

Supplementary Table 1. Sysmex XT-2000iV analyzer quality control (QC) results during the study period.

Variable	Unit	Between-series imprecision CV† (%)	Inaccuracy‡ (%)	Target value of QC
RBC-I	×10 ¹² /L	0.32	−0.63	4.42
RBC-O	×10 ¹² /L	1.83	−7.16	4.67
HCT	L/L	1.12	+1.22	0.360
HGB	g/L	0.98	+0.76	123.7
MCV	fL	0.99	+0.17	82.8
MCH	pg	0.91	−0.35	28.5
MCHC	g/L	0.94	−0.45	343.7
RDW-SD	fL	1.49	+0.77	43.5
RDW-CV	%	0.55	+0.68	14.8
RBC-HGB	pg	NA		
RET	×10 ⁹ /L	6.56	+1.26	0.077
RET	%	6.63	+0.23	1.8
RET-HGB	pg	NA		
Delta-HGB	pg	NA		
LFR	%	5.33	−1.97	76.0
MFR	%	10.98	+3.35	21.1
HFR	%	64.46	+40.97	2.6
IRF	%	15.89	+6.45	24.0
WBC	×10 ⁹ /L	3.40	−2.97	7.43
Neutrophils	×10 ⁹ /L	5.89	−0.49	3.47
Eosinophils	×10 ⁹ /L	5.82	+1.13	0.71
Basophils	×10 ⁹ /L	3.34	+1.51	4.70
Lymphocytes	×10 ⁹ /L	7.52	+1.76	2.24
Monocytes	×10 ⁹ /L	10.06	−6.86	0.86
PLT-I	×10 ⁹ /L	6.04	−0.46	218.0
PLT-O	×10 ⁹ /L	6.56	−0.21	208.3
MPV	fL	1.13	+0.02	9.6
PCT	%	7.32	+1.57	0.21
PDW	fL	4.30	+0.91	8.4

Eight repeats of manufacturer's control solution. CV = coefficient of variation; delta-HGB = RET-HGB minus RBC-HGB; HCT = hematocrit; HGB = hemoglobin; IRF = immature reticulocyte fraction; LFR, MFR, and HFR = low-, medium-, and high-fluorescence ratios,

respectively, as grades of reticulocyte maturation; MCH = mean corpuscular hemoglobin; MCHC = mean corpuscular hemoglobin concentration; MCV = mean corpuscular volume; MPV = mean platelet volume; NA = not available in QC; PCT = plateletcrit; PDW = platelet distribution width; PLT-I = platelet count by impedance; PLT-O = platelet count by optical measurement; RBC-HGB = red blood cell hemoglobin content; RBC-I = red blood cell count by impedance; RBC-O = RBC count by optical measurement; RDW-SD and RDW-CV = red cell distribution width by standard deviation and coefficient of variation, respectively; RET = reticulocytes; RET-HGB = reticulocyte hemoglobin content; WBC = white blood cell count.

† CV (%) = (SD/mean) × 100.

‡ Inaccuracy (%) = [(measured – target)/target] × 100.

Supplementary Table 2. Statistical significance of production type, lactation stage, and age on hematology reference intervals in cows.

Variable	Effects of covariables (<i>p</i>)		
	Dairy vs. beef	Lactation stage	Age
RBC-I	0.857	0.154	0.008
RBC-O	0.782	0.071	0.002
HCT	0.005	0.005	0.709
HGB	0.412	0.016	0.590
MCV	0.167	0.003	0.001
MCH	0.382	0.004	0.001
MCHC	1.000	0.548	0.484
RDW-SD	0.994	0.000	0.391
RDW-CV	0.656	0.001	0.010
RBC-HGB	0.955	0.001	0.012
RET			
×10 ⁹ /L	0.952	0.216	0.986
%	0.991	0.184	0.546
RET-HGB	0.897	0.857	0.058
Delta-HGB	0.879	0.556	0.112
Automated WBC counts			
WBC	0.855	0.324	0.000
Neutrophils	0.077	0.370	0.009
Eosinophils	0.137	0.608	0.514
Basophils	0.980	0.000	0.467
Lymphocytes	0.814	0.286	0.531
Monocytes	0.527	0.432	0.166
Manual WBC counts			
Neutrophils	0.333	0.781	0.032
Eosinophils	0.893	0.469	0.269
Basophils	0.859	0.687	0.871
Lymphocytes	0.433	0.319	0.000
Small-medium lymphocytes	0.934	0.374	0.772
Large lymphocytes	0.832	0.307	0.000
Granular lymphocytes	0.889	0.560	0.207
Monocytes	0.823	0.094	0.686

See Supplementary Table 1 for definitions of abbreviations. Shaded cells indicate $p \leq 0.05$.