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## For the latest in red meat R&D

# Integrating Fixed Time AI Into Commercial Heifer Mating Programs

Enoch L Bergman DVM

Swans Veterinary Services

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# Integrating Fixed Time into Commercial Heifer Mating Programs

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SWANS Veterinary Services

asheep Esperance

# Partners in Research






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# MLA Producer Demonstration Site

- Integrating Fixed Time AI into Commercial Heifer Mating Programs
  - 50:50 Based on Last Digit of Ear Tag
  - 50% of Heifers Synchronized and AI'd on Mating Start Date
  - Other 50% of Heifers Exposed to Bulls on Mating Start Date
  - Heifers Boxed 10 Days After Mating Start Date
  - 15 Sites
  - Approximately 2450 Heifers Enrolled


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# Goals:

- Encourage the uptake of FTAI in Commercial Heifer Mating Programs
- Estimate the Cost of Integrating FTAI vs. Natural Mating
  - Capture FTAI Costs
  - Estimate Bull Costs
- Capture Differences in Outcomes and Estimate their Value
  - Conception Rate
  - Dystocia Rate
  - Calf and Heifer Mortality
  - Weaning Weights
  - Rebreeding Rates
- Estimate a Return On Investment (ROI) of Integrating FTAI into Commercial Heifer Mating Programs

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# Partners in Research
# AI Sires

- Landfall Leonardo L24
- KM Broken Bow 002
- Landfall Keystone K132
- Murdeduke Kicking K428
- Baldridge Command C036

- Ayrvale General G18

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# EBV Comparison

| Angus Sires | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Farm E** | **ABI** | **DOM** | **GRN** | **GRS** | **CE Dir** | **CE Dtrs** | **GL** | **BWT** | **200** | **400** | **600** | **MCW** | **Milk** | **DTC** | **SS** | **CWT** | **EMA** | **RIB** | **P8** | **RBY** | **IMF** |
| VLYK536 | 121 | 116 | 135 | 115 | 2.0 | 1.9 | -4.9 | 3.3 | 44 | 72 | 94 | 76 | 11 | -3.5 | 0.5 | 52 | 9.7 | -1.1 | -2.4 | 1.5 | 2.9 |
| VLYK921 | 130 | 122 | 147 | 123 | 3.3 | 2.5 | -5.8 | 2.3 | 48 | 83 | 109 | 101 | 15 | -3.1 | 0.9 | 60 | 9.2 | -1.3 | -2.6 | 1.7 | 2.8 |
| VLYL205 | 131 | 116 | 145 | 124 | 1.1 | 0.0 | -3.4 | 4.3 | 54 | 91 | 123 | 101 | 25 | -5.9 | 1.1 | 73 | 5.0 | -1.4 | -0.8 | 0.3 | 2.6 |
| VLYL447 | 134 | 115 | 148 | 125 | 3.6 | 1.1 | -4.8 | 2.3 | 44 | 80 | 107 | 88 | 22 | -8.4 | 1.5 | 66 | 6.3 | 1.5 | 1.2 | -0.5 | 2.8 |
| **Farm E Average** | **129** | **117** | **144** | **122** | **2.5** | **1.4** | **-4.7** | **3.1** | **48** | **82** | **108** | **92** | **18** | **-5.2** | **1.0** | **63** | **7.6** | **-0.6** | **-1.2** | **0.8** | **2.8** |
| Average Ranking % | 76% | 75% | 80% | 74% | 80% | 66% | 63% | 76% | 63% | 50% | 55% | 52% | 64% | 60% | 17% | 59% | 78% | 33% | 32% | 60% | 86% |
| Average Accuracy % | | | | | 54% | 47% | 85% | 71% | 69% | 71% | 69% | 67% | 61% | 41% | 70% | 61% | 61% | 62% | 62% | 58% | 58% |
| | | | | | | | | | | | | | | | | | | | | | |
| **Farm F** | **ABI** | **DOM** | **GRN** | **GRS** | **CE Dir** | **CE Dtrs** | **GL** | **BWT** | **200** | **400** | **600** | **MCW** | **Milk** | **DTC** | **SS** | **CWT** | **EMA** | **RIB** | **P8** | **RBY** | **IMF** |
| VLYL310 | 125 | 113 | 141 | 116 | 2.3 | -0.1 | -2 | 2.7 | 41 | 77 | 97 | 75 | 20 | -7.3 | 1.6 | 61 | 5.5 | 1.3 | 0.9 | -0.7 | 3.3 |
| VLYL392 | 131 | 120 | 147 | 121 | 2.4 | 0.2 | -4.7 | 2.7 | 45 | 83 | 106 | 87 | 22 | -6.2 | 1 | 70 | 7.3 | -0.6 | -1.5 | 0.9 | 2.8 |
| VLYL398 | 134 | 120 | 149 | 125 | 1.6 | -1.3 | -4.2 | 3.4 | 47 | 85 | 110 | 88 | 20 | -6.5 | 1.8 | 70 | 8.4 | 0.3 | -0.5 | 0.6 | 2.8 |
| VLYL443 | 136 | 119 | 157 | 125 | 2 | -0.2 | -2.9 | 3.6 | 47 | 86 | 117 | 98 | 20 | -6.1 | 1.9 | 71 | 6.6 | -1.2 | -2.6 | 1 | 2.8 |
| **Farm F Average** | **132** | **118** | **149** | **122** | **2.1** | **-0.4** | **-3.5** | **3.1** | **45** | **83** | **108** | **87** | **21** | **-6.5** | **1.6** | **68** | **7.0** | **-0.1** | **-0.9** | **0.5** | **2.9** |
| Average Ranking % | 81% | 77% | 84% | 74% | 77% | 34% | 41% | 77% | 51% | 55% | 53% | 43% | 90% | 87% | 40% | 76% | 78% | 48% | 35% | 52% | 89% |
| Average Accuracy % | | | | | 53% | 46% | 82% | 72% | 70% | 70% | 71% | 67% | 61% | 43% | 69% | 61% | 61% | 63% | 62% | 58% | 59% |
| | | | | | | | | | | | | | | | | | | | | | |
| **Farm G** | **ABI** | **DOM** | **GRN** | **GRS** | **CE Dir** | **CE Dtrs** | **GL** | **BWT** | **200** | **400** | **600** | **MCW** | **Milk** | **DTC** | **SS** | **CWT** | **EMA** | **RIB** | **P8** | **RBY** | **IMF** |
| WATL76 | 114 | 109 | 121 | 110 | 1.0 | -1.0 | -6.8 | 1.8 | 41 | 79 | 100 | 82 | 14 | -5.2 | 3.1 | 61 | 6.2 | 1.1 | -0.3 | 0.1 | 2.3 |
| WATL45 | 110 | 109 | 106 | 113 | 2.9 | 3.4 | -6.8 | 2.5 | 44 | 81 | 108 | 94 | 17 | -3.0 | 2.2 | 63 | 5.1 | -0.2 | -0.1 | 0.9 | 1.1 |
| WATL44 | 102 | 102 | 92 | 108 | 1.4 | 2.3 | -4.0 | 4.0 | 43 | 77 | 102 | 88 | 20 | -3.4 | 1.7 | 63 | 7.6 | 1.4 | 1.9 | 0.3 | 0.9 |
| WATL43 | 121 | 115 | 129 | 119 | 3.3 | 1.3 | -6.2 | 2.9 | 45 | 88 | 117 | 103 | 16 | -2.8 | 1.7 | 59 | 4.2 | -1.7 | -0.6 | 0.8 | 1.9 |
| WATL35 | 105 | 105 | 99 | 110 | 3.3 | 1.2 | -8.9 | 3.5 | 46 | 81 | 112 | 96 | 15 | -1.1 | 0.4 | 61 | 6.7 | -1.2 | -1.6 | 1.5 | 0.8 |
| WATL20 | 110 | 109 | 106 | 112 | 3.0 | 3.7 | -6.9 | 3.8 | 42 | 75 | 100 | 90 | 14 | -2.9 | 1.4 | 59 | 7.6 | -0.2 | 0.2 | 1.2 | 1.2 |
| WATL9 | 106 | 103 | 116 | 103 | 0.6 | -1.2 | -5.1 | 3.3 | 44 | 86 | 112 | 98 | 16 | -2.6 | 2.0 | 63 | 1.6 | -1.4 | -1.2 | -0.3 | 2.5 |
| WATK29 | 117 | 116 | 118 | 119 | 1.5 | 3.3 | -5.8 | 2.1 | 52 | 89 | 116 | 83 | 19 | -2.1 | 0.5 | 73 | 8.5 | 0.1 | -2.5 | 0.9 | 1.8 |
| WATK27 | 97 | 92 | 85 | 104 | 2.1 | 0.3 | -6.4 | 3.5 | 45 | 78 | 114 | 86 | 20 | -3.9 | 2.2 | 64 | 0.9 | 1.3 | 1.1 | -0.7 | 0.7 |
| **Farm G Average** | **109** | **107** | **108** | **111** | **2.1** | **1.5** | **-6.3** | **3.0** | **45** | **82** | **109** | **91** | **17** | **-3.0** | **1.7** | **63** | **5.4** | **-0.1** | **-0.3** | **0.5** | **1.5** |
| Average Ranking % | 36% | 41% | 34% | 42% | 74% | 61% | 82% | 77% | 48% | 49% | 55% | 50% | 62% | 27% | 43% | 57% | 54% | 47% | 47% | 52% | 44% |
| Average Accuracy % | | | | | 53% | 46% | 82% | 72% | 70% | 70% | 71% | 67% | 61% | 43% | 69% | 61% | 61% | 63% | 62% | 58% | 59% |
| | | | | | | | | | | | | | | | | | | | | | |
| **AI Sires 2017** | **ABI** | **DOM** | **GRN** | **GRS** | **CE Dir** | **CE Dtrs** | **GL** | **BWT** | **200** | **400** | **600** | **MCW** | **Milk** | **DTC** | **SS** | **CWT** | **EMA** | **RIB** | **P8** | **RBY** | **IMF** |
| HIOG18 General | 161 | 133 | 187 | 147 | 5.1 | 4.0 | -8.4 | 2.0 | 53 | 95 | 126 | 98 | 17 | -8.4 | 2.3 | 78 | 8.4 | 1.5 | 0.1 | -0.7 | 3.7 |
| TFAL24 Leonardo Landfall | 128 | 128 | 125 | 128 | 6.4 | 5.1 | -9.5 | -1.8 | 41 | 92 | 101 | 48 | 27 | -6.1 | 1.2 | 60 | 6.1 | 3.0 | 2.9 | -0.9 | 2.1 |
| USA16764044 Broken Bow | 123 | 120 | 124 | 124 | 3.2 | 4.6 | -5.9 | 0.9 | 55 | 90 | 117 | 99 | 17 | -2.3 | 1.2 | 67 | 7.7 | -0.3 | -0.6 | 0.7 | 2.0 |
| **2017 AI Sire Average** | **137** | **127** | **145** | **133** | **4.9** | **4.6** | **-7.9** | **0.4** | **50** | **92** | **115** | **82** | **20** | **-5.6** | **1.6** | **68** | **7.4** | **1.4** | **0.8** | **-0.3** | **2.6** |
| Average Ranking % | 80% | 92% | 70% | 89% | 96% | 99% | 92% | 97% | 71% | 83% | 67% | 45% | 78% | 66% | 38% | 73% | 83% | 76% | 65% | 25% | 75% |
| Average Accuracy % | | | | | 86% | 71% | 98% | 97% | 94% | 94% | 94% | 90% | 86% | 60% | 92% | 86% | 84% | 86% | 85% | 81% | 84% |

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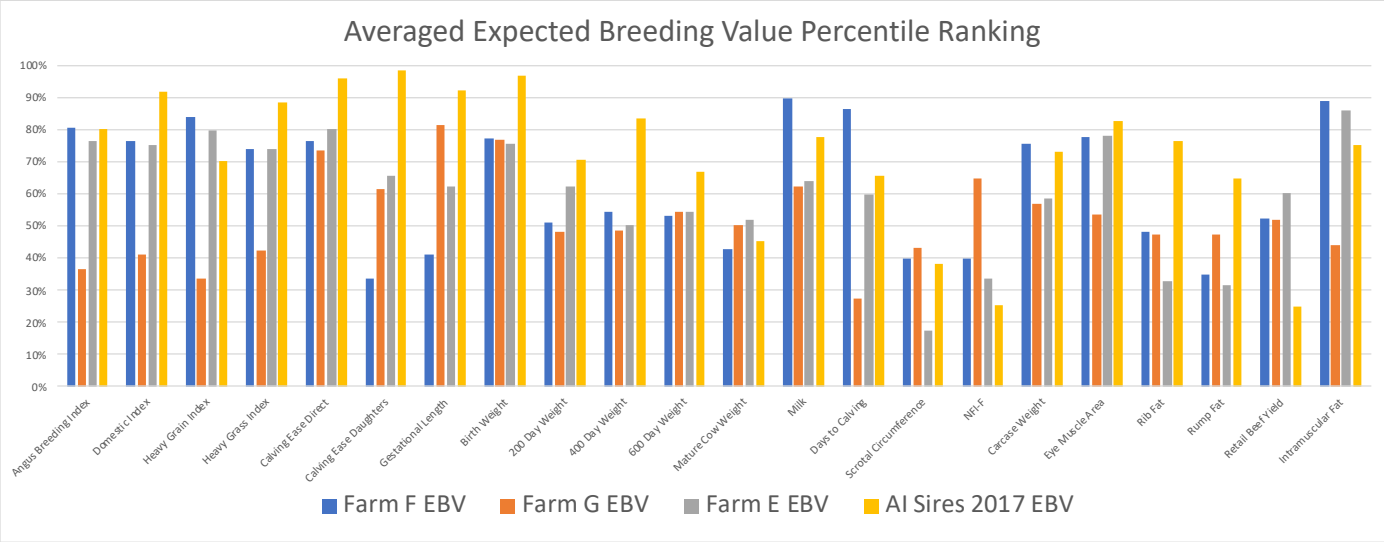
# EBV Comparison

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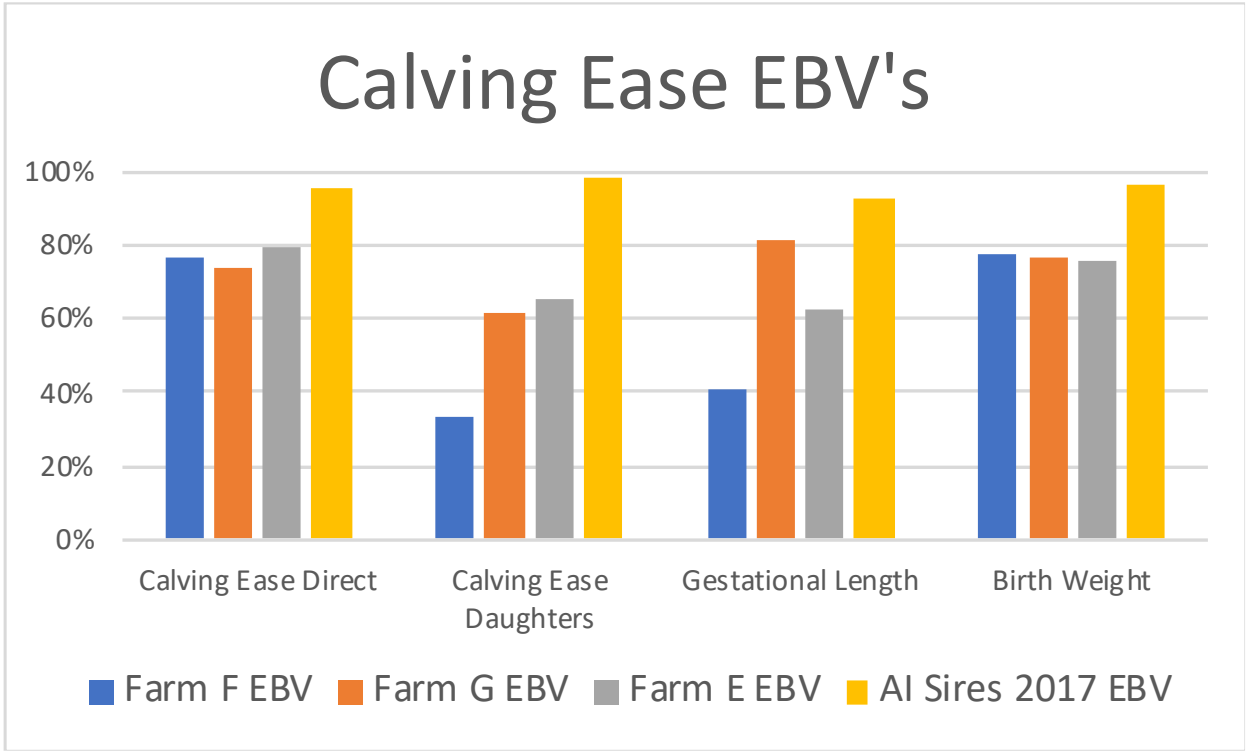
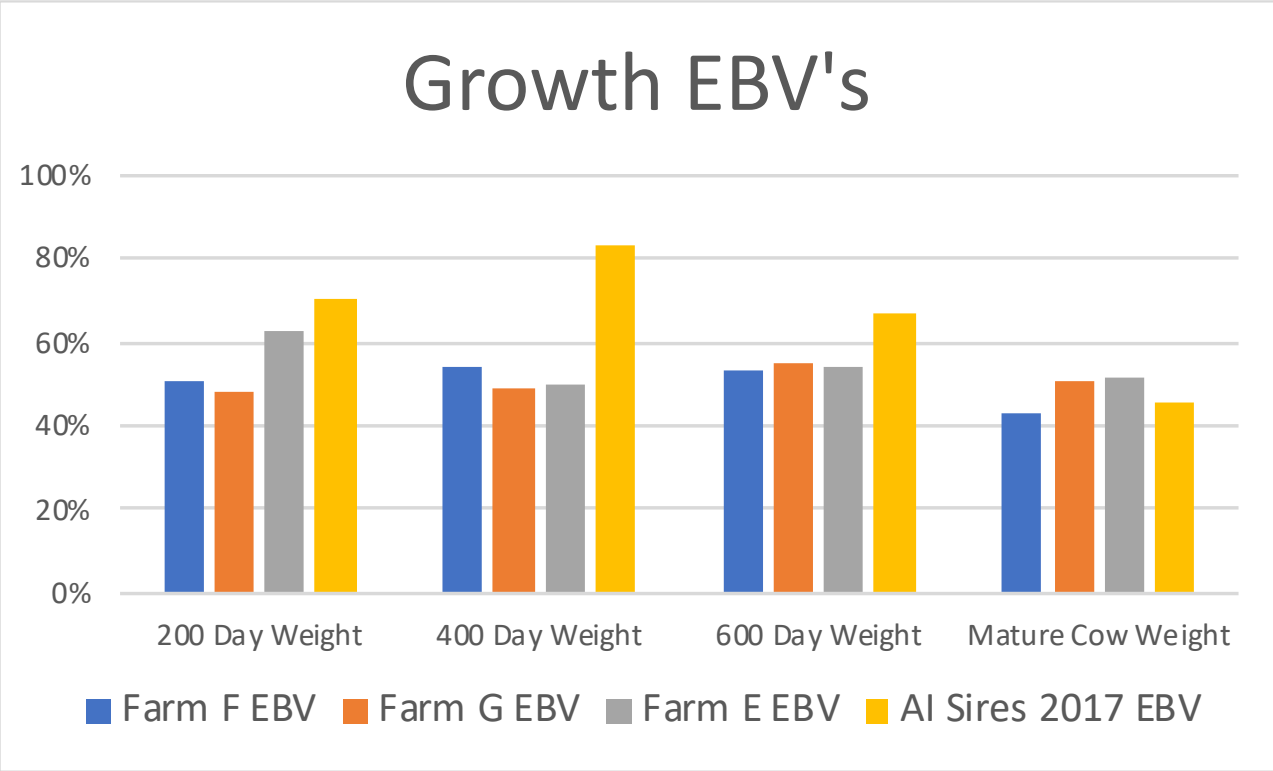
# EBV Percentile Rankings



# EBV Percentile Rankings

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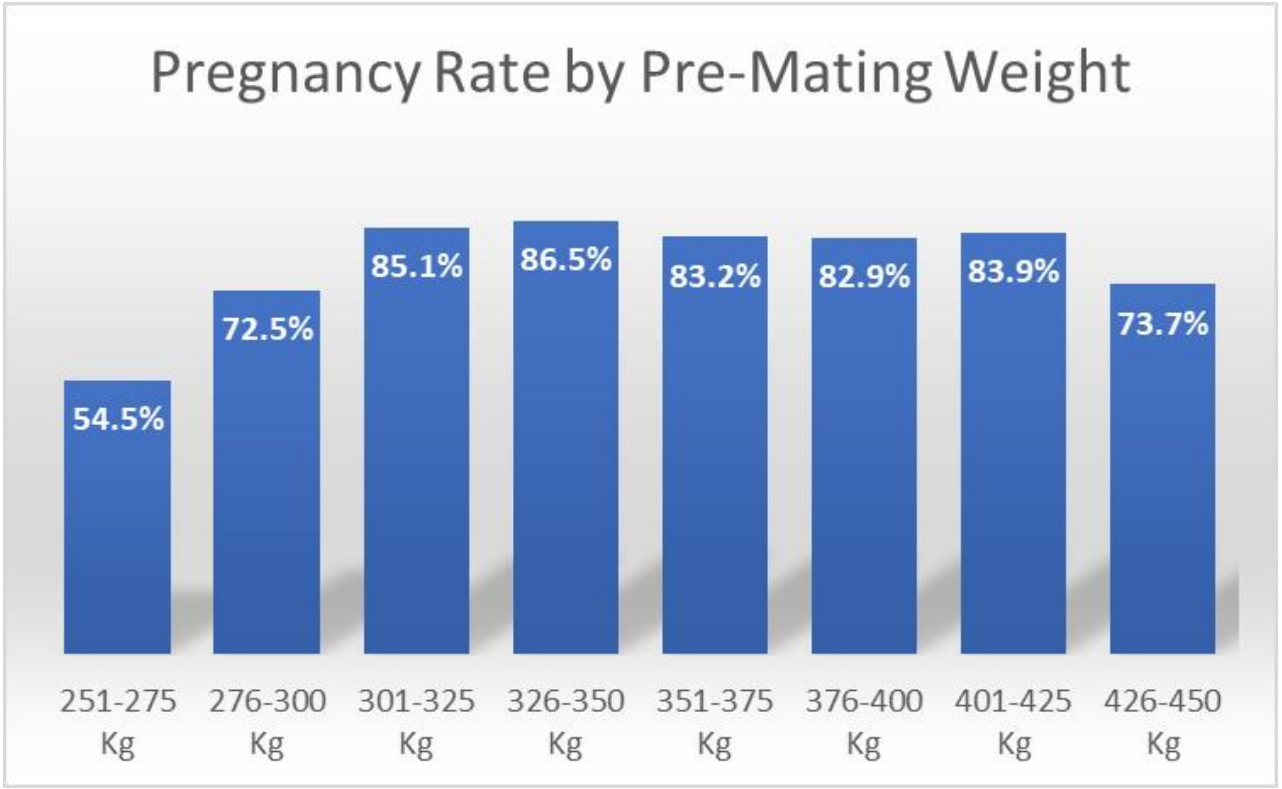
# Bull Mating Costs

- Estimated Bull Annual Purchase Costs = $1878
  - = $7634(Buy Price)-$2,000(Cull Value))/3(Expected Longevity)
- Estimated Bull Annual Running Opportunity Costs = $1476
  - = 1.5 cow/calf units x 82%(pregnancy rate in trial) x $4.00 (current price per kg for weaned calves) x 300kg (conservative weaning weight average for district)
- Estimated Bull Total Annual Costs = $3354
  - = $1878 (Annual Purchase Cost) + $1476 (Bull Running Cost)
- Estimated Bull's Cost per Heifer Mated= $100.62
  - = $3354 (Bull Total Annual Costs) x 3% (Joining Rate)

# Demonstrate Importance of Critical Mating Weights

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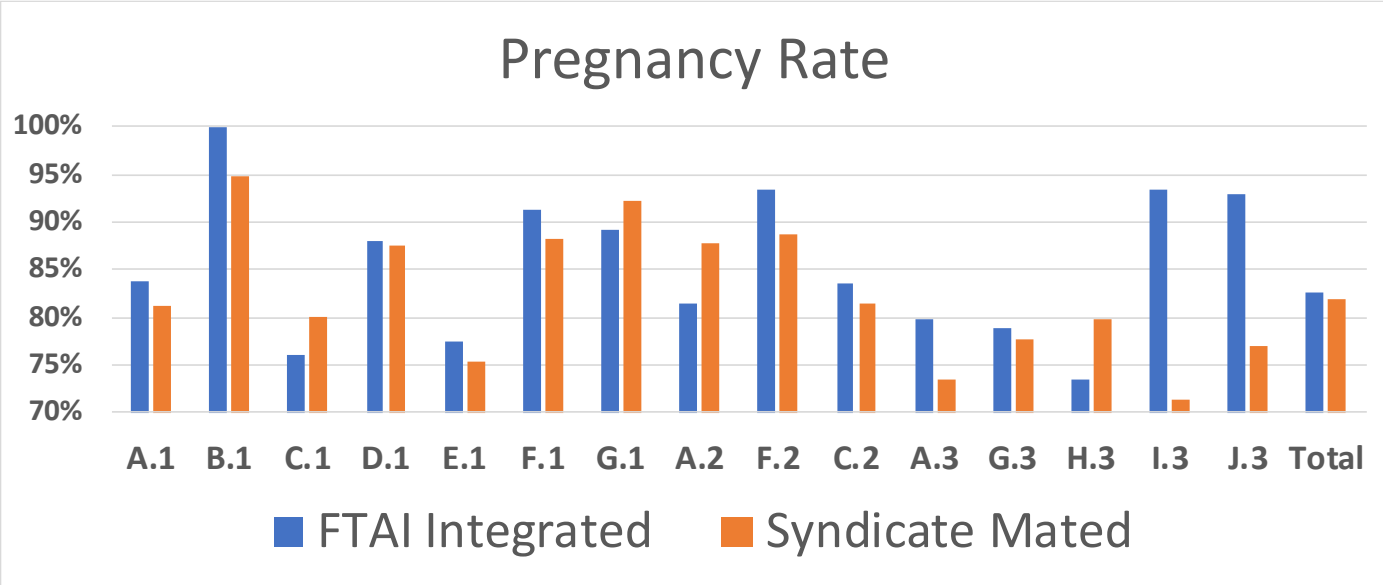


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# Pregnancy Rate

| | Integrated FTAI | | | Syndicate Mated | | | Difference | % Reduction in Empties |
|---|---|---|---|---|---|---|---|---|
| Farm | Preg Tested | Empty | % Empty | Preg Tested | Empty | % Empty | | |
| A.1 | 173 | 28 | 16.2% | 218 | 41 | 18.8% | 2.6% | 13.9% |
| B.1 | 19 | 0 | 0.0% | 19 | 1 | 5.3% | 5.3% | 100.0% |
| C.1 | 25 | 6 | 24.0% | 25 | 5 | 20.0% | -4.0% | -20.0% |
| D.1 | 25 | 3 | 12.0% | 24 | 3 | 12.5% | 0.5% | 4.0% |
| E.1 | 71 | 16 | 22.5% | 73 | 18 | 24.7% | 2.1% | 8.6% |
| F.1 | 58 | 5 | 8.6% | 51 | 6 | 11.8% | 3.1% | 26.7% |
| G.1 | 102 | 11 | 10.8% | 102 | 8 | 7.8% | -2.9% | -37.5% |
| A.2 | 177 | 33 | 18.6% | 173 | 21 | 12.1% | -6.5% | -53.6% |
| F.2 | 45 | 3 | 6.7% | 44 | 5 | 11.4% | 4.7% | 41.3% |
| G.2 | 85 | 14 | 16.5% | 86 | 16 | 18.6% | 2.1% | 11.5% |
| A.3 | 174 | 35 | 20.1% | 192 | 51 | 26.6% | 6.4% | 24.3% |
| G.3 | 118 | 25 | 21.2% | 99 | 22 | 22.2% | 1.0% | 4.7% |
| H.3 | 106 | 28 | 26.4% | 114 | 23 | 20.2% | -6.2% | -30.9% |
| I.3 | 15 | 1 | 6.7% | 7 | 2 | 28.6% | 21.9% | 76.7% |
| J.3 | 14 | 1 | 7.1% | 13 | 3 | 23.1% | 15.9% | 69.0% |
| Site Average | | | 14.5% | | | 17.6% | 3.1% | 17.5% |
| Combined Dataset | 1207 | 209 | 17.3% | 1240 | 225 | 18.1% | 0.8% | 4.6% |

# Year One Mating Costs Compared

| FTAI Integrated | Potential Heifers Mated | Trial Pregnancy Rate | Bull Requirements @ 2% | Total Annual Bull Costs | Bull Cost per Head Mated | AI Costs per Head Mated | FTAI Integrated Mating Cost per Heifer Mated | FTAI Integrated Mating Cost per Pregnancy | Cost Difference |
|---|---|---|---|---|---|---|---|---|---|
| A | 391 | 83.80% | 8 | $26,832.00 | $68.62 | $53.40 | $122.02 | $145.61 | $18.84 |
| B | 38 | 100.00% | 1 | $3,354.00 | $88.26 | $64.87 | $153.13 | $153.13 | $60.03 |
| C | 50 | 76.00% | 1 | $3,354.00 | $67.08 | $62.81 | $129.89 | $170.91 | $3.21 |
| D | 49 | 88.00% | 1 | $3,354.00 | $68.45 | $73.42 | $141.87 | $161.21 | $4.76 |
| E | 144 | 77.50% | 3 | $10,062.00 | $69.88 | $48.10 | $117.98 | $152.23 | $28.50 |
| F | 109 | 91.40% | 2 | $6,708.00 | $61.54 | $46.53 | $108.07 | $118.24 | $13.58 |
| G | 204 | 89.20% | 4 | $13,416.00 | $65.76 | $56.17 | $121.93 | $136.70 | $29.71 |
| Site Average | | | | | $69.94 | $57.90 | $127.84 | $148.29 | $22.66 |

| Syndicate Mated | Potential Heifers Mated | Trial Pregnancy Rate | Bull Requirements @ 3% | Total Annual Bull Costs | Bull Cost per Head Mated | AI Costs per Head Mated | Syndicate Mating Cost per Heifer Mated | Syndicate Mating Cost per Pregnancy | Cost Difference |
|---|---|---|---|---|---|---|---|---|---|
| A | 391 | 81.20% | 12 | $40,248.00 | $102.94 | $0.00 | $102.94 | $126.77 | -$18.84 |
| B | 38 | 94.80% | 1 | $3,354.00 | $88.26 | $0.00 | $88.26 | $93.10 | -$60.03 |
| C | 50 | 80.00% | 2 | $6,708.00 | $134.16 | $0.00 | $134.16 | $167.70 | -$3.21 |
| D | 49 | 87.50% | 2 | $6,708.00 | $136.90 | $0.00 | $136.90 | $156.45 | -$4.76 |
| E | 144 | 75.30% | 4 | $13,416.00 | $93.17 | $0.00 | $93.17 | $123.73 | -$28.50 |
| F | 109 | 88.20% | 3 | $10,062.00 | $92.31 | $0.00 | $92.31 | $104.66 | -$13.58 |
| G | 204 | 92.20% | 6 | $20,124.00 | $98.65 | $0.00 | $98.65 | $106.99 | -$29.71 |
| Site Average | | | | | $106.63 | $0.00 | $106.63 | $125.63 | -$22.66 |


# Let’s Play Ball!


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# Estimated Labour Costs

# Estimated Labour Costs

- Producer Group Survey
  - Estimated 40 Man Hours Including Mustering per 100 Cows Enrolled in FTAI
  - Estimated $30 per Hour
  - $1200.00 per 100 Head Estimated
  - $12 per 100 Head AI'd/Pregnancy Rate Per FTAI Group (82.7%)
    - $14.50 per Pregnancy


FTAI
INNING
NATURAL
$0
6
$37
BALL
STRIKE
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# Pregnancy Rate Value Difference

- Producer Group Survey
  - Estimated Pregnant Heifer $100 over Value of Empty Heifer
  - 0.8% Difference Favouring FTAI
  - $0.80 Difference


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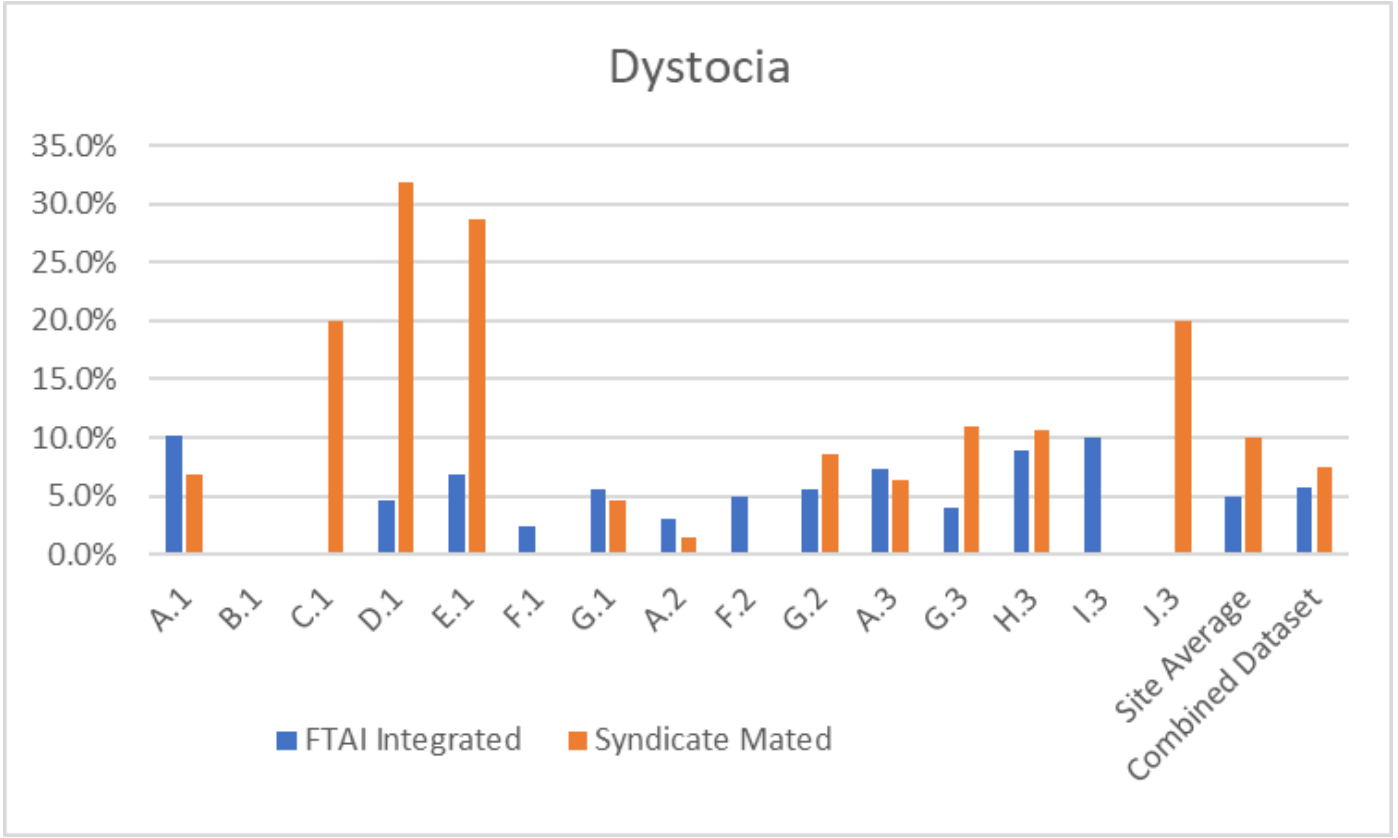


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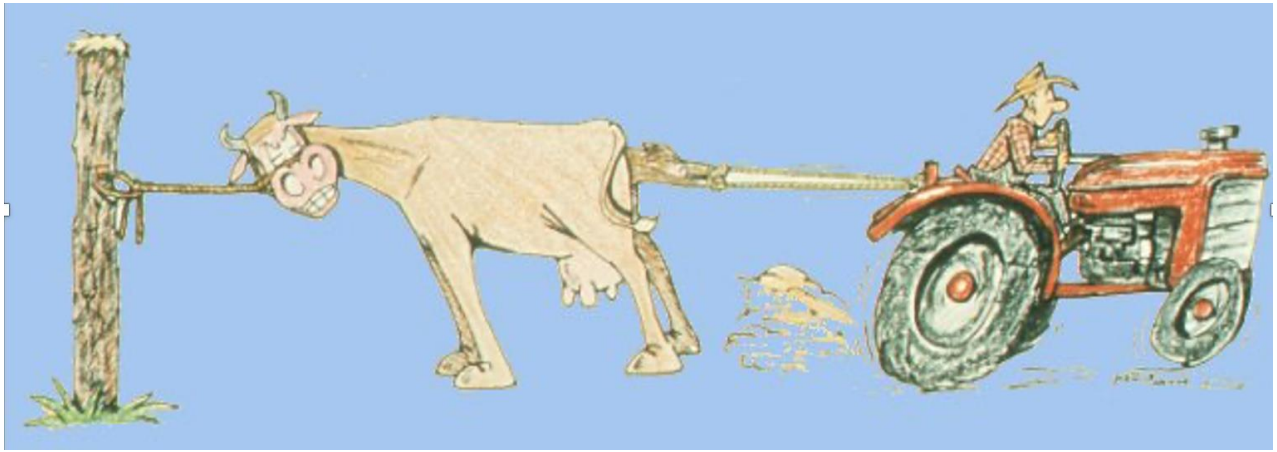
# Dystocia

| | Integrated FTAI | | | Syndicate Mated | | | Dystocia Reduction | Dystocia % Reduction |
|---|---|---|---|---|---|---|---|---|
| Farm | Observed Calvings | Dystocia | % Dystocia | Observed Calvings | Dystocia | % Dystocia | | |
| A.1 | 128 | 13 | 10.2% | 147 | 10 | 6.8% | -3.4% | -50.0% |
| B.1 | 19 | 0 | 0.0% | 18 | 0 | 0.0% | 0.0% | 0.0% |
| C.1 | 19 | 0 | 0.0% | 20 | 4 | 20.0% | 20.0% | 100.0% |
| D.1 | 22 | 1 | 4.6% | 22 | 7 | 31.8% | 27.2% | 85.5% |
| E.1 | 29 | 2 | 6.9% | 21 | 6 | 28.6% | 21.7% | 75.9% |
| F.1 | 42 | 1 | 2.4% | 31 | 0 | 0.0% | -2.4% | -100.0% |
| G.1 | 89 | 5 | 5.6% | 88 | 4 | 4.6% | -1.0% | -21.7% |
| A.2 | 131 | 4 | 3.1% | 135 | 2 | 1.5% | -1.6% | -106.7% |
| F.2 | 41 | 2 | 4.9% | 34 | 0 | 0.0% | -4.9% | -100.0% |
| G.2 | 73 | 4 | 5.5% | 70 | 6 | 8.6% | 3.1% | 36.0% |
| A.3 | 110 | 8 | 7.3% | 109 | 7 | 6.4% | -0.9% | -13.2% |
| G.3 | 76 | 3 | 3.9% | 55 | 6 | 10.9% | 7.0% | 63.8% |
| H.3 | 79 | 7 | 8.9% | 85 | 9 | 10.6% | 1.7% | 16.3% |
| I.3 | 10 | 1 | 10.0% | 4 | 0 | 0.0% | -10.0% | -100.0% |
| J.3 | 12 | 0 | 0.0% | 10 | 2 | 20.0% | 20.0% | 100.0% |
| Site Average | | | 4.9% | | | 10.0% | 5.1% | 51.1% |
| Combined Dataset | 880 | 51 | 5.80% | 849 | 63 | 7.42% | 1.63% | 21.9% |

# Dystocia Rate Value Difference

- Producer Group Survey
  - Estimated Dystocia Event Cost = $200
  - 1.63% Difference Favouring FTAI
  - $3.26 Difference



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FTAI
INNING
NATURAL
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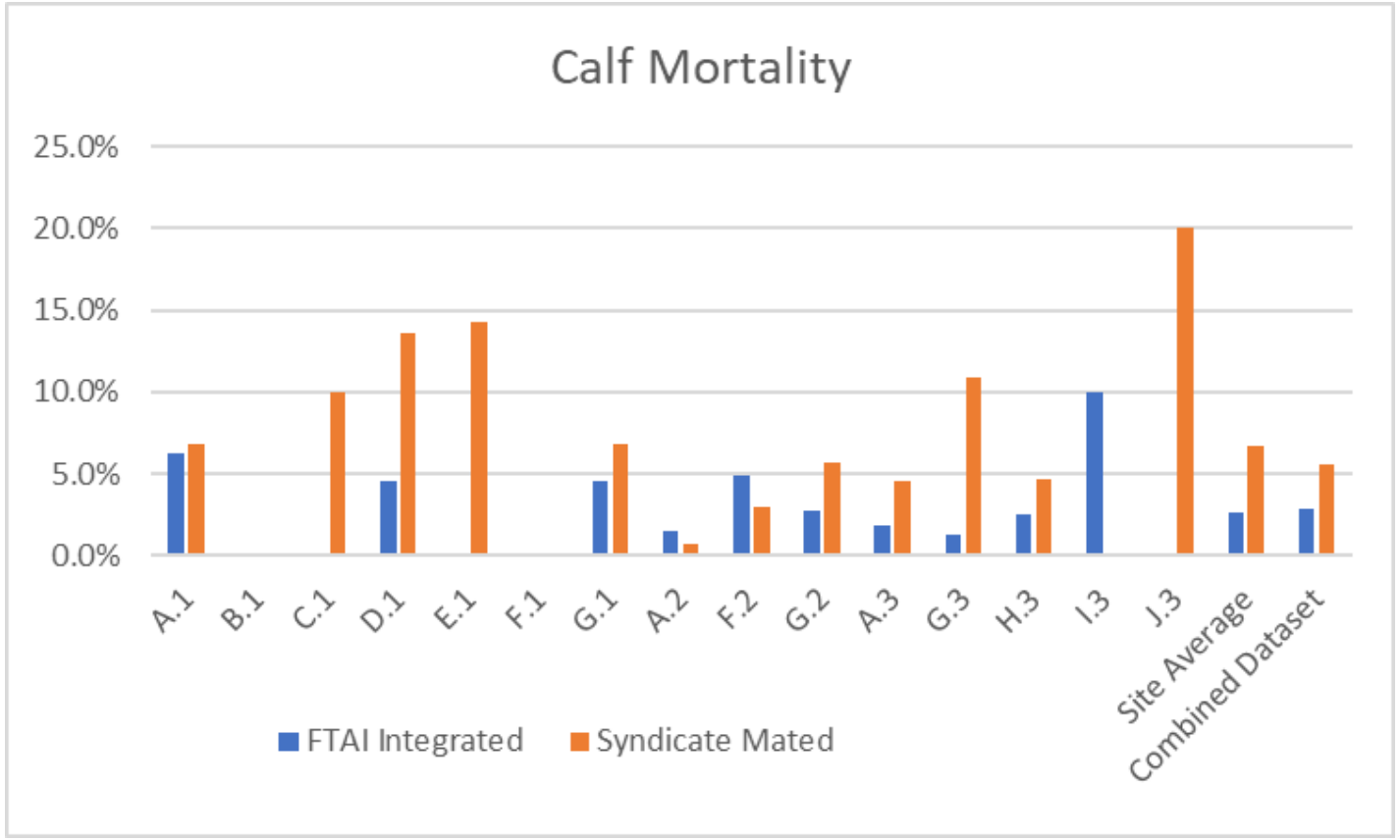
Calf Mortality
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
A.1
B.1
C.1
D.1
E.1
F.1
G.1
A.2
F.2
G.2
A.3
G.3
H.3
I.3
J.3
Site Average
Combined Dataset
FTAI Integrated
Syndicate Mated

# Calf Mortality

| | Integrated FTAI | | | Syndicate Mated | | | Mortality Reduction | Mortality % Reduction |
|---|---|---|---|---|---|---|---|---|
| Farm | Observed Calvings | Calf Mortality | % Calf Mortality | Observed Calvings | Calf Mortality | % Calf Mortality | | |
| A.1 | 128 | 8 | 6.3% | 147 | 10 | 6.8% | 0.6% | 8.1% |
| B.1 | 19 | 0 | 0.0% | 18 | 0 | 0.0% | 0.0% | 0.0% |
| C.1 | 19 | 0 | 0.0% | 20 | 2 | 10.0% | 10.0% | 100.0% |
| D.1 | 22 | 1 | 4.5% | 22 | 3 | 13.6% | 9.1% | 66.7% |
| E.1 | 29 | 0 | 0.0% | 21 | 3 | 14.3% | 14.3% | 100.0% |
| F.1 | 42 | 0 | 0.0% | 31 | 0 | 0.0% | 0.0% | 0.0% |
| G.1 | 89 | 4 | 4.5% | 88 | 6 | 6.8% | 2.3% | 34.1% |
| A.2 | 131 | 2 | 1.5% | 135 | 1 | 0.7% | -0.8% | -106.1% |
| F.2 | 41 | 2 | 4.9% | 34 | 1 | 2.9% | -1.9% | -65.9% |
| G.2 | 73 | 2 | 2.7% | 70 | 4 | 5.7% | 3.0% | 52.1% |
| A.3 | 110 | 2 | 1.8% | 109 | 5 | 4.6% | 2.8% | 60.4% |
| G.3 | 76 | 1 | 1.3% | 55 | 6 | 10.9% | 9.6% | 87.9% |
| H.3 | 79 | 2 | 2.5% | 85 | 4 | 4.7% | 2.2% | 46.2% |
| I.3 | 10 | 1 | 10.0% | 4 | 0 | 0.0% | -10.0% | -100.0% |
| J.3 | 12 | 0 | 0.0% | 10 | 2 | 20.0% | 20.0% | 100.0% |
| Site Average | | | 2.7% | | | 6.7% | 4.1% | 60.4% |
| Combined Dataset | 880 | 25 | 2.84% | 849 | 47 | 5.54% | 2.70% | 48.7% |

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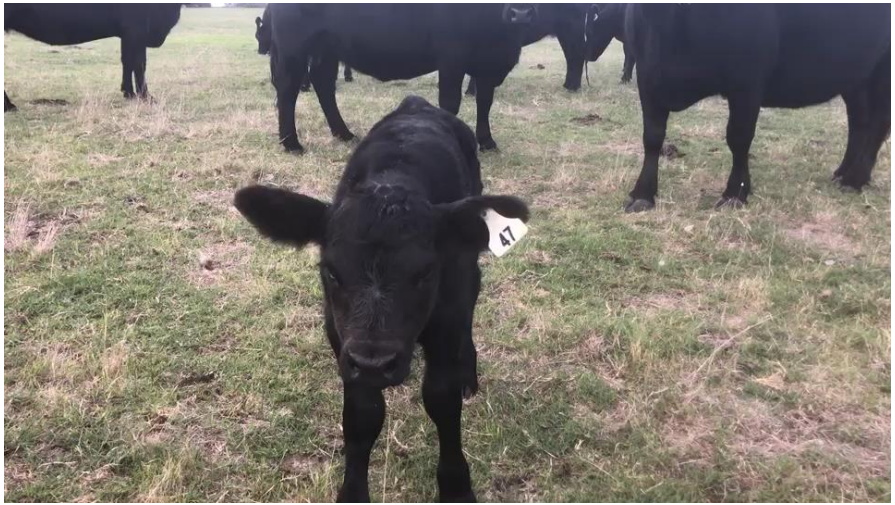
# Calf Mortality Value Difference

- Producer Group Survey
  - Estimated Calf Mortality Cost = $500
  - 2.7% Difference Favouring FTAI
  - $13.50 Difference

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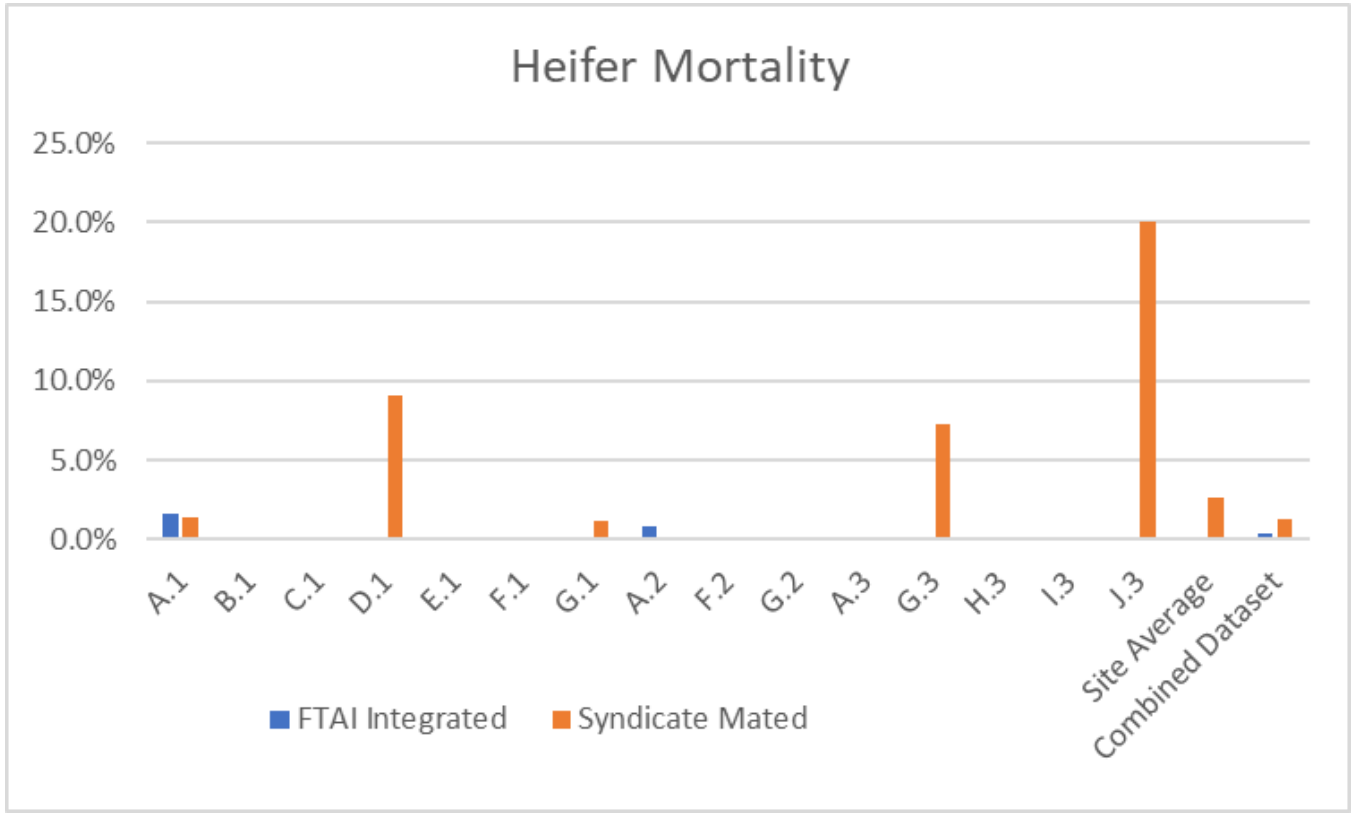
# Calf Mortality Value Difference

- Producer Group Survey
  - Estimated Calf Mortality Cost = $500
  - 2.7% Difference Favouring FTAI
  - $13.50 Difference
  - First Naranda Pimp P5 Son
  - 32 Kgs
  - 17 Days Early


FTAI
INNING
NATURAL
$18
$37
BALL
STRIKE
OUT
gettyimages
whimpulse

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# Heifer Mortality

| | Integrated FTAI | | | Syndicate Mated | | | | |
|---|---|---|---|---|---|---|---|---|
| Farm | Observed Calvings | Heifer Mortality | % Heifer Mortality | Observed Calvings | Heifer Mortality | % Heifer Mortality | Mortality Reduction | Mortality % Reduction |
| A.1 | 128 | 2 | 1.6% | 147 | 2 | 1.4% | -0.2% | -14.8% |
| B.1 | 19 | 0 | 0.0% | 18 | 0 | 0.0% | 0.0% | 0.0% |
| C.1 | 19 | 0 | 0.0% | 20 | 0 | 0.0% | 0.0% | 0.0% |
| D.1 | 22 | 0 | 0.0% | 22 | 2 | 9.1% | 9.1% | 100.0% |
| E.1 | 29 | 0 | 0.0% | 21 | 0 | 0.0% | 0.0% | 0.0% |
| F.1 | 42 | 0 | 0.0% | 31 | 0 | 0.0% | 0.0% | 0.0% |
| G.1 | 89 | 0 | 0.0% | 88 | 1 | 1.1% | 1.1% | 100.0% |
| A.2 | 131 | 1 | 0.8% | 135 | 0 | 0.0% | -0.8% | -100.0% |
| F.2 | 41 | 0 | 0.0% | 34 | 0 | 0.0% | 0.0% | 0.0% |
| G.2 | 73 | 0 | 0.0% | 70 | 0 | 0.0% | 0.0% | 0.0% |
| A.3 | 110 | 0 | 0.0% | 109 | 0 | 0.0% | 0.0% | 0.0% |
| G.3 | 76 | 0 | 0.0% | 55 | 4 | 7.3% | 7.3% | 100.0% |
| H.3 | 79 | 0 | 0.0% | 85 | 0 | 0.0% | 0.0% | 0.0% |
| I.3 | 10 | 0 | 0.0% | 4 | 0 | 0.0% | 0.0% | 0.0% |
| J.3 | 12 | 0 | 0.0% | 10 | 2 | 20.0% | 20.0% | 100.0% |
| Site Average | | | 0.2% | | | 2.6% | 2.4% | 94.0% |
| Combined Dataset | 880 | 3 | 0.34% | 849 | 11 | 1.30% | 0.95% | 73.7% |

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# Heifer Mortality Value Difference

- Producer Group Survey
  - Estimated Heifer Mortality Cost = $2000
  - 0.95% Difference Favoring FTAI
  - $19.00 Difference

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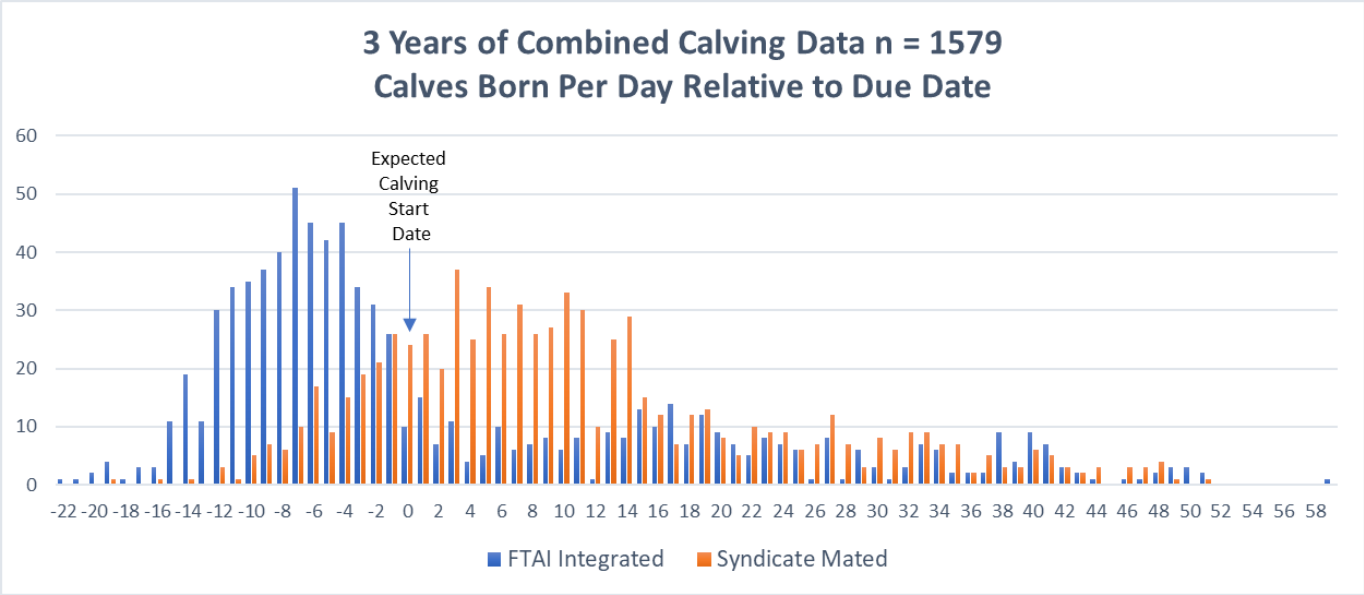
FTAI
INNING
NATURAL
$37
0
$37
BALL
STRIKE
OUT
gettyimages
whimpulse

# Calving Distribution and Weaning Weights




Bulls +10.8 Days
AI Integrated +2.7 Days
Gain = 8.1 Days

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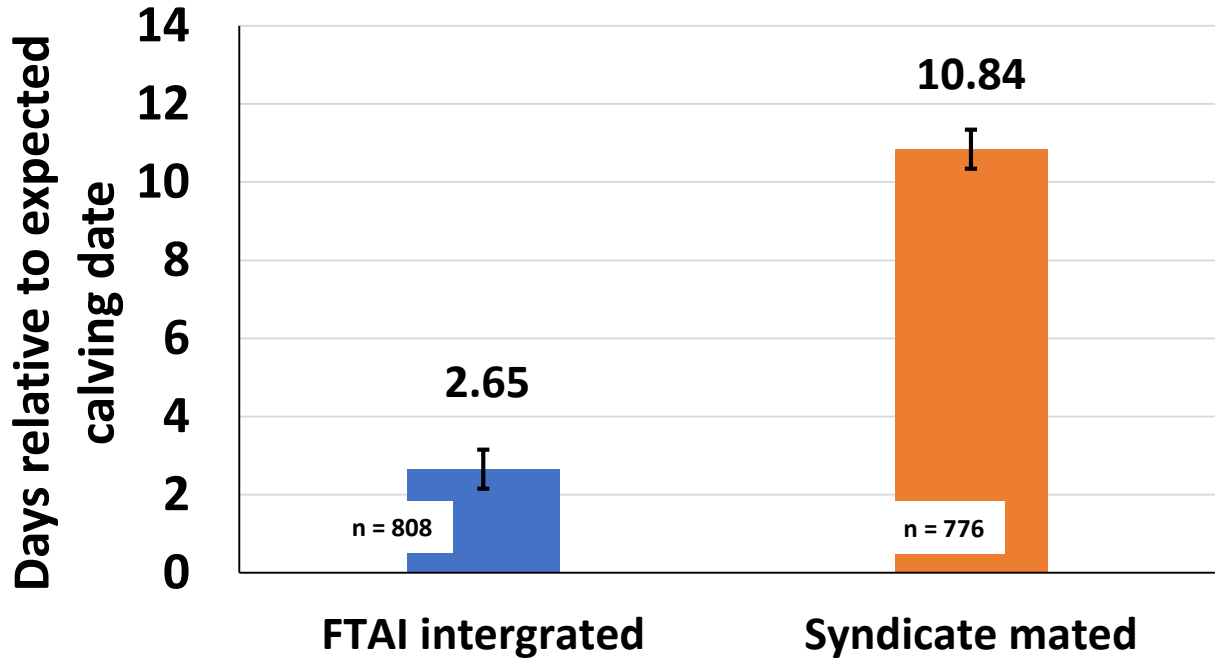
# Mean calving date relative to expected calving date




FTAI integrated differs from Syndicate mated (P < 0.01)

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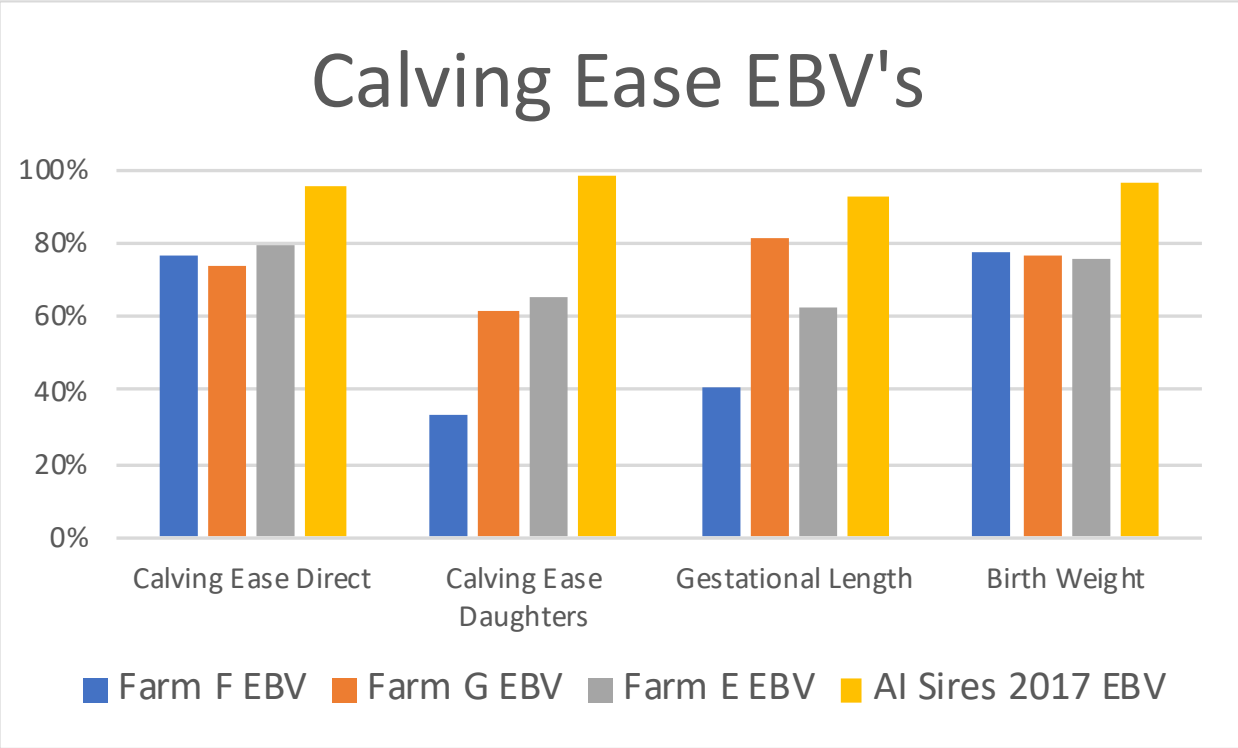
# EBV Percentile Rankings

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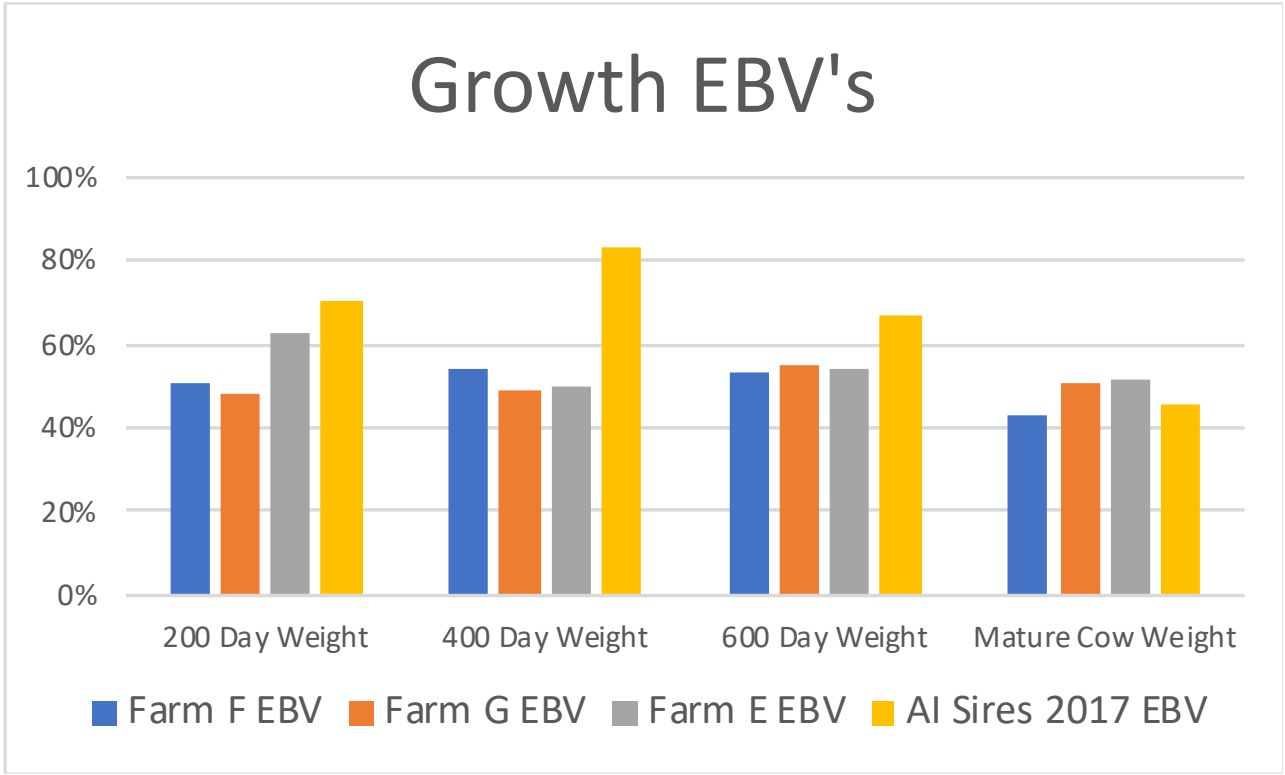
# EBV Percentile Rankings

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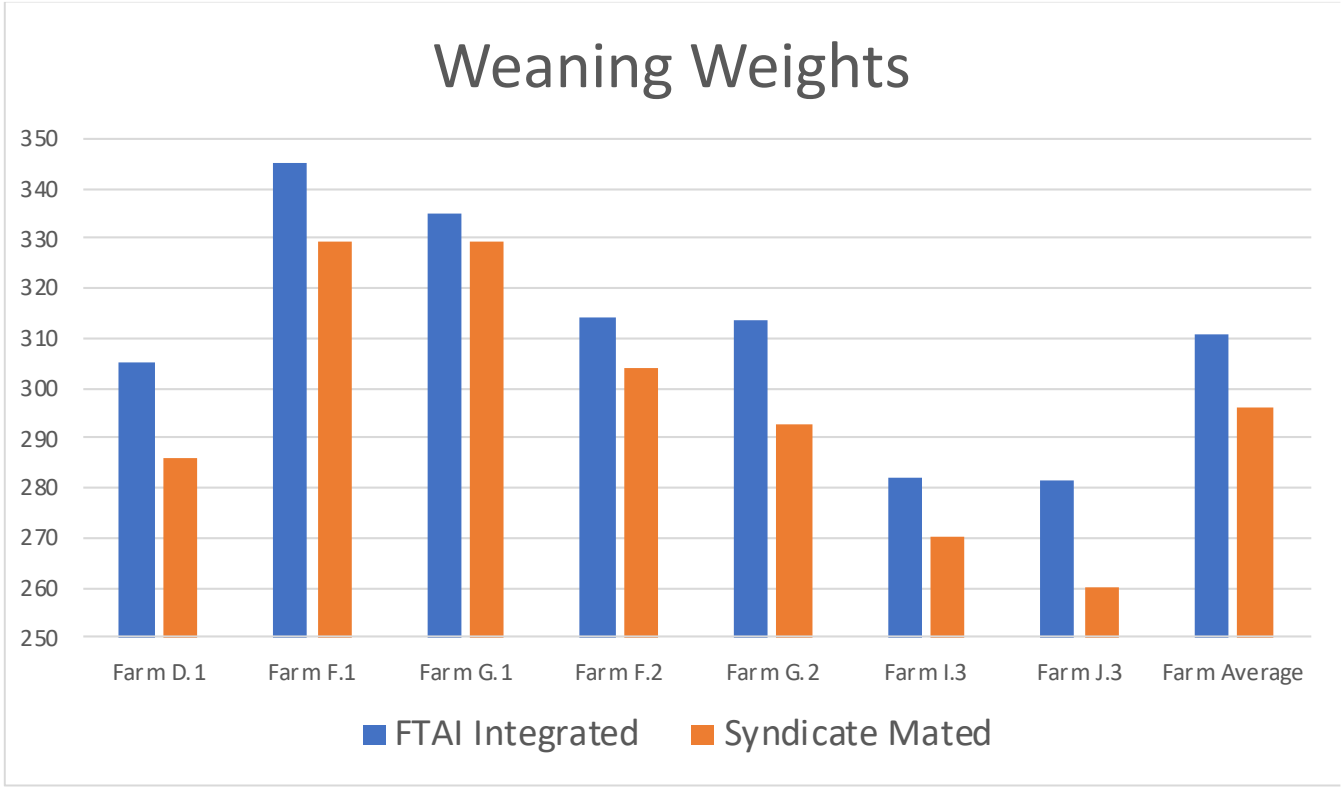


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# Weaning Weights

| | FTAI Integrated | | Syndicate Mated | | Difference |
|---|---|---|---|---|---|
| | Number | Average Weight | Number | Average Weight | |
| Farm D.1 | 20 | 305 | 18 | 285.7 | 19.3 |
| Farm F.1 | 42 | 345 | 31 | 329.5 | 15.5 |
| Farm G.1 | 75 | 335.1 | 81 | 329.1 | 6 |
| Farm F.2 | 39 | 313.9 | 34 | 303.9 | 10 |
| Farm G.2 | 64 | 313.6 | 62 | 293 | 20.6 |
| Farm I.3 | 11 | 282 | 5 | 270 | 12 |
| Farm J.3 | 11 | 281.5 | 6 | 260 | 21.5 |
| Site Average | 262 | 310.9 | 237 | 295.9 | 15.0 |

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# Weaning Weight Difference

- Producer Group Survey
  - Conservative Mixed Sex Value of $4 per Kg
  - 15 Kg Difference Favoring FTAI
  - $60.00 Difference

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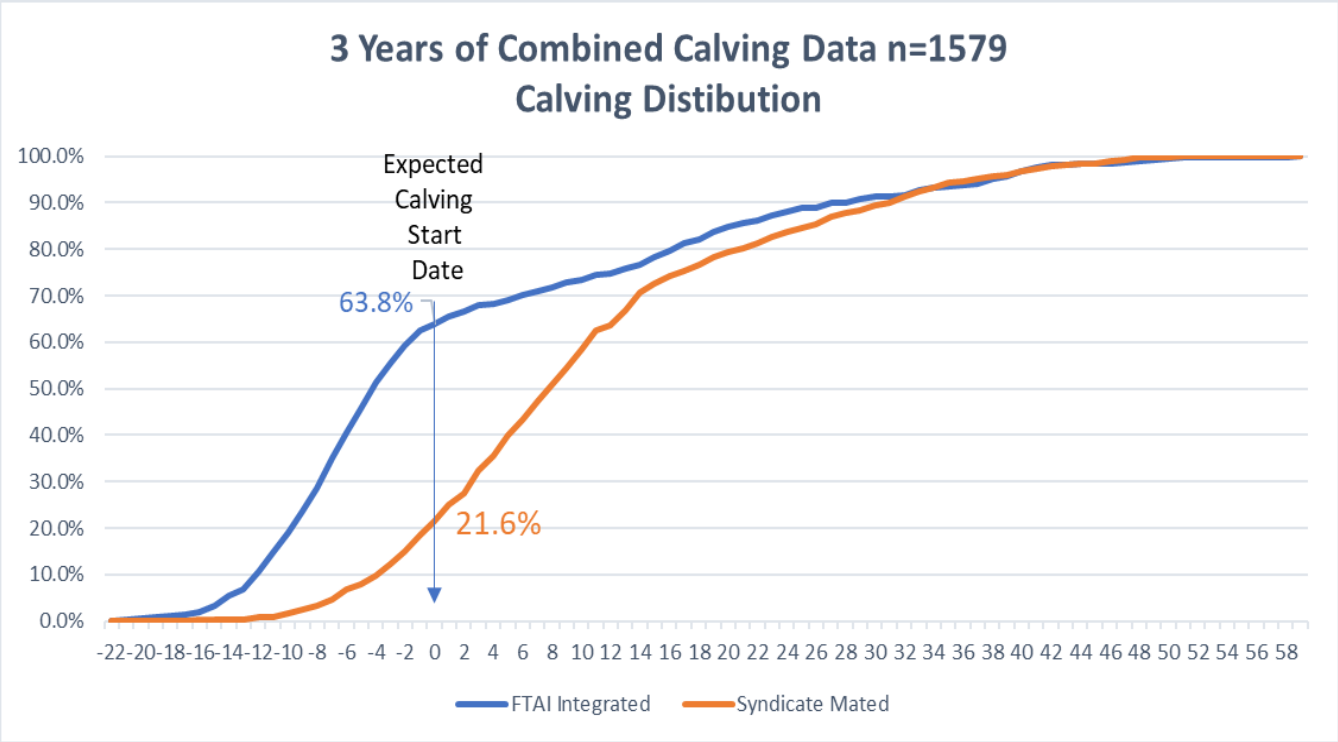
NATURAL
$97
$37
BALL
STRIKE
OUT
gettyimages
whimpulse

# Rebreeding Rate

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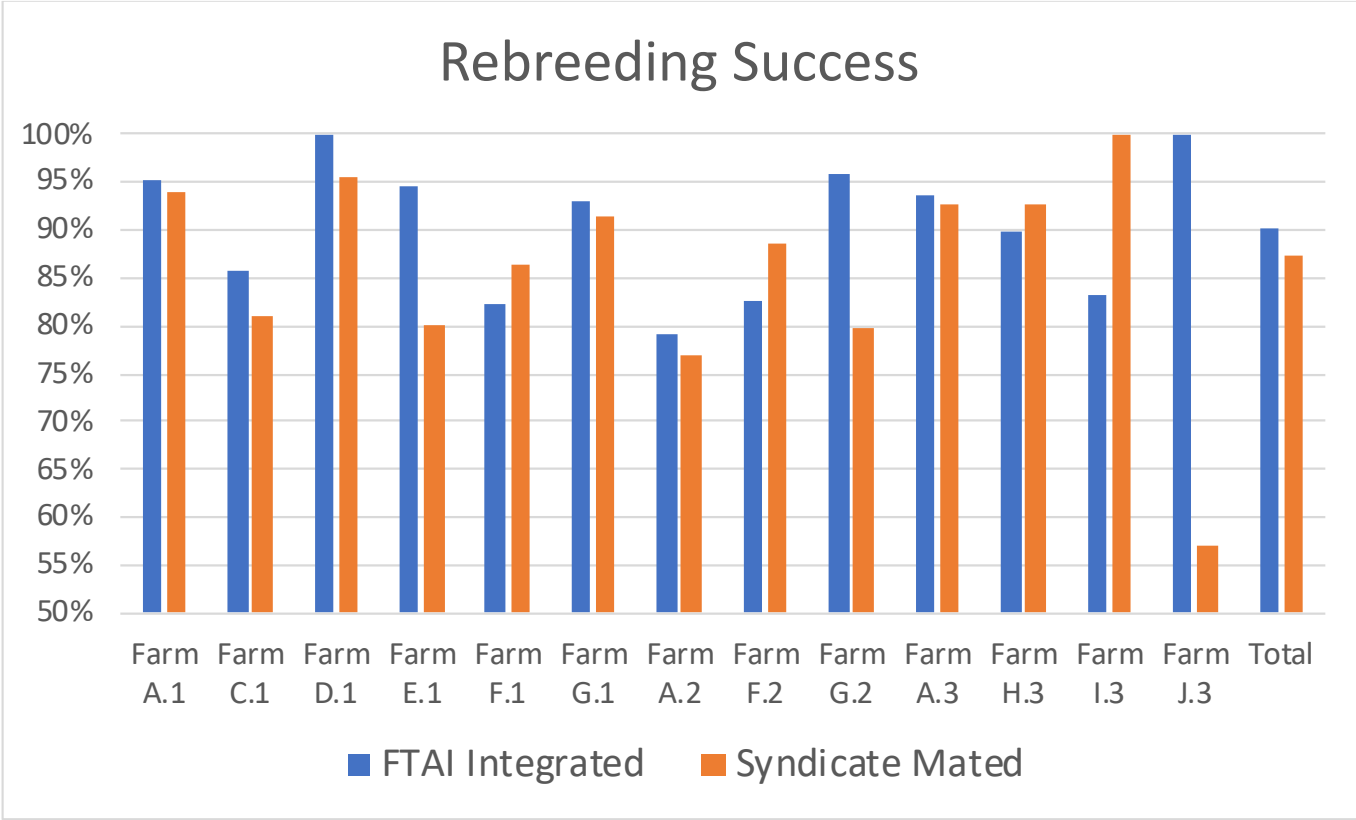


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# Rebreeding Rate

| | FTAI Integrated | | | Syndicate Mated | | | Difference | % Reduction in Empties |
|---|---|---|---|---|---|---|---|---|
| Farm | Joined | Empty | % Empty | Joined | Empty | % Empty | | |
| A.1 | 126 | 6 | 4.8% | 145 | 9 | 6.2% | 1.4% | 23.3% |
| C.1 | 21 | 3 | 14.3% | 21 | 4 | 19.0% | 4.8% | 25.0% |
| D.1 | 22 | 0 | 0.0% | 22 | 1 | 4.5% | 4.5% | 100.0% |
| E.1 | 55 | 3 | 5.5% | 55 | 11 | 20.0% | 14.5% | 72.7% |
| F.1 | 34 | 6 | 17.6% | 37 | 5 | 13.5% | -4.1% | -30.6% |
| G.1 | 86 | 6 | 7.0% | 83 | 7 | 8.4% | 1.5% | 17.3% |
| A.2 | 138 | 29 | 21.0% | 148 | 34 | 23.0% | 2.0% | 8.5% |
| F.2 | 40 | 7 | 17.5% | 35 | 4 | 11.4% | -6.1% | -53.1% |
| G.2 | 70 | 3 | 4.3% | 54 | 11 | 20.4% | 16.1% | 79.0% |
| A.3 | 123 | 8 | 6.5% | 137 | 10 | 7.3% | 0.8% | 10.9% |
| H.3 | 78 | 8 | 10.3% | 82 | 6 | 7.3% | -2.9% | -40.2% |
| I.3 | 12 | 2 | 16.7% | 5 | 0 | 0.0% | -16.7% | -100.0% |
| J.3 | 11 | 0 | 0.0% | 7 | 3 | 42.9% | 42.9% | 100.0% |
| Site Average | | | 9.6% | | | 14.2% | 4.5% | 31.9% |
| Combined Dataset | 816 | 81 | 9.9% | 831 | 105 | 12.6% | 2.7% | 21.4% |

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# Rebreeding Rate Difference

- Producer Group Survey
  - Estimated Pregnant First Calf Heifer $1000 over Value of Empty First Calf Heifer
  - 2.7% Difference
  - $27.00 Difference

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NATURAL
$124
$37
BALL
STRIKE
OUT
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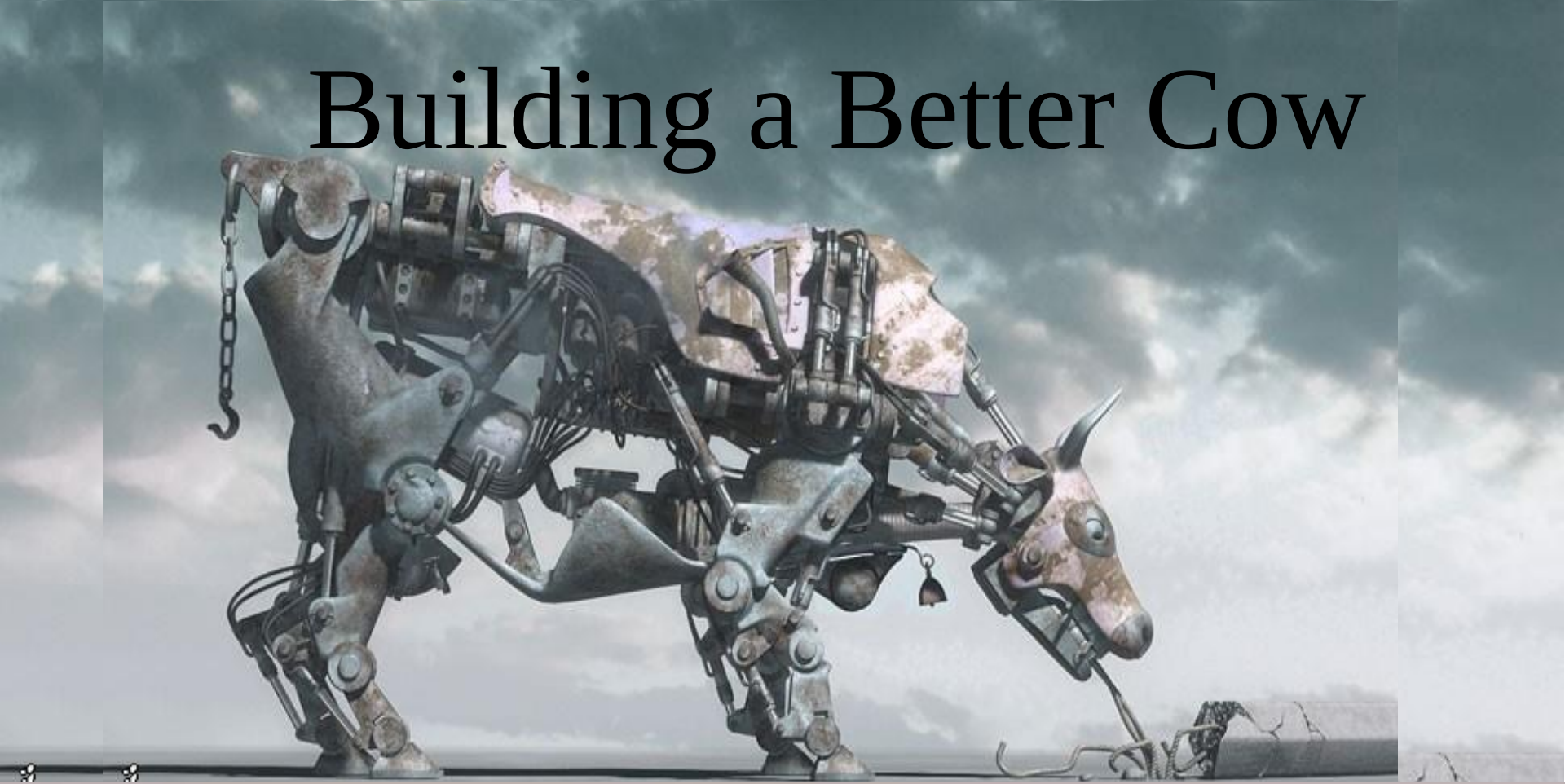
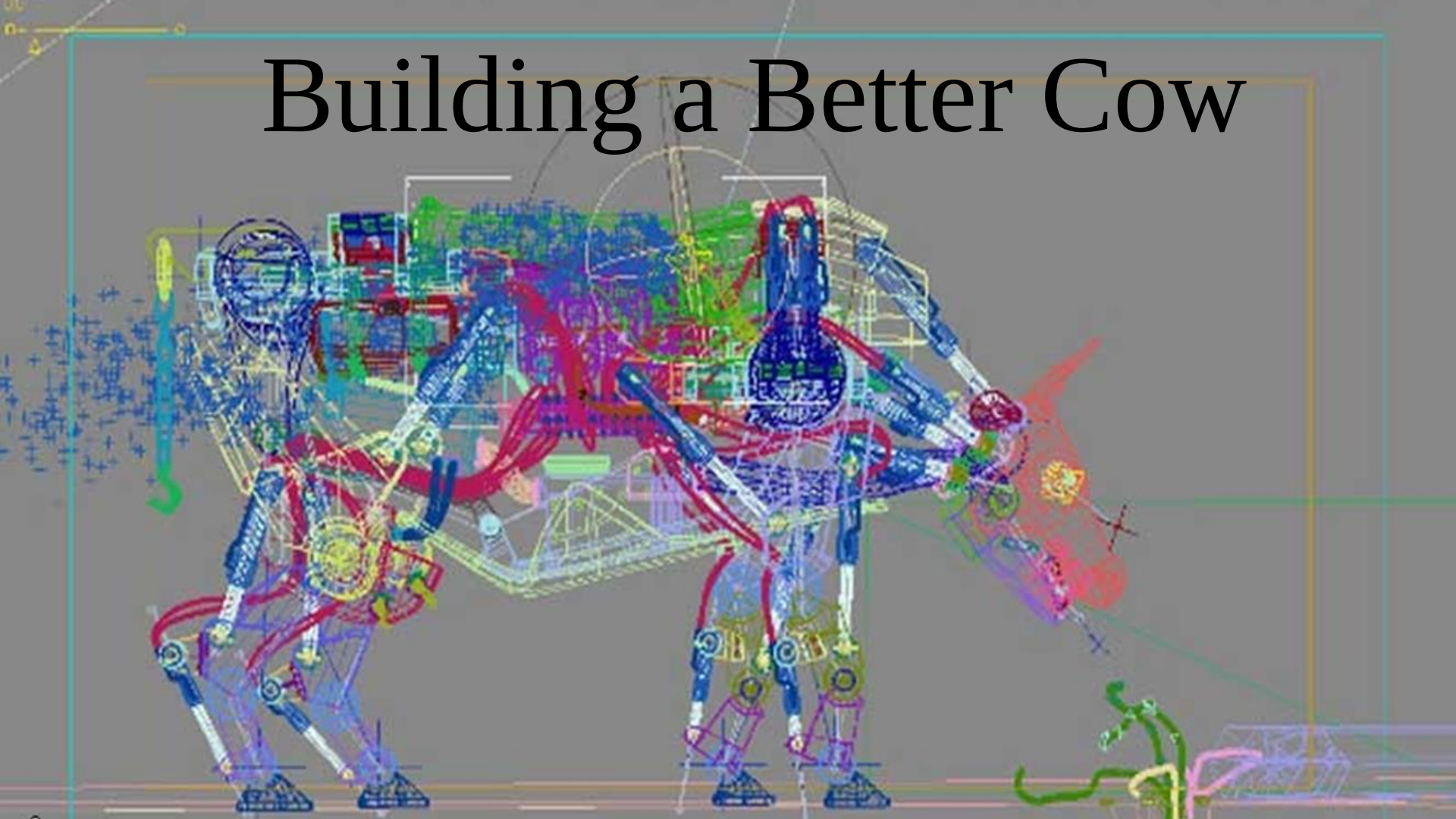
IMAGE PROTECTED BY COPYRIGHT
$87 in Front!
BUY THIS WITHOUT WATERMARKS AT VECTORTOONS.COM


NO TIME TO EXPLAIN
GET IN THE CAR!!!

# Building a Better Cow



# Building a Better Cow



# The Perfect New Beef Cow

- Three Year Review
  - She needs to:
    - Deliver a healthy calf within the first month of the calving season
    - Have already weaned one healthy calf
    - Be in good body condition

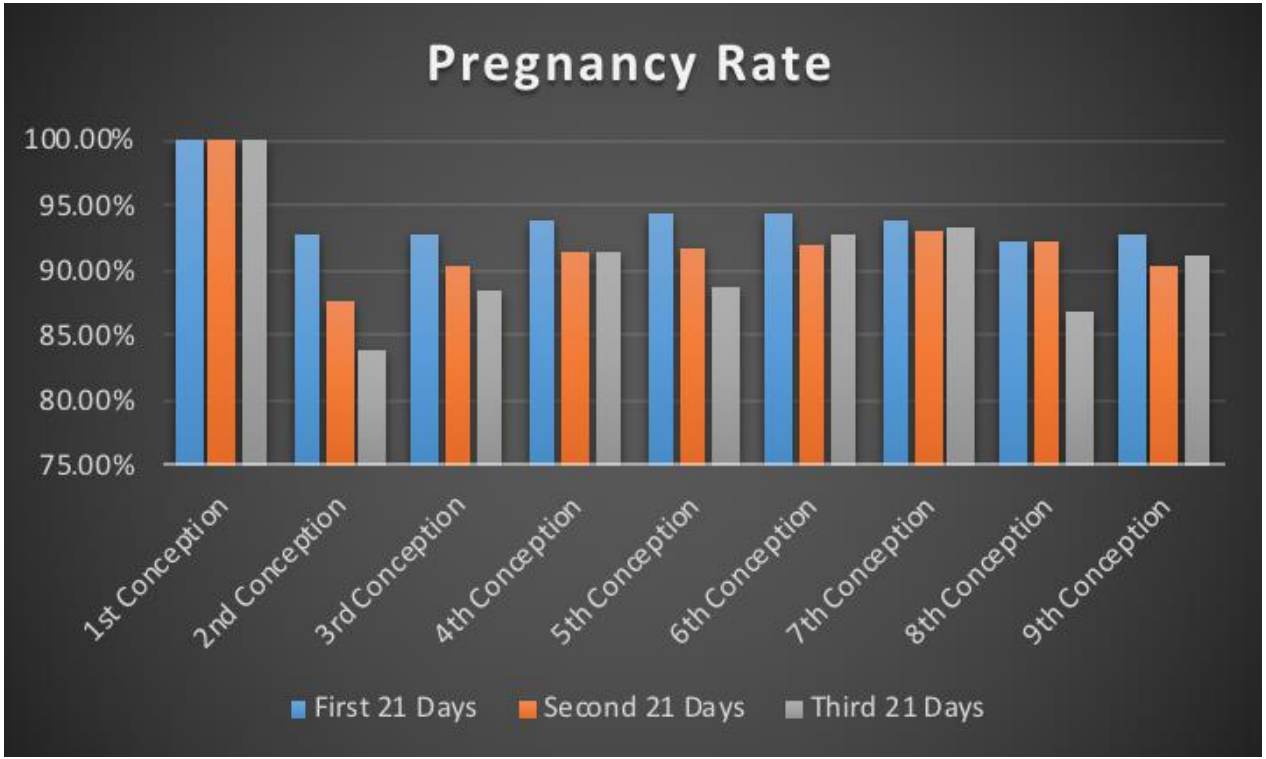
## How do we get there?

# Look After the Young

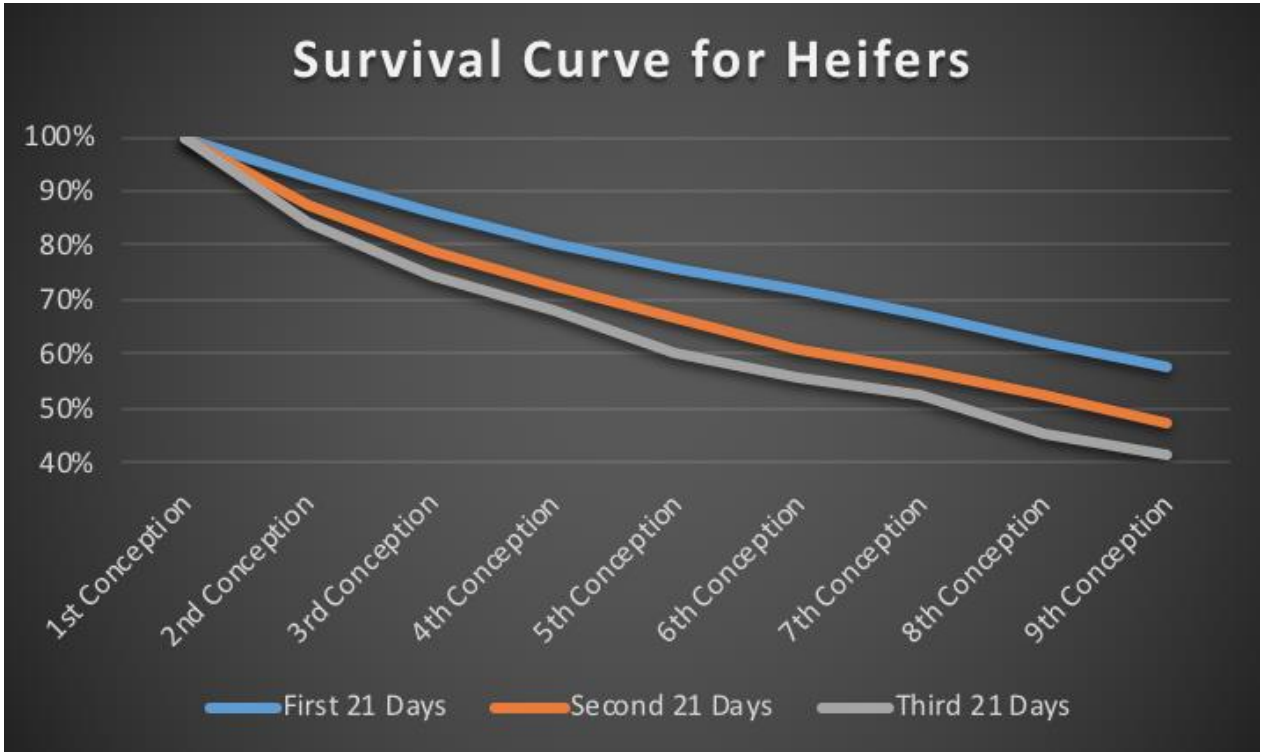
# Getting Three Year Olds to Calve Early

- Cows take on average 55 days after they calve to breed back.
- Heifers take from 20 to 30 days longer than cows to breed back after they calve
- Heifers that conceive at the same time as cows will calve at the same time but will conceive later than cows the following year
- Heifers that get pregnant late are often empty as 1st Calvers

# Cushman *et al.* 2013



# Cushman *et al*. 2013

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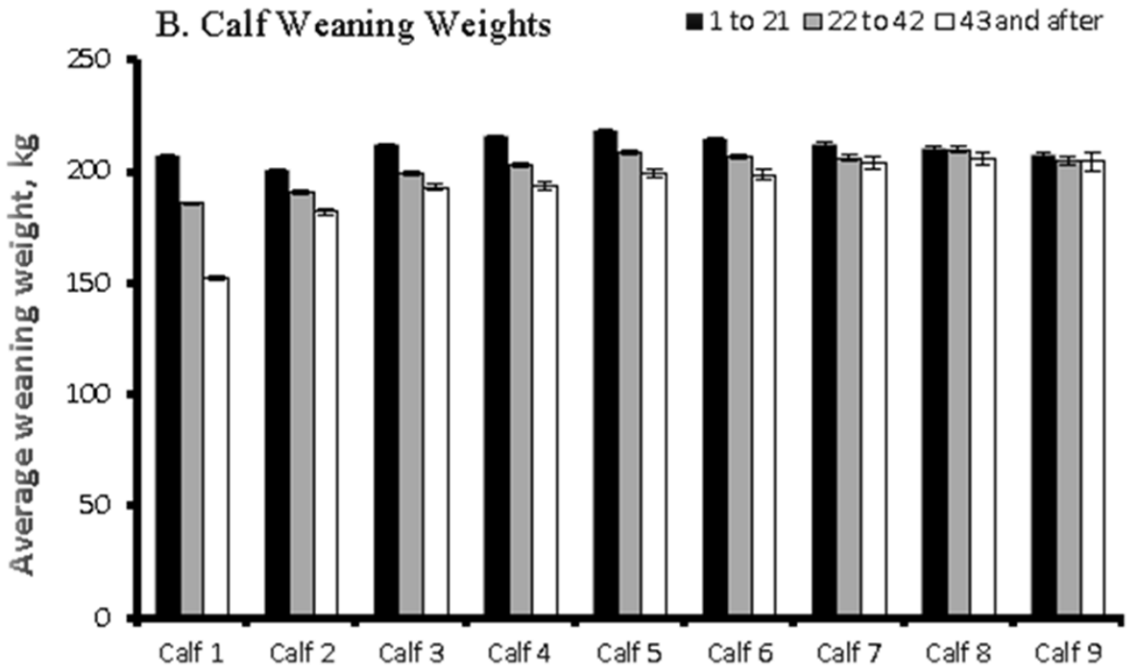
# Cushman *et al*. 2013

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# Buying Heifers More Time

- We need 13 months in a year!
- Shorter Gestation?
- Calve one month later each year?

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# Buying Heifers More Time

- We need 13 months in a year!
- Shorter Gestation?
- Calve one month later each year?

We can for their 2nd mating!

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# Early and Short Heifer Joining
# =
# Early and Short Heifer Calving

- Join heifers before and for less time than cows
  - Good selection tool for reproductive efficiency
  - Older, bigger weaners from heifers
  - Releases a few extra bulls
  - Easier heifer calving management

# Early and Short Heifer Joining
# =
# Early and Short Heifer Calving

- Join heifers before and for less time than cows
  - Good selection tool for reproductive efficiency
  - Older, bigger weaners from heifers
  - Releases a few extra bulls
  - Easier heifer calving management
  - Buys heifer more time to get back in calf the second time!

# Early and Short Joining

- Empty heifers marketable as yearlings in early September
  - Can market empty heifers with remainder of yearlings
    - Assuming 6-8 week joining and preg test at 42 days
- Lower conception rates than with a longer joining
  - Less room for error
    - Bull break down
    - Insufficient growth
    - Poor plane of nutrition
    - Reproductive disease
    - Seasonal Conditions


SUBWAY
eat fresh.
NIKE
JUST DO IT.
HOW TO CREATE
CATCHY SLOGANS
MAXFACTOR
THE MAKE-UP OF MAKE-UP ARTISTS
DREAM

# Join More Heifers and Let Love Pick Your Keepers!

## The Best Heifers are the Pregnant Heifers!

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# There is No Tragedy in an Empty Heifer

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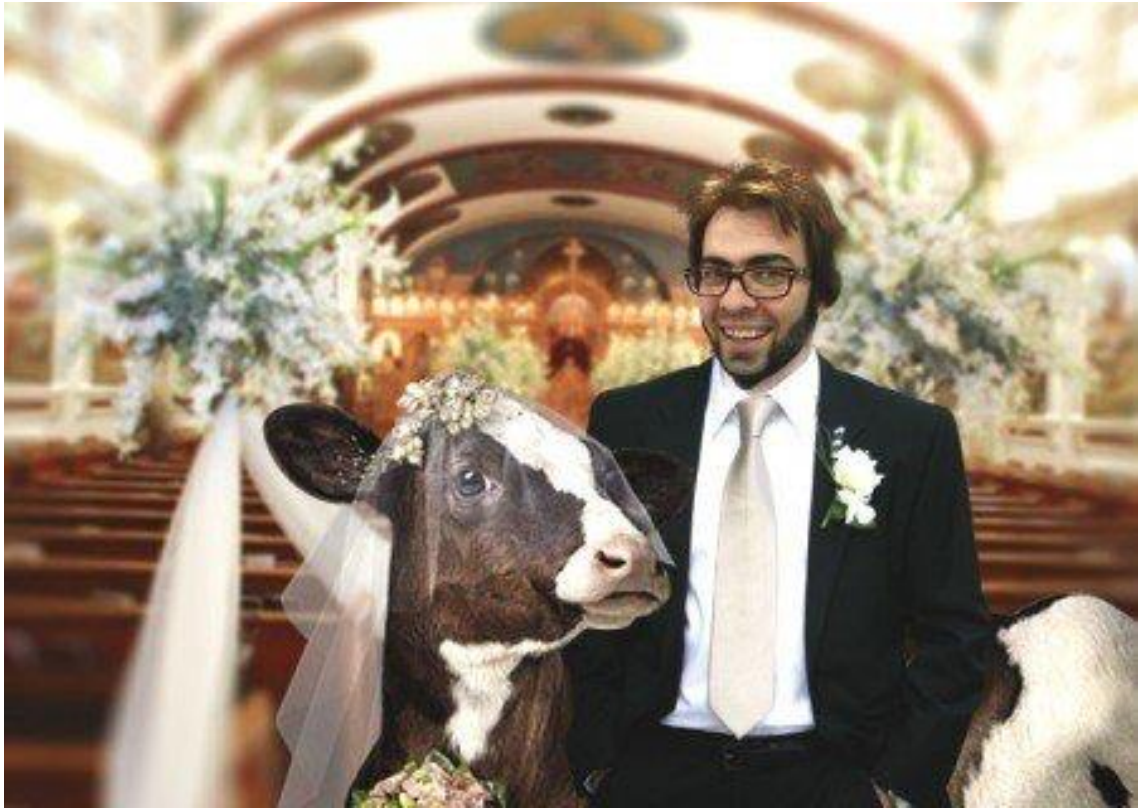
# Don’t Get Married To Your Heifers



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# 3-4 Week Mating

- 2 Round AI Program
  - FTAI followed by resynchrony and 2nd AI to heat detection
- 1 Round AI backed up by 2% bull battery
  - Bulls in day 10, out day 31
    - Producers could leave one bull for the 3rd and 4th cycles
      - Preg Test, Stage Pregnancies, Sell Late Calvers as PTIC

# Pick your Heifers BEFORE They are born!

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# Always Look To the Dam


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# Always Look To the Dam
## (50 years old!)


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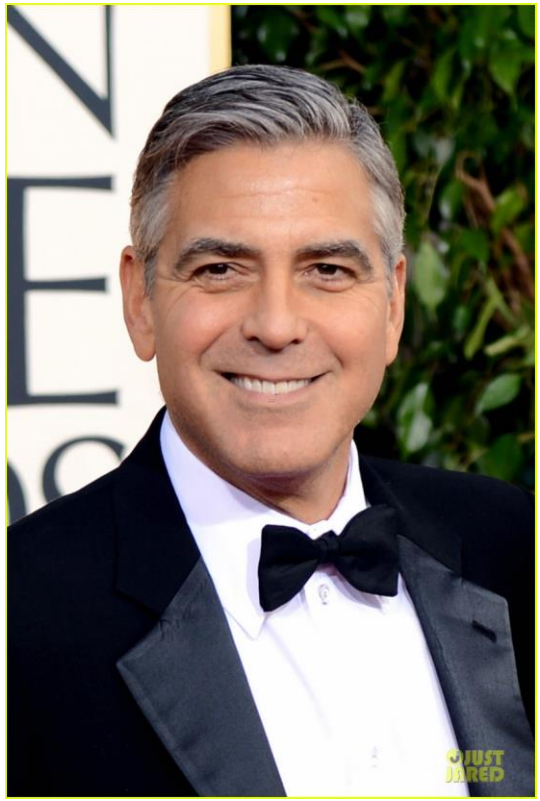
# Get Good Bulls Too!

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# Who Knew?

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# Cute Little Fella – Low BW and CE

# Big MCW and 20,000 Day Weight

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# Low SC?

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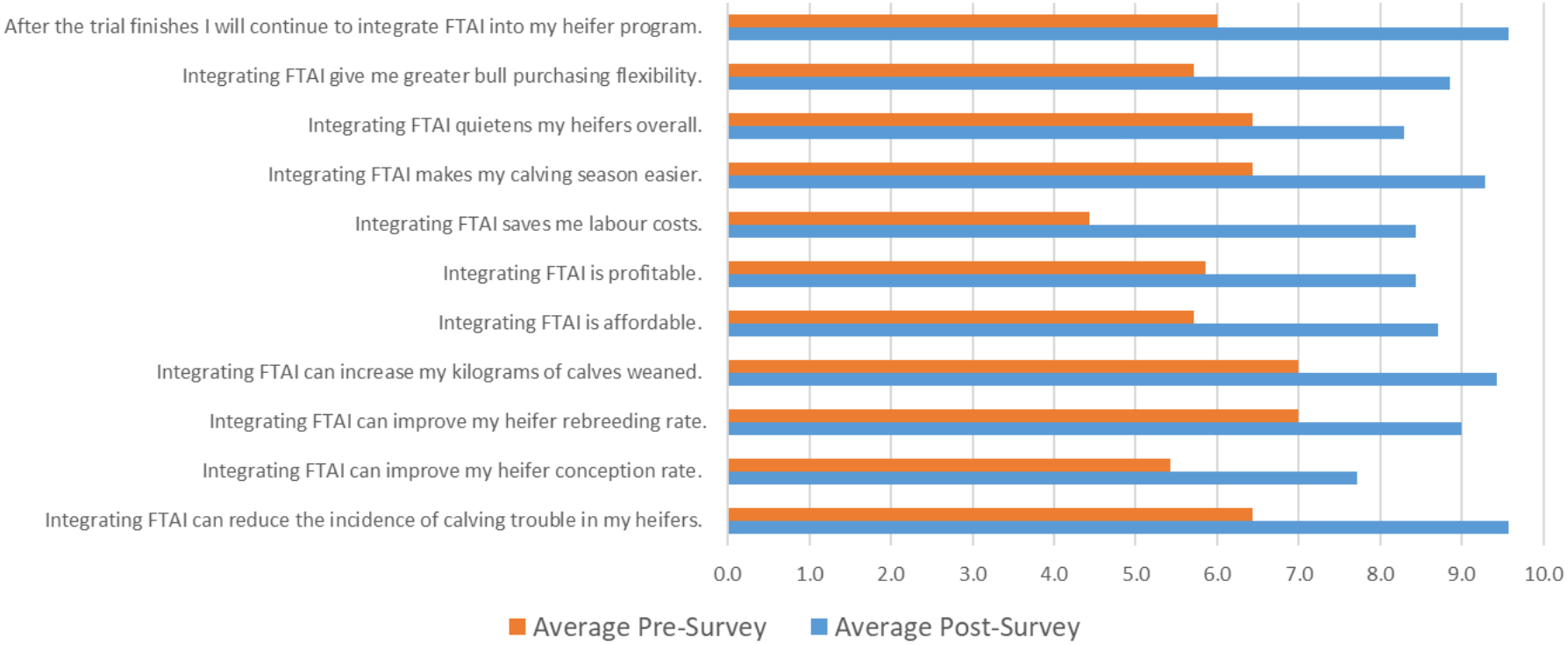
# Core Producer Pre and Post PDS Survey Result Averages

1 = Strongly Disagree to 10 = Strongly Agree

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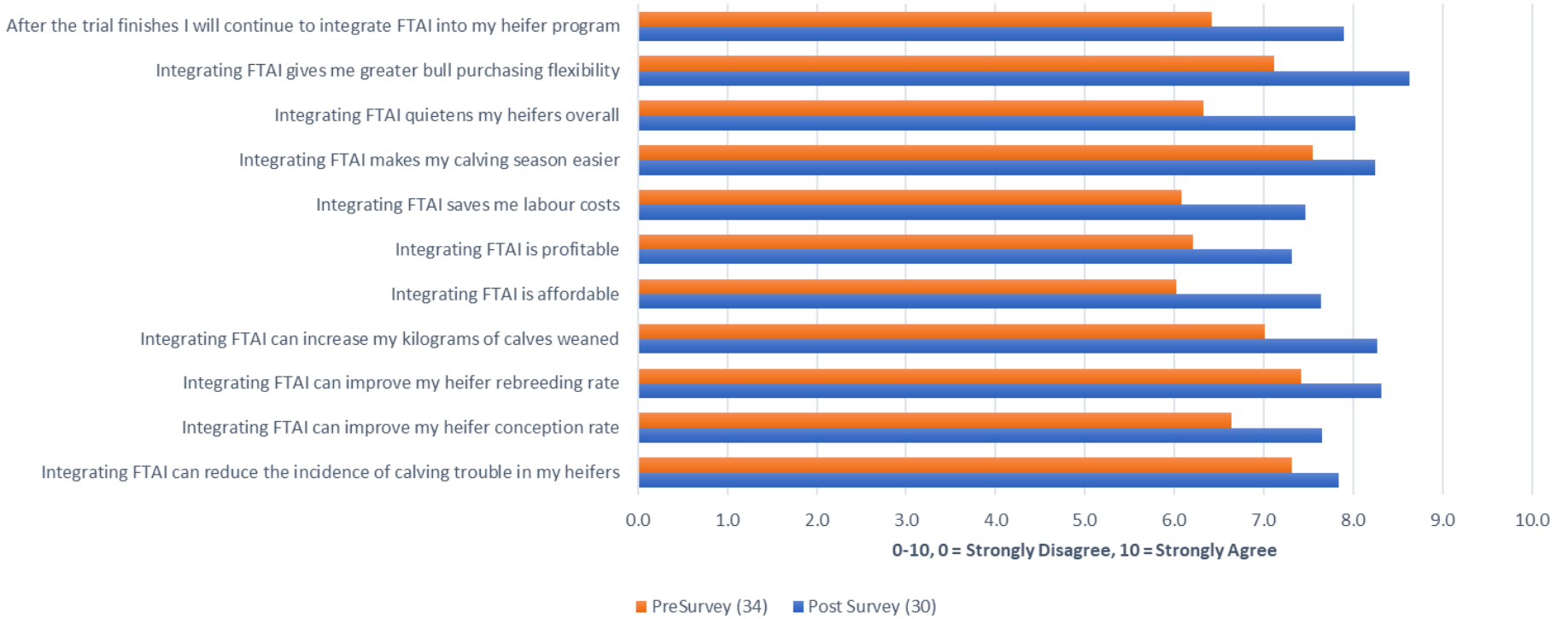
# Pre and Post Field Day Survey Results 12/09/2019 ASHEEP Spring Fieldwalk

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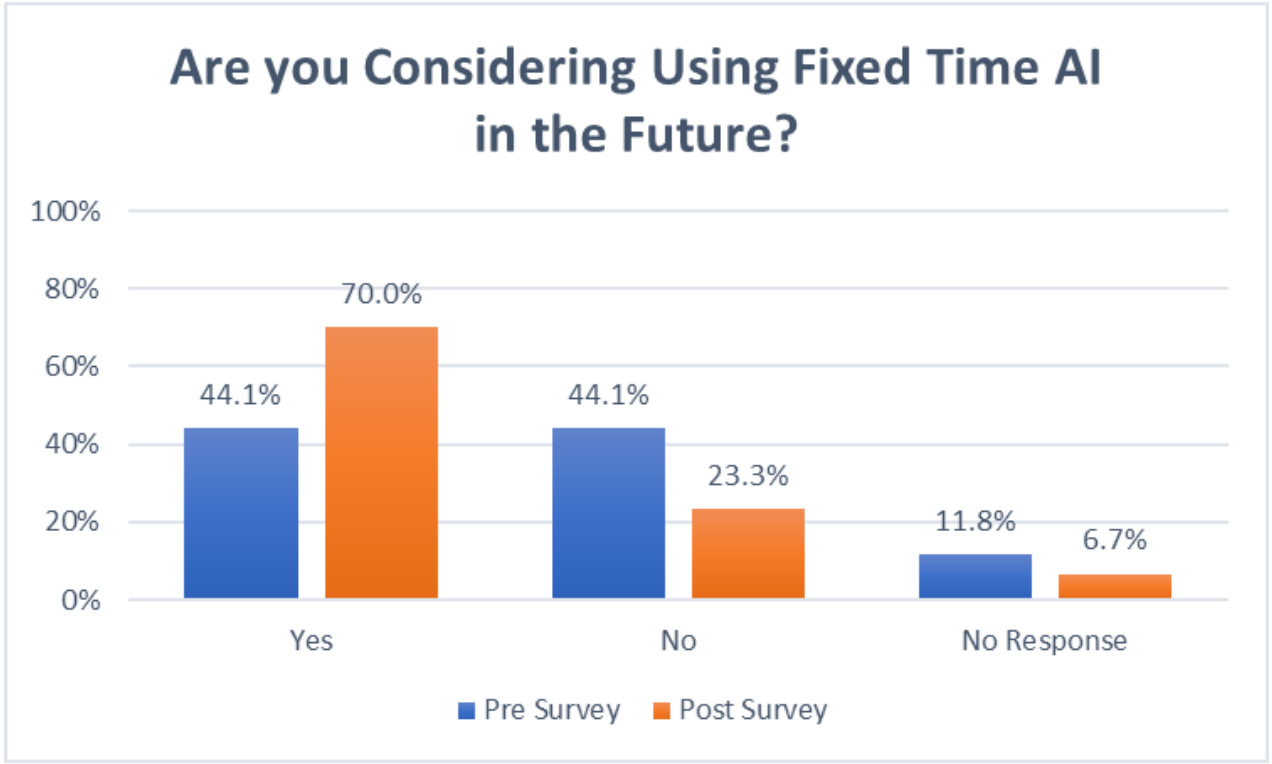


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Remember, They Work for Us!
The Best New Employees:
1. Calve Early
2. Improve our Genetics

# What do you see?


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# What do you see?


# A Heifer In Need of AI!

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# What do you see?

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# What do you see?

My Dog!

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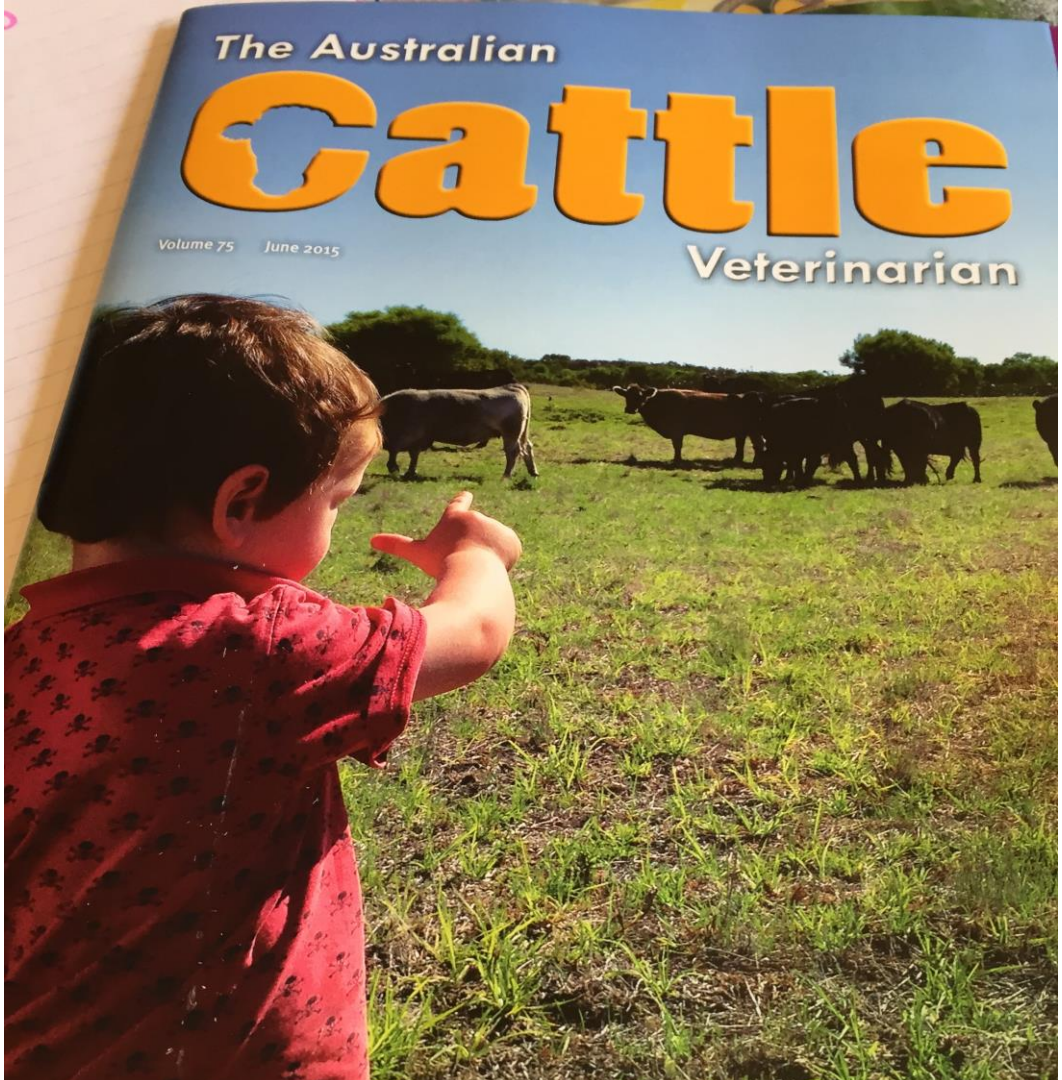
# Love the Heat?
# Get in the Kitchen!


Before you try to AI them….


Make sure they
aren't already
pregnant…

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# Keep Breeding


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Even got an Angus!

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# Wean Early

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# Wean Early

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0427 716 907

Thank you for your attention

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0427 716 907

**-Join More Heifers**

Thank you for your attention

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(08) 9071 5777
0427 716 907

**-Join More Heifers**
**-Join Short and Early**

Thank you for your attention

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(08) 9071 5777
0427 716 907

**-Join More Heifers**
**-Join Short and Early**
**-Preg Test Early**

Thank you for your attention

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0427 716 907

**-Join More Heifers**
**-Join Short and Early**
**-Preg Test Early**
**-Calve with Feed**

Thank you for your attention

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0427 716 907

**-Join More Heifers**
**-Join Short and Early**
**-Preg Test Early**
**-Calve with Feed**
**-Wean Early**


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0427 716 907
-AI?