

AMS KPI Project - General farm information – Australian Farms

October 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	1:00, 7:30, 11:00 & 18:00	8:30, 15:00 (Feedpad), 16:00 & 23:00	Barn with free cow traffic	2:00; 12:00 & 18:00	4:00, 14:00 & 20:00	2:30, 10:00 & 17:30	2:30, 10:30 & 16:00	4:00, 11:00, 16:45 & 20:00	2:00, 10:00, 15:30, 17:00 (FeedPad)	1:00, 11:30 & 18:00	6:00, 13:00 & 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 (#)	204	206	155	163	255	153	177	152	602	285	256	192
Heifers (%)	26%	3%	32%	30%	15%	10%	15%	28%	14%	15%	24%	11%
Animals that calved (#)	23	27	14	7	10	4	5	12	0	25	3	7
Farm stocking rate (milking cows/ha)	3.7	3.4	1.6	4.1	2.6	3.6	2.0	3.0	3.8	4.4	2.3	2.4
Robot stocking rate (milking cows/robot)	68	69	52	54	43	51	44	51	602	71	64	64
DIM (#)	161	58	188	185	268	198	117	201	117	158	193	166

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)	4,246	5578	4,171	6,204	2,709	4,433	3,763	4,217	19,334	5,452	5,571	6,214
Fat (%)	4.1	3	3.93	3.5	4.15	3.57	4.41	3.6	3.7	4.07	3.76	3.58
Protein (%)	3.25	3	3.35	3.15	3.42	3.2	3.35	3.3	3.45	3.07	3.74	3.23
Somatic cell count (x 1000)	172	259	197	165	354	101	175	145	138	165	214	145

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)	21.5	28	29.0	36.3	21.0	30.1	21.2	28.5	32.3	19.0	24.5	32.2
Daily milk production cows (kg/cow/day)	22.8	29	30.4	38.9	22.1	30.5	22.1	31.1	33.8	19.5	26.3	33.1
Daily milk production heifers (kg/cow/day)	17.9	18	26.1	30.2	15.0	27.1	16.3	21.6	23.3	16.1	19.0	24.4
Daily milk production heifers:cows (%)	79%	1	86%	78%	68%	89%	74%	69%	69%	82%	72%	74%
Milking frequency herd (#/cow/day)	2.2	2	2.1	2.9	2.4	2.3	2.5	2.2	2.2	2.0	1.9	2.2
Milking frequency cows (#/cow/day)	2.3	2	2.1	3.0	2.4	2.3	2.6	2.3	2.2	2.1	2.0	2.2
Milking frequency heifers (#/cow/day)	2.0	2	2.1	2.8	2.0	2.3	2.3	2.2	2.3	1.9	1.7	1.8
Concentrate ration (kg/cow/day)	5.9	8	7.6	4.3	6.1	10.7	4.0	9.3	8.2	5.5	7.5	7.0
Concentrate intake (kg/cow/day)	5.1	7	7.2	4.2	5.0	9.3	3.7	7.4	7.9	4.0	6.6	6.3

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	14	13.7	12.6	9.0	13.1	8.5	12.9	14.9	9.2	12.7	14.9
Average time in robot (mm:ss/milking)	5:56	0	6:42	6:01	7:27	6:26	6:34	7:19	5:55	6:31	6:39	6:59
Average milk flow (kg milk/min in robot)	1.3	2	2.0	1.9	1.2	2.0	1.2	2.0	2.8	1.6	2.0	1.8

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)	139	133	101	160	46	116	106	118	1303	145	115	140
Milking time (hours/robot/day)	15:53	19:25	12:51	17:42	6:40	12:49	14:05	13:50	14:24	18:10	12:53	18:30
Milk harvested (kg/robot/day)	1,416	1859	1,390	2,068	452	1,476	941	1,406	19,334	1,363	1,392	2,065
Incomplete milkings (%)	5%	9%	6%	7%	12%	4%	7%	2%	7%	8%	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	0	2	2	1	4	0	0	2	0	2	3
Mastitis (cows detected or treated)	5	2	2	4	3	4	4	4	16	12	3	6
Lameness (cases every 100 cows)	0.0	0.0	1.3	1.2	0.4	2.6	0.0	0.0	0.3	0.0	0.8	1.6
Mastitis (cases every 100 cows)	2.5	1.0	1.3	2.5	1.2	2.6	2.3	2.6	2.7	4.2	1.2	3.1

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

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