AMS KPI Project - General farm information – Australian Farms

June 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	5:00, 13:00 (feedpad) & 20:00	1:00, 10:00, 17:00 & 23:00 (feedpad)	8:30, 15:00 & 23:30 (plus feedpad)	Barn with free cow traffic	-	4:00, 12:00 & 18:00	2:30, 10:00 & 17:30	0:30, 9:30 & 15:00	Semi batch (1:30 & 12:30)	6:30, 14:30 (feedpad) & 20:30	1:00, 8:00 & 14:00	7:00, 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 (#)	180	160	131	120	265	82	109	78	346	290	259	110
Heifers (%)	31%	10%	40%	43%	36%	2%	38%	21%	23%	24%	24%	11%
Animals that calved (#)	14	0	0	5	10	3	0	0	2	29	27	0
Farm stocking rate (milking cows/ha)	3.3	2.7	1.3	3.0	2.7	1.9	1.21	1.6	2.20	4.5	2.3	1.4
Robot stocking rate (milking cows/robot)	60	53	44	40	44	27	27	26	346	73	65	37
DIM (#)	162	258	268	138	269	146	159	313	169	150	213	147

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)	3,483	1,207	3,625	4,103	3,798	3,203	1,872	2,226	7,589	5,400	5,135	3284
Fat (%)	4.23	5.05	4.52	3.4	-	3.91	5.17	4.45	4.15	4.46	4.14	4
Protein (%)	3.27	3.85	3.53	3.3	-	3.28	3.66	3.6	3.6	3.28	3.42	3
Somatic cell count (x 1000)	208	205	160	204	-	83	226	159	97	160	289	172

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)	19.3	16.9	26.7	32.7	14.0	34.0	14.0	21.3	24.3	19.1	21.7	27.3
Daily milk production cows (kg/cow/day)	21.5	17.4	27.5	35.2	14.9	34.4	16.1	21.5	25.4	19.9	23.2	28.1
Daily milk production heifers (kg/cow/day)	14.3	12.5	25.7	29.3	12.4	18.3	10.4	20.4	20.9	16.7	16.8	20.4
Daily milk production heifers:cows (%)	66%	72%	93%	83%	83%	53%	65%	95%	82%	84%	72%	73%
Milking frequency herd (#/cow/day)	1.9	1.7	2.2	3.0	1.9	2.6	1.9	2.5	2.1	1.9	2.0	2.2
Milking frequency cows (#/cow/day)	2.0	1.8	2.1	3.0	1.9	2.6	2.0	2.4	2.1	1.9	2.1	2.2
Milking frequency heifers (#/cow/day)	1.6	1.6	2.4	3.0	1.7	2.0	1.7	2.6	2.3	2.0	1.9	2.0
Concentrate ration (kg/cow/day)	6.6	7.4	8.6	2.5	6.1	9.7	5.1	7.5	7.7	5.3	7.6	8.8
Concentrate intake (kg/cow/day)	5.7	6.1	8.1	2.5	4.8	10.2	4.5	6.9	8.8	3.4	6.6	7.7

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)	9.9	10.1	12.3	11.0	7.6	13.1	7.3	8.9	11.2	9.9	10.6	12.7
Average time in robot (mm:ss/milking)	7:01	5:53	6:08	7:04	6:20	6:19	8:48	6:15	5:14	6:17	6:05	8:14
Average milk flow (kg milk/min in robot)	1.4	1.6	1.9	1.8	1.0	2.1	0.9	1.2	2.2	1.6	1.7	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)	118	41	96	122	86	88	70	85	614	140	123	95
Milking time (hours/robot/day)	14:08	4:51	11:25	12:57	11:10	9:27	9:06	9:17	4:34	17:42	13:09	12:52
Milk harvested (kg/robot/day)	1,161	402	1,208	1,368	633	1,067	468	742	7,589	1,350	1,281	1,095
Incomplete milkings (%)	6%	6%	4%	5%	27%	1%	10%	4%	9%	5%	4%	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)	2	0	1	1	-	0	1	2	1	1	1	2
Mastitis (cows detected or treated)	10	0	0	4	-	5	7	4	4	15	3	2
Lameness (cases every 100 cows)	1.1	0.0	0.8	0.8	-	0.0	0.9	2.6	0.3	0.3	0.4	1.8
Mastitis (cases every 100 cows)	5.6	0.0	0.0	3.3	-	6.1	6.4	5.1	1.2	5.2	1.2	1.8

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