

AMS KPI Project - General farm information – Australian Farms

September 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	4:00, 12:00 & 19:00	0:00 (Feedpad), 1:00, 7:30, 11:00 & 18:00	8:30, 14:30 (Feedpad), 16:30 & 23:00	Barn with free cow traffic	2:00, 12:00 & 18:00	4:00, 13:30 & 20:00	1:30, 9:00 & 16:30	2:30, 9:00 & 16:30	3:00, 10:45, 16:45 & 20:00	2:00, 10:00 & 15:30	1:00, 10:00 & 16:00	6:00, 12:30 & 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 (#)	201	176	138	183	248	156	179	150	596	284	245	185
Heifers (%)	20%	3%	30%	37%	15%	10%	15%	30%	14%	13%	25%	11%
Animals that calved (#)	23	84	24	8	20	34	28	26	127	19	54	35
Farm stocking rate (milking cows/ha)	3.7	2.9	1.4	4.6	2.5	3.6	2.0	3.0	3.8	4.4	2.2	2.3
Robot stocking rate (milking cows/robot)	67	59	46	61	41	52	45	50	596	71	61	62
DIM (#)	161	33	178	175	256	179	90	199	87	157	174	137

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)	4,486	4,289	3,624	6,682	4,897	4,038	3,237	3,556	18,636	5,710	4,695	5,023
Fat (%)	3.95	3.69	3.95	3.3	-	3.87	4.23	3.65	4.05	4	3.85	3.77
Protein (%)	3.21	3.33	3.45	3.27	-	3.3	3.29	3.3	3.4	3.09	3.29	3.27
Somatic cell count (x 1000)	150	183	143	140		155	164	189	118	154	193	141

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)	22.4	29.7	27.6	36.2	20.6	28.3	20.2	27.5	32.5	20.2	21.5	32.3
Daily milk production cows (kg/cow/day)	23.6	29.9	29.2	39.4	21.7	29.0	21.0	29.3	34.0	21.0	23.4	33.2
Daily milk production heifers (kg/cow/day)	17.7	21.9	23.8	30.8	14.7	22.3	15.5	23.4	22.8	15.0	15.9	25.4
Daily milk production heifers:cows (%)	75%	73%	81%	78%	68%	77%	74%	80%	67%	71%	68%	77%
Milking frequency herd (#/cow/day)	2.1	2.2	2.1	2.4	2.0	2.2	2.3	2.4	2.1	2.0	1.9	2.2
Milking frequency cows (#/cow/day)	2.2	2.2	2.1	2.5	2.0	2.2	2.3	2.3	2.1	2.0	1.9	2.2
Milking frequency heifers (#/cow/day)	1.9	1.9	2.1	2.3	1.8	2.2	2.0	2.5	2.2	1.8	1.8	1.9
Concentrate ration (kg/cow/day)	6.0	8.2	7.7	4.3	6.2	7.8	3.9	7.7	8.1	5.8	7.4	8.3
Concentrate intake (kg/cow/day)	5.6	7.0	6.2	4.2	4.9	7.1	3.2	7.4	7.9	4.1	6.4	7.2

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)	10.6	13.8	13.3	15.2	10.4	12.7	8.8	11.6	15.2	10.2	11.5	14.8
Average time in robot (mm:ss/milking)	6:13	7:01	6:52	6:42	7:25	6:41	7:50	6:25	5:53	6:14	6:36	7:57
Average milk flow (kg milk/min in robot)	1.5	1.8	1.9	2.3	1.3	2.1	1.2	1.6	2.7	1.7	1.9	2.0

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)	144	113	88	151	90	111	99	107	1213	141	103	123
Milking time (hours/robot/day)	16:51	16:16	11:25	17:31	13:11	12:00	12:27	11:47	12:53	17:44	11:36	16:28
Milk harvested (kg/robot/day)	1,496	1430	1,208	2,227	816	1,344	809	1,136	18,636	1,428	1,171	1,723
Incomplete milkings (%)	7%	6%	6%	7%	12%	3%	9%	2%	7%	9%	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)	0	2	1	2	-	5	0	0	5	0	2	5
Mastitis (cows detected or treated)	3	5	2	15	-	6	4	3	21	10	7	3
Lameness (cases every 100 cows)	0.0	1.1	0.7	1.1	-	3.2	0.0	0.0	0.8	0.0	0.8	2.7
Mastitis (cases every 100 cows)	1.5	2.8	1.4	8.2	-	3.8	2.2	2.0	3.5	3.5	2.9	1.6

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

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