

AMS KPI Project - General farm information – Australian Farms

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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	5:00, 13:00 & 20:00	1:00, 10:00, 17:00 & 23:00 (feedpad)	8:30, 15:00 & 23:30	Barn with free cow traffic	-	4:00, 12:00 & 18:00	2:30, 10:00 & 17:30	0:30, 9:00 & 15:00	4:00, 11:00, 16:45 & 19:00	7:30 (feedpad), 14:00 (feedpad) & 22:00	1:00, 9:00 & 16:00	6:00, 14:30 & 22:30

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 (#)	182	216	150	118	267	125	180	109	569	276	244	137
Heifers (%)	32%	13%	40%	44%	36%	10%	28%	22%	17%	25%	27%	10%
Animals that calved (#)	25	0	0	20	6	14	4	0	62	39	68	9
Farm stocking rate (milking cows/ha)	3.3	3.6	1.5	3.0	2.7	2.9	2.0	2.2	3.6	4.2	2.2	1.7
Robot stocking rate (milking cows/robot)	61	72	50	39	45	42	45	36	569	69	61	46
DIM (#)	156	261	262	118	272	181	195	285	201	140	220	145

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)	3,098	3,902	3,761	3,945	4,156	3,221	2,451	3,391	12,646	4,557	3,863	4,053
Fat (%)	-	5.13	4.39	3.3	-	4.16	4.94	4.75	4.6	4.42	4.79	4.3
Protein (%)	-	3.94	3.47	3.35	-	3.25	3.69	3.55	4	3.42	3.66	3.2
Somatic cell count (x 1000)	-	205	212	215	-	145	162	167	131	246	419	190

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)	18.8	16.4	24.9	33.5	15.1	28.4	12.1	18.5	22.2	18.9	18.2	25.7
Daily milk production cows (kg/cow/day)	20.8	17.2	26.2	35.7	16.0	29.5	13.0	18.9	22.8	19.3	20.0	26.3
Daily milk production heifers (kg/cow/day)	14.7	10.6	22.9	30.6	13.3	18.7	9.6	17.1	19.8	17.6	13.4	20.1
Daily milk production heifers:cows (%)	70%	62%	87%	86%	83%	63%	74%	90%	87%	91%	67%	76%
Milking frequency herd (#/cow/day)	2.0	1.8	2.1	2.6	1.9	2.6	1.9	2.4	2.0	2.1	1.9	2.2
Milking frequency cows (#/cow/day)	2.1	1.8	2.0	2.6	2.1	2.6	1.9	2.4	1.9	2.0	2.0	2.3
Milking frequency heifers (#/cow/day)	1.8	1.5	2.1	2.6	1.7	2.0	1.7	2.3	2.1	2.2	1.8	2.0
Concentrate ration (kg/cow/day)	6.7	7.5	8.2	2.5	6.1	8.9	5.1	7.5	8.7	5.0	6.8	8.2
Concentrate intake (kg/cow/day)	6.0	6.1	7.6	2.5	4.2	7.9	4.0	7.0	7.7	3.9	6.0	6.9

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)	9.2	9.5	12.1	13.2	7.8	11.0	6.3	7.8	11.3	9.3	9.3	11.7
Average time in robot (mm:ss/milking)	6:11	5:44	5:52	7:01	6:27	6:15	6:37	6:39	5:02	6:07	6:02	7:40
Average milk flow (kg milk/min in robot)	1.4	1.5	1.9	2.1	1.1	2.1	0.9	1.5	2.3	1.6	1.6	1.5

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)	116	112	107	109	87	98	94	122	1102	128	115	120
Milking time (hours/robot/day)	13:20	14:16	12:23	12:13	11:15	9:51	11:28	13:51	12:21	15:46	11:14	15:08
Milk harvested (kg/robot/day)	1,032	1,301	1,254	1,315	693	1,073	613	1,130	12,646	1,139	965	1,329
Incomplete milkings (%)	4%	12%	4%	5%	28%	3%	9%	4%	12%	5%	6%	5%

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	2	-	0	0	3	2	1	2	0
Mastitis (cows detected or treated)	-	0	1	6	-	7	2	6	5	23	3	3
Lameness (cases every 100 cows)	-	0.0	1.3	1.7	-	0.0	0.0	2.8	0.4	0.4	0.8	0.0
Mastitis (cases every 100 cows)	-	0.0	0.7	5.1	-	5.6	1.1	5.5	0.9	8.3	1.2	2.2

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

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