Anwendungsbericht/User Application Report

Produkt/Product:
penergetic t 1242
fattening pigs

Anwender/User:
Kiernan Pig Farms, Coolamber Unit, Co. Longford

Fachberater/Consultant:
APS Bio AG
Leslie Dwyer

Datum/Date:
2021

Comparison of the effects of penergetic t on growth performance, health and welfare of finisher pigs

Summary

The addition of penergetic t to the standard Kiernan diet resulted in an increase of +2.91% in average daily gain (ADG), reduction of the average daily feed intake (ADFI) of -2.17%, a better feed conversion ratio (FCR) by +5.2% and an increase average sale weight by +1.75% (weight adjusted).

Trial Details

Number of pigs: 1792 pigs
Start Date: February 10th, 2021
Finish Date: May 2021
Treatments: Standard Finisher Diet (Control)
Standard Finisher Diet + penergetic t (Treated)

Site Background

The unit runs an integrated birth to slaughter system and it is of high health status. This finisher unit is dry fed using pellets as produced by Kiernan Milling, with single space feeders (wet and dry). Pens are equipped with 2 feeders per pen (28 pigs). The unit produces approximately 600 pigs per week. The finisher stage operates a two-phase feeding system.

- In week 1, 600 pigs move from 2nd stage weaner houses to the finisher houses. This will partially fill 1 finisher house.
- 600 pigs move from 2nd stage to finisher house a week later. This will fill the remainder of house 1 and begin the filling of house 2.
- 600 pigs move from 2nd stage to finisher house a week later. This will fill the remainder of house 2.

Each house is equipped with a feed bin. This bin is emptied down at the end of the 1st stage finisher (approximately 65 kg liveweight) and pigs move onto the 2nd stage finisher as the feed naturally changes within the bin emptying process. No specific phase feeding transition time is used. Houses are washed between each batch.

Method

Pigs will be weighted at the start of the trial in order to calculate initial starting weight. Pigs will then be transferred to the finisher accommodation, where they will be housed in 2 different houses. Each house will consist of 32 pens with 28 pigs per pen, resulting in 32 replicates per treatment with the experimental unit being the pen of pigs. Therefore, a total of 896 pigs will be used for each treatment. Pigs will be transferred to the finisher accommodation over a 3-week period in order to have sufficient numbers on trial.

All pens will be weighed at the beginning of the trial, and again at the transfer to factory in order to accurately calculate average daily gain (AGD) across the whole period. All feed will be manufactured at Kiernan Milling. Feed will be weighed and delivered to the experimental location prior to the trial starting. Once the experimental period ends, all pigs will be weighed and slaughtered. The remaining feed left in the bins will be removed and weighed. The remaining feed will be subtracted from the total quantity of feed delivered in order to allow for accurate estimations of overall intakes throughout the experimental period. Therefore, calculations of average daily feed intake (ADFI) and feed conversion rate (FCR) can be conducted. Weights and reasons for death will be recorded also. Lesion scoring and faecal scoring of all pens will be carried out weekly on the same day by the same person each time. This is done to remove any bias of difference of opinion on scoring.

Every load of feed manufactured at Kiernan Milling and delivered to the trial location will be analysed using NIR in-house and will be stored on site for reference purpose.

Pigs will be allocated 1st stage finisher feed for a period of 4 weeks. After this period the pigs will move onto 2nd stage finisher feed. This allocated amount of feed provided in the 4 weeks will be the same for both control and treatment groups. At slaughter all pigs from the same treatment group will be slaughtered together. This will aid in the collection of data from the factory in relation to lean meat percentage, back fat thickness and kill out % in order to corelate it back to which treatment pigs were fed.

The trial started on the 10th of February 2021 when the first batch of pigs was moved into the trial facility, with all pigs moved in by the 24th of February 2021. The trial was terminated when all pigs had been slaughtered in May 2021.

Treatments

Treated diets contain 150g of penergetic t per tonne of finished feed for both 1st and 2nd stage finisher diets. As the application rate of penergetic t was too low an inclusion rate for the feed mill, it was bulked up with 350g feed grade limestone for a final inclusion rate of 500 ppm.

Both control and treated diets will have 1.15% lysine in the first stage diet and will drop to 1% lysine in the second stage diet. House 1 was fed the control diet whilst house 2 received the treatment Penergetic.

Treatments	
Control diet: Kiernan Milling 1st stage finisher diet Kiernan Milling 2nd stage finisher diet	**Treated diet:** Kiernan Milling 1st stage finisher diet Kiernan Milling 2nd stage finisher diet penergetic t fattening 150 ppm bulked up with limestone to 500 ppm for both stages

1st stage finisher diet

Buddy Kiernan Milling, Granardkille, Granard, Co. Longford.

Approval No. αIELD000223

Product Code : EP312

Product Name : HI SPEC MP GROWER

Complete Feedingstuff for Pigs

ADDITIVES (PER KG)

Vitamins:

3a672a Vitamin A 6,500 IU; 3a671 Vitamin D3 2,000 IU

3a700 Vitamin E 100iu

Trace elements (source in brackets):

3b405 Copper 15 mg(Cupric Sulphate pentahydrate 59 mg)

3b801 Selenium 0.25mg(As sodium selenite 0.60mg) 3b103 Iron 125mg (Ferrous sulphate monohydrate 380mg) 3b502 Manganese 50mg (Manganous oxide 65mg) 3b202 Iodine 2mg (Calcium Iodate anhydrous 6.1mg) 3b603 Zinc 100mg (Zinc Oxide 124mg)

Digestibility enhancers

4a18 6-phytase EC 3.1.3.26 500 FYT

ANALYTICAL CONSTITUENTS

Cr Protein	17.50
Cr Oil & Fat	3.40
Cr Fibre	3.50
Cr Ash	4.60
Lysine	1.15
Methionine	0.30
Calcium	0.65
Phosphorus	0.45
Sodium	0.20

INSTRUCTIONS FOR USE

This feed is formulated for pigs from 32Kg to 70KG.

Use for target animals only.

WARNING: FEED TO PIGS ONLY. SHEEP SHOULD NOT HAVE ACCESS TO

UFAS-Compound Feeds 1042

Best before is 3 months from date of manufacture.

COMPOSITION

Wheat, Barley, Soya (bean) meal, dehulled [2], Maize [1], Wheat Feed, Rapeseed meal, Soya, Palm & Rape acid oil [2], Calcium Carbonate , (Sugar) cane molasses, Sodium Chloride, Monocalcium phosphate, (2:produced from genetically modified soy beans)(1:produced from genetically modified maize)

Manufacture Date 14/12/2020

Run Number :

2nd stage finisher diet

Ruddy Kiernan Milling, Granardkille, Granard, Co. Longford. Approval No. eIELD000223

Product Code : EP310
Product Name : EXCEL FINISHER PELLET

Complete Feedingstuff for Finishing Pigs
ADDITIVES (PER KG)

Vitamins:
3a672a Vitamin A 6,500 IU: 3a671 Vitamin D3 2,000 IU
3a700 Vitamin E 100iu

Trace elements (source in brackets):
3b405 Copper 15 mg(Cupric Sulphate pentahydrate 59 mg)
3b801 Selenium 0.25mg(As sodium selenite 0.60mg) 3b103 Iron 125mg (Ferrous sulphate monohydrate 380mg) 3b502 Manganese 50mg (Manganous oxide 65mg) 3b202 Iodine 2mg (Calcium Iodate anhydrous 6.1mg) 3b603 Zinc 100mg (Zinc Oxide 124mg)

Digestibility enhancers
4a18 6-phytase EC 3.1.3.26 500 FYT

INSTRUCTIONS FOR USE
This feed is formulated for finisher pigs from 32Kg to slaughter.
Use for target animals only.

WARNING: FEED TO PIGS ONLY. SHEEP SHOULD NOT HAVE ACCESS TO

ANALYTICAL CONSTITUENTS

Cr Protein	16.00
Cr Oil & Fat	2.50
Cr Fibre	4.10
Cr Ash	4.70
Lysine	1.00
Methionine	0.20
Calcium	0.65
Phosphorus	0.45
Sodium	0.20

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(1:produced from genetically modified maize) (2:produced from genetically modified soy beans)

Manufacture Date 14/12/2020 Run Number :

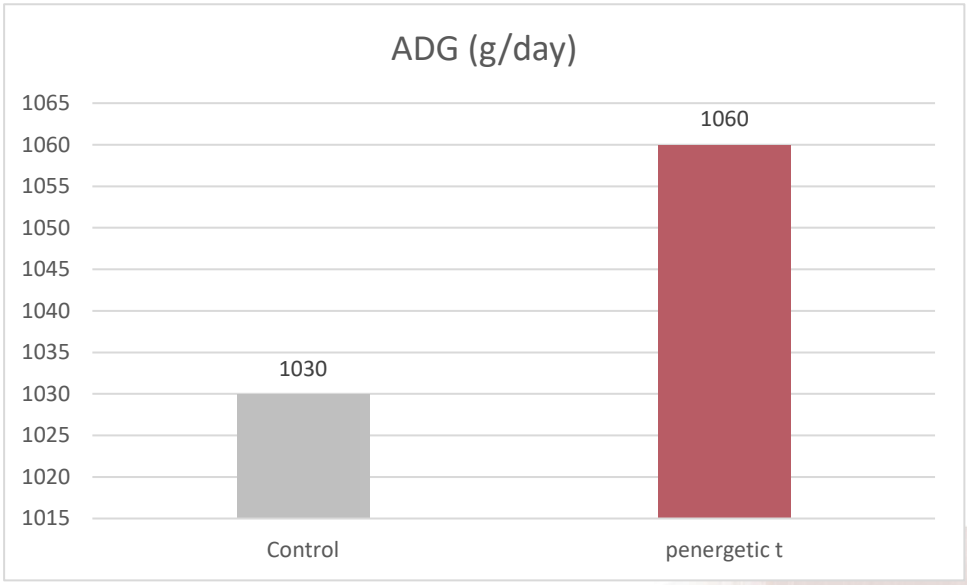
Distribution of pens in the barn

31		32
29		30
27		28
25		26
23		24
21		22
19		20
17		18
15		16
13		14
11		12
9		10
7	passageway	8
5		6
3		4
1		2

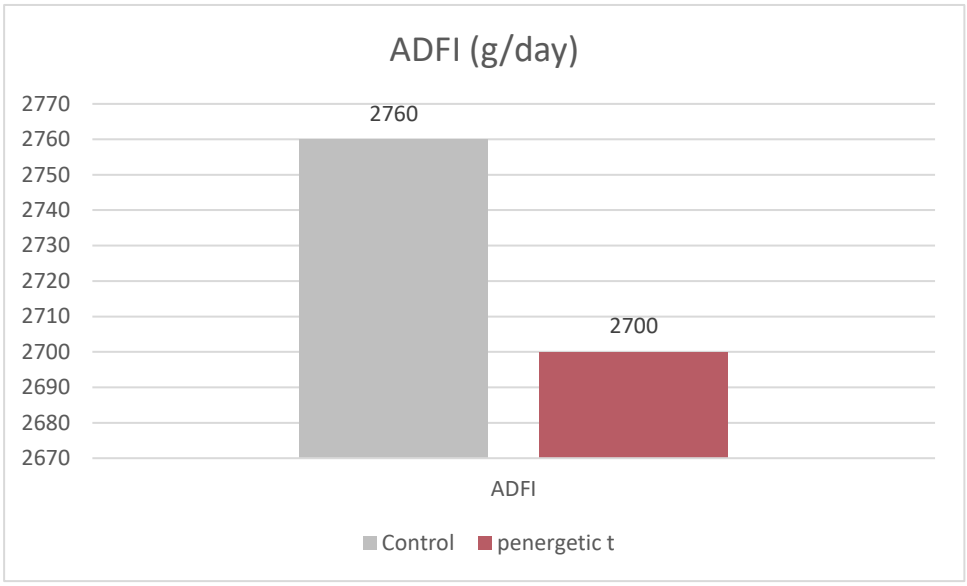
Results

	Control	Penergetic
ADG (g/day)	1030	1060
ADFI (g/day)	2760	2700
FCR	2.69	2.55
Average start weight (kg)	42	43
Average sale weight (kg)	125.3	128.5
Dead weight (kg)	98.2	100.2
Lean meat %	61.32	60.81
Backfat Thickness (mm)	11.8	12.35
Kill out %	78	78
Total Sold	877	872
Total Sold (kg)	109’888.10	112’052.00

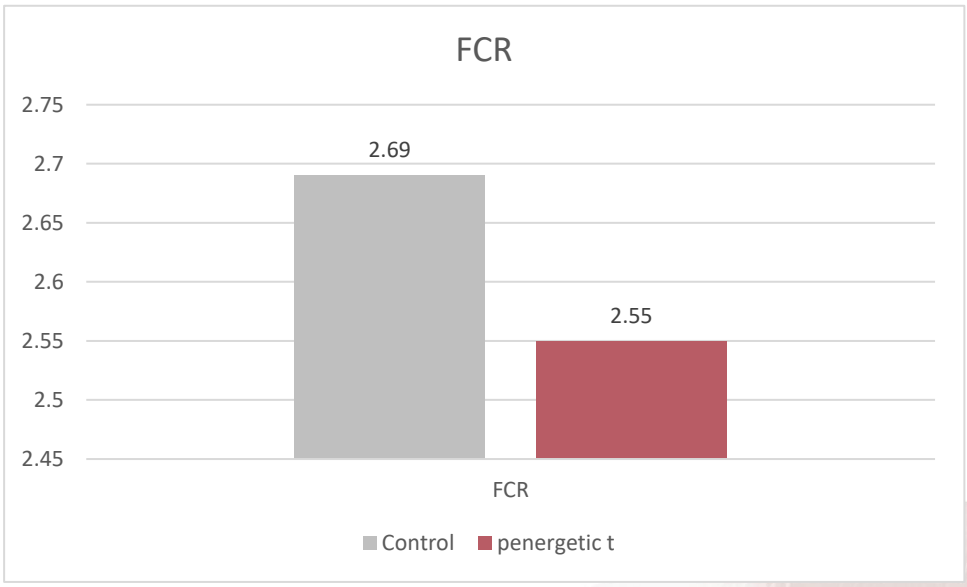
ADG (average daily gain)



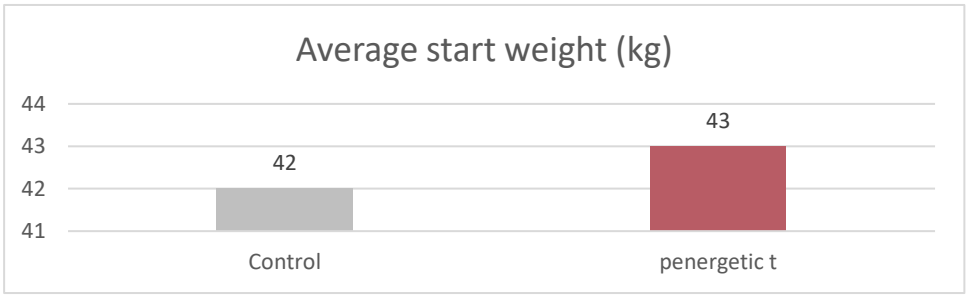
ADFI (average daily feed intake)



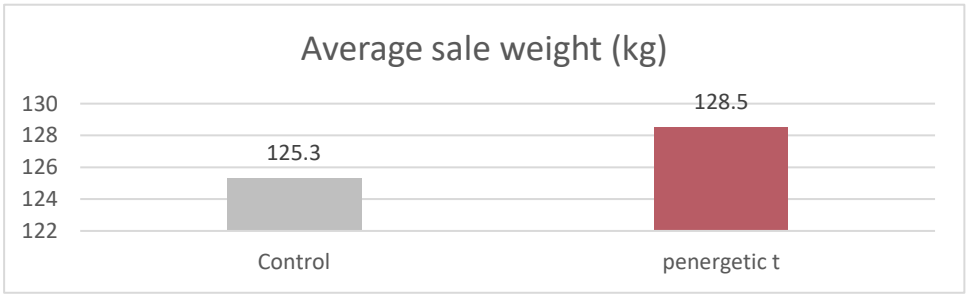
FCR (feed conversion rate)



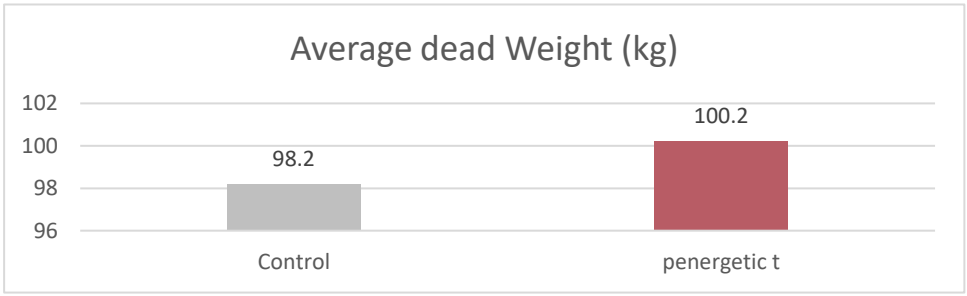
Average Start Weight



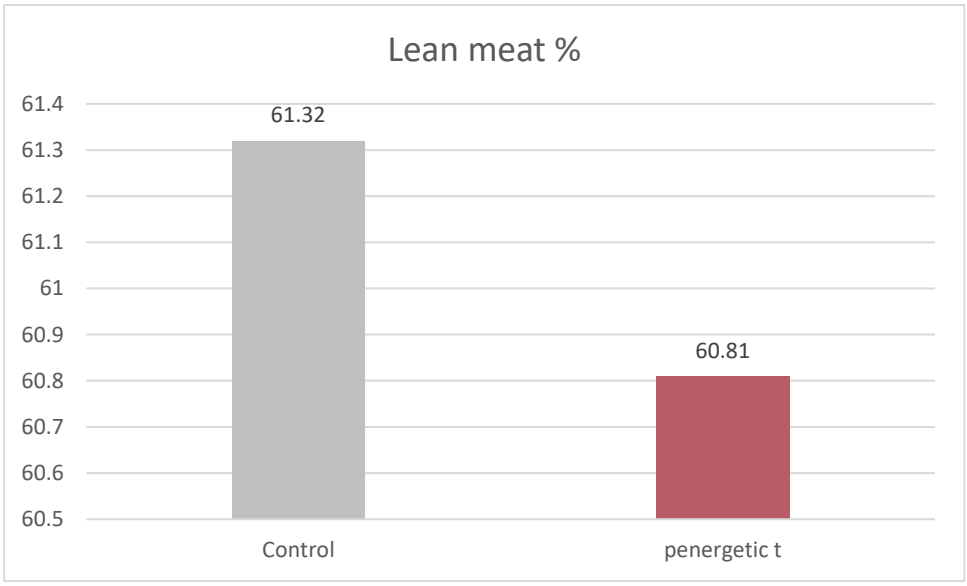
Average Sale Weight



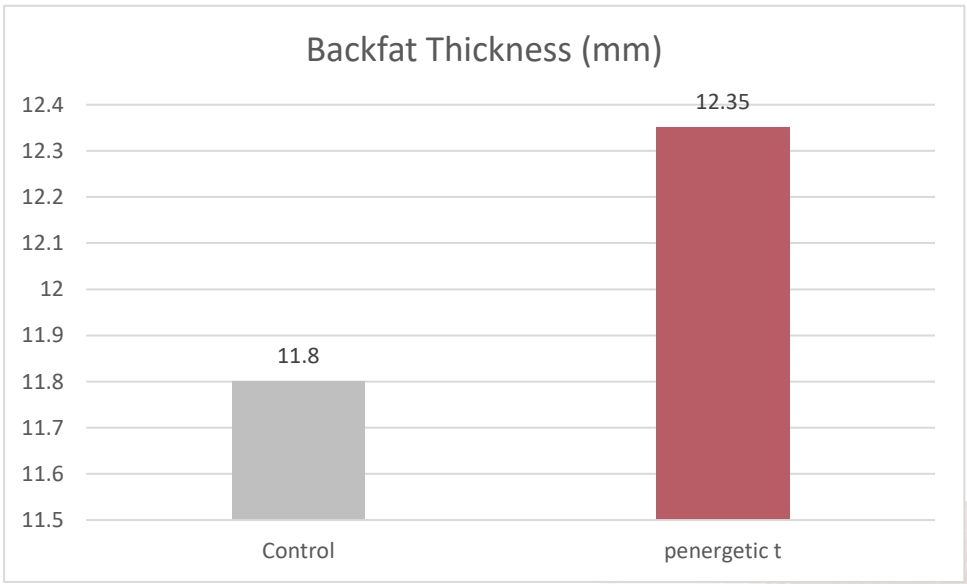
Average dead Weight



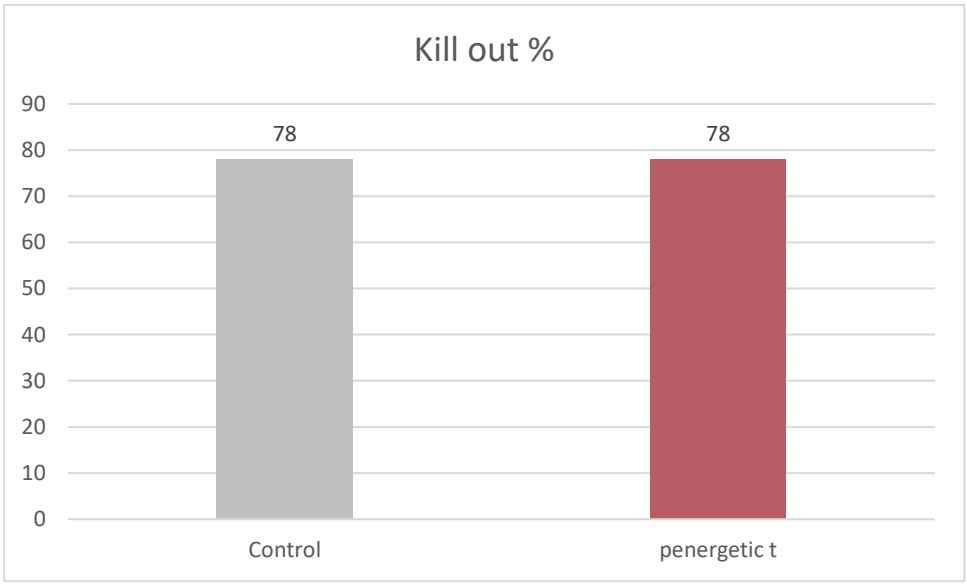
Lean meat %



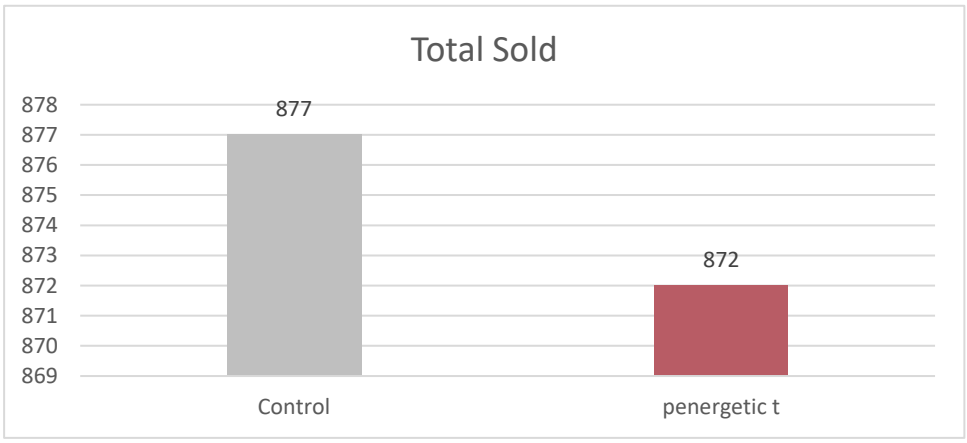
Backfat Thickness



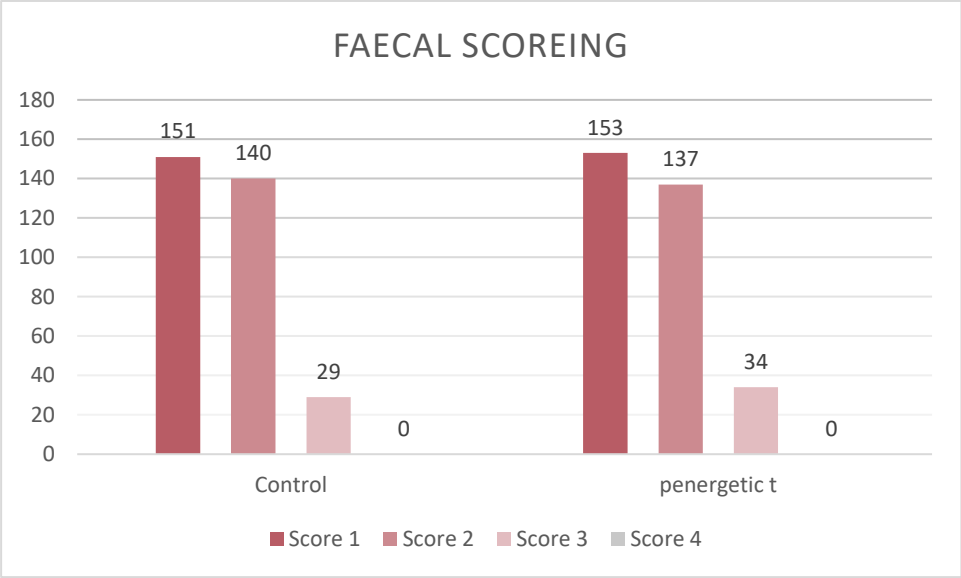
Kill Out %



Total Sold



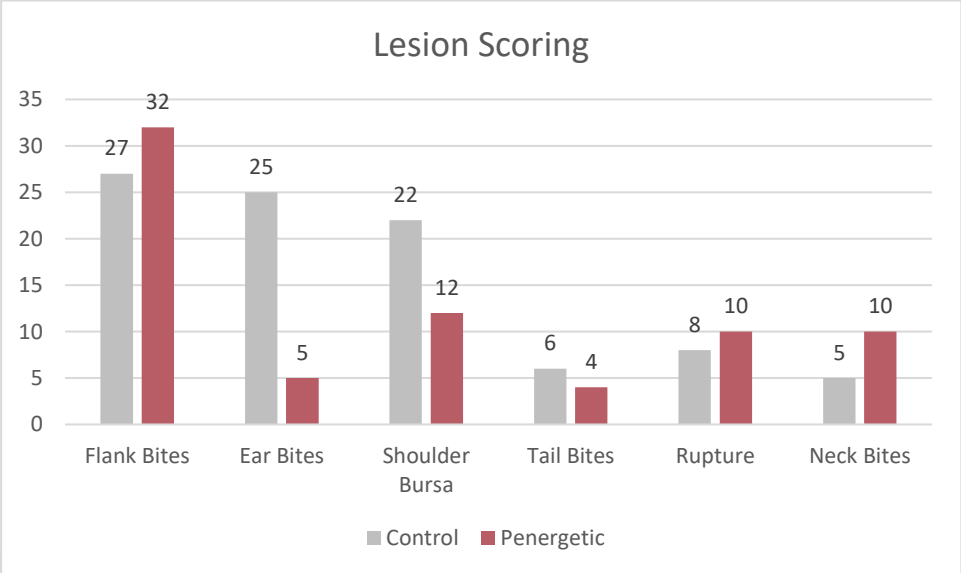
Faecal Scoring



Score 1 = firm and shaped
Score 2 = soft and shaped
Score 3 = loose and no shape retained
Score 4 = watery

Scores 1 and 2 are considered normal, while scores 3 and 4 are considered diarrhoea.

Lesion Scoring



Mortality / Removal from trial