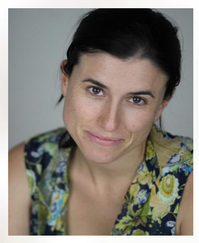
Risk factors associated with dystocia in a tie stall dairy herd



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BACKGROUND

- **Dystocia is associated with calf mortality and reduced productivity and fertility in cattle.**
- **We examined the risk factors associated with dystocia in a dairy herd with a tie stall housing.**

APPROACH

- **Dystocia: calving with considerable assistance (hard pull) and/or a calving resulting in stillbirth.**
- **1157 calving records were examined: parity (first, second and third or greater), type of birth (twins vs. singleton), calf sex, calf body weight (CBW), gestation length (GL), age of first parity cows at calving (AGE), day in milk of parous cows at breeding (DIM), and sire.**
- **Statistical analyses PROC MIXED, GENMOD, LOGISTIC and CORR in SAS 9.3.**

FINDINGS

- **The incidence of dystocia was 18.3%.**

Table 1. Main factors associated with dystocia (all cows).

		No. of cows	Percent
Parity	First	144/455	31.6%[a]
	Second	40/307	13.0%[b]
	Third or ≥	28/395	7.1% [c]
Type of birth	Singleton	197/1115	17.7%[a]
	Twins	15/42	35.7%[b]
Calf Sex	Male	115/549	20.9%[a]
	Female	82/565	14.5%[b]

a,b,c Within a column and category, percentage without a common superscript differed (p<0.01)

- **CBW was correlated with GL (male calf, R=0.289; female calf, R=0.406).**
- **Dystocia was not associated with AGE.**
- **Predicted probability of dystocia increased by 6.0% every 30 d from 70-200 DIM and by 6.4% thereafter.**

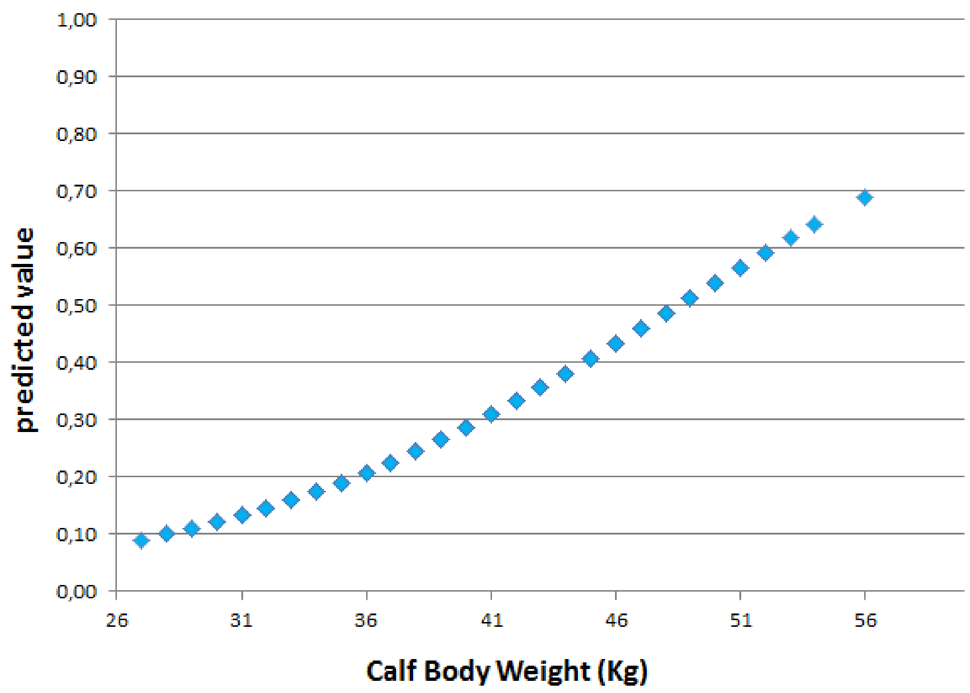

Figure 1. Linear relationship between CBW and predicted probability of dystocia in primiparous cows.

- **Significant effect of sire (p<0.01; range: 0-53.6%).**

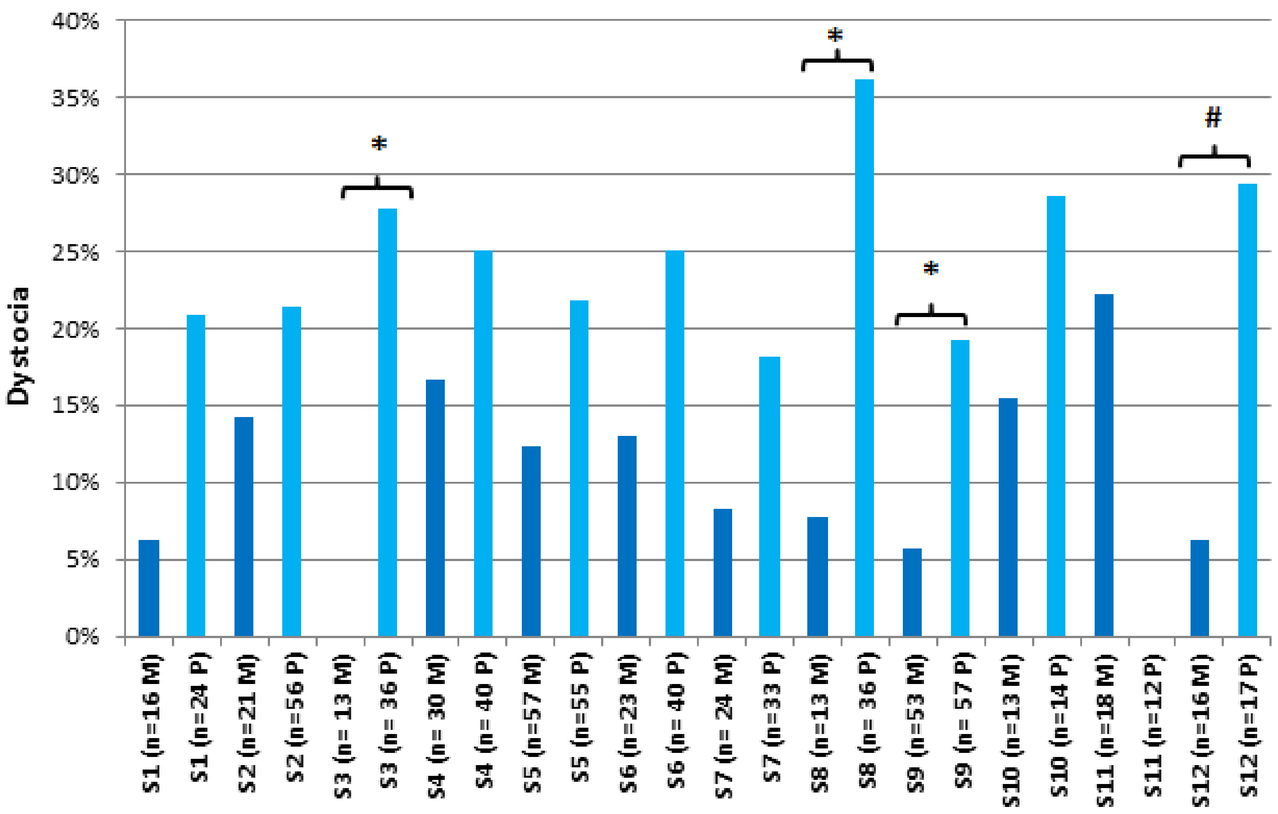

Figure 2. Percentage of dystocia for sire used in both primiparous (P) and multiparous cows (M) (* p<0.05;# p<0.10).

SUMMARY

- **Cows calving twins had greater risk of dystocia compared to those calving singleton (35.7 vs 17.7%).**
- **CBW was related to higher risk of dystocia only in primiparous cows.**
- **The effect of sire on incidence of dystocia was significant (range: 0.0 to 53.6%).**

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