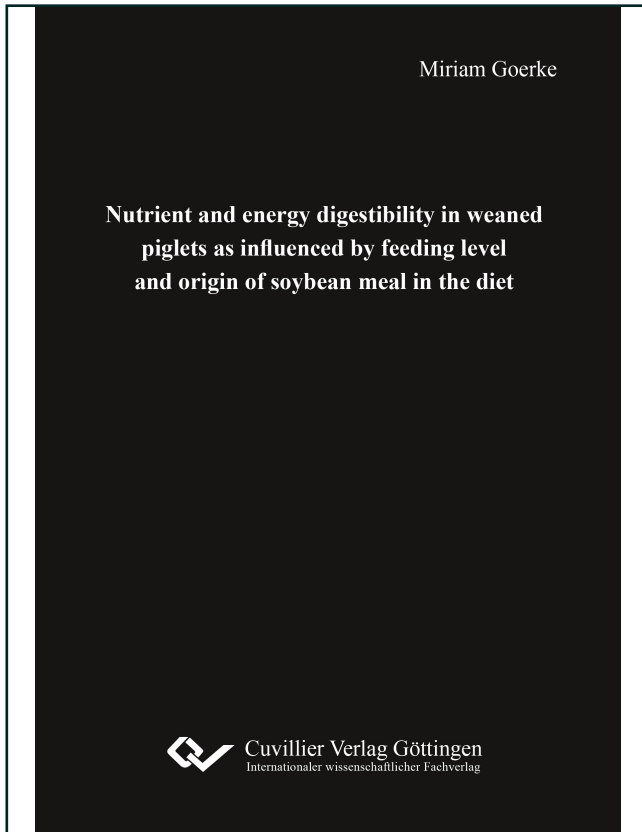




Miriam Goerke (Autor)

Nutrient and energy digestibility in weaned piglets as influenced by feeding level and origin of soy-bean meal in the diet



<https://cuvillier.de/de/shop/publications/6822>

Copyright:

Cuvillier Verlag, Inhaberin Annette Jentzsch-Cuvillier, Nonnenstieg 8, 37075 Göttingen, Germany

Telefon: +49 (0)551 54724-0, E-Mail: info@cuvillier.de, Website: <https://cuvillier.de>

TABLE OF CONTENTS

1.	General introduction and work hypothesis.....	2
1.1.	Introduction.....	2
1.2.	Soybean production countries.....	3
1.2.1.	Chemical composition of soybeans.....	4
1.2.2.	Soybean processing and changes in chemical composition.....	5
1.2.3.	Impact of geographic origin on nutritional value of soybeans and soybean products.....	8
1.3.	Feed intake level.....	11
1.3.1.	Effect of feed intake level on ileal crude protein and amino acid digestibility..	12
1.3.2.	Effect of feed intake level on digestibility of proximate nutrients and energy..	13
1.3.3.	Effect of feed intake level on nitrogen balance.....	15
1.4.	Scope and objective of the study.....	16
1.5.	References.....	17
2.	Standardized ileal digestibilities of crude protein, amino acids, and contents of antinutritional factors, mycotoxins and isoflavones of European soybean meal imports fed to piglets.....	26
2.1.	Abstract.....	26
2.2.	Introduction.....	27
2.3.	Materials and methods.....	27
2.3.1.	Animals and housing.....	28
2.3.2.	Surgical procedure.....	28
2.3.3.	Experimental procedure.....	28
2.3.4.	Analytical procedure.....	31
2.3.5.	Calculations.....	32
2.3.6.	Statistical analysis.....	33
2.4.	Results and discussion.....	34
2.4.1.	Chemical composition of the soybean meal batches.....	34
2.4.2.	Standardized ileal CP and AA digestibilities in SBM from Argentina, Brazil, or the United States.....	40
2.5.	Conclusion.....	48
2.6.	Acknowledgements.....	48
2.7.	References.....	49



3. Effect of feed intake level on ileal digestibilities of crude protein and amino acids in diets for piglets.....	56
3.1. Abstract.....	56
3.2. Introduction.....	56
3.3. Materials and methods.....	57
3.3.1. Animals and housing.....	57
3.3.2. Surgical procedure.....	58
3.3.3. Experimental procedure.....	58
3.3.4. Analytical procedure.....	61
3.3.5. Calculations.....	62
3.3.6. Statistical analyses.....	62
3.4. Results and discussion.....	63
3.4.1. General observations.....	63
3.4.2. Effect of feed intake level on ileal digestibilities of DM, CP and AA.....	63
3.5. Conclusion.....	69
3.6. Acknowledgements.....	69
3.7. References.....	70
4. Effect of feeding level on ileal and total tract digestibility of nutrients and energy from soybean meal-based diets for piglets.....	74
4.1. Summary.....	74
4.2. Introduction.....	74
4.3. Materials and methods.....	75
4.3.1. Animals and housing.....	75
4.3.2. Surgical procedure.....	76
4.3.3. Experimental procedure.....	76
4.3.4. Analytical procedure.....	79
4.3.5. Calculations.....	79
4.3.6. Statistical analysis.....	81
4.4. Results and discussion.....	81
4.4.1. General observations.....	81
4.4.2. Effect of feeding level on digestibility of DM, OM and ash.....	82
4.4.3. Effect of FI level on digestibility of NDF, ADF and EE.....	85
4.4.4. Effect of FI level on digestibility of N and N balance.....	87
4.4.5. Effect of FI level on digestibility of energy and contents of DE, ME and NE ..	90

4.5.	Conclusion	93
4.6.	Acknowledgements.....	93
4.7.	References.....	94
5.	General discussion.....	100
5.1.	Introduction.....	100
5.2.	Effect of origin on SBM composition.....	101
5.3.	Evaluation of standardized ileal digestibility of crude protein and amino acids in soybean meal batches of different origin.....	101
5.4.	Comparison of standardized ileal digestibility of crude protein and amino acids in weaned piglets and grower-finisher pigs	102
5.5.	Effect of feed intake level on ileal digestibility of crude protein and amino acids .	103
5.6.	Effect of feed intake level on ileal and total tract digestibility of nutrients and energy and on contents of digestible, metabolizable and net energy in the diet	105
5.7.	Conclusion	107
5.8.	References.....	108
6.	Summary.....	112
7.	Zusammenfassung	116