

Table 5. Significant associations and their directions between the predictive animal welfare indicators and thirteen animal based measures within an animal welfare index investigated in 73 Danish dairy herds.

Predictor	Animal based measures (Response variables)											
	Integument alterations				Cleanliness						Behaviour	
	Lame	Hock	Carpus	Body	Low BCS	Hind	Leg	Udder	Claws	Hair coat	AD Shy	Ab-normal
Cow mortality										_*.*a	_*.*c	
Calf mortality	+†,c	+†,c			+†,c							
Heifer mortality											_*.*c	
ECM per cow years	_*.*.*,c					_*.*,c	_†,c	_*.*,c	_*.*,a / _†,c	_*.*,c	+_*.*.*,c	_*.*,c
ECM 1 st lactation cows	_*.*,a / +_*.*,c									+†,c		
SD ECM 1 st lactation cows			+†,c	+_*.*,c					+_*.*,b / +_*.*,c		+_*.*,b	+_*.*,b
ECM 2 nd lactation cows					_†,a				_*.*,a	+†,b		_*.*,a
SD ECM 2 nd lactation cows												
ECM 3 rd lactation cows		_†,b				+_*.*,c						
SD ECM 3 rd lactation cows				+_*.*,b		+_*.*,c					_†,c	
Bulk tank somatic cell count	_*.*,c											_*.*,b / +_*.*,c
Age at first calving		_†,c										
SD age at first calving												
Treatments per cow year								+_*.*,c				
Treatments locomotor disorders					_†,b						+_*.*.*,c	
Proportion of locomotor disorders	+_*.*.*,c					+_*.*,a						+_*.*,b
Proportion of abattoir remarks					_*.*,a					+†,a / +†,b		
Lean cows at slaughter			_*.*,c		_†,a	+_*.*,a				+†,a / +†,c		
Abattoir remarks:												
Lung disorders		+†,b										
Liver abscesses						_*.*.*,a	_†,a / _†,b	_†,b				
Peritonitis											+†,b	
Liver flukes & cirrhosis												
Chronic inflammation		+†,b		_†,b		_*.*,a	_*.*.*,a	_*.*,a				

^a Register data for 365 days, ^b Register data for 180 days, ^c Register data for 90 days,

Significance levels: *** $p < 0.001$, ** $p < 0.01$, * $P < 0.05$, † $P < 0.1$, BCS= Body Condition Score, AD= Avoidance Distance, ECM= Energy Corrected Milk Yield (mean), SD= Standard Deviation