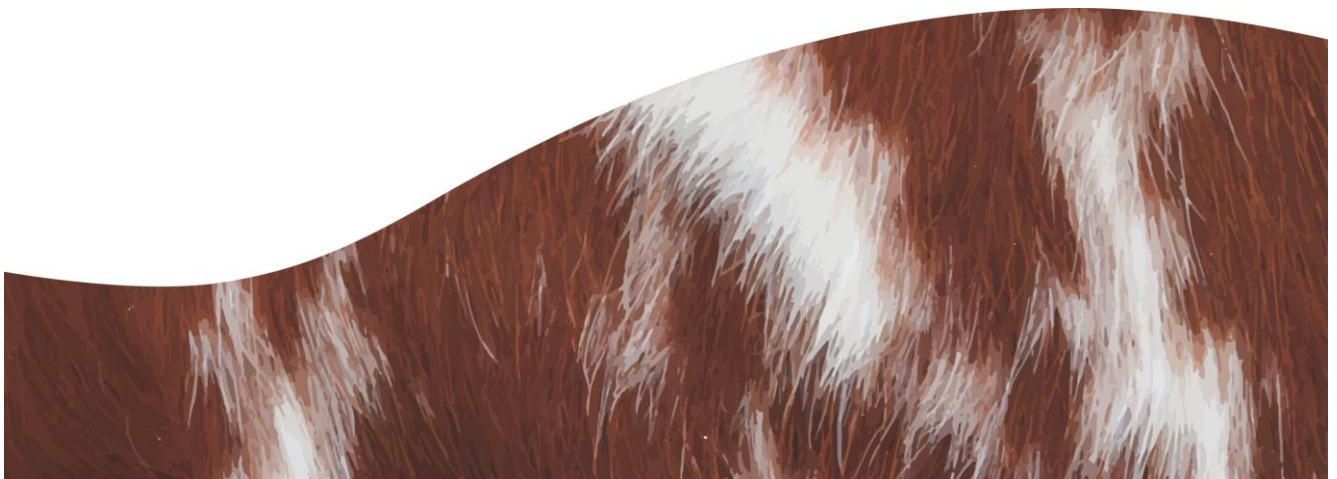




Trial

Effects of supplementing finishing pigs with dietary
penergetic t and Chelated trace mineral on
carcass and meat quality



● The Objective

- To determine if penergetic t could improve carcass and meat quality, without the addition of chelated trace mineral in fattening pigs.

● Place and period of study

- This trial was conducted at BN fattening pig farm, Nakornnayok, Thailand under a supervision of Department of Animal Science, Faculty of Agriculture at Kamphaeng Sean, Kasetsart University, Thailand.
- This trial lasted for 30 days

● Materials and Methods

- Animal: 720 crossbred pigs (360 males and 360 females; LabdracexLargewhitexDuroc) with initial BW of 50 ± 2.6 . Pig were blocked based on sex, initial BW, and randomly designed to 1 of 4 dietary treatments in a randomized complete block design.

Dietary treatments			
Control Diet	Control Diet & Penergetic-t fattening 200 ppm	Control Diet & Penergetic-t fattening 200 ppm & Chelate*	Control Diet & Penergetic-t fattening 400 ppm

* Chelate contains organic mineral of Mn, Cu and Zn which is commonly used as lean meat enhancer

Housing: Pigs were housed in open house system



Control Diet



Control Diet + Penergetic t fattening 200 ppm



Control Diet + Penergetic-t fattening 200 ppm + Chelate



Control Diet + Penergetic t fattening 400 ppm



Materials and methods

- Diet: Basal diet based on corn-SBM formulated to meet nutrient requirement according to NRC 2012
- Feeding: Pigs were fed twice daily for restrict consumption. Water was provided for ad libitum
- Housing: Pigs were housed in open house system

Data Collection

- Carcass Quality: Pigs were randomly weighed up prior and the end of trial initial to final trial. Fat-lean ratio (LSQ) was measured for carcass traits
- Meat Quality: 2 pigs /treatment were randomly test for meat quality

Animal body weight and carcass traits

Parameters	Treatments			
	Control	penergetic-t fattening pigs 200 ppm	penergetic-t fattening pigs 200 ppm + Chelate	penergetic-t fattening pigs 400 ppm
Initial BW,Kg	53.50	57.20	55.50	52.60
Final BW,Kg	94.70	99.80	100.10	100.20
<u>Carcass quality</u>				
No. of pigs	67	89	100	89
<u>Fat-lean ratio (LSQ) %</u>				
Grade A (< 0.2)	31.30	64.00	64.00	77.50
Grade B (0.21-0.26)	38.80	24.70	26.00	13.50
Grade C (0.27-0.32)	19.40	7.90	8.00	7.90
Grade D (0.33-0.38)	7.50	2.20	2.00	0
Grade E (0.39-0.44)	3.00	1.10	0	1.10
Grade A + B	70.20	88.70	90.00	91.00

Control Diet



Control Diet + penergetic t fattening 200 ppm



Control Diet + penergetic-t fattening 200 ppm + Chelate



Control Diet + penergetic t fattening 400 ppm



Meat quality

Parameters	Treatments			
	Control	Penergetic-t fattening pigs 200 ppm	Penergetic-t fattening pigs 200 ppm and Chelate	Penergetic-t fattening pigs 400 ppm
<u>Meat quality</u>				
Drip Loss (%)	3.16	1.72	1.34	1.24
Cooking loss (%)	35.20	34.07	32.02	36.40
Shear Force, N	78.04	108.10	119.98	138.37
Color	5.00	4.97	5.20	3.84
Temperature C	39.15	39.24	39.37	39.35

Conclusion

- Penergetic-t fattening both 200 ppm and 400 ppm and Chelated trace mineral showed an improved carcass quality compare to control group.
- The inclusion rate of 400 ppm penergetic-t fattening pigs showed highest number of LSQ number which reflect to an improved carcass quality
- Penergetic-t fattening pigs and Penergetic-t fattening and Chelate product can reduce drip loss compared to control diet. The inclusion of 400 ppm penergetic-t fattening pigs showed the best result.