

AMS KPI Project - General farm information – Australian Farms

December 2016

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	8:00, 15:00 (feedpad) & 23:00	1:00, 7:30, 11:00 & 18:00	0:00; 8:00 (feedpad), 9:00, 15:00 (feedpad) & 16:00	Barn with free cow traffic	3:00; 13:00 & 21:00	4:00, 13:30 & 21:00	2:30, 10:00 & 17:30	2:30, 9:30 & 16:00	4:30, 11:00, 16:45 & 20:00	0:00, 8:00 & 15:30 (feedpad)	3:00, 9:00 & 16:00	6:00, 14:00 & 22:00

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 (#)	192	213	137	154	259	120	173	157	587	281	259	169
Heifers (%)	32%	3%	33%	32%	21%	13%	16%	25%	14%	20%	26%	9%
Animals that calved (#)	17	0	1	9	13	1	0	0	0	25	2	0
Farm stocking rate (milking cows/ha)	3.5	3.6	1.4	3.9	2.6	2.8	1.9	3.1	3.7	4.3	2.3	2.1
Robot stocking rate (milking cows/robot)	64	71	46	51	43	40	43	52	587	70	65	56
DIM (#)	165	116	214	215	264	188	174	234	175	164	247	205

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)	3,568	5,967	3,799	5,002	5,049	3,689	3,145	5,015	17,357	5,439	5,749	5,014
Fat (%)	3.89	3.9	4.27	3.8	-	4.01	4.58	3.65	3.8	3.81	3.96	3.74
Protein (%)	3.1	3.3	3.26	3.2	-	2.98	3.48	3.2	3.55	3.08	3.28	3.2
Somatic cell count (x 1000)	270	252	197	177	-	142	180	136	132	197	203	155

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)	18.5	26.5	27.0	32.3	18.4	28.6	16.5	31.8	29.7	19.0	20.6	27.2
Daily milk production cows (kg/cow/day)	19.6	26.7	28.6	33.0	19.6	29.3	17.0	34.0	31.0	19.3	21.9	27.8
Daily milk production heifers (kg/cow/day)	16.1	17.7	23.9	30.7	13.8	23.8	14.0	25.6	22.1	17.9	16.8	21.9
Daily milk production heifers:cows (%)	82%	66%	84%	93%	70%	81%	83%	75%	71%	93%	77%	79%
Milking frequency herd (#/cow/day)	1.9	2.1	2.2	2.9	2.1	2.5	2.3	2.4	2.1	2.1	1.9	2.3
Milking frequency cows (#/cow/day)	2.0	2.1	2.2	2.9	2.1	2.5	2.3	2.4	2.1	2.1	1.9	2.3
Milking frequency heifers (#/cow/day)	1.8	1.9	2.2	3.0	1.8	2.4	2.2	2.4	2.2	2.1	1.8	2.0
Concentrate ration (kg/cow/day)	5.0	7.3	9.2	4.8	6.2	10.9	3.5	8.1	8.7	5.6	7.9	6.7
Concentrate intake (kg/cow/day)	4.3	6.6	8.8	4.8	5.3	9.2	3.1	7.2	8.3	3.7	7.6	6.0

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)	9.7	12.5	12.5	11.4	8.8	11.5	7.2	13.5	14.1	9.0	11.0	12.1
Average time in robot (mm:ss/milking)	5:50	6:25	6:08	5:42	6:58	6:13	5:55	7:29	5:36	6:07	5:58	6:28
Average milk flow (kg milk/min in robot)	1.5	1.9	2.0	2.0	1.2	2.1	1.1	1.9	2.7	1.6	1.7	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)	126	153	101	154	84	104	112	130	1229	142	128	141
Milking time (hours/robot/day)	13:37	19:41	12:04	14:59	11:34	11:07	12:23	15:13	13:41	18:08	13:57	16:09
Milk harvested (kg/robot/day)	1,189	1,989	1,266	1,667	841	1,243	793	1,671	17,357	1,360	1,436	1,659
Incomplete milkings (%)	7%	7%	8%	5%	18%	5%	6%	1%	8%	8%	5%	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)	1	0	0	2	-	1	0	0	2	1	2	2
Mastitis (cows detected or treated)	8	4	3	2	-	3	1	3	11	22	1	1
Lameness (cases every 100 cows)	0.5	0.0	0.0	1.3	0.0	0.8	0.0	0.0	0.3	0.4	0.8	1.2
Mastitis (cases every 100 cows)	4.2	1.9	2.2	1.3	0.0	2.5	0.6	1.9	1.9	7.8	0.4	0.6

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

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