



**Supplementary material to: Association between timing of hoof trimming
in primiparous cows and hoof health and survival in second lactation,
Journal of Dairy Science, 2025**

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Supplemental materials to: Association between timing of hoof trimming in primiparous cows and hoof health and survival in second lactation, *Journal of Dairy Science*, 2025

Table S1. Number (%) of cows with different findings at first trimming in first lactation for primiparous cows in relation to days after first calving (n=10,349 cows across 185 dairy herds)

Days after first calving	Early trim <61	Mid trim 61 to 120	Late trim >120	Total
Claw lesion type				
Healthy (no claw lesion)	2,684 (67)	1,897 (55)	1,510 (51)	6,091 (59)
Mild lesions ¹	1,015 (26)	1,108 (32)	908 (31)	3,031 (29)
Severe lesions ²	249 (6)	378 (11)	477 (16)	1,104 (11)
Other ³	31 (1)	39 (1)	53 (2)	123 (1)
Total	3,979	3,422	2,948	10,349

¹Mild dermatitis, heel horn erosion, chronic laminitis/laminitic ring, double sole, sole hemorrhage, and white line lesion.

²Wart growth, digital dermatitis, foot rot, interdigital hyperplasia, sole ulcer, toe ulcer, white line ulcer/abscess.

³Asymmetry, scissor claw, hock lesion, overgrown claw, corkscrew claw, lameness.

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Table S2. Number (%) of cows with different findings at second trimming in first lactation in relation to days to second calving for primiparous cows (n=10,349 cows across 185 dairy herds)

	Early trim	Mid trim	Late trim	
Days before second calving	>120	61 to 120	<61	Total
Claw lesion type				
Healthy (no claw lesion)	2,878	2,789	624	6,291
	(59)	(62)	(63)	(61)
Mild lesions ¹	1,178	986	198	2,362
	(24)	(23)	(20)	(23)
Severe lesions ²	715	641	130	1,486
	(15)	(14)	(13)	(14)
Other ³	70	99	41	210
	(1)	(2)	(4)	(2)
Total	4,841	4,515	993	10,349

¹Mild dermatitis, heel horn erosion, chronic laminitis/laminitic ring, double sole, sole hemorrhage, and white line lesion.

²Wart growth, digital dermatitis, foot rot, interdigital hyperplasia, sole ulcer, toe ulcer, white line ulcer/abscess.

³Asymmetry, scissor claw, hock lesion, overgrown claw, corkscrew claw, lameness.

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Supplemental data S1. Detailed results of associations with hoof health at first trimming in second lactation – L1 model

The results from the L1 model evaluating the association between the timing of trimming in first lactation and hoof health at first trimming in second lactation (outcome: presence or absence of claw lesions) are presented in Table S3. Cows with the combination late-first and late-second trim had higher odds of having claw lesions at first trimming in second lactation compared to those subjected to all other trimming combinations, except for cows with the combination mid-first and late-second. (Table S3, Figure 3). Moreover, Cows with a late-first and mid-second trim had higher odds of claw lesions at first trimming in second lactation, compared with cows with an early-first and early- (odds ratio (OR) = 1.46, 95% CI = 1.23-1.73, $P < 0.001$) or mid-second trim (OR = 1.42, 95% CI = 1.14-1.79, $P = 0.002$), and cows with a mid-first and early- (OR = 0.73, 95% CI = 0.61-0.88, $P = 0.001$) or mid-second trim (OR = 1.53, 95% CI = 1.27-1.84, $P < 0.001$). Furthermore, cows who received a mid-first and late-second had higher odds of claw lesions compared with cows with an early-first and early- (OR = 1.68, 95% CI = 1.19-2.38, $P = 0.003$) or mid-second trim (OR = 1.63, 95% CI = 1.15-2.34, $P = 0.007$), and cows with a mid-first and early- (OR = 1.37, 95% CI = 1.14-1.63, $P = 0.001$) or mid-second trim (OR = 1.76, 95% CI = 1.24-2.49, $P = 0.001$)

Cows with <4, 5, 6, or >6 months between trimmings in first lactation had an increased likelihood of having claw lesions at first trimming in second lactation compared to those with 4 months between trimmings in first lactation (Table S3).

Moreover, cows with claw lesions at first or second trimming in first lactation had an increased likelihood of claw lesions at first trimming in second lactation compared to cows without claw lesions at first trimming in first lactation (Table S3). Further, the odds of having claw lesions at first trimming in second lactation were higher for cows with severe claw

lesions (OR = 1.48, 95% CI = 1.24-1.76, $P < 0.001$) or other remarks (OR = 1.69, 95% CI = 1.06-2.69, $P = 0.03$) at first trimming in first lactation compared to cows with only mild claw lesions at first trimming in first lactation. In addition, cows with severe claw lesions (OR = 1.35, 95% CI = 1.15-1.59, $P < 0.001$) at second trimming in first lactation had a higher likelihood of claw lesions at first trimming in second lactation compared to cows with only mild claw lesions at second trimming in first lactation.

The random effect of herd was significant, and visual examination of the model fit showed a good fit of the data.

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Table S3. Results of the L1 model of the association between time of trimmings in first lactation and having claw lesions or not at the first trimming in second lactation (n=10,349 cows in 185 dairy herds). Time of first and second trimming were each categorized into three periods: “early first” <61 days after first calving, “mid first” 61-120 days after first calving, “late first” >120 days after first calving; and “early second” >120 days before second calving, “mid second” 120-61 days before second calving and “late second” <61 days before second calving, respectively.

	Coefficient	SE	OR	95% CI	P-value
Combination of two trimming periods in first lactation					
Early first + early second	-0.78	0.12	0.46	0.36; 0.57	<0.001
Early first + mid second	-0.76	0.14	0.47	0.36; 0.61	<0.001
Early first + late second	-0.69	0.28	0.50	0.29; 0.87	0.02
Mid first + early second	-0.71	0.12	0.49	0.39; 0.62	<0.001
Mid first + mid second	-0.83	0.12	0.44	0.34; 0.55	<0.001
Mid first + late second	-0.26	0.19	0.77	0.53; 1.12	0.17
Late first + early second	-0.57	0.15	0.56	0.42; 0.76	<0.001
Late first + mid second	-0.40	0.12	0.67	0.53; 0.83	<0.001
Late first + late second	Referent	-	-	-	-
Months between first and second trimming in first lactation:					
<4	0.21	0.09	1.23	1.02; 1.48	0.03

4	Referent	-	-	-	-
5	0.29	0.09	1.34	1.12; 1.59	0.001
6	0.29	0.09	1.33	1.11; 1.60	0.002
>6	0.33	0.11	1.40	1.13; 1.73	0.002
Claw lesions at first trimming in first lactation					
Healthy (no lesions)	Referent	-	-	-	-
Mild lesions ¹	0.52	0.06	1.69	1.50; 1.89	<0.001
Sever lesions ²	0.91	0.08	2.49	2.11; 2.94	<0.001
Other ³	1.05	0.24	2.85	1.80; 4.53	<0.001
Claw lesions at second trimming in first lactation					
Healthy (no lesions)	Referent	-	-	-	-
Mild lesions	1.06	0.06	2.88	2.56; 3.25	<0.001
Sever lesions	1.36	0.07	3.90	3.38; 4.51	<0.001
Other	1.38	0.18	3.98	2.77; 5.71	<0.001
Intercept	-1.00	0.14			<0.001

¹Mild dermatitis, heel horn erosion, chronic laminitis/laminitic ring, double sole, sole hemorrhage, and white line lesion.

²Wart growth, digital dermatitis, foot rot, interdigital hyperplasia, sole ulcer, toe ulcer, white line ulcer/abscess.

³Asymmetry, scissor claw, hock lesion, overgrown claw, corkscrew claw, lameness.

Supplemental materials to: Association between timing of hoof trimming in primiparous cows and hoof health and survival in second lactation, *Journal of Dairy Science*, 2025

Supplemental data S2. Detailed results of associations with hoof health at first trimming in second lactation – ML1 model

The ML1 analysis of the association between the timing of trimmings in first lactation and different outcome categories (no claw lesion i.e. healthy; mild infectious claw lesions, mild claw horn lesions, both mild infectious and claw horn lesions, severe infectious claw lesions, severe claw horn lesions, both severe infectious and claw horn lesions, and other lesions) revealed significant associations (Table S4; see Notes; Figure 4). Model-predicted probabilities of a cow having no lesion or different claw lesion types are presented in Figure 4 to facilitate interpretation of the results. The results from the ML1 model showed that the mean predicted probability of not having claw lesions was highest for cows that had an early-first and late-second trim or a mid-first and early- or mid-second trim (Figure 4A).

Cows with a late-first and late-second trim had higher relative risk ratio (**RRR**) for having mild infectious claw lesions at first trimming in second lactation compared to cows with an early-first and early-second trim or a mid-first and early- or mid-second trim (Table S4; see Notes; Figure 4B). Moreover, the likelihood of mild infectious claw lesions at first trimming in second lactation was increased for cows with a late-first and mid-second trim ($RRR = 1.51$, $95\% \text{ CI} = 1.06\text{-}2.14$, $P = 0.02$) or a mid-first and late-second trim ($RRR = 1.97$, $95\% \text{ CI} = 1.06\text{-}3.66$, $P = 0.03$) compared to cows with a mid-first and mid-second trim.

Furthermore, cows with claw lesions at first or second trimming in first lactation had higher RRR for having mild infectious claw lesions at first trimming in second lactation compared to cows without claw lesions (Table S4; see Notes). Moreover, cows with mild claw lesions ($RRR = 1.83$, $95\% \text{ CI} = 1.41\text{-}2.39$, $P < 0.001$) at second trimming in first lactation had higher RRR than cows with severe claw lesions at second trimming in first lactation.

In addition, cows of the SR and the SR*SH breeds had lower RRR for having mild infectious claw lesions at first trimming in second lactation compared to cows of the SH breed (Table S2; see Notes), and the RRR were higher for cows of the SR breed (RRR = 1.88, 95% CI = 1.10-3.22, $P = 0.02$) and the SR*SH breed (RRR = 1.83, 95% CI = 1.02-3.28, $P = 0.04$) compared to cows of “other” breeds.

Cows with a late-first and late-second trim had higher RRR for having mild claw horn lesions at first trimming in second lactation compared to cows with an early-first and early- or mid-second trim, and for cows with a mid-first and early- or mid-second trim (Table S4; see Notes; Figure 4C). Furthermore, the likelihood of mild claw horn lesions at first trimming in second lactation was increased for cows with a late-first and mid-second trim compared with cows with an early-first and early- (RRR = 1.51, 95% CI = 1.15-1.97, $P = 0.003$) or mid-second trim (RRR = 1.52, 95% CI = 1.07-2.15, $P = 0.02$), and for cows with a mid-first and mid-second trim (RRR = 1.47, 95% CI = 1.13-1.91, $P = 0.004$). Moreover, cows with a mid-first and early-second trim (RRR = 1.33, 95% CI = 1.05-1.68, $P = 0.02$) had higher RRR for having mild claw horn lesions at first trimming in second lactation compared to cows with an early-first and early-second trim.

In addition, cows with claw lesions at first or second trimming in first lactation had higher RRR for having mild claw horn lesions compared to cows without claw lesions in first lactation (Table S4; see Notes). Cows with other remarks at first trimming in first lactation (RRR = 1.83, 95% CI = 1.07-3.13, $P = 0.03$) had higher RRR for having mild claw horn lesions at first trimming in second lactation compared to cows with severe claw lesions at first trimming in first lactation. This was also seen for cows with mild claw lesions (RRR = 1.75, 95% CI = 1.25-2.46, $P = 0.001$) or other remarks (RRR = 3.15, 95% CI = 1.86-5.32, $P < 0.001$) at second trimming in first lactation compared to cows with severe claw lesions at second trimming in first lactation, and for cows with other remarks (RRR = 1.79, 95% CI =

1.12-2.88, $P = 0.02$) at second trimming in first lactation compared to cows with mild claw lesions at second trimming in first lactation.

Cows with a late-first and late-second trim had higher RRR for having both mild infectious and mild claw horn lesions compared to cows with an early-first and early-, mid- or late-second trim, and to cows with a mid-first and early-, mid- or late-second trim (Table S4; see Notes). Moreover, cows with a late-first and mid-second trim had a higher RRR compared to cows with an early-first and early- (RRR = 1.75, 95% CI = 1.06-2.91, $P = 0.03$) or mid-second trim (RRR = 2.13, 95% CI = 1.34-3.34, $P = 0.001$), or a mid-first and early- (RRR = 1.72, 95% CI = 1.12-2.64, $P = 0.01$), mid- (RRR = 2.64, 95% CI = 1.62-4.29, $P < 0.001$) or late-second trim (RRR = 2.44, 95% CI = 1.12-5.30, $P = 0.02$). Cows with a late-first and early-second trim had higher RRR compared to cows with an early-first and mid-second trim (RRR = 1.12, 95% CI = 1.20-3.74, $P = 0.009$), or a mid-first and early- (RRR = 1.72, 95% CI = 1.11-2.68, $P = 0.02$) or mid-second trim (RRR = 2.64, 95% CI = 1.53-4.56, $P < 0.001$). The RRR was also higher for cows with a mid-first and early-second trim than for cows with a mid-first and mid-second trim (RRR = 1.53, 95% CI = 1.04-2.26, $P = 0.03$).

Cows with claw lesions at first or second trimming in first lactation had higher RRR for having both mild infectious and mild claw horn lesions at first trimming in second lactation compared to cows without claw lesions in first lactation (Table S4; see Notes). In addition, cows with severe claw lesions (RRR = 0.52, 95% CI = 0.37-0.74, $P < 0.001$) or other remarks (RRR = 0.42, 95% CI = 0.21-0.85, $P = 0.02$) at second trimming in first lactation had lower RRR for having both mild infectious and mild claw horn lesions at first trimming in second lactation compared to cows with mild claw lesions at second trimming in first lactation.

The likelihood for a cow to have both mild infectious and mild claw horn lesions at first trimming in second lactation was reduced for cows of other breeds compared to cows of the

SH breed (Table S2; see Notes), the SR breed (RRR = 0.08, 95% CI = 0.009-0.70, $P = 0.02$) and the SR*SH breed (RRR = 0.09, 95% CI = 0.01-0.86, $P = 0.04$).

Cows with a late-first and late-second trim had higher RRR for having severe infectious claw lesions at first trimming in second lactation compared to cows with a mid-first and early or mid-second trim (Table S4; see Notes; Figure 4D). Furthermore, cows with a late-first and mid-second trim had higher RRR compared to cows with a mid-first and early- (RRR = 1.51, 95% CI = 1.07-2.12, $P = 0.02$) or mid-second trim (RRR = 1.63, 95% CI = 1.21-2.20, $P = 0.001$), and cows with a late-first and early-second trim (RRR = 1.55, 95% CI = 1.01-2.39, $P = 0.045$). The likelihood of having severe infectious claw lesion was increased for cows with a mid-first and late-second trim compared to cows with a mid-first and early- (RRR = 2.22, 95% CI = 1.15-4.27, $P = 0.02$) or mid-second trim (RRR = 2.41, 95% CI = 1.32-4.41, $P = 0.004$), and for cows with a late-first and early-second trim (RRR = 2.29, 95% CI = 1.09-4.83, $P = 0.03$). The RRR was higher for cows with an early-first and early-second trim compare with cows with a mid-first and early- (RRR = 1.53, 95% CI = 1.11-2.19, $P = 0.01$) or mid-second trim (RRR = 1.66, 95% CI = 1.21-2.28, $P = 0.002$), and for cows with a late-first and early-second trim (RRR = 1.58, 95% CI = 1.03-2.42, $P = 0.04$). In addition, cows with an early-first and mid-second trim had higher RRR compared to cows with a mid-first and early- (RRR = 1.51, 95% CI = 1.03-2.20, $P = 0.03$) or mid-second trim (RRR = 1.63, 95% CI = 1.20-2.23, $P = 0.002$).

Furthermore, cows with claw lesions at first or second trimming in first lactation had higher RRR for having severe infectious claw lesions at first trimming in second lactation compared to cows without claw lesions in first lactation (Table S4; see Notes). The RRR for having severe infectious claw lesions at first trimming in second lactation was also higher for cows with severe claw lesions at first (RRR = 2.38, 95% CI = 1.84-3.08, $P < 0.001$) or second trimming (RRR = 4.32, 95% CI = 3.42-5.45, $P < 0.001$) in first lactation compared to cow

with mild claw lesions at first or second trimming in first lactation. Moreover, the RRR for having severe infectious claw lesions at first trimming in second lactation was higher for cows with severe claw lesions (RRR = 3.28, 95% CI = 2.02-5.31, $P < 0.001$) at second trimming in first lactation compared to cows with other remarks at second trimming in first lactation.

In addition, the RRR for a cow having severe infectious claw lesions at first trimming in second lactation was higher for cows of the SR*SH breed (RRR = 1.44, 95% CI = 1.02-2.06, $P = 0.04$) compared to cows of the SR breed.

Cows with a late-first and late-second trim had higher RRR for having severe claw horn lesions at first trimming in second lactation compared to cows with an early-first and early- or mid-second trim, cows with a mid-first and early- or mid-second trim, and cows with a late-first and mid-second trim (Table S4; see Notes; Figure 4E). The RRR was higher for cows with a late-first and mid-second trim compared to cows with a mid-first and early-second trim (RRR = 1.86, 95% CI = 1.02-3.39, $P = 0.04$).

Furthermore, cows with mild or severe claw lesions at first trimming in first lactation had higher RRR for having severe claw horn lesions at first trimming in second lactation compared to cows without claw lesions at first trimming in first lactation (Table S4; see Notes). The RRR for having severe claw horn lesions at first trimming in second lactation was also higher for cows with severe claw lesions (RRR = 1.58, 95% CI = 1.05-2.36, $P = 0.03$) at first trimming in first lactation compared to cow with mild claw lesions at first trimming in first lactation. In addition, cows with claw lesions at second trimming in first lactation had higher RRR for having severe claw horn lesions at first trimming in second lactation compared to cows without claw lesions at second trimming in first lactation (Table S4; see Notes).

Moreover, the likelihood for a cow to have severe claw horn lesions at first trimming in second lactation was decreased for cows of other breeds compared to cows of the SH breed (Table S4; see Notes) and the SR*SH breed ($RRR = 0.22$, $95\% \text{ CI} = 0.05-0.96$, $P = 0.04$).

No significant associations were found between the timing of trimming or breed and the occurrence of both severe infectious and severe claw horn lesions, or the occurrence of other types of lesions, at first trimming in second lactation. However, there was a significant association between these outcomes and trimming results at first and second trimming in first lactation. Cows that had mild or severe claw lesions at first or second trimming in first lactation had higher RRR for having both severe infectious and severe claw horn lesions at first trimming in second lactation compared to cows without claw lesions in first lactation (Table S4; see Notes). The RRR for having both severe infectious and severe claw horn lesions at first trimming in second lactation was also higher for cows with severe claw lesions at first ($RRR = 2.57$, $95\% \text{ CI} = 1.19-5.57$, $P = 0.02$) or second ($RRR = 4.95$, $95\% \text{ CI} = 2.02-12.13$, $P < 0.001$) trimming in first lactation compared to cow with mild claw lesions at first or second trimming, respectively.

Cows with mild claw lesions or other remarks at first or second trimming in first lactation had higher RRR for having other types of lesions at first trimming in second lactation compared to cows without claw lesions in first lactation (Table S4; see Notes). Moreover, cows with severe claw lesions at first trimming in second lactation had higher RRR than cows without claw lesions at first trimming in first lactation (Table S4; see Notes).

In addition, cows with mild ($RRR = 0.27$, $95\% \text{ CI} = 0.13-0.55$, $P < 0.001$) or severe claw lesions ($RRR = 0.25$, $95\% \text{ CI} = 0.11-0.54$, $P < 0.001$) at first trimming in first lactation had lower RRR for having other lesions at first trimming in second lactation compared to cows with other remarks at first trimming in first lactation. Furthermore, cows with mild ($RRR =$

0.07, 95% CI = 0.04-0.13, $P < 0.001$) or severe claw lesions (RRR = 0.04, 95% CI = 0.02-0.09, $P < 0.001$) at second trimming in first lactation had lower RRR for having other lesions at first trimming in second lactation than cows with other remarks at second trimming in first lactation, as well as cows with severe claw lesions (RRR = 0.52, 95% CI = 0.29-0.93, $P < 0.03$) at second trimming in first lactation compared to cows with mild claw lesions at second trimming in first lactation.

The time between trimmings was not significant overall but was included as a confounder because it affected the estimates as such.

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Table S4. Results of the ML 1 model of associations between time of trimming in first lactation and claw health at first trimming in the second lactation (n=10,349 cows in 185 dairy herds)¹. Time of first and second trimming were each categorized into three periods: “early first” <61 days after first calving, “mid first” 61-120 days after first calving, “late first” >120 days after first calving; and “early second” >120 days before second calving, “mid second” 120-61 days before second calving and “late second” <61 days before second calving, respectively.

	Coefficient	SE ¹	RRR	95% CI	P-value
No claw lesion	Base	-	-	-	-
	outcome				
Mild infectious lesions					
Combination of two trimming periods in first lactation					
Early first + early second	-0.44	0.22	0.65	0.42; 0.99	0.04
Early first + mid second	-0.40	0.23	0.67	0.43; 1.04	0.07
Early first + late second	-0.34	0.36	0.71	0.35; 1.43	0.34
Mid first + early second	-0.45	0.21	0.63	0.42; 0.96	0.03
Mid first + mid second	-0.54	0.21	0.58	0.39; 0.89	0.01
Mid first + late second	0.14	0.31	1.16	0.63; 2.13	0.64
Late first + early second	-0.41	0.23	0.66	0.42; 1.04	0.08
Late first + mid second	-0.12	0.20	0.88	0.60; 1.30	0.53
Late first + late second	Referent	-	-	-	-
Months between trimmings					
<4	0.02	0.20	1.02	0.69; 1.51	0.92

4	Referent	-	-	-	-
5	0.25	0.21	1.29	0.85; 1.95	0.22
6	0.04	0.21	1.04	0.69; 1.56	0.85
>6	0.30	0.25	1.35	0.84; 2.19	0.22
Claw lesions at first trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions ²	0.94	0.10	2.57	2.13; 3.10	<0.001
Severe lesions ³	0.71	0.14	2.03	1.55; 2.67	<0.001
Other ⁴	1.32	0.32	3.73	2.01; 6.93	<0.001
Claw lesions at second trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	1.64	0.10	5.18	4.21; 6.36	<0.001
Severe lesions	1.04	0.13	2.83	2.18; 3.67	<0.001
Other	1.43	0.33	4.17	2.17; 8.00	<0.001
Breed ⁵					
SH	Referent	-	-	-	-
SR	0.35	0.12	1.42	1.12; 1.80	0.004
SR*SH	0.33	0.16	1.39	1.00; 1.91	0.05
Other	-0.28	0.26	0.76	0.45; 1.28	0.30
Intercept	-2.70	0.23			<0.001
Mild claw horn lesions					
Combination of two trimming periods in first lactation					

Early first+ early second	-0.67	0.20	0.51	0.34; 0.75	0.001
Early first + mid second	-0.68	0.19	0.51	0.35; 0.74	<0.001
Early first + late second	-0.32	0.32	0.72	0.38; 1.36	0.32
Mid first + early second	-0.39	0.20	0.68	0.46; 1.00	0.05
Mid first + mid second	-0.65	0.18	0.52	0.37; 0.74	<0.001
Mid first + late second	-0.43	0.29	0.65	0.36; 1.15	0.14
Late first + early second	-0.46	0.25	0.63	0.39; 1.03	0.07
Late first + mid second	-0.26	0.16	0.77	0.56; 1.06	0.11
Late first + late second	Referent	-	-	-	-
Months between trimmings					
<4	-0.10	0.20	0.91	0.61; 1.34	0.62
4	Ref.	-	-	-	-
5	0.03	0.15	1.03	0.77; 1.38	0.84
6	0.25	0.17	1.29	0.92; 1.80	0.14
>6	0.11	0.18	1.11	0.79; 1.48	0.54
Claw lesions at first trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	0.70	0.10	2.01	1.64; 2.47	<0.001
Severe lesions	0.48	0.15	1.61	1.21; 2.15	0.001
Other	1.09	0.26	2.96	1.78; 4.94	<0.001
Claw lesions at second trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	1.08	0.10	2.96	2.40; 3.64	<0.001

Severe lesions	0.52	0.13	1.69	1.25; 2.27	0.001
Other	1.67	0.33	5.31	3.28; 8.58	<0.001
Breed					
SH	Referent	-	-	-	-
SR	-0.13	0.13	0.88	0.68; 1.13	0.32
SR*SH	-0.22	0.16	0.80	0.59; 1.10	0.17
Other	0.28	0.41	1.33	0.59; 2.98	0.49
Intercept	-2.23	0.21			<0.001
Mild infectious claw lesions and mild claw horn lesions					
Combination of two trimming periods in first lactation					
Early first + early second	-0.92	0.35	0.40	0.20; 0.81	0.01
Early first + mid second	-1.11	0.32	0.33	0.18; 0.62	0.001
Early first + late second	-1.06	0.51	0.34	0.13; 0.94	0.04
Mid first + early second	-0.90	0.30	0.41	0.22; 0.73	0.003
Mid first + mid second	-1.33	0.32	0.26	0.14; 0.50	<0.001
Mid first + late second	-1.25	0.45	0.29	0.12; 0.69	0.005
Late first + early second	-0.36	0.31	0.70	0.38; 1.30	0.26
Late first + mid second	-0.36	0.22	0.70	0.46; 1.07	0.10
Late first + late second	Referent	-	-	-	-
Months between trimmings					
<4	0.01	0.31	1.01	0.58; 1.75	0.97
4	Referent	-	-	-	-
5	0.46	0.32	1.59	0.93; 2.71	0.09

6	0.28	0.30	1.32	0.80; 2.17	0.27
>6	0.55	0.29	1.74	0.97; 3.11	0.06
Claw lesions at first trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	1.37	0.15	3.92	2.92; 5.25	<0.001
Severe lesions	1.24	0.19	3.46	2.38; 5.01	<0.001
Other	1.78	0.35	5.93	2.99; 11.74	<0.001
Claw lesions at second trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	2.29	0.19	9.88	6.77; 14.42	<0.001
Severe lesions	1.65	0.22	5.19	3.35; 8.03	<0.001
Other	1.42	0.36	4.16	2.04; 8.49	<0.001
Breed					
SH	Referent	-	-	-	-
SR	0.13	0.19	1.14	0.78; 1.67	0.49
SR*SH	-0.01	0.22	0.99	0.64; 1.54	0.97
Other	-2.38	1.10	0.09	0.01; 0.81	0.03
Intercept	-3.67	0.28			<0.001
Severe infectious claw lesions					
Combination of two trimming periods in first lactation					
Early first + early second	-0.12	0.19	0.89	0.61; 1.28	0.52
Early first + mid second	-0.14	0.20	0.87	0.59; 1.28	0.49

Early first + late second	-0.66	0.56	0.52	0.17; 1.56	0.24
Mid first + early second	-0.54	0.21	0.58	0.38; 0.88	0.01
Mid first + mid second	-0.63	0.20	0.53	0.36; 0.80	0.002
Mid first + late second	0.25	0.28	1.29	0.74; 2.25	0.38
Late first + early second	-0.58	0.27	0.56	0.33; 0.95	0.03
Late first + mid second	-0.14	0.16	0.87	0.64; 1.19	0.39
Late first + late second	Referent	-	-	-	-
Months between trimmings					
<4	-0.08	0.20	0.92	0.62; 1.37	0.68
4	Referent	-	-	-	-
5	0.05	0.16	1.06	0.76; 1.46	0.74
6	0.06	0.18	1.06	0.75; 1.51	0.73
>6	0.14	0.21	1.15	0.77; 1.72	0.50
Claw lesions at first trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	0.69	0.11	2.00	1.62; 2.46	<0.001
Severe lesions	1.56	0.14	4.76	3.61; 6.27	<0.001
Other	1.07	0.34	1.01	1.49; 5.76	0.002
Claw lesions at second trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	0.93	0.13	2.54	1.95; 3.31	<0.001
Severe lesions	2.40	0.13	11.0	8.45; 14.27	<0.001
Other	1.21	0.24	3.35	2.09; 5.36	<0.001

Breed					
SH	Referent	-	-	-	-
SR	-0.09	0.13	0.91	0.71; 1.17	0.47
SR*SH	0.27	0.15	1.31	0.98; 1.76	0.07
Other	0.23	0.28	1.26	0.72; 2.21	0.41
Intercept	-2.75	0.26			<0.001
Severe claw horn lesions					
Combination of two trimming periods in first lactation					
Early first + early second	-0.86	0.30	0.42	0.24; 0.75	0.004
Early first + mid second	-0.72	0.34	0.49	0.25; 0.96	0.04
Early first + late second	-0.55	0.71	0.57	0.14; 2.33	0.44
Mid first + early second	-1.37	0.40	0.25	0.12; 0.55	0.001
Mid first + mid second	-0.91	0.30	0.40	0.22; 0.72	0.002
Mid first + late second	-0.80	0.62	0.45	0.13; 1.52	0.20
Late first + early second	-0.81	0.44	0.44	0.19; 1.05	0.06
Late first + mid second	-0.75	0.29	0.47	0.27; 0.83	0.01
Late first + late second	Referent	-	-	-	-
Months between trimmings					
<4	0.28	0.23	1.32	0.85; 2.05	0.22
4	Referent	-	-	-	-
5	0.06	0.22	1.07	0.70; 1.63	0.77
6	-0.14	0.26	0.87	0.52; 1.45	0.59
>6	0.01	0.34	1.01	0.52; 1.96	0.98

Claw lesions at first trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	0.80	0.18	2.24	1.58; 3.15	<0.001
Severe lesions	1.26	0.22	3.53	2.30; 5.42	<0.001
Other	-0.40	1.09	0.67	0.08; 5.62	0.71
Claw lesions at second trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	1.30	0.16	3.68	2.71; 5.01	<0.001
Severe lesions	1.50	0.21	4.51	2.97; 6.83	<0.001
Other	1.71	0.48	5.55	2.16; 14.27	<0.001
Breed					
SH	Referent	-	-	-	-
SR	-0.27	0.17	0.76	0.55; 1.06	0.11
SR*SH	-0.21	0.28	0.81	0.47; 1.41	0.47
Other	-1.71	0.79	0.18	0.04; 0.86	0.03
Intercept	-3.31	0.37			<0.001
Severe infectious claw lesions and severe claw horn lesions					
Combination of two trimming periods in first lactation					
Early first + early second	-0.90	0.57	0.41	0.13; 1.25	0.12
Early first + mid second	-0.65	0.80	0.52	0.11; 2.50	0.42
Early first + late second	n.a.				

Mid first + early second	-1.06	0.67	0.35	0.09; 1.30	0.12
Mid first + mid second	-0.98	0.74	0.38	0.09; 1.59	0.18
Mid first + late second	-0.20	1.16	0.82	0.08; 8.00	0.87
Late first + early second	-0.48	0.65	0.62	0.17; 2.19	0.46
Late first + mid second	-0.53	0.62	0.59	0.17; 2.00	0.39
Late first + late second	Referent	-	-	-	-
Months between trimmings					
<4	-0.29	0.50	0.75	0.28; 1.98	0.56
4	Referent	-	-	-	-
5	-0.04	0.60	0.57	0.24; 3.09	0.94
6	-0.49	0.65	0.40	0.13; 2.17	0.45
>6	0.19	0.69	0.83	0.25; 4.64	0.79
Claw lesions at first trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	1.90	0.52	6.70	2.41; 18.61	<0.001
Severe lesions	2.85	0.50	17.25	6.52; 45.62	<0.001
Other	n.a.				
Claw lesions at second trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	1.51	0.54	4.52	1.56; 13.10	0.005
Severe lesions	3.11	0.49	22.38	8.63; 58.04	<0.001
Other	n.a.				
Breed					

SH	Referent	-	-	-	-
SR	0.04	0.34	1.04	0.54; 2.00	0.92
SR*SH	-1.11	1.03	0.33	0.04; 2.46	0.28
Intercept	-6.86	0.70			<0.001
Other types of lesions					
Combination of two trimming periods					
in first lactation					
Early first + early second	0.12	0.37	1.13	0.55; 2.31	0.74
Early first + mid second	-0.29	0.44	0.75	0.31; 1.78	0.51
Early first + late second	n.a.				
Mid first + early second	-0.19	0.41	0.83	0.37; 1.86	0.65
Mid first + mid second	-0.51	0.36	0.60	0.29; 1.23	0.16
Mid first + late second	-1.20	1.18	0.30	0.03; 3.05	0.31
Late first + early second	0.14	0.49	1.14	0.44; 2.98	0.78
Late first + mid second	-0.08	0.33	0.92	0.48; 1.77	0.81
Late first + late second	Referent	-	-	-	-
Months between trimmings					
<4	-0.21	0.30	0.81	0.46; 1.45	0.48
4	Referent	-	-	-	-
5	-0.22	0.33	0.81	0.42; 1.54	0.52
6	-0.73	0.34	0.48	0.25; 0.95	0.03
>6	-0.06	0.45	0.94	0.39; 2.29	0.90
Claw lesions at first trimming in first lactation					
Healthy	Referent	-	-	-	-

Mild lesions	0.96	0.01	2.60	1.74; 3.89	<0.001
Severe lesions	0.87	0.28	2.38	1.37; 4.12	0.002
Other	2.26	0.39	9.57	4.43; 20.70	<0.001
Claw lesions at second trimming in first lactation					
Healthy	Referent	-	-	-	-
Mild lesions	1.27	0.19	3.56	2.44; 5.19	<0.001
Severe lesions	0.61	0.31	1.84	0.99; 3.40	0.053
Other	3.85	0.27	47.15	27.52; 80;80	<0.001
Breed					
SH	Referent	-	-	-	-
SR	0.32	0.22	1.37	0.89; 2.13	0.15
SR*SH	0.46	0.36	1.58	0.78; 3.19	0.20
Other	-0.08	0.65	0.92	0.26; 3.27	0.90
Intercept	-4.61	0.37			<0.001

¹Standard error (SE) was adjusted for repeated measurements within herd

²Mild dermatitis, heel horn erosion, chronic laminitis/laminitic ring, double sole, sole hemorrhage, and white line lesion.

³Wart growth, digital dermatitis, foot rot, interdigital hyperplasia, sole ulcer, toe ulcer, white line ulcer/abscess.

⁴Asymmetry, scissor claw, hock lesion, overgrown claw, corkscrew claw, lameness.

⁵SH = Swedish Holstein; SR = Swedish Red.

Supplemental materials to: Association between timing of hoof trimming in primiparous cows and hoof health and survival in second lactation, *Journal of Dairy Science*, 2025

Supplemental Data S3. Associations with culling in second lactation – L2 model

The results from the L2 model of the associations between the timing of trimming in the first lactation and culling in the second lactation are presented in Table S5 (See Notes). The odds of being culled during second lactation were lower for cows with an early-first and early- or mid-second, and for cows with a mid-first and early- or mid second trim compared to those with a late-first and late-second trim (Table S5; see Notes, Figure 5). Moreover, the odds of a cow being culled were higher for cows with a late-first and early-second trim compared to cows with an early-first and early- (OR = 1.39, 95% CI = 1.07-1.79, $P = 0.01$) or mid-second trim (OR = 1.54, 95% CI = 1.14-2.07, $P = 0.005$), and for cows with a mid-first and early- (OR = 1.46 95% CI = 1.11-1.91, $P = 0.007$) or mid-second trim (OR = 1.39, 95% CI = 1.06-1.82, $P = 0.02$). The odds were also higher for cows with a late-first and mid-second trim compared to cows with an early-first and early- (OR = 1.37, 95% CI = 1.15-1.63, $P < 0.001$) or mid-second trim (OR = 1.52, 95% CI = 1.21-1.92, $P < 0.001$), and for cows with a mid-first and early- (OR = 1.44, 95% CI = 1.18-1.76, $P < 0.001$) or mid-second trim (OR = 1.38, 95% CI = 1.14-1.62, $P = 0.001$).

The odds of being culled were higher for cows with claw lesions at first trimming in second lactation than for cows without claw lesions at first trimming in second lactation (Table S5; see Notes).

The likelihood of being culled was increased for SR cows compared with both SH (Table S5; see Notes) and SR*SH cows (OR = 1.47, 95% CI = 1.16-1.87, $P = 0.002$).

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Table S5. Results of the L2 model of the association between time of trimming in first lactation, claw health remarks at first trimming in second lactation, breed of cow, and culling in the second lactation (n=10,349 cows in 185 dairy herds). Time of first and second trimming were each categorized into three periods: “early first” <61 days after first calving, “mid first” 61-120 days after first calving, “late first” >120 days after first calving; and “early second” >120 days before second calving, “mid second” 120-61 days before second calving and “late second” <61 days before second calving, respectively.

Item	Coefficient	SE	OR	95% CI	P-value
Days from first calving to first trimming and days from second trimming to second calving					
Early first + early second	-0.36	0.12	0.69	0.55; 0.88	0.003
Early first + mid second	-0.47	0.14	0.63	0.47; 0.83	0.001
Early first + late second	-0.04	0.28	0.96	0.55; 1.67	0.88
Mid first + early second	-0.41	0.13	0.65	0.51; 0.85	0.002
Mid first + mid second	-0.37	0.13	0.69	0.54; 0.89	0.004
Mid first + late second	-0.19	0.21	0.82	0.54; 1.26	0.37
Late first + early second	-0.04	0.15	0.96	0.71; 1.31	0.81
Late first + mid second	-0.05	0.12	0.95	0.75; 1.20	0.68
Late first + late second	Referent	-	-	-	-
Claw lesions at first trimming in second lactation					
Healthy (no leasions)	Referent	-	-	-	-

Mild lesions ¹	0.30	0.07	1.35	1.18; 1.55	<0.001
Severe lesions ²	0.41	0.08	1.51	1.28; 1.78	<0.001
Other ³	0.61	0.20	1.85	1.25; 2.73	0.002
Breed ⁴					
SH	Referent	-	-	-	-
SR	0.27	0.07	1.31	1.14; 1.51	<0.001
SR*SH	-0.12	0.12	0.89	0.71; 1.12	0.32
Other	-0.04	0.22	0.96	0.61; 1.48	0.84
Intercept	-1.77	0.13			<0.001

¹Mild dermatitis, heel horn erosion, chronic laminitis/laminitic ring, double sole, sole hemorrhage, and white line lesion.

²Wart growth, digital dermatitis, foot rot, interdigital hyperplasia, sole ulcer, toe ulcer, white line ulcer/abscess.

³Asymmetry, scissor claw, hock lesion, overgrown claw, corkscrew claw, lameness.

⁴SH = Swedish Holstein, SR = Swedish Red

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Supplemental Data S4. Associations with culling in second lactation – ML2 model

The ML2 model displayed significant associations between the timing of trimming in first lactation and the outcome categories not being culled, dead, or euthanized on-farm (mortality), slaughtered with the primary reason being “claw and leg disorders”, and slaughtered for “other reasons” (Table S6; see Notes). Predicted probabilities from the model are presented in Figure 6 to facilitate interpretation of the results. The results from the ML2 model showed that the mean predicted probability of not having claw lesions was highest for cows that had an early-first and early or mid-second trim or a mid-first and early- or mid-second trim (Figure 6A)

The results from the ML2 model showed no association between the timing of trimmings in first lactation, or claw health at second trimming in first lactation and mortality (dead on farm or euthanized). However, there was an association between mortality and having claw lesions at first trimming in second lactation and between mortality and breed. Cows with severe claw lesions or other remarks at first trimming in second lactation had a higher RRR of death or euthanasia on-farm than cows without claw lesions at first trimming in second lactation (Table S6; See Notes). Moreover, cows of the SR breed had lower RRR of death and euthanasia on-farm, compared with not being culled, than cows of the SH breed (Table S6; see Notes).

Cows with a late-first and late-second trim had higher RRR for being sent to slaughter with the primary reason being “claw and leg disorder” compared to cows with an early-first and early- or mid-second trim, and cows with a mid-first and early- or mid-second trim (Table S6; see Notes). Moreover, cows with a late-first and mid-second trim had higher RRR compared to cows with an early-first and early- (RRR = 2.55, 95% CI = 1.65-3.95, $P < 0.001$) or mid-

second trim (RRR = 3.24, 95% CI = 0.18-8.92, $P = 0.02$), and for cows with a mid-first and early- (RRR = 2.29, 95% CI = 1.35-3.87, $P = 0.002$) or mid-second trim (RRR = 3.90, 95% CI = 1.96-7.73, $P < 0.001$). In addition, cows with an early-first and late-second trim had an increased likelihood of being sent to slaughter with the primary reason being “claw and leg disorder” compared to cows with an early-first and early- (RRR = 4.92, 95% CI = 1.68-14.40, $P = 0.004$) or mid-second trim (RRR = 6.25, 95% CI = 1.45-26.94, $P = 0.01$), and for cows with a mid-first and early- (RRR = 4.41, 95% CI = 1.44-13.53, $P = 0.01$) or mid-second trim (RRR = 7.50, 95% CI = 2.34-24.02, $P = 0.001$).

Cows with severe claw lesions at second trimming in first lactation had higher RRR of being sent to slaughter for “claw and leg disorder” than cows without claw lesions (RRR = 2.05, 95% CI = 1.37-3.06, $P < 0.001$) and cows with mild claw lesions (RRR = 1.61, 95% CI = 1.06-2.44, $P = 0.03$) at second trimming in first lactation.

Cows with severe claw lesions at first trimming in second lactation had higher RRR of being sent to slaughter with the primary reason being “claw and leg disorder” than cows without claw lesions (RRR = 2.27, 95% CI = 1.36-3.76, $P = 0.002$), and cows with mild claw lesions (RRR = 1.58, 95% CI = 1.03-2.41, $P = 0.04$) at first trimming in second lactation.

Cows with a late-first and late-second trim had higher RRR for being sent to slaughter for an “other reason” compared to cows with an early-first and early-second trim (Table S6; see Notes). Moreover, cows with a late-first and early-second trim had higher RRR compared to cows with an early-first and early- (RRR = 1.69, 95% CI = 1.25-2.29, $P = 0.001$) or mid-second trim (RRR = 1.68, 95% CI = 1.20-2.36, $P = 0.003$), and for cows with a mid-first and early- (RRR = 1.68, 95% CI = 1.17-2.40, $P = 0.004$) or mid-second trim (RRR = 1.62, 95% CI = 1.18-2.24, $P = 0.003$). The likelihood for a cow to be sent to slaughter for “other reason” was higher for cows with a late-first and mid-second trim compared to cows with an early-

first and early- (RRR = 1.54, 95% CI = 1.20-1.97, $P = 0.001$) or mid-second trim (RRR = 1.53, 95% CI = 1.16-2.03, $P = 0.003$), and for cows with a mid-first and early- (RRR = 1.53, 95% CI = 1.14-2.04, $P = 0.004$) or mid-second trim (RRR = 1.48, 95% CI = 1.15-1.89, $P = 0.002$).

Cows with mild claw lesions (RRR = 1.34, 95% CI = 1.07-1.67, $P = 0.01$) or other remarks (RRR = 1.61, 95% CI = 1.01-2.55, $P = 0.04$) at second trimming in first lactation had a higher RRR of being sent to slaughter for “other reasons” than cows with severe claw lesions at second trimming in first lactation.

Cows with mild or severe claw lesions at first trimming in second lactation had a higher RRR of being sent to slaughter for “other reasons” than cows without claw lesions at first trimming in second lactation (Table S6; see Notes).

The RRR for a cow being sent to slaughter for “other reasons” was higher for SR cows than SH cows (Table S6; see Notes) and SR*SH cows (RRR = 1.35, 95% CI = 1.01-1.80, $P = 0.045$).

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Table S6. Results of the ML2 model of associations between time of trimming in first lactation, claw health remarks at second trimming in first lactation, claw health remarks at first trimming in second lactation, breed of cow, and culling in the second lactation (n=10,349 cows in 185 dairy herds)¹. Time of first and second trimming were each categorized into three periods: “early first” <61 days after first calving, “mid first” 61-120 days after first calving, “late first” >120 days after first calving; and “early second” >120 days before second calving, “mid second” 120-61 days before second calving and “late second” <61 days before second calving, respectively.

Item	Coefficient	SE ¹	RRR	95% CI	P-value
Not culled	Base	-	-	-	-
	outcome				
Mortality (dead or euthanized on-farm)					
Days from first calving to first trimming and days from second trimming to second calving					
Early first + early second	-0.14	0.24	0.87	0.54; 1.40	0.57
Early first + mid second	-0.34	0.29	0.71	0.40; 1.26	0.24
Early first + late second	0.32	0.49	1.38	0.53; 3.61	0.51
Mid first + early second	-0.23	0.24	0.79	0.50; 1.27	0.34
Mid first + mid second	-0.16	0.25	0.85	0.52; 1.40	0.53
Mid first + late second	0.08	0.41	1.09	0.49; 2.42	0.84
Late first + early second	-0.19	0.34	0.83	0.43; 1.60	0.57

Late first + mid second	-0.13	0.25	0.88	0.54; 1.44	0.61
Late first + late second	Referent	-	-	-	-
Claw lesions at second trimming in first lactation					
Healthy (no lesions)	Referent	-	-	-	-
Mild lesions ²	0.25	0.17	1.28	0.92; 1.78	0.14
Severe lesions ³	0.10	0.20	1.11	0.74; 1.64	0.62
Other ⁴	0.51	0.37	1.67	0.81; 3.41	0.16
Claw lesions at first trimming in second lactation					
Healthy (no lesions)	Referent	-	-	-	-
Mild lesions	0.13	0.17	1.13	0.82; 1.57	0.45
Severe lesions	0.41	0.20	1.50	1.02; 2.22	0.04
Other	0.87	0.36	2.39	1.18; 4.85	0.02
Breed ⁵					
SH	Referent	-	-	-	-
SR	-0.40	0.16	0.67	0.49; 0.91	0.01
SR*SH	-0.54	0.31	0.58	0.32; 1.07	0.08
Other	-1.12	0.68	0.33	0.09; 1.24	0.10
Intercept	-3.40	0.23			<0.001
Slaughter with primary reason claw and leg disorders					
Days from first calving to first trimming and days from second trimming to second calving					

Early first + early second	-1.34	0.25	0.26	0.16; 0.43	<0.001
Early first + mid second	-1.58	0.54	0.21	0.07; 0.60	0.004
Early first + late second	0.23	0.52	1.29	0.46; 3.60	0.63
Mid first + early second	-1.23	0.31	0.29	0.16; 0.54	<0.001
Mid first + mid second	-1.76	0.38	0.17	0.08; 0.36	<0.001
Mid first + late second	-0.58	0.51	0.56	0.20; 1.53	0.26
Late first + early second	-0.68	0.48	0.51	0.20; 1.29	0.16
Late first + mid second	-0.40	0.23	0.67	0.43; 1.05	0.08
Late first + late second	Referent	-	-	-	-
Claw lesions at second trimming in first lactation					
Healthy (no lesions)	Referent	-	-	-	-
Mild lesions	0.24	0.21	1.28	0.85; 1.91	0.24
Severe lesions	0.72	0.20	2.05	1.37; 3.06	<0.001
Other	0.32	0.46	1.37	0.55; 3.41	0.50
Claw lesions at first trimming in second lactation					
Healthy (no lesions)	Referent	-	-	-	-
Mild lesions	0.36	0.23	1.44	0.91; 2.28	0.12
Severe lesions	0.82	0.26	2.27	1.36; 3.76	0.002
Other	0.10	0.75	1.10	0.25; 4.76	0.90
Breed					
SH	Referent	-	-	-	-
SR	0.35	0.23	1.53	0.91; 2.20	0.13
SR*SH	0.13	0.34	0.70	0.58; 2.22	0.70

Other	n.a.	-	-	-	-
Intercept	-3.73	0.27			<0.001
Culled due to other reasons					
Days from first calving to first trimming and days from second trimming to second calving					
No remark					
Early first + early second	-0.33	0.15	0.72	0.53; 0.97	0.03
Early first + mid second	-0.33	0.17	0.72	0.52; 1.01	0.06
Early first + late second	-0.20	0.36	0.82	0.40; 1.66	0.58
Mid first + early second	-0.32	0.17	0.72	0.52; 1.00	0.051
Mid first + mid second	-0.29	0.15	0.75	0.55; 1.01	0.06
Mid first + late second	-0.23	0.25	0.79	0.49; 1.30	0.36
Late first + early second	0.20	0.16	1.22	0.90; 1.65	0.21
Late first + mid second	0.10	0.14	1.11	0.85; 1.44	0.45
Late first + late second	Referent	-	-	-	-
Claw lesions at second trimming in first lactation					
Healthy (no lesions)	Referent	-	-	-	-
Mild lesions	0.09	0.09	1.09	0.92; 1.29	0.32
Severe lesions	-0.21	0.11	0.81	0.65; 1.01	0.06
Other	0.27	0.21	1.31	0.87; 1.97	0.19
Claw lesions at first trimming in second lactation					
Healthy (no lesions)	Referent	-	-	-	-

Mild lesions	0.21	0.09	1.23	1.04; 1.46	0.02
Severe lesions	0.22	0.10	1.25	1.02; 1.51	0.03
Other	0.47	0.25	1.61	0.99; 2.60	0.054
Breed					
SH	Referent	-	-	-	-
SR	0.22	0.09	1.24	1.04; 1.49	0.02
SR*SH	-0.08	0.17	0.92	0.67; 1.28	0.63
Other	0.13	0.24	1.14	0.72; 1.81	0.58
Intercept	-1.93	0.13			<0.001

¹Standard error (SE) was adjusted for repeated measurements within herd

²Mild dermatitis, heel horn erosion, chronic laminitis/laminitic ring, double sole, sole hemorrhage, and white line lesion.

³Wart growth, digital dermatitis, foot rot, interdigital hyperplasia, sole ulcer, toe ulcer, white line ulcer/abscess.

⁴Asymmetry, scissor claw, hock lesion, overgrown claw, corkscrew claw, lameness.

⁵SH = Swedish Holstein, SR = Swedish Red

Supplemental materials to: Association between timing of hoof trimming in primiparous cows and hoof health and survival in second lactation, *Journal of Dairy Science*, 2025

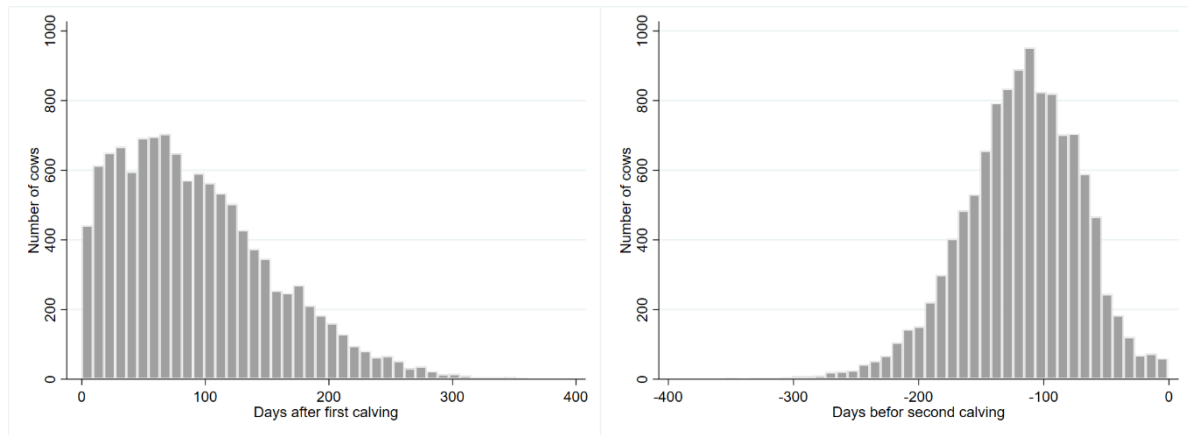


Figure S1. Histograms of days from first calving to first claw trimming and days before second calving to second trimming in first lactation (n=10,349 cows in 185 dairy herds).