

International AMS KPI Project - Average farm information

December 2016

The First International Automatic Milking Systems' KPI Project provides the International Dairy Industry community 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.

A total of 19 farms are being monitored: 12 from Australia, 2 from New Zealand, 4 from Ireland and 1 from Chile.

Table 1: Herd information

| | ALL AMS Farms | | | Australian AMS Farms | New Zealand AMS Farms | Irish AMS Farms | Chilean AMS Farm |
|--|---------------|---------|---------|----------------------|-----------------------|-----------------|------------------|
| | Minimum | Average | Maximum | | | | |
| Cows in milk (#) | 38 | 190 | 587 | 225 | 208 | 59 | 256 |
| Heifers (%) | 3% | 22% | 38% | 20% | 30% | 19% | 33% |
| Animals that calved (#) | 0 | 4 | 25 | 6 | 0 | 3 | 1 |
| Farm stocking rate (milking cows/ha) | 1.2 | 2.5 | 4.3 | 2.9 | 1.6 | 1.8 | 2.6 |
| Robot stocking rate (milking cows/robot) | 19 | 52 | 74 | 55 | 70 | 31 | 64 |
| DIM (#) | 116 | 211 | 331 | 197 | 164 | 271 | 235 |

Table 2: Daily milk production and quality

| | ALL AMS Farms | | | Australian AMS Farms | New Zealand AMS Farms | Irish AMS Farms | Chilean AMS Farm |
|--------------------------------|---------------|---------|---------|----------------------|-----------------------|-----------------|------------------|
| | Minimum | Average | Maximum | | | | |
| Daily milk production (kg/day) | 597 | 4,707 | 17,357 | 5,733 | 6,018 | 1,213 | 3,746 |
| Fat (%) | 3.7 | 4.2 | 5.5 | 3.9 | 4.2 | 4.8 | 4.75 |
| Protein (%) | 3.0 | 3.4 | 4.0 | 3.2 | 3.6 | 3.7 | 3.74 |
| Somatic cell count (x 1000) | 56 | 172 | 280 | 186 | 182 | 144 | 115 |

Table 3: Daily milk information

| | ALL AMS Farms | | | Australian AMS Farms | New Zealand AMS Farms | Irish AMS Farms | Chilean AMS Farm |
|--|---------------|---------|---------|----------------------|-----------------------|-----------------|------------------|
| | Minimum | Average | Maximum | | | | |
| Daily milk production herd (kg/cow/day) | 13.0 | 23.0 | 32.3 | 24.7 | 26.4 | 18.5 | 14.4 |
| Daily milk production cows (kg/cow/day) | 14.4 | 24.7 | 34.3 | 25.6 | 28.5 | 21.1 | 15.7 |
| Daily milk production heifers (kg/cow/day) | 11.7 | 19.4 | 30.7 | 20.3 | 21.3 | 16.9 | 11.7 |
| Daily milk production heifers: cows (%) | 66% | 79% | 93% | 79% | 73% | 81% | 75% |
| Milking frequency herd (#/cow/day) | 1.7 | 2.2 | 2.9 | 2.2 | 1.8 | 2.4 | 2.3 |
| Milking frequency cows (#/cow/day) | 1.8 | 2.2 | 2.9 | 2.2 | 1.9 | 2.5 | 2.4 |
| Milking frequency heifers (#/cow/day) | 1.3 | 2.2 | 3.0 | 2.1 | 1.6 | 2.6 | 2.2 |
| Concentrate ration (kg/cow/day) | 0.2 | 5.7 | 10.9 | 7.0 | 2.3 | 4.3 | 3.0 |
| Concentrate intake (kg/cow/day) | 0.2 | 5.1 | 9.2 | 6.2 | 2.0 | 4.0 | 2.7 |

Table 4: Milking cow information

| | ALL AMS Farms | | | Australian AMS Farms | New Zealand AMS Farms | Irish AMS Farms | Chilean AMS Farm |
|--|---------------|---------|---------|----------------------|-----------------------|-----------------|------------------|
| | Minimum | Average | Maximum | | | | |
| Milk production (kg/cow/milking) | 6.2 | 10.5 | 16.3 | 11.1 | 14.4 | 7.7 | 6.2 |
| Average time in robot (mm:ss/milking) | 5:36 | 6:24 | 7:58 | 6:14 | 7:22 | 6:13 | 7:10 |
| Average milk flow (kg milk/min in robot) | 1.0 | 1.7 | 2.7 | 1.8 | 2.1 | 1.4 | 1.0 |

Table 5: Robot performance information

| | ALL AMS Farms | | | Australian AMS Farms | New Zealand AMS Farms | Irish AMS Farms | Chilean AMS Farm |
|-----------------------------------|---------------|---------|---------|----------------------|-----------------------|-----------------|------------------|
| | Minimum | Average | Maximum | | | | |
| Milking events (number/robot/day) | 45 | 117 | 154 | 125 | 131 | 79 | 154 |
| Milking time (hours/robot/day) | 4:38 | 13:40 | 19:41 | 14:27 | 16:36 | 8:39 | 19:31 |
| Milk harvested (kg/robot/day) | 298 | 1,245 | 2,160 | 1,374 | 1,929 | 627 | 936 |
| Incomplete milkings (%) | 1% | 6% | 18% | 6% | 2% | 4% | 13% |

Table 6: Animal health

| | ALL AMS Farms | | | Australian AMS Farms | New Zealand AMS Farms | Irish AMS Farms | Chilean AMS Farm |
|---------------------------------|---------------|---------|---------|----------------------|-----------------------|-----------------|------------------|
| | Minimum | Average | Maximum | | | | |
| Lameness (cases every 100 cows) | 0 | 1 | 2 | 0 | 1 | 1 | 0.0 |
| Mastitis (cases every 100 cows) | 0 | 2 | 8 | 2 | 0 | 1 | 0.0 |

Figure 1: International AMS KPI Project – Evolution

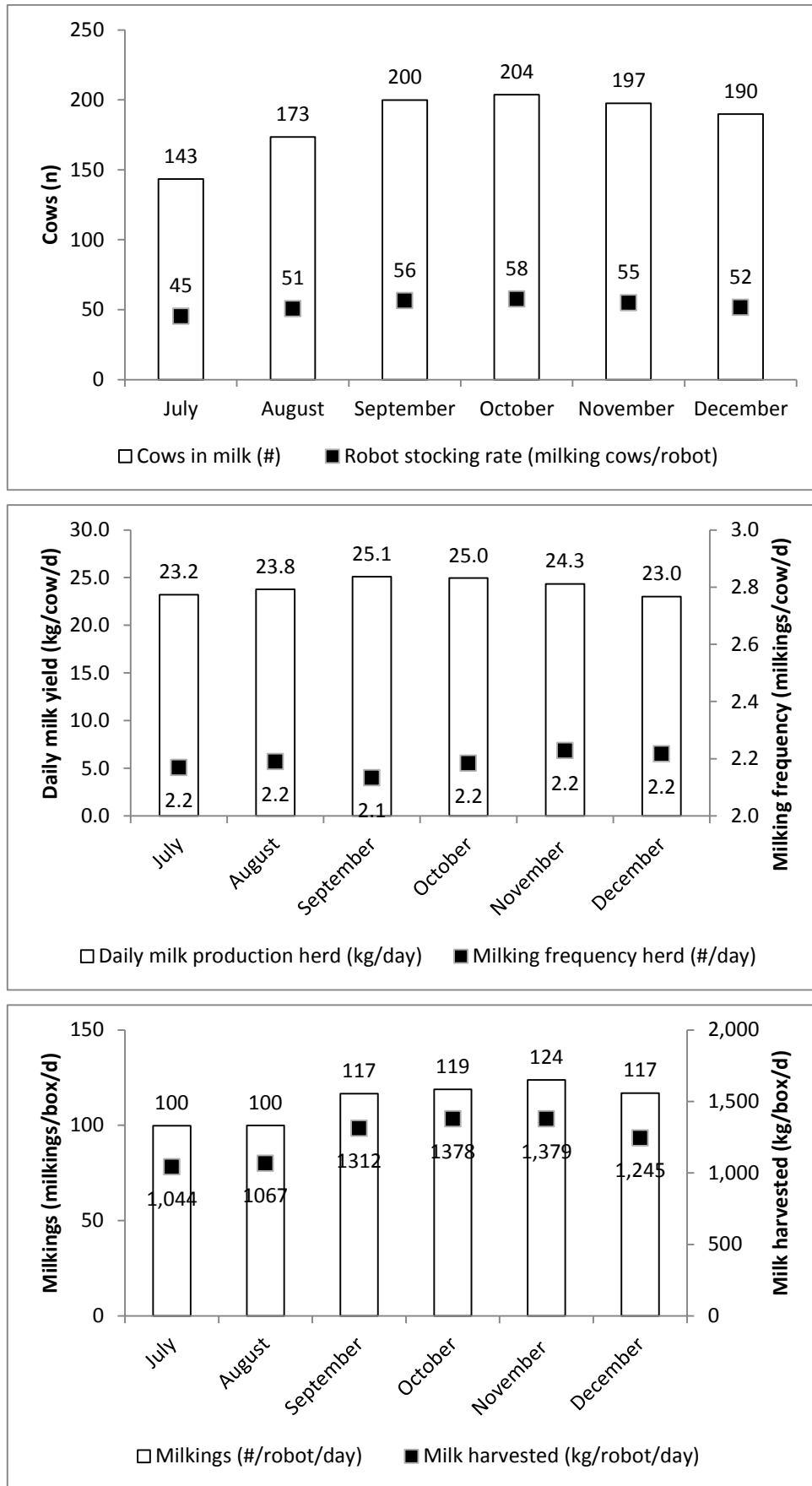


Figure 2: Herd information

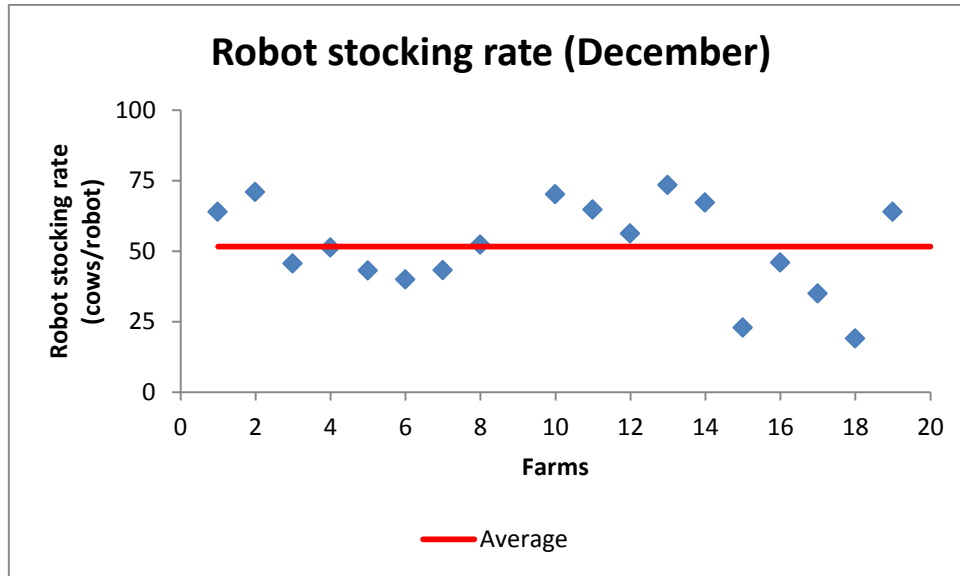


Figure 3: Daily milk information

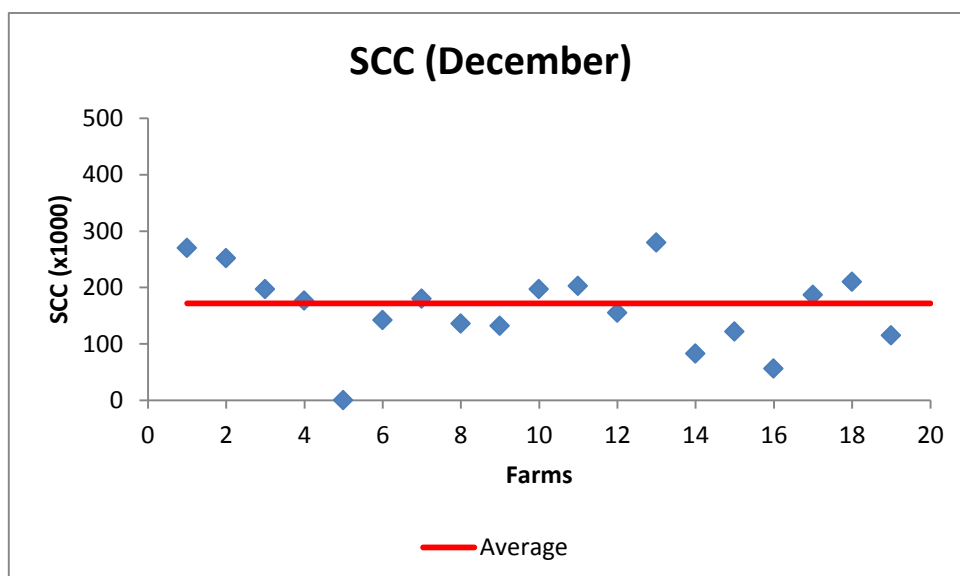
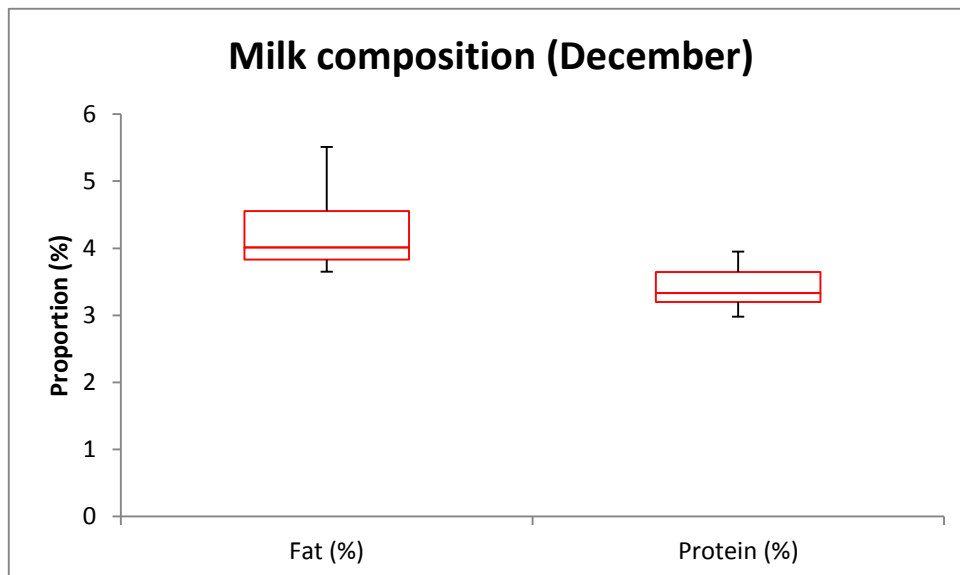
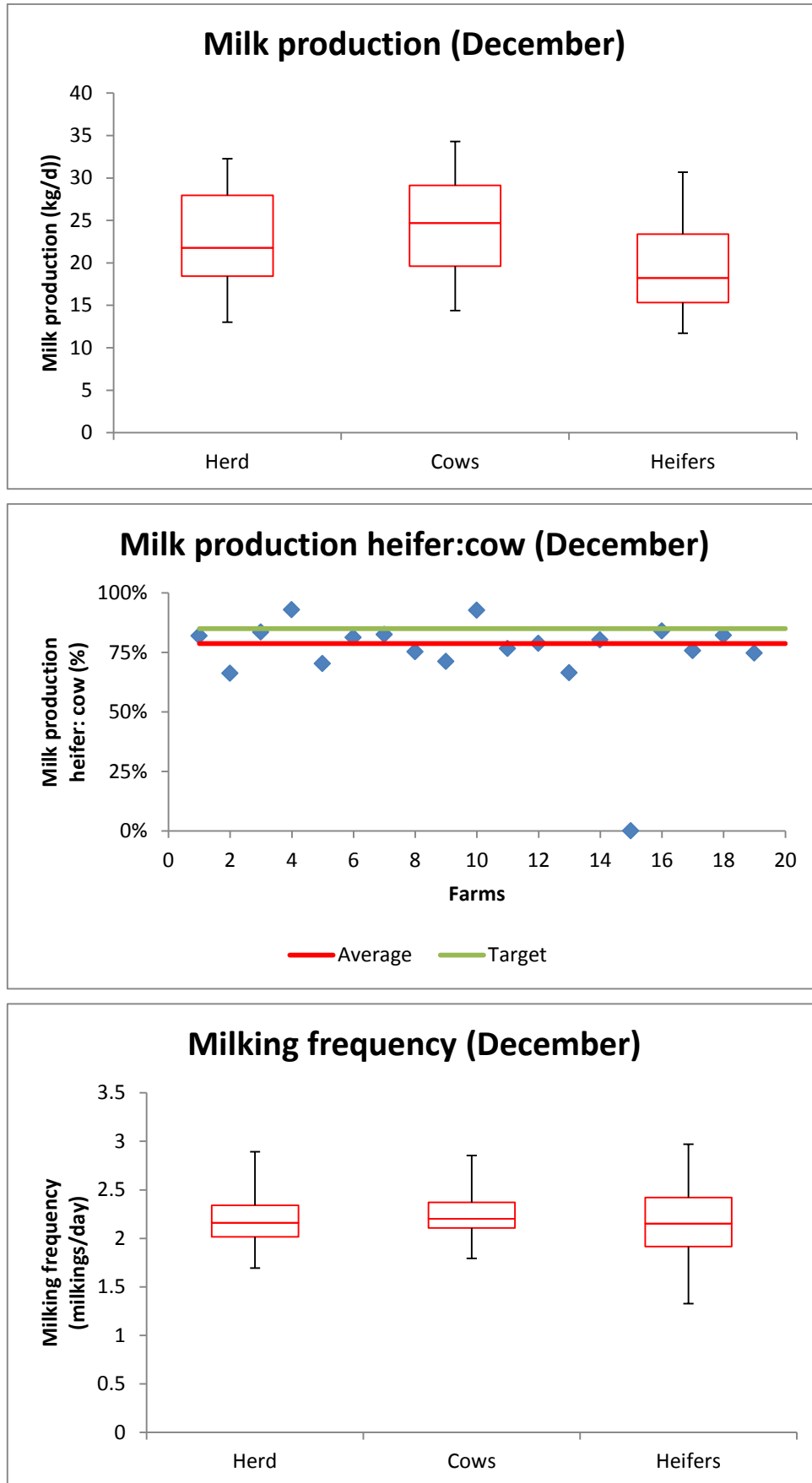


Figure 4: Daily cow information



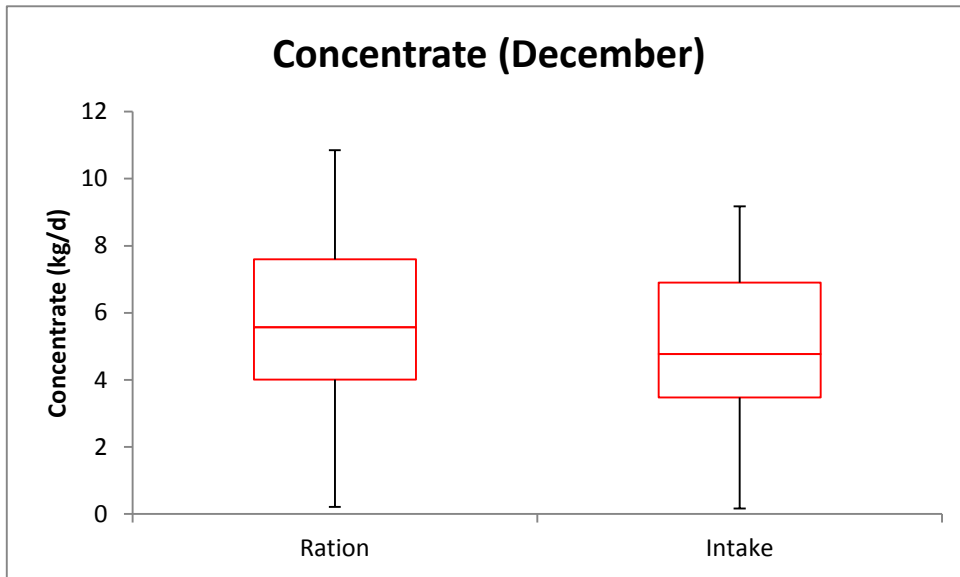
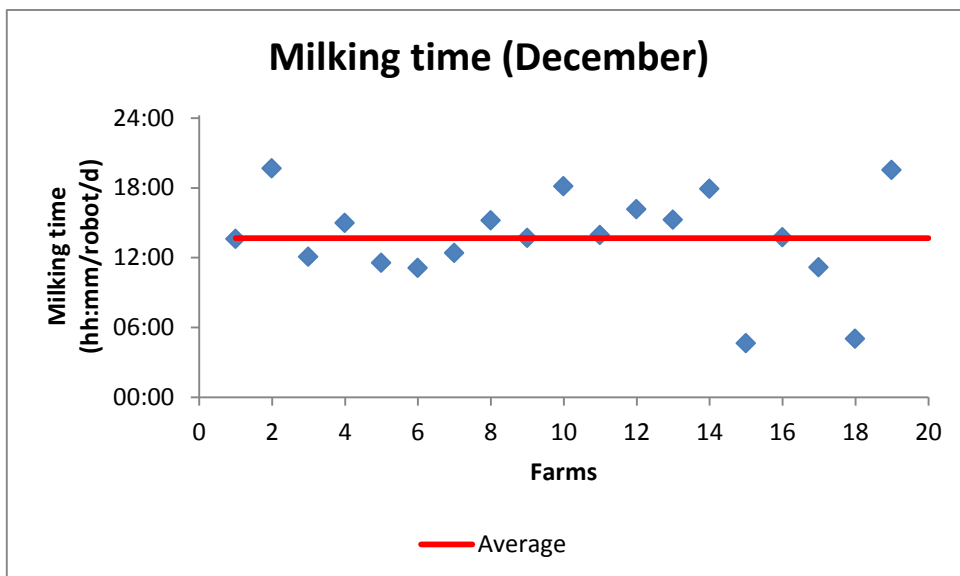
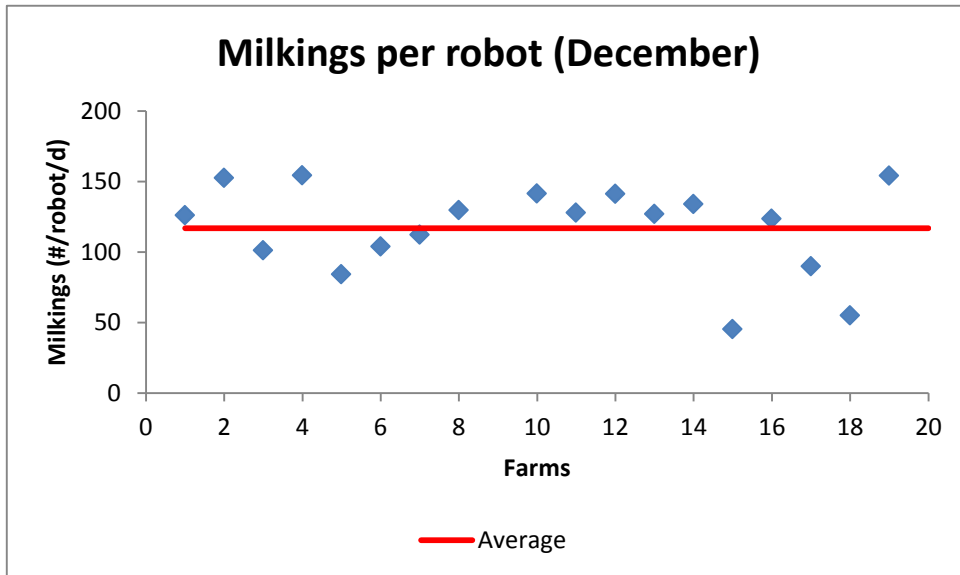
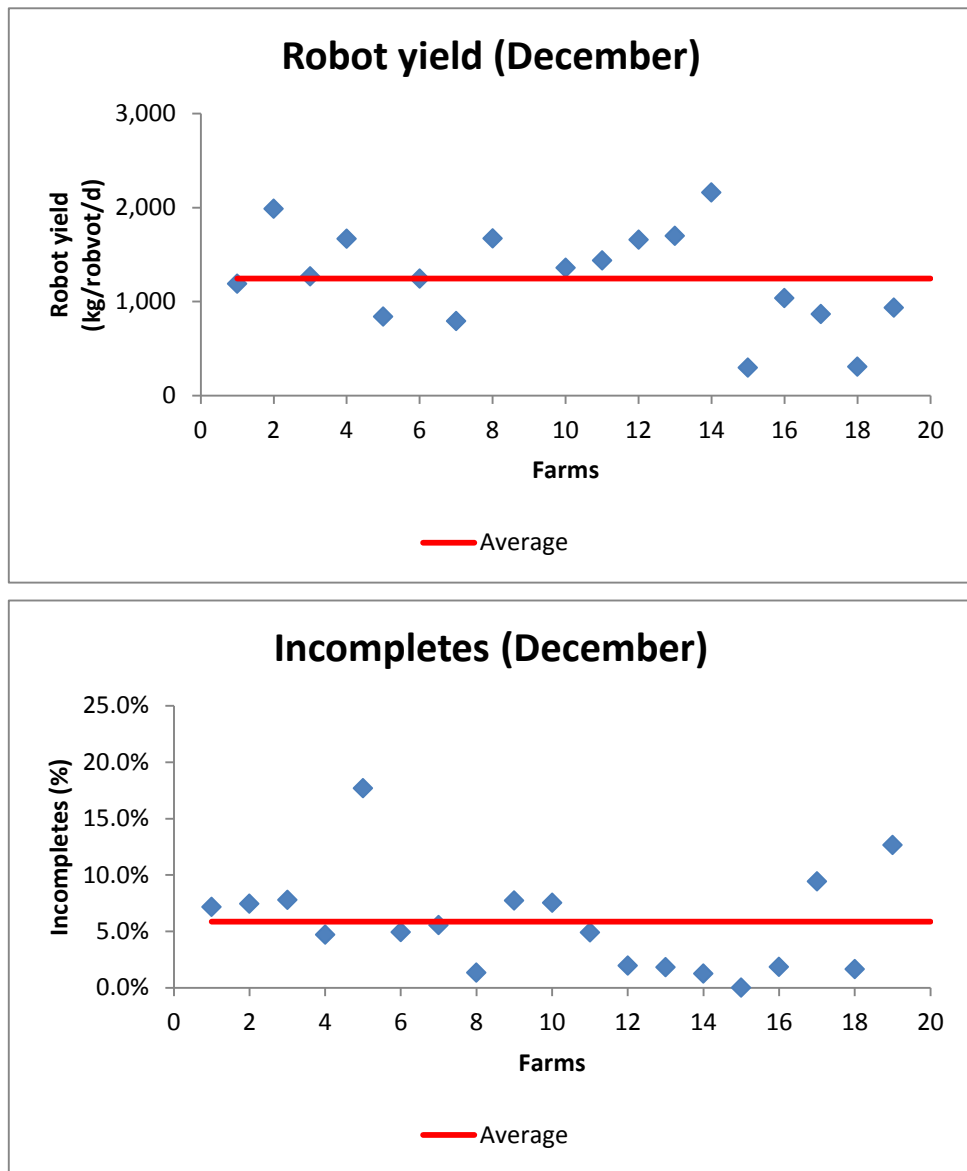


Figure 5: Robot performance





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

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