

AMS KPI Project - General farm information – Australian Farms

April 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	7:00, 13:00 & 19:00	1:00, 7:30, 11:00, 17:00 & 23:00 (feedpad)	8:30, 14:30 & 23:30	Barn with free cow traffic	-	4:00, 12:00 & 20:00	2:30, 10:00 & 17:30	2:30, 10:30 & 16:00	4:00, 10:30, 16:45 & 19:00	7:30, 14:00 (feedpad) & 20:00	1:00, 9:00 & 16:00	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 (#)	172	220	156	120	268	122	196	176	529	268	198	170
Heifers (%)	35%	8%	38%	42%	33%	11%	27%	35%	17%	22%	31%	8%
Animals that calved (#)	21	0	7	21	14	19	18	1	117	37	7	31
Farm stocking rate (milking cows/ha)	3.1	3.7	1.6	3.0	2.7	2.8	2.2	3.5	3.4	4.1	1.8	2.1
Robot stocking rate (milking cows/robot)	57	73	52	40	45	41	49	59	529	67	50	57
DIM (#)	160	231	240	145	255	179	176	209	201	151	295	160

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)	2,935	4,391	3,864	3,668	4,174	3,149	2,742	4,157	11,797	4,577	3,167	4,198
Fat (%)	-	4.92	4.64	3.3	-	4.41	5.21	4.05	4.5	3.5	4.84	4.46
Protein (%)	-	3.82	3.37	3.5	-	3.22	3.71	3.35	4	3.33	3.92	3.42
Somatic cell count (x 1000)	-	207	188	195	-	292	238	203	146	213	290	269

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)	17.9	20.0	24.4	31.1	15.3	26.2	14.7	24.7	22.9	17.4	16.0	25.5
Daily milk production cows (kg/cow/day)	19.9	20.6	26.3	32.2	16.1	27.2	15.5	24.7	23.9	17.7	16.6	25.7
Daily milk production heifers (kg/cow/day)	14.3	13.8	21.4	29.5	13.8	18.1	12.5	24.7	18.3	16.3	14.7	22.8
Daily milk production heifers:cows (%)	72%	67%	81%	92%	86%	66%	81%	100%	76%	92%	88%	89%
Milking frequency herd (#/cow/day)	2.0	2.0	2.2	2.5	1.8	2.3	2.0	2.3	2.0	2.0	1.9	2.3
Milking frequency cows (#/cow/day)	2.1	2.0	2.1	2.4	1.9	2.4	2.0	2.2	2.0	2.0	1.9	2.3
Milking frequency heifers (#/cow/day)	1.7	1.8	2.2	2.6	1.7	2.0	1.8	2.5	2.0	2.1	1.9	2.5
Concentrate ration (kg/cow/day)	6.8	7.5	8.2	2.5	6.1	9.7	4.6	7.1	8.6	5.1	7.1	7.2
Concentrate intake (kg/cow/day)	5.7	6.7	7.5	2.4	3.7	8.3	4.0	6.2	7.7	3.9	6.5	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)	9.1	10.4	11.3	12.6	8.5	11.3	7.4	10.8	11.2	8.5	8.4	10.9
Average time in robot (mm:ss/milking)	6:12	5:32	5:53	6:42	6:35	5:34	6:25	7:21	5:02	6:24	5:42	8:02
Average milk flow (kg milk/min in robot)	1.4	1.7	1.8	2.0	1.1	1.7	1.0	1.7	2.3	1.5	1.6	1.7

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)	114	151	107	109	93	103	101	135	1027	132	93	133
Milking time (hours/robot/day)	13:27	17:14	12:24	11:44	12:33	10:04	11:37	15:54	12:03	16:39	9:01	15:55
Milk harvested (kg/robot/day)	978	1,464	1,288	1,223	696	1,049	691	1,390	11,797	1,144	792	1,399
Incomplete milkings (%)	7%	9%	6%	9%	26%	4%	8%	6%	8%	6%	7%	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)	-	0	2	3	-	0	1	4	1	4	0	1
Mastitis (cows detected or treated)	-	6	3	4	-	5	4	5	10	17	1	3
Lameness (cases every 100 cows)	-	0.0	1.3	2.5	-	0.0	0.5	2.3	0.2	1.5	0.0	0.6
Mastitis (cases every 100 cows)	-	2.7	1.9	3.3	-	4.1	2.0	2.8	1.9	6.3	0.5	1.8

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

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