

Supplementary Table 1. Acquisition parameters set to analyze *C. robusta* and *M. galloprovincialis* sperm motility (modified by Wilson-Leedy and Ingermann 2007)

Minimum sperm size (pixels)	0
Maximum sperm size (pixels)	35 for <i>C. robusta</i> 50 for <i>M. galloprovincialis</i>
Minimum track length (frames)	97
Maximum sperm velocity between frames (pixels)	8
Minimum VSL for motile ($\mu\text{m/s}$)	3,000
Minimum VAP for motile ($\mu\text{m/s}$)	20
Minimum VCL for motile ($\mu\text{m/s}$)	25
Low VAP speed	5
Maximum percentage of path with zero VAP	1.0
Maximum percentage of path with low VAP	25
Low VAP speed 2 ($\mu\text{m/s}$)	25
Low VCL speed ($\mu\text{m/s}$)	35
High WOB (percentage VAP/VCL)	80
High LIN (percentage VSL/VAP)	80
High WOB two (percentage VAP/VCL)	50
High LIN two (percentage VSL/VAP)	60
Frame rate (frames per second)	50
Microns per 1000 pixels	1075
Print xy co-ordinates for all tracked sperm?	0
Print motion characteristics for all motile sperm?	0
Print median values for motion characteristics?	0