

AMS KPI Project - General farm information – Australian Farms

January 2017

The Automatic Milking Systems' KPI Project provides the Dairy Industry with key information of what is achievable under commercial conditions. Information about milk production, AMS utilisation and farm demographics will help understand how these farms 'behave' over a 12 month period.

Table 1: General farm information

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5	Farm 6	Farm 7	Farm 8	Farm 9	Farm 10	Farm 11	Farm 12
Breed of cows	Holstein, Holstein x Jersey, HJx Brown Swiss, Holstein x Brown Swiss, Red Holstein	Holstein	Holstein	Holstein and Brown Swiss (5%)	Holstein	Holstein	Friesian x Jersey	Holstein	Holstein	50% Holstein, 45% Cross cows & 5% Jersey cows	Holstein	Holstein
Calving system	Year round	Seasonal	Split (3 batches)	Year round	Year round	Split (2 batches)	Seasonal	Seasonal	Split (2 batches)	Year round	Split	Split
Milking area (ha)	55	60	100	40	100	43	90	50	157	65	112	80
Type of robots	Single box	Single box	Single box	Single box	Single box	Single box	Single box	Single box	Robotic rotary	Single box	Single box	Single box
Number of robots (#)	3	3	3	3	6	3	4	3	-	4	4	3
Feed stations (#)	0	6	4	0	6	3	2	2	16 (2 feeds)	0	4	2
Gate time changes	6:00, 14:00 & 22:00	1:00, 7:30, 11:00 (feedpad), 13:00 & 18:00	12:00; 8:00, 15:00 (Feedpad) & 16:30	Barn with free cow traffic	03:00, 13:00 & 19:00	4:00, 15:00 & 21:00	2:30, 10:00 & 17:30	2:30, 10:00 & 16:30	4:00, 11:00, 16:45 & 20:00	0:00, 7:00 & 15:00 (feedpad)	01:00, 09:00 & 15:00	6:00, 13:00 & 21:00

Table 2: Herd information

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5	Farm 6	Farm 7	Farm 8	Farm 9	Farm 10	Farm 11	Farm 12
Cows in milk (#)	187	220	141	151	247	138	156	158	581	276	242	141
Heifers (%)	30%	3%	33%	36%	20%	11%	22%	22%	14%	18%	29%	11%
Animals that calved (#)	17	7	11	9	7	14	10	1	0	27	6	0
Farm stocking rate (milking cows/ha)	3.4	3.7	1.4	3.8	2.5	3.2	1.7	3.2	3.7	4.2	2.2	1.8
Robot stocking rate (milking cows/robot)	62	73	47	50	41	46	39	53	581	69	61	47
DIM (#)	168	143	219	223	272	188	173	227	206	166	249	211

Table 3: Daily milk production and quality

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5	Farm 6	Farm 7	Farm 8	Farm 9	Farm 10	Farm 11	Farm 12
Daily milk production (kg/day)	3,385	5,558	3,626	4,158	4,649	3,388	2,380	4,851	15,775	5,103	4,570	4,473
Fat (%)	3.89	4.36	4.32	3.5	4.29	3.89	4.8	3.8	4	3.99	4.17	3.83
Protein (%)	3.18	3.45	3.27	3.25	3.33	3.08	3.63	3.2	3.7	3.03	3.39	3.29
Somatic cell count (x 1000)	320	203	195	200	332	125	206	106	142	195	208	162

Table 4: Daily milk information

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5	Farm 6	Farm 7	Farm 8	Farm 9	Farm 10	Farm 11	Farm 12
Daily milk production herd (kg/cow/day)	17.2	25.3	26.0	25.9	18.8	26.8	15.5	30.2	27.2	19.0	18.4	29.6
Daily milk production cows (kg/cow/day)	17.5	25.5	27.9	25.6	19.6	27.2	16.0	31.9	28.2	19.1	19.6	30.4
Daily milk production heifers (kg/cow/day)	16.3	17.0	22.2	26.5	15.6	23.3	13.5	23.9	20.7	18.6	15.4	23.1
Daily milk production heifers:cows (%)	93%	67%	80%	103%	79%	86%	84%	75%	74%	97%	79%	76%
Milking frequency herd (#/cow/day)	1.9	2.2	2.2	2.3	2.2	2.5	2.3	2.5	2.1	2.1	1.9	2.5
Milking frequency cows (#/cow/day)	1.9	2.2	2.2	2.3	2.2	2.5	2.3	2.4	2.1	2.1	2.0	2.5
Milking frequency heifers (#/cow/day)	1.8	2.0	2.2	2.5	2.0	2.5	2.1	2.5	2.1	2.1	1.9	2.0
Concentrate ration (kg/cow/day)	6.0	6.6	8.7	4.9	5.9	10.3	3.4	8.0	8.7	5.5	7.8	7.4
Concentrate intake (kg/cow/day)	4.9	6.2	8.7	4.5	4.7	9.6	3.1	7.4	7.9	3.9	7.5	6.8

Table 5: Milking cow information

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5	Farm 6	Farm 7	Farm 8	Farm 9	Farm 10	Farm 11	Farm 12
Milk production (kg/cow/milking)	9.3	11.6	11.8	11.4	8.6	10.8	6.8	12.5	13.2	9.1	9.4	12.0
Average time in robot (mm:ss/milking)	6:25	5:57	5:59	6:00	6:33	5:42	6:32	7:11	5:23	6:05	5:57	7:07
Average milk flow (kg milk/min in robot)	1.3	1.9	1.9	1.9	1.2	2.0	1.1	1.8	2.6	1.6	1.6	1.9

Table 6: Robot performance information

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5	Farm 6	Farm 7	Farm 8	Farm 9	Farm 10	Farm 11	Farm 12
Milking events (number/robot/day)	122	157	98	132	88	101	97	133	1195	144	118	126
Milking time (hours/robot/day)	13:12	19:29	11:24	12:41	11:33	10:22	10:07	15:20	13:41	17:47	12:12	14:30
Milk harvested (kg/robot/day)	1,112	1,853	1,209	1,386	775	1,128	595	1,617	15,775	1,276	1,141	1,486
Incomplete milkings (%)	5%	8%	9%	6%	16%	5%	7%	3%	8%	5%	4%	2%

Table 7: Animal health

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5	Farm 6	Farm 7	Farm 8	Farm 9	Farm 10	Farm 11	Farm 12
Lameness (cows detected or treated)	3	0	1	1	2	2	0	0	0	0	0	3
Mastitis (cows detected or treated)	12	0	3	12	3	3	1	6	9	21	0	4
Lameness (cases every 100 cows)	1.6	0.0	0.7	0.7	0.8	1.4	0.0	0.0	0.0	0.0	0.0	2.1
Mastitis (cases every 100 cows)	6.4	0.0	2.1	7.9	1.2	2.2	0.6	3.8	1.5	7.6	0.0	2.8

For updates go to www.dpi.nsw.gov.au/agriculture/livestock/dairy-cattle/robotic-milking-systems

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