

- 1 **Table S1:** Indicators and their respective scores included in the the AWIN welfare assessment
- 2 protocol for horses. Indicators that are only assessed in the level 2 protocol are marked in italic
- 3 printing.

Indicator	Scores (code)
Horse Grimace Scale	
Ears pointing stiffly backwards	Absent (0), moderately present (1), obviously present (2)
Orbital tightening	Absent (0), moderately present (1), obviously present (2)
Tension above eye area	Absent (0), moderately present (1), obviously present (2)
Prominent strained chewing muscles	Absent (0), moderately present (1), obviously present (2)
Mouth strained and pronounced chin	Absent (0), moderately present (1), obviously present (2)
Strained nostrils and flattening of the profile	Absent (0), moderately present (1), obviously present (2)
Stereotypies	Absent (0), present (1)
<i>Coughing</i>	<i>Absent (0), present (1)</i>
Avoidance Distance Test	No avoidance (0), avoidance (1)
Voluntary Human Approach Test	Positive signs (0), no interest (1), negative signs (2)
<i>Forced Human Approach Test</i>	<i>Positive signs (0), avoidance (1), negative signs (2)</i>
<i>Qualitative Behaviour Assessment</i>	<i>Millimetre values for 20 given descriptors</i>
Body Condition Score	Too thin (1), thin (2), normal (3), fat (4), too fat (5)
Hair coat condition	Normal (0), abnormal (1)
Abnormal breathing	Absent (0), present (1)
Swollen joints	Absent (0), present (1)
Discharge	
Ocular	Absent (0), present (1)
Nasal	Absent (0), present (1)
Genital	Absent (0), present (1)
Uterine prolapse	Absent (0), present (1)
Consistency of manure	Normal (0), abnormal (1)
<i>Lameness</i>	<i>Absent (0), present (1), inability to stand (2)</i>
Bedding	
Quantity	Sufficient (0), not sufficient (1)
Cleanliness	Clean (0), partly soiled (1), soiled (2)
Social interaction	None (0), nibble and groom (1), sniff (2), visual (3)
Box dimension	Sufficient (0), not sufficient (1)
Water point	
Functioning	Functioning (0), not functioning (1)
Cleanliness	Clean (0), partly dirty (1), dirty (2)
Type	No water point (0), Through (1), Automatic (2)
Integument alterations	
Muzzle	Alopecia (1), skin lesion (2), deep wound (3), swelling (4)
Head (incl. ears)	Alopecia (1), skin lesion (2), deep wound (3), swelling (4)
Neck (excl. withers)	Alopecia (1), skin lesion (2), deep wound (3), swelling (4)
Shoulder (incl. withers, excl. elbows)	Alopecia (1), skin lesion (2), deep wound (3), swelling (4)
Midsection (back, loin, flank, barrel)	Alopecia (1), skin lesion (2), deep wound (3), swelling (4)

Legs (incl. elbow, stifle, pastern, excl. coronet)	Alopecia (1), skin lesion (2), deep wound (3), swelling (4)
Hooves (incl. coronet)	Alopecia (1), skin lesion (2), deep wound (3), swelling (4)
<i>Lesions at the mouth corner</i>	<i>Absent (0), redness/hardened spot (1), open wound (2)</i>
Signs of hoof neglect	Absent (0), present (1)
<i>Fear test</i>	<i>Latency times</i>
Exercise	Daily (0), weekly (1-4x/week) (1), sometimes (<1x/week) (2)

1 **Table 2** Statistical parameters (Spearman’s rank correlation coefficient (RS), intraclass correlation coefficient (ICC), smallest detectable
2 change (SDC), limits of agreement (LoA)) calculated for the different comparisons of farm visits for each of the indicator of the AWIN
3 protocol for horses (first level assessment). For the RS and the ICC, p-values are indicated in brackets. Only those scores demonstrating
4 presence of that indicator are shown. Values indicating good consistency over time are shown in bold, values indicating acceptable
5 consistency over time in italic printing.

Indicator	Comparison farm visit 1 to 2				Comparison farm visit 1 to 3				Comparison farm visit 1 to 4			
	RS	ICC	SDC	LoA	RS	ICC	SDC	LoA	RS	ICC	SDC	LoA
Horse Grimace Scale: ears1	0.23 (0.43)	0.00 (0.55)	0.43	-0.40 to 0.46	0.23 (0.43)	0.08 (0.38)	0.40	-0.40 to 0.46	0.23 (0.43)	0.02 (0.46)	0.41	-0.40 to 0.46
Horse Grimace Scale: ears2	0.28 (0.33)	0.32 (0.12)	0.12	-0.11 to 0.13	0.28 (0.33)	0.00 (0.59)	0.15	-0.11 to 0.13	0.28 (0.33)	0.31 (0.12)	0.12	-0.11 to 0.13
Horse Grimace Scale: orbital1	0.24 (0.40)	0.28 (0.15)	0.27	-0.22 to 0.33	0.24 (0.40)	0.30 (0.13)	0.27	-0.22 to 0.33	0.24 (0.40)	0.00 (0.59)	0.33	-0.22 to 0.33
Horse Grimace Scale: orbital2	-0.05 (0.86)	0.00 (0.59)	0.07	-0.06 to 0.07	-0.05 (0.86)	0.15 (0.29)	<i>0.06</i>	<i>-0.06 to 0.07</i>	-0.05 (0.86)	0.13 (0.32)	<i>0.06</i>	<i>-0.06 to 0.07</i>
Horse Grimace Scale: eyes1	<i>0.51</i> (0.06)	<i>0.67</i> (0.003)	0.11	<i>-0.09</i> to 0.12	<i>0.51</i> (0.06)	0.00 (0.50)	0.19	<i>-0.09</i> to 0.12	<i>0.51</i> (0.06)	0.00 (0.81)	0.21	<i>-0.09</i> to 0.12
Horse Grimace Scale: mouth1	0.25 (0.39)	<i>0.44</i> (0.05)	0.20	-0.22 to 0.17	0.25 (0.39)	0.00 (0.69)	0.28	-0.22 to 0.17	<i>0.25</i> (0.39)	0.00 (0.52)	0.27	-0.22 to 0.17
Horse Grimace Scale: mouth2	-0.08 (0.79)	0.00 (0.60)	0.04	-0.04 to 0.04	-0.08 (0.79)	0.00 (0.60)	0.04	-0.04 to 0.04	-0.08 (0.79)	0.33 (0.11)	0.03	-0.04 to 0.04
Horse Grimace Scale: nostrils1	0.83 (0.0003)	0.75 (0.0006)	0.14	-0.14 to 0.14	0.83 (0.0003)	0.3 (0.13)	0.23	-0.14 to 0.14	0.83 (0.003)	0.25 (0.18)	0.24	-0.14 to 0.14
Horse Grimace Scale: chewing muscles1	0.22 (0.44)	<i>0.40</i> (0.07)	0.20	-0.21 to 0.22	0.22 (0.44)	0.02 (0.47)	0.25	-0.17 to 0.22	0.22 (0.44)	0.00 (0.49)	0.25	-0.17 to 0.22
Horse Grimace Scale: chewing muscles2	0.00 (0.50)	0.00 (0.50)	0.02	-0.03 to 0.02	0.00 (0.50)	0.00 (0.50)	0.02	-0.03 to 0.02	0.00 (0.50)	0.00 (0.50)	0.02	-0.03 to 0.02
Stereotypies1	0.74 (0.002)	0.81 (0.0001)	0.03	-0.03 to 0.03	0.74 (0.002)	<i>0.68</i> (0.002)	0.04	-0.03 to 0.03	0.74 (0.002)	0.39 (0.12)	<i>0.07</i>	-0.03 to 0.03
Avoidance Distance Test1	0.16 (0.58)	0.64 (0.05)	0.11	-0.11 to 0.11	0.16 (0.58)	0.34 (0.11)	0.15	-0.11 to 0.11	0.16 (0.58)	0.04 (0.44)	0.18	-0.11 to 0.11
Avoidance Distance Test2	-0.04 (0.88)	0.00 (0.52)	0.30	-0.36 to 0.25	-0.04 (0.88)	0.09 (0.37)	0.29	-0.36 to 0.25	-0.04 (0.88)	0.24 (0.19)	0.26	-0.36 to 0.25
Voluntary Human Approach Test1	0.33 (0.24)	0.26 (0.17)	0.09	-0.12 to 0.08	0.33 (0.24)	0.26 (0.17)	<i>0.09</i>	<i>-0.12 to 0.08</i>	0.33 (0.24)	0.03 (0.46)	<i>0.10</i>	<i>-0.10 to 0.08</i>
Voluntary Human Approach Test2	0.35 (0.22)	0.31 (0.12)	0.23	-0.18 to 0.27	0.35 (0.22)	0.33 (0.11)	0.22	-0.18 to 0.27	0.35 (0.22)	<i>0.68</i> (0.02)	0.15	-0.18 to 0.27

Body Condition Score2	0.58 (0.03)	0.59 (0.01)	0.05	-0.05 to 0.05	0.58 (0.03)	0.55 (0.03)	0.07	-0.05 to 0.05	0.58 (0.03)	0.37 (0.16)	0.07	-0.05 to 0.05
Body Condition Score3	0.19 (0.52)	0.49 (0.03)	0.24	-0.20 to 0.28	0.19 (0.52)	0.32 (0.12)	0.28	-0.20 to 0.28	0.19 (0.52)	0.30 (0.14)	0.28	-0.20 to 0.28
Body Condition Score4	0.23 (0.42)	0.52 (0.02)	0.24	-0.27 to 0.21	0.23 (0.42)	0.38 (0.08)	0.27	-0.27 to 0.21	0.23 (0.42)	0.41 (0.05)	0.26	-0.27 to 0.21
Hair coat condition1	0.40 (0.10)	0.73 (0.0009)	0.04	-0.03 to 0.04	0.39 (0.16)	0.00 (0.50)	0.08	-0.03 to 0.04	0.39 (0.16)	0.00 (0.60)	0.08	-0.03 to 0.04
Abnormal breathing1	-0.11 (0.69)	0.00 (0.65)	0.03	-0.03 to 0.03	-0.11 (0.69)	0.00 (0.61)	0.03	-0.03 to 0.03	-0.11 (0.69)	0.72 (0.001)	0.01	-0.03 to 0.03
Swollen joints1	0.64 (0.01)	0.71 (0.001)	0.14	-0.12 to 0.16	0.64 (0.01)	0.00 (0.70)	0.27	-0.12 to 0.16	0.64 (0.01)	0.00 (0.42)	0.27	-0.12 to 0.16
Discharge: ocular1	0.59 (0.02)	0.40 (0.05)	0.06	-0.06 to 0.06	0.59 (0.02)	0.51 (0.02)	0.05	-0.06 to 0.06	0.59 (0.02)	0.59 (0.01)	0.05	-0.06 to 0.06
Discharge: nasal1	0.32 (0.27)	0.23 (0.20)	0.05	-0.05 to 0.04	0.32 (0.27)	0.48 (0.03)	0.04	-0.05 to 0.04	0.32 (0.27)	0.00 (0.64)	0.06	-0.05 to 0.04
Consistency of manure1	0.50 (0.05)	0.54 (0.01)	0.31	-0.20 to 0.43	0.50 (0.06)	0.35 (0.10)	0.37	-0.20 to 0.43	0.50 (0.06)	0.00 (0.69)	0.49	-0.20 to 0.43
Consistency of manure2	0.60 (0.02)	0.65 (0.004)	0.29	-0.42 to 0.17	0.60 (0.02)	0.55 (0.01)	0.33	-0.42 to 0.17	0.60 (0.02)	0.00 (0.69)	0.53	-0.42 to 0.17
Box dimensions1	0.90 (<0.0001)	0.87 (<0.0001)	0.03	-0.04 to 0.03	0.90 (<0.0001)	0.88 (<0.0001)	0.08	-0.03 to 0.04	0.90 (<0.0001)	0.80 (<0.0001)	0.10	-0.03 to 0.04
Bedding: cleanliness1	0.50 (0.05)	0.60 (0.009)	0.23	-0.19 to 0.29	0.50 (0.05)	0.54 (0.05)	0.41	-0.29 to 0.19	0.50 (0.05)	0.53 (0.02)	0.25	-0.29 to 0.19
Social interaction1	0.85 (0.0001)	0.57 (0.01)	0.25	-0.31 to 0.24	0.85 (0.0001)	0.00 (0.50)	0.38	-0.31 to 0.24	0.85 (0.0001)	0.68 (0.002)	0.21	-0.31 to 0.24
Social interaction4	0.84 (0.0002)	0.68 (0.002)	0.32	-0.28 to 0.38	0.84 (0.0002)	0.61 (0.007)	0.35	-0.28 to 0.38	0.84 (0.0002)	0.62 (0.03)	0.50	-0.28 to 0.38
Social interaction6	0.84 (0.0001)	0.90 (<0.0001)	0.10	-0.10 to 0.10	0.84 (0.0001)	0.81 (0.0001)	0.16	-0.14 to 0.10	0.84 (0.0001)	0.04 (0.44)	0.37	-0.14 to 0.10
Water: functioning1	0.00 (0.50)	0.00 (0.50)	0.01	-0.02 to 0.02	0.00 (0.50)	0.00 (0.50)	0.01	-0.02 to 0.02	0.00 (0.50)	0.00 (0.50)	0.02	-0.02 to 0.02
Water: cleanliness1	0.82 (0.0003)	0.72 (0.0001)	0.22	-0.01 to 0.02	0.82 (0.0003)	0.51 (0.02)	0.29	-0.16 to 0.29	0.82 (0.0003)	0.48 (0.03)	0.30	-0.16 to 0.29
Water: cleanliness2	0.66 (0.002)	0.50 (0.002)	0.15	-0.01 to 0.01	0.74 (0.03)	0.47 (0.002)	0.35	-0.34 to 0.20	0.74 (0.002)	0.47 (0.03)	0.35	-0.34 to 0.20
IA*: legs: alopecia	0.89 (0.002)	0.71 (0.0002)	0.16	-0.14 to 0.18	0.44 (0.002)	0.30 (0.15)	0.23	-0.24 to 0.25	-0.02 (0.23)	0.00 (0.64)	0.28	-0.24 to 0.36
IA*: legs: skin lesion	0.76 (0.003)	0.66 (0.03)	0.06	-0.07 to 0.05	0.27 (0.15)	0.29 (0.17)	0.05	-0.04 to 0.07	0.06 (0.23)	0.00 (0.51)	0.07	-0.06 to 0.07
IA*: legs: deep wound	1.00 (<0.0001)	0.92 (<0.0001)	0.01	-0.01 to 0.01	0.00 (0.43)	0.00 (0.39)	0.01	-0.02 to 0.03	-0.11 (0.50)	0.00 (0.53)	0.03	-0.03 to 0.03

IA*: legs: swelling	0.55 (0.01)	0.55 (0.009)	0.14	-0.13 to 0.15	0.74 (0.003)	0.70 (0.003)	0.11	-0.06 to 0.17	-0.04 (0.19)	0.04 (0.62)	0.15	-0.02 to 0.31
IA*: neck: alopecia	0.57 (0.05)	0.76 (0.0004)	0.07	-0.09 to 0.04	0.54 (0.05)	0.75 (0.0006)	0.08	-0.11 to 0.06	0.49 (0.05)	0.57 (0.02)	0.08	-0.10 to 0.07
IA*: neck: skin lesion	1.00 (<0.0001)	0.98 (0.0001)	0.01	-0.01 to 0.01	-0.21 (0.37)	0.00 (0.54)	0.10	-0.10 to 0.10	0.62 (0.04)	0.70 (0.02)	0.03	-0.02 to 0.04
IA*: hooves: alopecia	0.62 (0.007)	0.59 (0.005)	0.02	-0.02 to 0.02	-0.14 (0.60)	0.00 (0.66)	0.04	-0.05 to 0.04	-0.17 (0.60)	0.00 (0.68)	0.04	-0.04 to 0.03
IA*: head: alopecia	0.83 (0.02)	0.81 (0.005)	0.10	-0.08 to 0.10	0.02 (0.22)	0.01 (0.43)	0.25	-0.29 to 0.21	0.42 (0.40)	0.28 (0.19)	0.18	-0.12 to 0.26
IA*: head: skin lesion	0.34 (0.22)	0.22 (0.36)	0.06	-0.07 to 0.06	0.01 (0.24)	0.01 (0.37)	0.08	-0.09 to 0.07	0.46 (0.09)	0.48 (0.10)	0.09	-0.09 to 0.09
IA*: head: swelling	0.43 (0.07)	0.40 (0.06)	0.02	-0.02 to 0.02	0.68 (0.04)	0.66 (0.05)	0.01	-0.02 to 0.01	-0.11 (0.39)	0.00 (0.40)	0.03	-0.03 to 0.03
IA*: muzzle: alopecia	0.67 (0.01)	0.48 (0.04)	0.15	-0.17 to 0.12	0.29 (0.29)	0.00 (0.36)	0.20	-0.22 to 0.19	0.24 (0.34)	0.10 (0.38)	0.08	-0.06 to 0.10
IA*: muzzle: skin lesion	0.21 (0.25)	0.21 (0.29)	0.04	-0.04 to 0.05	-0.14 (0.55)	0.00 (0.58)	0.06	-0.06 to 0.07	-0.21 (0.70)	0.00 (0.95)	0.03	-0.03 to 0.03
IA*: midsection: alopecia	0.86 (0.03)	0.53 (0.01)	0.10	-0.13 to 0.09	0.13 (0.28)	0.05 (0.40)	0.15	-0.18 to 0.13	0.17 (0.36)	0.23 (0.26)	0.09	-0.08 to 0.10
IA*: midsection: skin lesion	0.51 (0.02)	0.56 (0.02)	0.04	-0.04 to 0.05	0.00 (0.51)	0.00 (0.70)	0.03	-0.03 to 0.05	-0.07 (0.75)	0.00 (0.69)	0.05	-0.05 to 0.06
IA*: midsection: swelling	1.00 (<0.0001)	1.00 (<0.0001)	0.01	-0.00 to 0.01	-0.08 (0.51)	0.00 (0.40)	0.02	-0.02 to 0.02	0.00 (0.70)	0.00 (0.68)	0.01	-0.01 to 0.02
IA*: shoulder: alopecia	0.45 (0.08)	0.40 (0.09)	0.12	-0.12 to 0.12	-0.12 (0.40)	0.00 (0.50)	0.19	-0.21 to 0.17	0.02 (0.69)	0.00 (0.43)	0.19	-0.19 to 0.19
IA*: shoulder: skin lesion	0.44 (0.05)	0.48 (0.04)	0.04	-0.04 to 0.04	-0.12 (0.41)	0.00 (0.60)	0.06	-0.05 to 0.06	0.45 (0.05)	0.40 (0.05)	0.07	-0.07 to 0.08
Hoof neglect1	0.42 (0.08)	0.40 (0.06)	0.02	-0.02 to 0.02	0.12 (0.68)	0.00 (0.53)	0.20	-0.25 to 0.20	0.12 (0.68)	0.00 (0.59)	0.21	-0.25 to 0.20
Hoof neglect2	0.54 (0.04)	0.44 (0.10)	0.03	-0.03 to 0.02	0.54 (0.04)	0.28 (0.15)	0.33	-0.39 to 0.29	0.54 (0.04)	0.24 (0.19)	0.33	-0.39 to 0.29
Exercise1	0.93 (<0.0001)	1.00 (<0.0001)	0.05	-0.05 to 0.04	0.93 (<0.0001)	0.87 (<0.0001)	0.05	-0.05 to 0.04	0.93 (<0.0001)	1.00 (<0.0001)	0.04	-0.05 to 0.04

6 *IA = Integument alterations

1 **Table 3** Medians of percent values (and standard deviations) of affected animals for the
2 different scores of the indicators of the AWIN protocol for horses (second level assessment)
3 detected in the four different farm visits (FV). Only those scores demonstrating presence of that
4 indicator are shown.

Indicator	Mean FV1	Mean FV2	Mean FV3	Mean FV4
Horse Grimace Scale: ears1	26.9 (12.1)	31.2 (11.4)	26.1 (14.6)	20.7 (16.3)
Horse Grimace Scale: ears2	4.7 (3.0)	2.3 (3.0)	4.0 (6.3)	2.6 (5.1)
Horse Grimace Scale: orbital1	21.0 (7.3)	17.4 (8.8)	21.4 (16.2)	16.8 (8.6)
Horse Grimace Scale: orbita2	0.0 (3.8)	0.0 (0.2)	0.0 (0.0)	3.1 (5.1)
Horse Grimace Scale: eyes1	0.0 (5.0)	0.0 (6.7)	0.0 (0.0)	0.0 (4.7)
Horse Grimace Scale: mouth1	24.5 (9.8)	15.5 (15.0)	20.9 (8.3)	11.7 (8.5)
Horse Grimace Scale: mouth2	0.0 (0.5)	0.0 (0.3)	0.0 (0.0)	0.0 (0.2)
Horse Grimace Scale: nostrils1	0.0 (11.7)	6.2 (14.6)	4.0 (8.7)	12.3 (10.8)
Horse Grimace Scale: chewing muscles1	18.2 (10.6)	16.7 (7.7)	17.4 (14.8)	13.0 (12.8)
Horse Grimace Scale: chewing muscles2	0.0 (0.0)	0.0 (0.4)	0.0 (0.2)	0.0 (0.1)
Coughing1	0.0 (0.9)	0.0 (2.8)	0.0 (0.2)	0.0 (0.4)
Stereotypies1	0.9 (3.2)	0.0 (3.3)	0.0 (0.2)	0.0 (0.1)
Avoidance Distance Test1	6.2 (6.7)	5.4 (5.6)	6.4 (6.8)	5.6 (7.7)
Avoidance Distance Test2	19.3 (13.7)	20.5 (10.0)	17.0 (15.6)	22.6 (14.3)
Voluntary Human Approach Test1	19.4 (13.7)	21.3 (21.7)	23.4 (31.2)	25.6 (8.6)
Voluntary Human Approach Test2	1.2 (5.9)	2.4 (3.4)	4.8 (6.3)	6.0 (7.7)
Forced Human Approach Test1	7.7 (6.0)	5.8 (9.0)	4.8 (10.0)	4.8 (4.6)
Forced Human Approach Test2	4.0 (6.4)	2.9 (6.9)	0.0 (4.5)	4.9 (4.6)
Body Condition Score2	0.0 (0.0)	0.0 (0.4)	0.0 (3.6)	0.0 (0.2)
Body Condition Score3	72.5 (7.2)	78.1 (17.1)	74.3 (7.8)	84.4 (25.6)
Body Condition Score4	25.0 (8.8)	20.9 (17.5)	25.0 (11.3)	13.9 (22.7)
Body Condition Score5	0.0 (0.0)	0.0 (0.0)	0.0 (0.6)	0.0 (2.8)
Hair coat condition1	0.0	0.0	0.0	0.0

	(0.2)	(2.9)	(0.3)	(2.4)
Abnormal Breathing1	0.0	0.0	0.0	0.0
	(0.2)	(1.8)	(0.4)	(0.2)
Swollen joints1	7.7	7.6	12.5	3.8
	(6.5)	(6.5)	(16.7)	(7.1)
Discharge: ocular1	0.0	0.0	0.0	1.4
	(3.8)	(2.4)	(0.4)	(9.5)
Discharge: nasal1	0.0	0.0	0.0	0.0
	(0.0)	(0.4)	(0.2)	(0.4)
Consistency of manure1	21.9	24.7	25.0	37.0
	(16.7)	(37.0)	(17.5)	(9.0)
Consistency of manure2	0.0	0.0	2.3	2.6
	(0.0)	(0.0)	(5.3)	(5.0)
Box dimensions 1	0.0	0.0	0.0	0.0
	(0.2)	(1.9)	(0.4)	(0.2)
Bedding: cleanliness1	0.0	0.0	0.0	0.0
	(14.2)	(6.7)	(4.5)	(0.4)
Social interaction 1	0.0	0.0	0.0	0.0
	(7.5)	(7.3)	(0.0)	(0.4)
Social interaction4	98.0	92.7	100	91.0
	(20.0)	(22.7)	(25.0)	(22.8)
Social interaction6	0.0	0.0	0.0	9.0
	(6.7)	(0.0)	(14.3)	(20.0)
Water: cleanliness1	37.7	41.1	42.7	47.3
	(16.7)	(13.6)	(13.1)	(18.1)
Water: cleanliness2	3.0	1.2	0.0	3.5
	(4.7)	(6.7)	(5.0)	(7.1)
Lameness 1	4.7	0.0	0.0	0.0
	(6.2)	(6.7)	(0.4)	(2.8)
IA *: legs: alopecia	10.4	12.4	9.2	9.4
	(15.0)	(17.1)	(17.8)	(8.2)
IA *: legs: skin lesion	3.3	3.4	0.0	2.3
	(7.7)	(6.5)	(6.2)	(2.9)
IA *: legs: deep wound	0.0	0.0	0.0	0.0
	(0.0)	(0.2)	(0.1)	(0.1)
IA *: legs: swelling	6.8	10.4	5.8	3.2
	(10.1)	(10.6)	(16.7)	(5.3)
IA *: neck: alopecia	1.5	4.7	3.3	5.5
	(6.6)	(6.7)	(5.6)	(9.3)
IA *: neck: skin lesion	0.0	0.0	0.0	0.0
	(0.2)	(1.8)	(0.2)	(0.4)
IA *: hooves: alopecia	0.0	0.0	0.0	0.0
	(2.5)	(3.3)	(0.0)	(1.8)
IA *: head: alopecia	15.7	15.3	12.9	14.6
	(19.7)	(22.2)	(10.4)	(10.5)
IA *: head: skin lesion	3.5	2.6	0.0	2.6
	(5.2)	(5.6)	(4.5)	(3.6)
IA *: head: swelling	0.0	0.0	0.0	0.0
	(0.1)	(0.5)	(0.2)	(0.4)
IA *: muzzle: alopecia	0.0	1.7	0.0	0.0
	(3.2)	(6.7)	(5.3)	(4.6)
IA *: muzzle: skin lesion	0.0	0.0	0.0	0.0
	(0.2)	(0.3)	(0.0)	(0.1)

IA*: neck: swelling	1.5 (6.7)	0.0 (0.0)	3.9 (5.6)	5.6 (9.3)
IA*: midsection: alopecia	4.4 (7.7)	3.3 (8.3)	0.0 (10.0)	2.3 (2.8)
IA*: midsection: skin lesion	0.0 (0.6)	0.0 (0.3)	0.0 (0.4)	0.0 (1.8)
IA*: midsection: swelling	0.0 (0.2)	0.0 (0.5)	0.0 (0.3)	0.0 (0.1)
IA*: shoulder: alopecia	3.5 (5.9)	3.9 (11.5)	3.8 (7.1)	4.3 (5.1)
IA*: shoulder: skin lesion	0.0 (3.8)	0.0 (2.4)	0.0 (0.2)	0.0 (1.8)
Lesions at the mouth corner1	2.4 (8.8)	3.9 (8.3)	0.0 (7.1)	2.5 (5.3)
Lesions at the mouth corner2	0.0 (0.4)	0.0 (0.0)	0.0 (0.0)	0.0 (0.2)
Hoof neglect1	0.0 (4.2)	0.0 (2.8)	3.3 (5.5)	4.7 (4.7)
Hoof neglect2	0.0 (3.2)	0.0 (2.8)	0.0 (3.1)	0.0 (0.0)
Fear test1	8870 (4252)	7755 (3130)	7845 (3263)	6198 (2880)
Fear test2	9254 (2219)	8994 (3339)	9643 (3067)	7349 (3859)
Exercise1	47.9 (100)	50.0 (100)	50.0 (100)	50.0 (100)

5 *IA = Integument alterations

1 **Table 4** Statistical parameters (Spearman’s rank correlation coefficient (RS), intraclass correlation coefficient (ICC), smallest detectable
2 change (SDC), limits of agreement (LoA)) calculated for the different comparisons of farm visits for each of the indicator of the AWIN
3 protocol for horses (second level assessment). For the RS and the ICC, p-values are indicated in brackets. Only those scores demonstrating
4 presence of that indicator are shown. Values indicating good consistency over time are shown in bold, values indicating acceptable
5 consistency over time in italic printing.

Indicator	Comparison farm visit 1 to 2				Comparison farm visit 1 to 2				Comparison farm visit 1 to 2			
	RS	ICC	SDC	LoA	RS	ICC	SDC	LoA	RS	ICC	SDC	LoA
Horse Grimace Scale: ears1	0.22 (0.43)	0.33 (0.20)	0.23	-0.25 to 0.21	0.22 (0.43)	0.15 (0.60)	0.26	-0.25 to 0.21	0.22 (0.43)	0.00 (0.60)	0.33	-0.25 to 0.21
Horse Grimace Scale: ears2	<i>0.60</i> (0.33)	<i>0.61</i> (0.64)	0.04	-0.01 to 0.06	<i>0.60</i> (0.33)	0.15 (0.56)	<i>0.07</i>	-0.01 to 0.06	<i>0.60</i> (0.33)	0.00 (0.56)	<i>0.07</i>	-0.01 to 0.06
Horse Grimace Scale: orbital1	0.81 (0.04)	<i>0.66</i> (0.05)	0.13	-0.09 to 0.17	0.81 (0.22)	0.28 (0.15)	0.19	-0.09 to 0.17	0.81 (0.24)	0.00 (0.40)	0.24	-0.09 to 0.17
Horse Grimace Scale: orbital2	-0.07 (0.86)	0.01 (0.80)	<i>0.06</i>	-0.05 to 0.07	-0.07 (0.86)	0.00 (0.75)	<i>0.07</i>	-0.05 to 0.07	-0.07 (0.86)	0.31 (0.40)	0.05	-0.05 to 0.07
Horse Grimace Scale: eyes1	<i>0.68</i> (0.06)	<i>0.69</i> (0.06)	<i>0.09</i>	-0.09 to 0.10	<i>0.68</i> (0.06)	0.33 (0.28)	0.14	-0.09 to 0.10	<i>0.68</i> (0.07)	0.05 (0.82)	0.17	-0.09 to 0.10
Horse Grimace Scale: mouth1	0.36 (0.39)	0.30 (0.18)	0.22	-0.22 to 0.23	0.36 (0.39)	0.09 (0.24)	0.25	-0.22 to 0.23	0.36 (0.39)	0.00 (0.24)	0.27	-0.22 to 0.23
Horse Grimace Scale: mouth2	-0.17 (0.79)	0.15 (0.59)	0.03	-0.03 to 0.03	-0.17 (0.79)	0.00 (0.55)	0.03	-0.03 to 0.03	-0.17 (0.79)	<i>0.50</i> (0.55)	0.02	-0.03 to 0.03
Horse Grimace Scale: nostrils1	<i>0.56</i> (0.0003)	0.72 (0.03)	0.15	-0.19 to 0.11	<i>0.56</i> (0.0003)	0.17 (0.12)	0.25	-0.19 to 0.11	<i>0.56</i> (0.03)	0.01 (0.21)	0.28	-0.19 to 0.11
Horse Grimace Scale: chewing muscles1	-0.13 (0.44)	0.00 (0.86)	0.27	-0.20 to 0.35	-0.13 (0.44)	0.06 (0.35)	0.26	-0.20 to 0.35	-0.13 (0.44)	0.00 (0.35)	0.27	-0.20 to 0.35
Horse Grimace Scale: chewing muscles2	0.00 (0.61)	0.00 (0.51)	0.01	-0.02 to 0.01	0.00 (0.48)	0.00 (0.69)	0.01	-0.02 to 0.01	0.00 (0.44)	0.00 (0.70)	0.01	-0.02 to 0.01
Coughing1	0.88 (0.01)	0.91 (0.0001)	0.02	-0.03 to 0.02	0.88 (0.01)	<i>0.44</i> (0.03)	<i>0.07</i>	-0.03 to 0.02	0.88 (0.01)	0.00 (0.50)	<i>0.10</i>	-0.03 to 0.02
Stereotypies1	<i>0.52</i> (0.002)	<i>0.54</i> (0.0006)	0.05	-0.04 to 0.05	<i>0.52</i> (0.002)	0.05 (0.56)	0.07	-0.04 to 0.05	<i>0.52</i> (0.002)	<i>0.41</i> (0.56)	0.05	-0.04 to 0.05
Avoidance Distance Test1	0.30 (0.58)	0.31 (0.26)	0.11	-0.09 to 0.14	0.30 (0.58)	0.18 (0.93)	0.12	-0.09 to 0.14	0.30 (0.58)	0.00 (0.93)	0.14	-0.09 to 0.14
Avoidance Distance Test2	<i>0.45</i> (0.08)	<i>0.51</i> (0.09)	0.20	-0.20 to 0.20	0.35 (0.28)	0.18 (0.79)	0.26	-0.20 to 0.20	0.15 (0.88)	0.00 (0.79)	0.29	-0.20 to 0.20
Voluntary Human Approach Test1	<i>0.66</i> (0.14)	<i>0.47</i> (0.16)	<i>0.09</i>	-0.07 to 0.12	0.36 (0.24)	0.00 (0.49)	0.13	-0.07 to 0.12	0.36 (0.24)	0.25 (0.49)	<i>0.10</i>	-0.07 to 0.12

Voluntary Human Approach Test2	0.51 (0.22)	0.47 (0.32)	0.21	-0.20 to 0.21	0.31 (0.22)	0.00 (0.41)	0.29	-0.20 to 0.21	0.31 (0.22)	0.00 (0.41)	0.29	-0.20 to 0.21
Forced Human Approach Test1	0.91 (0.05)	0.87 (0.05)	0.06	-0.05 to 0.07	0.91 (0.04)	0.12 (0.22)	0.16	-0.05 to 0.07	0.91 (0.05)	0.00 (0.50)	0.17	-0.05 to 0.07
Forced Human Approach Test2	0.25 (0.40)	0.39 (0.62)	0.16	-0.19 to 0.13	0.25 (0.42)	0.00 (0.78)	0.25	-0.19 to 0.13	0.25 (0.32)	0.00 (0.72)	0.23	-0.19 to 0.13
Body Condition Score2	0.78 (0.03)	0.73 (0.02)	0.03	-0.02 to 0.03	0.78 (0.03)	0.41 (0.02)	0.04	-0.02 to 0.03	0.78 (0.03)	0.49 (0.02)	0.04	-0.02 to 0.03
Body Condition Score3	0.61 (0.05)	0.83 (0.003)	0.16	-0.19 to 0.12	0.61 (0.05)	0.67 (0.01)	0.23	-0.19 to 0.12	0.61 (0.05)	0.48 (0.05)	0.28	-0.19 to 0.12
Body Condition Score4	0.68 (0.04)	0.84 (0.001)	0.15	-0.13 to 0.18	0.68 (0.04)	0.72 (0.01)	0.21	-0.13 to 0.18	0.68 (0.04)	0.54 (0.01)	0.26	-0.13 to 0.18
Body Condition Score5	0.00 (0.50)	0.00 (0.50)	0.01	-0.01 to 0.02	0.00 (0.50)	0.00 (0.50)	0.01	-0.01 to 0.02	0.00 (0.50)	0.28 (0.50)	0.01	-0.01 to 0.02
Hair coat condition1	0.79 (0.04)	0.84 (0.05)	0.02	-0.02 to 0.02	0.79 (0.01)	0.47 (0.05)	0.04	-0.02 to 0.02	0.79 (0.01)	0.12 (0.42)	0.05	-0.02 to 0.02
Abnormal Breathing1	0.47 (0.06)	0.34 (0.09)	0.02	-0.03 to 0.01	0.47 (0.07)	0.00 (0.69)	0.02	-0.03 to 0.01	0.47 (0.09)	0.34 (0.12)	0.02	-0.03 to 0.01
Swollen joints1	0.28 (0.41)	0.13 (0.89)	0.14	-0.13 to 0.16	0.28 (0.41)	0.13 (0.47)	0.14	-0.13 to 0.16	0.28 (0.26)	0.37 (0.16)	0.11	-0.13 to 0.16
Discharge: ocular1	-0.04 (0.25)	0.00 (0.21)	0.09	-0.10 to 0.09	-0.04 (0.26)	0.00 (0.38)	0.09	-0.10 to 0.09	-0.04 (0.35)	0.00 (0.24)	0.09	-0.10 to 0.09
Discharge: nasal1	0.85 (0.02)	0.88 (0.02)	0.02	-0.03 to 0.01	0.85 (0.02)	0.70 (0.02)	0.07	-0.03 to 0.01	0.85 (0.0001)	0.70 (0.0002)	0.07	-0.03 to 0.01
Consistency of manure1	0.34 (0.06)	0.39 (0.12)	0.37	-0.36 to 0.40	0.34 (0.07)	0.18 (0.39)	0.44	-0.36 to 0.40	0.34 (0.09)	0.33 (0.39)	0.40	-0.36 to 0.40
Consistency of manure2	0.36 (0.22)	0.35 (0.08)	0.37	-0.43 to 0.34	0.36 (0.21)	0.38 (0.09)	0.40	-0.43 to 0.34	0.36 (0.12)	0.24 (0.38)	0.44	-0.43 to 0.34
Box dimensions1	0.39 (<0.0001)	0.18 (0.18)	0.05	-0.04 to 0.05	0.39 (<0.0001)	0.48 (0.01)	0.04	-0.05 to 0.04	0.39 (<0.0001)	0.00 (0.58)	0.06	-0.05 to 0.04
Bedding: cleanliness1	1.00 (<0.0001)	1.00 (<0.0001)	0.00	-0.00 to 0.00	0.48 (0.02)	0.58 (0.03)	0.27	-0.27 to 0.30	0.48 (0.05)	0.40 (0.05)	0.33	-0.27 to 0.30
Social interaction1	0.89 (0.0001)	0.92 (0.0001)	0.03	-0.03 to 0.03	0.89 (0.0001)	0.80 (0.0001)	0.03	-0.03 to 0.03	0.49 (0.01)	0.05 (0.21)	0.12	-0.13 to 0.03
Social interaction4	0.82 (0.0002)	0.85 (0.01)	0.16	-0.12 to 0.20	0.82 (0.0002)	0.52 (0.09)	0.29	-0.12 to 0.20	0.82 (0.0002)	0.54 (0.09)	0.29	-0.12 to 0.20
Social interaction6	0.72 (0.0001)	0.77 (0.0005)	0.16	-0.20 to 0.12	0.72 (0.0001)	0.71 (0.02)	0.18	-0.20 to 0.12	0.72 (0.0001)	0.54 (0.02)	0.23	-0.20 to 0.12
Water: cleanliness1	0.26 (0.18)	0.15 (0.26)	0.34	-0.36 to 0.33	0.26 (0.27)	0.39 (0.12)	0.26	-0.36 to 0.33	0.26 (0.38)	0.25 (0.24)	0.32	-0.36 to 0.33
Water: cleanliness2	0.67 (0.0003)	0.79 (0.01)	0.06	-0.06 to 0.06	0.67 (0.007)	0.52 (0.007)	0.09	-0.06 to 0.06	0.67 (0.0003)	0.43 (0.007)	0.12	-0.06 to 0.06

Lameness1	0.62 (0.002)	0.73 (0.01)	0.06	-0.05 to 0.08	0.62 (0.003)	0.60 (0.02)	0.10	-0.05 to 0.08	0.62 (0.02)	0.57 (0.03)	0.10	-0.05 to 0.08
IA*: legs: alopecia	0.48 (0.01)	0.46 (0.05)	0.24	-0.30 to 0.19	0.72 (0.01)	0.71 (0.04)	0.16	-0.15 to 0.18	0.72 (0.02)	0.71 (0.04)	0.16	-0.15 to 0.18
IA*: legs: skin lesion	0.81 (0.002)	0.77 (0.006)	0.07	-0.06 to 0.09	-0.64 (0.25)	0.00 (0.48)	0.17	-0.15 to 0.21	-0.64 (0.59)	0.00 (0.48)	0.17	-0.15 to 0.21
IA*: legs: deep wound	0.00 (0.60)	0.00 (0.52)	0.01	-0.03 to 0.02	0.00 (0.39)	0.00 (0.40)	0.01	-0.03 to 0.02	0.00 (0.79)	0.00 (0.68)	0.01	-0.03 to 0.02
IA*: legs: swelling	0.33 (0.16)	0.32 (0.17)	0.19	-0.21 to 0.19	0.05 (0.50)	0.10 (0.43)	0.26	-0.25 to 0.27	0.05 (0.38)	0.10 (0.42)	0.26	-0.25 to 0.27
IA*: neck: alopecia	0.37 (0.28)	0.08 (0.27)	0.14	-0.16 to 0.13	0.07 (0.32)	0.02 (0.58)	0.15	-0.16 to 0.14	0.07 (0.64)	0.02 (0.40)	0.15	-0.16 to 0.14
IA*: neck: skin lesion	0.42 (0.07)	0.62 (0.06)	0.03	-0.03 to 0.03	-0.11 (0.54)	0.00 (0.59)	0.09	-0.10 to 0.09	-0.11 (0.51)	0.00 (0.82)	0.09	-0.10 to 0.09
IA*: hooves: alopecia	0.71 (0.002)	0.40 (0.02)	0.04	-0.03 to 0.04	0.00 (0.27)	0.00 (0.48)	0.03	-0.03 to 0.05	0.00 (0.76)	0.00 (0.70)	0.03	-0.03 to 0.05
IA*: head: alopecia	0.64 (0.10)	0.49 (0.09)	0.25	-0.32 to 0.20	0.60 (0.12)	0.51 (0.08)	0.16	-0.12 to 0.19	0.60 (0.09)	0.51 (0.11)	0.16	-0.12 to 0.19
IA*: head: skin lesion	0.52 (0.06)	0.53 (0.05)	0.07	-0.06 to 0.07	0.24 (0.56)	0.15 (0.94)	0.08	-0.06 to 0.10	0.24 (0.72)	0.15 (0.64)	0.08	-0.06 to 0.10
IA*: head: deep wound	0.00 (0.60)	0.00 (0.67)	0.00	0.00 to 0.00	0.00 (0.94)	0.00 (0.79)	0.02	-0.03 to 0.02	0.00 (0.76)	0.00 (0.45)	0.02	-0.03 to 0.02
IA*: muzzle: alopecia	0.37 (0.12)	0.21 (0.25)	0.18	-0.25 to 0.17	0.22 (0.25)	0.17 (0.46)	0.08	-0.09 to 0.08	0.22 (0.36)	0.17 (0.49)	0.08	-0.09 to 0.08
IA*: muzzle: skin lesion	0.41 (0.02)	0.43 (0.04)	0.03	-0.03 to 0.02	0.00 (0.79)	0.00 (0.90)	0.01	-0.01 to 0.02	0.00 (0.74)	0.00 (0.82)	0.01	-0.01 to 0.02
IA*: midsection: alopecia	0.77 (0.03)	0.44 (0.04)	0.21	-0.25 to 0.20	-0.17 (0.29)	0.00 (0.52)	0.18	-0.16 to 0.20	-0.17 (0.62)	0.00 (0.71)	0.18	-0.16 to 0.20
IA*: midsection: skin lesion	0.78 (0.01)	0.49 (0.03)	0.07	-0.07 to 0.08	-0.17 (0.92)	0.00 (0.65)	0.10	-0.10 to 0.10	-0.17 (0.82)	0.00 (0.65)	0.10	-0.10 to 0.10
IA*: midsection: swelling	0.50 (0.01)	0.75 (0.02)	0.02	-0.02 to 0.02	-0.17 (0.52)	0.00 (0.60)	0.05	-0.06 to 0.05	-0.17 (0.37)	0.00 (0.50)	0.05	-0.06 to 0.05
IA*: shoulder: alopecia	0.32 (0.22)	0.18 (0.42)	0.22	-0.26 to 0.20	0.21 (0.28)	0.00 (0.54)	0.17	-0.16 to 0.17	0.21 (0.34)	0.00 (0.60)	0.17	-0.16 to 0.17
IA*: shoulder: skin lesion	0.37 (0.22)	0.32 (0.19)	0.08	-0.08 to 0.10	-0.07 (0.29)	0.00 (0.49)	0.09	-0.08 to 0.10	-0.07 (0.38)	0.00 (0.56)	0.09	-0.08 to 0.10
Lesions at the mouth corner1	0.49 (0.03)	0.46 (0.04)	0.10	-0.10 to 0.10	0.74 (0.02)	0.52 (0.04)	0.10	-0.07 to 0.09	0.74 (0.02)	0.46 (0.03)	0.10	-0.07 to 0.09
Lesions at the mouth corner2	0.51 (0.02)	0.47 (0.04)	0.10	-0.10 to 0.09	0.50 (0.05)	0.56 (0.04)	0.05	-0.05 to 0.06	0.50 (0.02)	0.40 (0.05)	0.07	-0.05 to 0.06
Hoof neglect1	0.31 (0.68)	0.16 (0.53)	0.19	-0.14 to 0.13	0.36 (0.68)	0.30 (0.54)	0.12	-0.05 to 0.07	0.46 (0.12)	0.41 (0.11)	0.09	-0.05 to 0.07

Hoof neglect2	0.35 (0.07)	0.00 (0.50)	0.16	-0.11 to 0.10	0.39 (0.09)	0.12 (0.44)	0.11	-0.08 to 0.09	0.39 (0.04)	0.00 (0.56)	0.10	-0.08 to 0.09
Fear test1	0.18 (0.58)	0.21 (0.42)	0.37	-0.34 to 0.50	0.33 (0.38)	0.23 (0.40)	0.21	-0.21 to 0.35	0.33 (0.20)	0.38 (0.19)	0.22	-0.23 to 0.25
Fear test2	0.12 (0.50)	0.00 (0.58)	0.20	-0.25 to 0.20	0.24 (0.48)	0.18 (0.56)	0.18	-0.15 to 0.17	0.24 (0.21)	0.36 (0.24)	0.19	-0.18 to 0.16
Exercise1	0.54 (<0.0001)	0.48 (<0.0001)	0.13	-0.19 to 0.19	0.97 (<0.0001)	0.71 (<0.0001)	0.07	-0.02 to 0.01	0.97 (<0.0001)	1.00 (<0.0001)	0.02	-0.02 to 0.01

6 *IA = Integument alteration