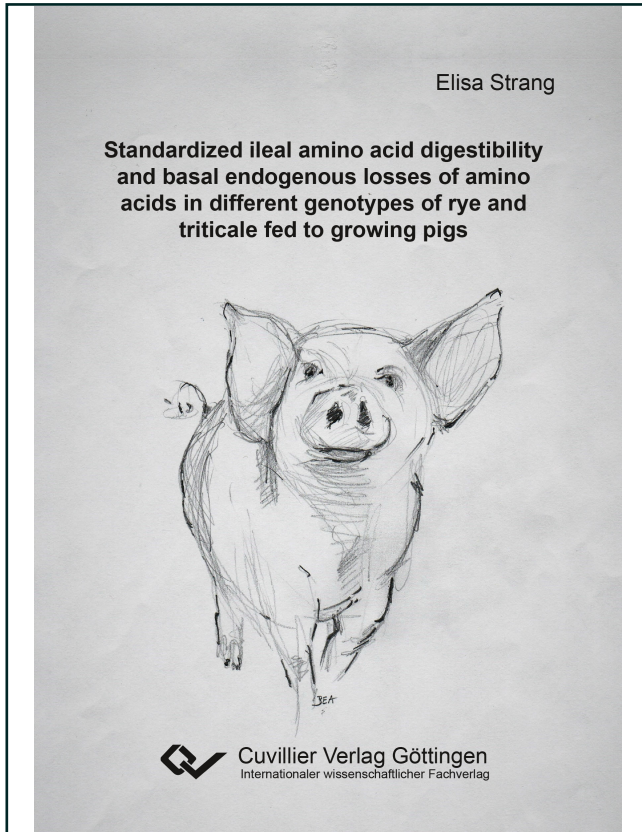




Elisa Strang (Autor)

Standardized ileal amino acid digestibility and basal endogenous losses of amino acids in different genotypes of rye and triticale fed to growing pigs



<https://cuvillier.de/de/shop/publications/7542>

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	3
1.1	Introduction	3
1.2	Rye.....	4
1.3	Triticale	5
1.4	Nutritional composition of rye and triticale	6
1.5	Feeding value of rye and triticale.....	9
1.5.1	Rye.....	9
1.5.2	Triticale.....	10
1.5.3	Interaction between rye and triticale and pigs´ microbiota	10
1.6	Standardized ileal digestibility and basal ileal endogenous losses of crude protein and amino acids in rye and triticale	11
1.7	Work hypothesis.....	13
1.8	References	13
2	Chemical composition and standardized ileal amino acid digestibility of eight genotypes of rye fed to growing pigs	23
2.1	Abstract	23
2.2	Introduction.....	24
2.3	Materials and methods	24
2.3.1	Animals, experimental design, and diets	24
2.3.2	Experimental feeding and sample collection	27
2.3.3	Sample analyses	27
2.3.4	Calculations	29
2.3.5	Statistical analyses	29
2.4	Results.....	30
2.4.1	General observations	30
2.4.2	Physical characteristics and contents of nutrients and energy in 8 genotypes of rye.....	30



2.4.3	Standardized ileal digestibility of CP and AA and standardized ileal digestible content of CP and AA in 8 genotypes of rye	36
2.5	Discussion	39
2.6	Acknowledgements	43
2.7	Literature cited	43
3	Variations in the chemical composition and standardized ileal digestibility of amino acids in eight genotypes of triticale fed to growing pigs.....	51
3.1	Abstract	51
3.2	Introduction	52
3.3	Materials and methods	52
3.3.1	Animals, experimental design, and diets	52
3.3.2	Experimental feeding and sample collection	55
3.3.3	Sample analyses	55
3.3.4	Calculations	57
3.3.5	Statistical analyses	58
3.4	Results	58
3.4.1	General observations	58
3.4.2	Physical characteristics and contents of nutrients and energy in 8 genotypes of triticale.....	58
3.4.3	Standardized Ileal digestibility and standardized ileal digestible content of CP and AA in 8 genotypes of triticale	64
3.5	Discussion	67
3.6	Acknowledgement.....	70
3.7	Literature cited	70
4	Ileal endogenous loss and standardized ileal digestibility of amino acids in rye genotypes for pigs	79
4.1	Abstract	79
4.2	Introduction	79
4.3	Materials and methods	80
4.4	Results and discussion.....	82



4.5	Acknowledgement.....	83
4.6	Literature cited	83
5	Standardized ileal digestibility and basal ileal endogenous loss of amino acids associated with triticale genotypes in growing pigs	87
5.1	Abstract	87
5.2	Introduction.....	87
5.3	Materials and methods	88
5.4	Results and discussion.....	90
5.5	Acknowledgement.....	92
5.6	Literature cited	92
6	General Discussion	97
6.1	Introduction.....	97
6.1.1	Protein content and composition of rye and triticale	98
6.2	Methodological considerations on standardized ileal digestibility and basal ileal endogenous losses of crude protein and amino acids fed to pigs.....	100
6.2.1	Determination of basal ileal endogenous losses of crude protein and amino acids	100
6.2.2	Standardized ileal digestibility and basal ileal endogenous losses of crude protein and amino acids in rye and triticale.....	101
6.2.3	Standardized ileal digestible contents of crude protein and amino acids in rye and triticale	103
6.2.4	Fiber fractions and their effects on standardized ileal digestibility of amino acids	104
6.3	Use of rye and triticale as feed ingredient in other livestock species	106
6.3.1	Rye.....	106
6.3.2	Triticale.....	107
6.4	Conclusion.....	107
6.5	Suggestion for further research	108
6.6	References.....	108
7	Summary	117
8	Zusammenfassung.....	121