

# AMS KPI Project - General farm information – Australian Farms

March 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, 13:00 (feedpad) & 19:00	1:30, 7:30, 11:00, 13:00 & 18:00	8:00, 14:00 & 23:00	Barn with free cow traffic	03:00, 13:00 & 19:00	4:00, 12:00 & 20:00	2:30, 10:00 & 17:30	9:30, 14:30 & 16:00	4:00, 10:30, 16:45 & 19:00	7:30, 15:30 (feedpad) & 22:30	01:00, 09:00 & 15:00	4:00, 12:00 & 20:00

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 (#)	167	199	159	130	263	113	180	162	427	253	198	158
Heifers (%)	34%	3%	36%	38%	31%	12%	29%	39%	12%	21%	31%	11%
Animals that calved (#)	15	0	8	22	17	3	33	20	7	26	0	34
Farm stocking rate (milking cows/ha)	3.0	3.3	1.6	3.3	2.6	2.6	2.0	3.2	2.7	3.9	1.8	2.0
Robot stocking rate (milking cows/robot)	56	66	53	43	44	38	45	54	427	63	50	53
DIM (#)	160	202	225	186	255	179	164	190	229	155	280	185

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)	2,910	4,755	4,150	3,292	4,275	2,935	2,481	4,596	10,531	4,613	3,424	3,759
Fat (%)	4.03	4.99	4.59	3.45	-	4.2	4.92	4.1	4.3	4.05	4.93	3.7
Protein (%)	3.21	3.62	3.31	3.5	-	3.16	3.63	3.2	3.95	3.15	3.72	3.4
Somatic cell count (x 1000)	353	233	155	187	-	144	207	159	141	211	158	160

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)	17.3	21.4	25.6	25.1	16.6	25.3	15.4	25.8	24.8	17.6	16.3	26.4
Daily milk production cows (kg/cow/day)	18.8	21.5	27.8	24.5	17.5	26.2	16.0	27.9	25.7	18.0	17.2	26.8
Daily milk production heifers (kg/cow/day)	14.2	16.0	21.8	26.1	14.6	19.1	14.1	22.3	18.5	16.4	14.2	23.5
Daily milk production heifers:cows (%)	76%	74%	78%	107%	83%	73%	88%	80%	72%	91%	83%	88%
Milking frequency herd (#/cow/day)	2.0	2.2	2.0	2.4	2.3	2.6	2.2	2.5	2.0	2.0	2.0	2.5
Milking frequency cows (#/cow/day)	2.1	2.2	2.0	2.3	2.4	2.7	2.3	2.5	2.0	1.9	2.0	2.5
Milking frequency heifers (#/cow/day)	1.8	2.2	2.1	2.5	2.0	2.4	2.1	2.5	2.0	2.2	1.9	2.4
Concentrate ration (kg/cow/day)	7.3	7.5	8.5	2.4	5.8	8.9	4.1	7.5	8.9	5.2	7.3	7.1
Concentrate intake (kg/cow/day)	6.1	7.0	7.9	2.3	4.7	8.1	3.4	7.2	8.4	3.8	6.8	6.6

**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)	8.8	9.7	12.5	10.8	7.5	9.5	6.9	10.3	12.4	8.9	8.2	10.6
Average time in robot (mm:ss/milking)	6:57	5:40	5:56	6:19	6:14	5:21	7:35	6:13	5:04	5:45	5:46	6:57
Average milk flow (kg milk/min in robot)	1.4	1.7	2.0	1.8	1.1	1.8	1.2	1.6	2.6	1.5	1.6	1.6

**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)	115	145	109	107	98	94	103	146	839	132	101	121
Milking time (hours/robot/day)	13:32	16:54	12:43	10:30	12:47	9:41	11:08	16:32	8:59	16:08	10:04	13:36
Milk harvested (kg/robot/day)	970	1,585	1,383	1,097	712	959	620	1,532	10,531	1,153	855	1,259
Incomplete milkings (%)	10%	10%	5%	11%	18%	3%	9%	6%	5%	7%	3%	3%

**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)	5	0	0	2	-	1	0	3	1	5	0	1
Mastitis (cows detected or treated)	10	3	3	4	-	4	2	4	7	22	0	4
Lameness (cases every 100 cows)	3.0	0.0	0.0	1.5	-	0.9	0.0	1.9	0.2	2.0	0.0	0.6
Mastitis (cases every 100 cows)	6.0	1.5	1.9	3.1	-	3.5	1.1	2.5	1.6	8.7	0.0	2.5

For updates go to [www.dpi.nsw.gov.au/agriculture/livestock/dairy-cattle/robotic-milking-systems](http://www.dpi.nsw.gov.au/agriculture/livestock/dairy-cattle/robotic-milking-systems)

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