

1 Table 3: Mean values and reliability (Spearman Rank Correlation Coefficient (RS), Intraclass
 2 Correlation Coefficient (ICC)) and agreement parameters (Smallest Detectable Change
 3 (SDC), Limits of Agreement (LoA) of criteria, principle and overall scores of the
 4 comparison of observers A and C and observers A and B, respectively.

Interobserver repeatability observers A and C							Interobserver repeatability observers A and B					
A ^c	C ^c	RS ^d	ICC ^d	SDC ^d	LoA ^d		A ^c	B ^c	RS ^d	ICC ^d	SDC ^d	LoA ^d
Criteria												
1^a	100	100	1.00	1.00	0	0	100	100	1.00	1.00	0	0
2^a	91	91	1.00	1.00	0	0	90	90	1.00	1.00	0	0
3^a	58	64	0.18	0.56	21.59	-29.06 to 17.02	53	53	0.78	0.87	10.69	-20.09 to 21.21
4^a	100	100	1.00	1.00	0	0	100	100	1.00	1.00	0	0
5^a	80	79	0.97	1.00	0.36	-2.89 to 4.31	83	81	0.89	0.94	3.02	-7.51 to 10.38
6^a	81	75	0.88	0.96	2.40	-3.06 to 13.90	84	88	0.68	0.78	7.74	-14.92 to 8.21
7^a	75	75	1.00	1.00	0	0	69	68	0.85	0.94	2.84	-6.79 to 9.49
8^a	73	73	1.00	1.00	0	0	47	47	1.00	1.00	0	0
9^a	65	50	0.60	0.47	32.68	-16.63 to 46.61	68	81	0.83	0.64	10.87	-25.95 to -0.21
10^a	33	33	0.29	0	29.42	-21.03 to 20.59	30	32	0.84	0.90	3.56	-10.34 to 5.72
11^a	92	87	0.26	0.75	20.74	-24.65 to 34.39	83	72	0.75	0.74	28.80	-29.46 to 50.73
12^a	36	34	0.67	0.70	12.07	-13.35 to 17.65	49	54	0.64	0.70	19.22	-29.91 to 19.64
Principles												
1^b	91	91	1.00	1.00	0	0	91	91	1.00	1.00	0	0
2^b	62	66	0.64	0.63	14.82	-21.42 to 13.04	61	60	0.80	0.88	7.99	-15.60 to 17.16
3^b	63	62	0.98	0.99	0.60	-3.64 to 6.42	52	51	0.80	0.98	1.05	-4.99 to 6.34
4^b	40	35	0.82	0.75	5.03	-3.04 to 11.32	43	46	0.37	0.53	11.99	-15.97 to 8.65
Overall												
	2	2	1.00	1.00	0	0	2	2	0.49	0.66	0.63	-0.72 to 0.82

5 ^a Criteria of the Welfare Quality® protocol for growing pigs: 1) Absence of prolonged hunger, 2) Absence of prolonged
 6 thirst, 3) Comfort around resting, 4) Thermal comfort, 5) Ease of movement, 6) Absence of injuries, 7) Absence of
 7 disease, 8) Absence of pain induced by management procedures, 9) Expression of social behaviours, 10) Expression
 8 of other behaviours, 11) Good human animal relationship, 12) Positive emotional state

9 ^b Principles of the Welfare Quality® protocol for growing pigs: 1) Good feeding, 2) Good housing, 3) Good health, 4)
 10 Appropriate behaviour

11 ^c Mean values of observers A, B and C, respectively

12 ^d Thresholds considered acceptable: RS ≥ 0.4, ICC ≥ 0.4, SDC ≤ 10.0, LoA ∈ (-10.0;10.0)

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14 Table 4: Test-retest repeatability of the repeated protocol assessments in two consecutive fattening
 15 periods on 8 farms of observer A. Farm visit 1 (weight of the pigs about 40kg), farm visit
 16 2 (weight of the pigs about 75kg) and farm visit 3 (weight of the pigs about 100kg) are
 17 compared separately from each other. Mean values of criteria, principle and overall scores
 18 of the first (A1, A2, A3) and second (A4, A5, A6) fattening period as well as reliability
 19 (Spearman Rank Correlation Coefficient (RS), Intraclass Correlation Coefficient (ICC))
 20 and agreement (Smallest Detectable Change (SDC) and Limits of Agreement (LoA))
 21 parameters are shown.

	Farm visit 1						Farm visit 2							
	A1	A4	RS ^c	ICC ^c	SDC ^c	LoA ^c	A2	A5	RS ^c	ICC ^c	SDC ^c	LoA ^c	A3	A6
Criteria														
1^a	100	99	0	0	10.48	-5.98 to 8.84	100	100	1.00	1.00	0	0	100	100
2^a	94	87	0.65	0.77	22.66	-26.91 to 39.77	91	94	-0.17	0	84.63	-61.98 to 57.70	100	94
3^a	66	64	-0.11	0.67	11.37	-12.16 to 15.88	60	58	-0.29	0	29.33	-18.28 to 23.20	56	45
4^a	86	100	0	0	66.76	-61.20 to 33.20	100	100	1.00	1.00	0	0	100	100
5^a	85	83	0.96	0.99	1.17	-5.16 to 8.88	81	76	0.71	0.75	18.29	-21.39 to 30.45	75	66
6^a	73	83	0.32	0.38	25.78	-33.36 to 12.84	82	85	0.21	0.31	31.60	-29.53 to 24.22	82	85
7^a	73	73	0.90	0.98	2.16	-10.22 to 9.50	73	76	0.89	0.94	3.66	-13.80 to 7.49	73	76
8^a	46	46	1.00	1.00	0	0	46	46	1.00	1.00	0	0	46	46
9^a	50	67	0.39	0.20	30.57	-40.71 to 7.51	57	68	-0.23	0	56.43	-50.75 to 29.06	55	70
10^a	33	33	-0.02	0.46	14.09	-13.37 to 13.62	33	33	0.46	0.70	8.82	-11.60 to 11.03	34	32
11^a	78	80	0.58	0.73	42.13	-58.67 to 54.93	93	90	1.00	0.98	3.05	-11.24 to 16.61	91	88
12^a	28	38	0.18	0.15	43.70	-43.48 to 23.71	25	37	0.64	0.47	25.59	-37.06 to 12.66	25	32
Principles														
1^b	94	88	0.51	0.77	21.94	-25.83 to 38.17	92	94	-0.17	0	80.36	-58.87 to 54.78	100	94
2^b	69	68	0.68	0.92	3.70	-8.09 to 10.18	66	60	0.07	0.06	22.27	-11.19 to 21.24	60	49
3^b	52	52	0.92	0.97	2.02	-7.32 to 8.38	52	55	0.89	0.97	1.98	-10.02 to 5.60	53	55
4^b	33	40	0.21	0.17	21.89	-23.73 to 10.22	33	40	0.79	0.65	5.12	-12.82 to -0.67	34	38
Overall														
	2	2	1.00	1.00	0	0	2	2	-0.17	0	1.60	-1.13 to 1.13	2	2

22 ^a Criteria of the Welfare Quality® protocol for growing pigs: 1) Absence of prolonged hunger, 2) Absence of prolonged
 23 thirst, 3) Comfort around resting, 4) Thermal comfort, 5) Ease of movement, 6) Absence of injuries, 7) Absence of
 24 disease, 8) Absence of pain induced by management procedures, 9) Expression of social behaviours, 10) Expression
 25 of other behaviours, 11) Good human animal relationship, 12) Positive emotional state

26 ^b Principles of the Welfare Quality® protocol for growing pigs: 1) Good feeding, 2) Good housing, 3) Good health, 4)
 27 Appropriate behaviour

28 ^c Thresholds considered acceptable: RS ≥ 0.4, ICC ≥ 0.4, SDC ≤ 10.0, LoA ∈ (-10.0;10.0)

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30 Table 5: Test-retest repeatability of the repeated protocol assessments in two consecutive fattening
 31 periods on 16 farms of observer B. Farm visit 1 (weight of the pigs about 40kg), farm visit
 32 2 (weight of the pigs about 75kg) and farm visit 3 (weight of the pigs about 100kg) are
 33 compared separately from each other. Mean values of criteria, principle and overall scores
 34 of the first (B1, B2, B3) and second (B4, B5, B6) fattening period as well as reliability
 35 (Spearman Rank Correlation Coefficient (RS), Intraclass Correlation Coefficient (ICC))
 36 and agreement (Smallest Detectable Change (SDC) and Limits of Agreement (LoA)
 37 parameters are shown.

	Farm visit 1						Farm visit 2							
	B1	B4	RS ^c	ICC ^c	SDC ^c	LoA ^c	B2	B5	RS ^c	ICC ^c	SDC ^c	LoA ^c	B3	B6
Criteria														
1^a	100	100	1.00	1.00	0	0	100	100	0	0	4.99	-3.08 to 3.98	100	100
2^a	82	86	0.84	0.91	12.26	-33.15 to 25.65	85	89	0.83	0.84	19.48	-40.48 to 27.98	88	88
3^a	82	60	0.50	0.28	25.47	0.87 to 43.26	64	52	-0.24	0	48.53	-22.62 to 46.01	52	55
4^a	90	100	0	0	58.78	-51.19 to 31.94	97	100	0	0	30.49	-24.31 to 18.81	100	100
5^a	86	86	0.88	0.93	3.16	-8.55 to 8.02	78	81	0.69	0.90	4.01	-11.56 to 6.39	71	73
6^a	86	88	-0.05	0	32.28	-24.86 to 20.89	90	88	0.37	0.49	15.69	-13.58 to 17.36	89	83
7^a	68	70	0.66	0.56	21.34	-24.72 to 20.62	67	68	0.41	0.42	30.55	-29.43 to 27.19	67	68
8^a	49	49	1.00	1.00	0	0	49	49	1.00	1.00	0	0	49	49
9^a	66	80	0.46	0.40	27.60	-39.78 to 10.41	77	83	0.57	0.53	17.89	-24.77 to 12.10	81	84
10^a	31	32	0.11	0.13	19.66	-15.37 to 14.38	32	33	0.14	0.21	22.13	-18.54 to 16.75	30	30
11^a	79	66	0.74	0.84	27.72	-35.60 to 61.50	79	76	0.56	0.52	75.69	-73.76 to 80.11	81	76
12^a	59	57	0.07	0.21	29.80	-21.16 to 26.14	58	57	-0.12	0	44.12	-29.40 to 33.00	55	55
Principles														
1^b	83	87	0.84	0.91	11.65	-31.49 to 24.37	86	91	0.72	0.84	18.88	-38.47 to 27.25	89	89
2^b	83	66	0.65	0.43	15.38	1.77 to 30.52	66	59	-0.11	0	32.31	-15.74 to 29.95	56	59
3^b	53	55	0.82	0.95	3.71	-13.12 to 9.68	53	54	0.74	0.93	5.19	-14.21 to 12.78	53	54
4^b	43	46	0.35	0.41	17.93	-19.19 to 13.85	46	48	0.32	0.37	19.85	-19.09 to 16.16	46	47
Overall														
	2	2	0.68	0.79	0.32	-0.55 to 0.43	2	2	1.00	1.00	0	0	2	2

38 ^a Criteria of the Welfare Quality® protocol for growing pigs: 1) Absence of prolonged hunger, 2) Absence of prolonged
 39 thirst, 3) Comfort around resting, 4) Thermal comfort, 5) Ease of movement, 6) Absence of injuries, 7) Absence of
 40 disease, 8) Absence of pain induced by management procedures, 9) Expression of social behaviours, 10) Expression
 41 of other behaviours, 11) Good human animal relationship, 12) Positive emotional state

42 ^b Principles of the Welfare Quality® protocol for growing pigs: 1) Good feeding, 2) Good housing, 3) Good health, 4)
 43 Appropriate behaviour

44 ^c Thresholds considered acceptable: RS ≥ 0.4, ICC ≥ 0.4, SDC ≤ 10.0, LoA € (-10.0;10.0)

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