

1 **Data collection**

2 Assessment was performed visually only at a distance of 0.50 m. When the evaluation
3 of a parameter was not possible (manure on the body of the animal, sow not standing up),
4 “NA” (not assessable) was recorded for the respective body region.

5 Examinations were carried out up to four times per farrowing period:

- 6 - day (D)1: on the day of moving the sows into the pens: 5 days before expected
7 farrowing date (on group level); carried out on all batches of all farms
- 8 - D 2: during the first week after birth of piglets (on group level 4-7 days after
9 farrowing); carried out on all batches of all farms
- 10 - D 3: during the third week after birth of piglets (on group level 17-20 days after
11 farrowing); carried out on all batches of farms A and B and during long trial runs on
12 farm C (13 out of 23 batches)
- 13 - D 4: during the fourth week after birth of piglets (on group level 25-28 days after
14 farrowing); carried out during long trail runs on farm C (13 out of 23 batches)

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16 Assessments were performed by a total of 11 trained observers who were assigned to
17 one or two farms each. Observers were trained by one experienced observer (using photos,
18 videos and direct observation) who also served as silver standard across three rounds of inter-
19 observer reliability testing (before, during and after on-farm assessments). Minimum
20 Prevalence and Bias Adjusted Kappa (PABAK) values ranged from 0.5 to 1.00 (according to
21 Viera & Garrett (2005) moderate to perfect agreement) for all but one parameter (‘alterations
22 of dew claws’, minimum PABAK 0.35), which was therefore excluded from further analysis.

23 Appendix 1, Table 1 shows definitions for all assessed parameters.

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27 **Appendix 1, Table 1 Definitions of parameters of lesions (for all severity scores) in sows**

Parameter	Score 0	Score 1	Score 2
Shoulder sore	None	Clearly visible reddening; ≥ 3cm	Broken skin/bleeding/ scab Bleeding/scab; ≥ 3cm
Injuries body	Clearly visible injuries (blood/scab) on head, ear, neck, shoulder, side, back, hindquarters, longitudinal ≥ 5 cm, round ≥ 3cm		
	None	≤ 3 injuries/region	> 3 injuries/region
Injuries legs	Clearly visible injuries (blood/scab), 5 cm and above, longitudinal ≥ 5 cm, round ≥ 2cm		
	None	≤ 3 injuries/region	> 3 injuries/region
Injuries front/rear udder region	Clearly visible injuries (blood/scab), longitudinal ≥ 5 cm, round ≥ 3 cm, separated in front/rear udder region		
	None	≤ 3 injuries/region	> 3 injuries per region or > 5 injuries ≥ 1cm
Number of injured front/rear teats	Number of clearly visible erythema and/or scabs; separated in front/hind teats		
Number of partial/missing front/rear teats	Number of entirely missing and/or partially torn-off teats, blood/scab, separated in front/rear udder		
Swelling in region of front/rear udder	None	Lump with minimal size of an egg visible	
Injuries vulva	None	Injury (blood/scab) of arbitrary size visible	
Vulval scarring/missing parts	None	Clearly deformed vulva (scarring, parts torn off or missing)	
Swellings hind legs	None	Swellings ≥ 5 cm & with at least half-round shape („ball“, “size of a small mandarin”)	
Claw length (hind legs)	Normal	Claws too long (one claw clearly longer, claws crossed over, abnormal angle)	
Infection of claws/“panaritium“ (hind legs)	None	Swollen coronary band, swollen claw, pus	
Changes claw horn (hind legs)	None	Very clearly visible changes like cracks, bleedings, abrasions of the wall etc., longitudinal ≥ 2 cm, round ≥ 2 cm	
Alterations dew claws (hind legs)	None	Every clearly visible alteration (injuries/avulsions/bleedings/swellings) on lateral skin of dew claws, longitudinal ≥ 2 cm, round ≥ 2cm	
Lameness	Normal gait/steps shortened steps and/or curved back	Moderate lameness – reduced weight bearing on one limb	Severe lameness: no load on at least one limb and/or the animal can't stand up/walk

29 Observations were recorded on paper and afterwards transferred to an Excel-sheet
30 (Microsoft Corporation, Redmond, Washington, USA). Altogether 2,532 assessments of 449
31 sows were conducted. From these, 355 assessments were excluded from the analysis
32 according to predefined criteria (farrowing date initially unknown, so that sows were confined
33 or released too early/too late: 302 assessments; crate opened earlier due to severe skin lesions
34 of the sows: 8 assessments; other reasons for exclusion, e.g. sow deceased or excluded due to
35 severe disease before D 2, exact number of piglets unknown, piglets weaned earlier due to
36 health reasons: 45 assessments). All sows were identified using individual ear tags and further
37 information (age, genetic background, etc.) were available from the herd management
38 program “Online Sauenplaner“ (Intelicon Software Development GmbH, Heiligenkreuz am
39 Waasen, Austria).

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