**2,20**
	%	(100)	**(92.4)**
Mortality	abs.	8	**3**
(slaughtered runts included)	%	(100)	**(37.5)**

SINTOFARM

Benefits using SINTACIDOMIX in diets for growing and fattening pigs

Prof. Dr. György Paszthy PhD

Agricultural University of West Hungary
Mosonmagyarovar

BENEFITS USING SINTACIDOMIX IN DIETS FOR GROWING AND FATTENING PIGS

Prof. Dr. György Paszthy PhD

EXPERIMENT

Trial Start:	03.09.2007. Immediately after weaning (Day 28 of life)
Trial duration:	147 Days, corresponding with 175 days of life
Breed:	Landrace x Hungarian Large White, F1, Sex 1:1
Trial Groups:	**SINTACIDOMIX was tested against a Negative Control**
Number of piglets/pigs:	Negative Control Group: 69, Acidad / TanAcid: 68
Housing:	From weaning for 33 days on flat deck (Lagoon System), then moved to the fatteninghouse kept in pens (8-10 animals per pen). Floor from bitumina without litter
Feeding Program & System:	First 16 days Pre-Starter followed by Early Grower for 52 days, after that for 79 days feed for fattening On flat decks dry feed *(ad libitum),* pigs kept in pens received liquid feed also *ad libitum.* Water suply in both keeping systems via hydro valves.
Usage of SINTACIDOMIX:	**Pre-Starter: 2,5 kg / ton of feed** **Early Grower: 2,5 kg / ton of feed** **Fattening: 1,5 kg / ton of feed**
Parameter:	Body weight (4 x weighing) and av. daily weight gain (3 periods and total), feed conversion (full trial period), health status (diarrhoea score), mortality. Statistical evaluation: Av. weight and deviation from average (SD-Standard deviation), T-test with 2 samples for non-equivalent mean-square deviation.

Table 1

AVERAGE BODY WEIGHT

		Negative Control	**SINTACIDOMIX**
Number of piglets at trial start		69	68
Trial start Day 28 (weaning)	kg (%)	8,65 S.D. 0,85 (100)	8,31 S.D. 1,75 (96,0)
Day 59 of life	kg (%)	17,94 S.D. 3,14 (100)	18,07 S.D. 4,38 (100,7)
Day 98 of life	kg (%)	41,15 S.D. 5,84 (100)	42,35 S.D. 5,35 (102,9) **P<0,05**
Day 175 of life	**kg (%)**	**96,62 S.D. 15,28 (100)**	**98,56 S.D. 13,84 (102,0)**

BODY WEIGHT OF THE PIGLETS / PIGS IN THE
SINTACIDOMIX GROUP COMPARED TO NEGATIVE CONTROL (in %)

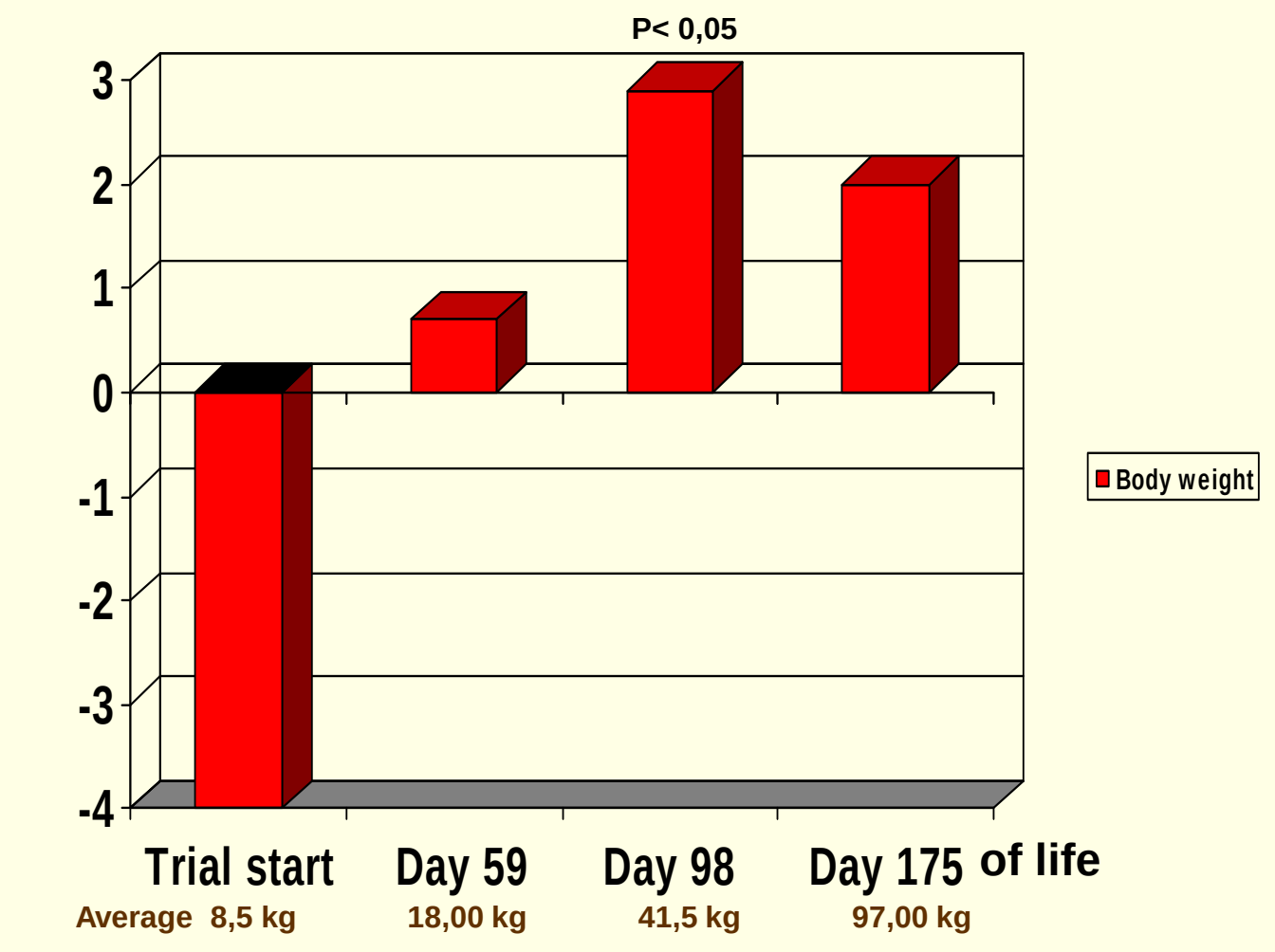
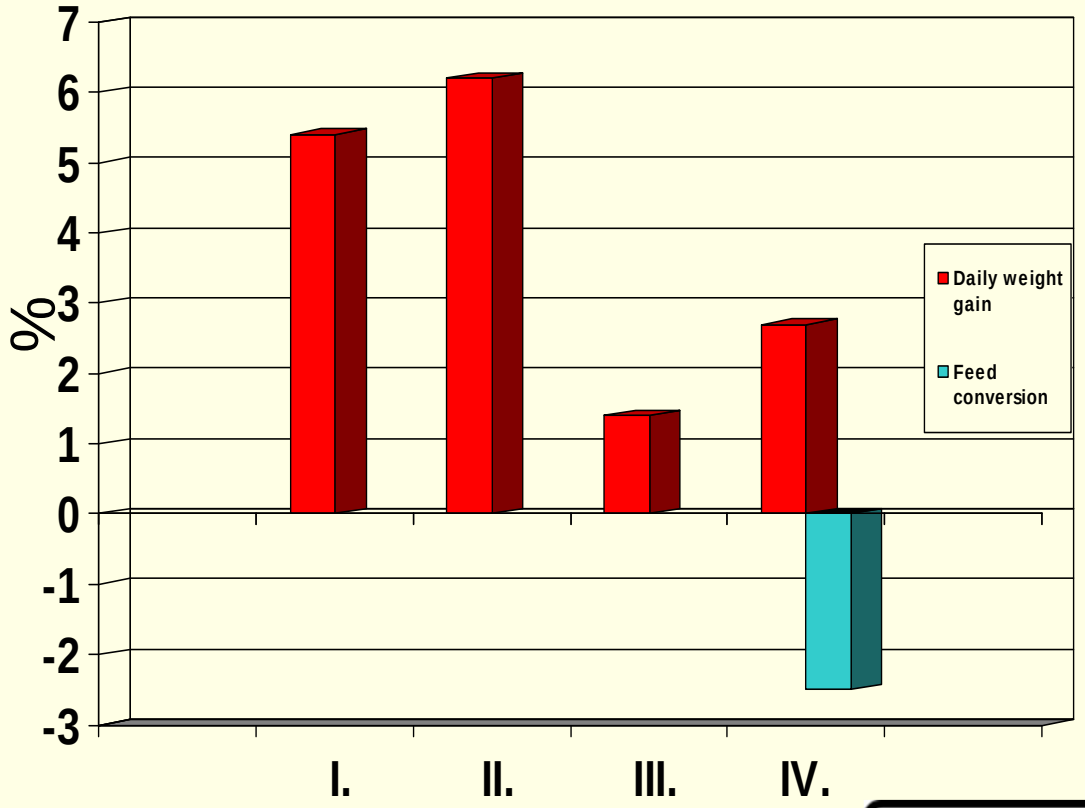


Table 2

AVERAGE DAILY WEIGHT GAIN

		Negative Control	**SINTACIDOMIX**
Number of piglets at trial start		69	68
Trial start (weaning day 28) till day day 59 of life	g (%)	299 (100)	315 (105,4)
Day 60 till day 98 of life	g (%)	595 (100)	623 (106,2)
Day 99 till day 175	g (%)	720 (100)	730 (101,4)
Trial start (weaning day 28) till day 175 of life	g (%)	598 (100)	614 **(102,7)**
Feed Conversion Ratio Trial start (weaning day 28) til day 175 of life	FCR (%)	3,18 (100)	3,10 **(97,5)**

AVERAGE DAILY WEIGHT GAIN AND FEED CONVERSION OF **SINTACIDOMIX** COMPARED TO NEG. CONTROL IN %



Daily weight gain:

I: Weaning till day 59

II. Day 60 till day 98

III. Day 99 till day 175

IV. Red: Weaning till day 175

Blue: Feed conversion: Weaning till day 175

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Table 3

MORTALITY

	Negative Control	SINTACIDOMIX
Number of piglets at trial start	69	68
MORTALITY		
Trial start (weaning day 28) till day 58 of life	1	0
Day 59 till day 97 of life	3	1
Day 98 till day 175	4	3
TOTAL MORTALITY ABS. **(%)**	**8** **(11,6)**	**4** **(5,9%)**
Reason of Mortality	**Primary reason for mortality was SWINE DYSENTERY resulting in emaciation**	
Bodymass losses due to mortality kg	**237**	**83**
Other observation	Diarrhoea during week 6 to 10 mainly in the neg. control group. During this (stress) period faeces in theSintacidomix group smelled less unpleasant, were better shaped and homogenuous.	

Influence of SINTACIDOMIX on growth of growing and fattening pigs

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Influence of SINTACIDOMIX on growth of growing and fattening pigs

Farm: Company PANVITA, Slovenia, located near Murska Sobota

Therefore the feed consumption could be recorded only for the total groups.

The trial started after weaning and was finished after the pigs reached the under practical conditions in Slovenia requested slaughter weight.

Tested feed additives:

Positive Control:
Combination of Formic-,and Lactic acid*). The farm used this acidifier up to approx. 30 kg body weight. No performance enhancer was used during the fattening period.
Dosage per ton of feed (same amount as under practical conditions): Pre-Starter: 6,5 kg, Starter: 6,0 kg, Grower: 4,0 kg

Trial Group: SINTACIDOMIX
Dosage per ton of feed: Pre-Starter: 3,5 kg, Starter:3,0 kg. Grower: 2,0 kg, Fattening up to slaughter: 1,5 kg

Number of animals per trial group: Control Group: 167, Sintacidomix : 168 (Sex in each group: ~ 1:1)

Feed: Commercial feed.

Parameter: Body weight, health status, mortality, carcass quality.

Statistical evaluation: Growth and daily weight gain per feeding period (individual weighing), mortality, carcass quality, standardization of pig development (how many days needed to reach the same body weight).

Mortality: Full trial period from weaning till slaughter: **Control group: 9,5 %, Sintacidomix: 6,6 %**

*) Trademark and content of acids known

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Table 1 Development of piglets and fattening pigs receiving SINTACIDOMIX applicated via feed from weaning till slaughter.Comparison to results of a commercial acidifier

Feed		Pos./Neg. Control 167 piglets at trial start	Sintacidomix 168 piglets at trial start
Pre-Starter PKP 12 Days	Dosage/ton feed Initial weight day 23 **Body weight day 35**	6,5 kg 7,16 kg (100 %) **9,06 kg** (100 %)	3,5 kg 7,3 (102,0 %) **9,08 kg** (100,2 %) ..
.....	.....	.....	.....
Starter PKP 14 Days	Dosage/ton feed **Body weight day 49**	6,0 kg **13,54 kg** (100 %)	3,0 kg **13,57 kg** (100,2 %)
.....	.....	.....	.....
Grower PKP 33 Days	Dosage/ton feed **Body weight day 82**	4,0 kg **30,33 kg** (100 %)	2,0 kg **31,24 kg** (103,0 %) **+ 0,91 kg**
.....	.....	.....	.....
Fattening I BEK 25 45 Days	Dosage/ton feed **Body weight day 127**	---- **62,73 kg** (100 %)	1,5 kg **66,32 kg P<0,001** (105,7 %) **+ 3,59 kg**
.....	.....	.....	.....
Fattening II BEK 60 41 Days	Dosage/ton feed **Body weight day 168**	---- **96,09 kg** (100 %)	1,5 kg **100,8 kg P<0,001** (104,9 %) **+ 4,71 kg**
.....	.....	.....	.....
Fattening III BEK 90 27 Days	Dosage/ton feed **Body weight day 195**	--- **117,0 kg** (100 %)	1,5 kg **120,0 kg P<0,05** (102,6 %) **+ 3,00 kg)**

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Graph 1 Development of piglets and fattening pigs receiving SINTACIDOMIX applicated via feed from weaning till slaughter. Comparison to results of a commercial acidifier

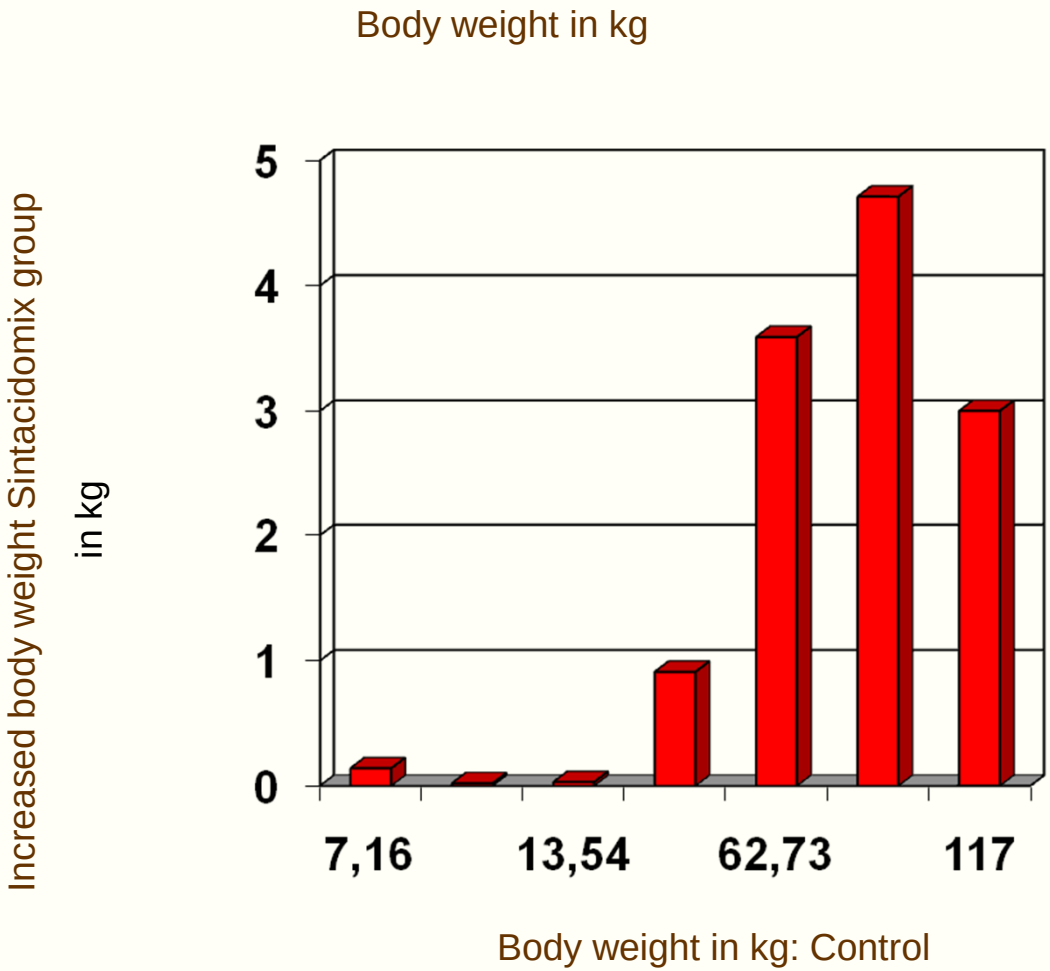


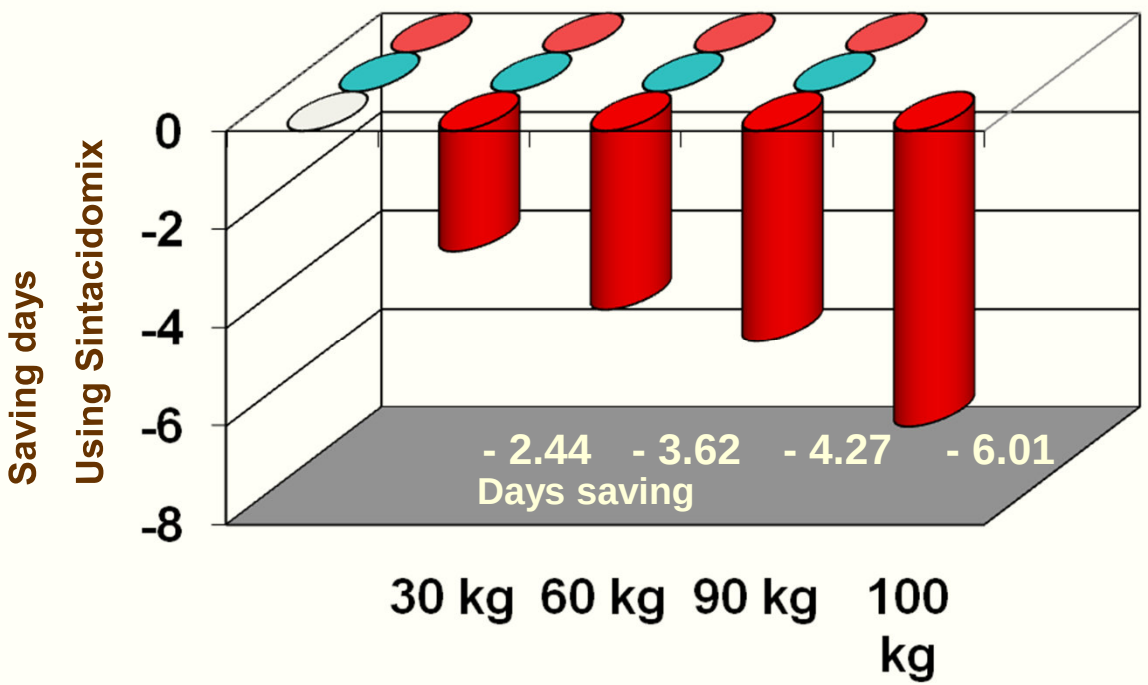
Table 2 Development of piglets and fattening pigs receiving Sintacidomix applicated via feed from weaning till slaughter. Comparison to results of a commercial acidifier

DAILY WEIHT GAIN (in g)

Feed		**Individual growing / fattening periods**		**Cummulative**	
		Control	Sintacidomix	Pos. / Neg. Control	Sintacidomix
Pre-Starter PKP 12 Days	Day 23 to 35	**158 (100 %)**	**148 (93.7 %)**	158 (100 %)	148 (93.7 %)
.....	.....	.....	.....	.....	.....
Starter PKP 14 Days	Day 35 to 49 **Day 1 to 49**	324 (100 %)	320 (98,8 %)	**245 (100 %)**	**241 (98,4 %)**
.....	.....	.....	.....	.....	.....
Grower PKP 33 Days	Day 49 to 82 **Day 1 to 82**	511 (100 %)	535 **(104,7 %)**	**392 (100 %)**	**407 (103,8 %)**
.....	.....	.....	.....	.....	.....
Fattening I **BEK 25** **45 Days**	**Day 82 to 127** **Day 1 to 127**	**720 (100 %)**	**780 (108,3 %)**	**534 (100 %)**	**568 (106,4 %)**
.....	.....	.....	.....	.....	.....
Fattening II **BEK 60** **41 Days**	**Day 127 to 168** **Day 1 to 168**	**814 (100 %)**	**840 (103,2 %)**	**612 (100 %)**	**647 (105,7 %)**
.....	.....	.....	.....	.....	.....
Fattening III BEK 90 27 Days	Day 168 to 195 **Day 1 to 195**	771 (100 %)	707 (91,7 %)	**637 (100 %)**	**655 (102,8 %)**

Graph 2 Performance of Sintacidomix (applicated in feed during the full fattening period) compared to the results of a commercial acidifier (used up to 30 kg body weight)

Body weight adapted to same age



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Sintacidomix does support **EUBIOSIS.**

This is not MAGIC it`s a given FACT!

Thank You very much for Your attention!

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