## **Dunlop Santa Sire Sale Supplementary Sheet 2013**

Semen collection and crush-side examination by Paul Kenny

Semen Morphology by John Cooper Q.C.A.H.(Lab Analysis)- JUST GENES AB SERVICES

Scanned by Paul Kenny, Accreditation Number 1039 on 22/08/13

## **Interpreting Semen Morphology Results**

Australian Association of cattle Veterinarians have assigned the following thresholds to semen results.

A tick indicates that a bulls semen morphology is 70% normal or above. This means that bulls are highly likely to be fertile under natural mating. It is a preferred threshold for single sire mating, and there is a high probability that this semen can be frozen and used in Al programs.

PASS: A result of pass indicates that bulls have semen morphology between 50-69% normal. These bulls have a high probability of being fertile under natural mating, but caution should be exercised mating them in single sires or with high mating loads.

No.         (mths)         (kg)         (kg/day)         cm         (mm)         (cm)         MORPH           1         22         0         -0.05         126         15         8         39         PASS           2         22         0         -0.05         122         11         9         41         ✓           3         23         858         1.17         130         13         9         40.5         ✓           4         23         776         1.07         126         12         8         41         ✓           5         23         904         1.22         135         13         12         41.5         ✓           6         23         940         1.29         130         12         8         36         ✓           7         24         848         1.11         130         10         8         42         ✓           8         0         1.20         130         12         10         39.5         ✓           10         23         814         1.11         125         12         10         38.5         ✓           11         23	LOT	AGE	WEIGHT	A.D.G.	EMA	RUMP	RIB	SCROTAL	SEMEN	
2       22       0       -0.05       122       11       9       41       ✓         3       23       858       1.17       130       13       9       40.5       ✓         4       23       776       1.07       126       12       8       41       ✓         5       23       940       1.29       130       12       8       36       ✓         7       24       848       1.11       130       10       8       42       ✓         8       WITHDRAWN         9       23       836       1.14       129       11       10       36       ✓         10       23       814       1.11       125       12       10       39.5       ✓         11       23       894       1.20       130       12       10       38.5       ✓         12       23       825       1.10       119       13       10       42.5       ✓         13       22       848       1.19       132       10       8       39.5       ✓         14       23       800       1.08       133       14	No.	(mths)	(kg)	(kg/day)	cm	(mm)	(mm)	(cm)	MORPH	
3       23       858       1.17       130       13       9       40.5       ✓         4       23       776       1.07       126       12       8       41       ✓         5       23       904       1.22       135       13       12       41.5       ✓         6       23       940       1.29       130       12       8       36       ✓         7       24       848       1.11       130       10       8       42       ✓         8       WITHDRAWN         9       23       836       1.14       129       11       10       36       ✓         10       23       814       1.11       125       12       10       39.5       ✓         11       23       894       1.20       130       12       10       38.5       ✓         12       23       825       1.10       119       13       10       42.5       ✓         13       22       848       1.19       132       10       8       39.5       ✓         14       23       782       1.06       120       16 <td>1</td> <td>22</td> <td>0</td> <td>-0.05</td> <td>126</td> <td>15</td> <td>8</td> <td>39</td> <td>PASS</td>	1	22	0	-0.05	126	15	8	39	PASS	
4       23       776       1.07       126       12       8       41       ✓         5       23       904       1.22       135       13       12       41.5       ✓         6       23       940       1.29       130       12       8       36       ✓         7       24       848       1.11       130       10       8       42       ✓         8       WITHDRAWN         9       23       836       1.14       129       11       10       36       ✓         10       23       814       1.11       125       12       10       39.5       ✓         11       23       894       1.20       130       12       10       38.5       ✓         12       23       825       1.10       119       13       10       42.5       ✓         13       22       848       1.19       132       10       8       39.5       ✓         14       23       800       1.08       133       14       11       39       ✓         15       23       782       1.06       120       16 <td>2</td> <td>22</td> <td>0</td> <td>-0.05</td> <td>122</td> <td>11</td> <td>9</td> <td>41</td> <td>✓</td>	2	22	0	-0.05	122	11	9	41	✓	
5       23       904       1.22       135       13       12       41.5       ✓         6       23       940       1.29       130       12       8       36       ✓         7       24       848       1.11       130       10       8       42       ✓         8       WITHDRAWN         9       23       836       1.14       129       11       10       36       ✓         10       23       814       1.11       125       12       10       39.5       ✓         11       23       894       1.20       130       12       10       38.5       ✓         12       23       825       1.10       119       13       10       42.5       ✓         13       22       848       1.19       132       10       8       39.5       ✓         14       23       800       1.08       133       14       11       39       PASS         16       23       778       1.06       120       16       11       39       PASS         16       23       778       1.06       124 <t< td=""><td>3</td><td>23</td><td>858</td><td>1.17</td><td>130</td><td>13</td><td>9</td><td>40.5</td><td><b>✓</b></td></t<>	3	23	858	1.17	130	13	9	40.5	<b>✓</b>	
6 23 940 1.29 130 12 8 36    7 24 848 1.11 130 10 8 42    8	4	23	776	1.07	126	12	8	41	<b>✓</b>	
7       24       848       1.11       130       10       8       42       ✓         8       WITHDRAWN         9       23       836       1.14       129       11       10       36       ✓         10       23       814       1.11       125       12       10       39.5       ✓         11       23       894       1.20       130       12       10       38.5       ✓         12       23       825       1.10       119       13       10       42.5       ✓         13       22       848       1.19       132       10       8       39.5       ✓         14       23       800       1.08       133       14       11       39       PASS         16       23       778       1.06       120       16       11       39       PASS         16       23       778       1.06       120       16       11       39       PASS         16       23       778       1.06       120       16       11       39       PASS         16       23       778       1.06       124	5	23	904	1.22	135	13	12	41.5	<b>✓</b>	
8	6	23	940	1.29	130	12	8	36	<b>✓</b>	
9 23 836 1.14 129 11 10 36   10 23 814 1.11 125 12 10 39.5   11 23 894 1.20 130 12 10 38.5   12 23 825 1.10 119 13 10 42.5   13 22 848 1.19 132 10 8 39.5   14 23 800 1.08 133 14 11 39   15 23 782 1.06 120 16 11 39 PASS 16 23 778 1.06 124 13 10 38   17 23 822 1.11 125 10 9 38   18 24 842 1.11 125 10 9 38   19 23 743 1.01 110 9 7 37   20 22 772 1.10 125 9 9 39.5   21 22 790 1.10 117 10 6 38.5   22 23 775 1.05 124 10 7 36   23 23 780 1.06 123 13 8 39.5   24 22 766 1.12 113 6 5 34.5   25 23 802 1.07 121 6 6 40.5   26 24 880 1.14 118 8 5 39   27-30 These lots have been withdrawn 31 22 788 1.12 116 9 9 37 37   29 34 22 766 1.00 124 118 8 5 39   27-30 These lots have been withdrawn 31 22 788 1.12 116 9 9 9 37   34 22 766 1.02 128 17 13 39   35   WITHDRAWN 36   36 23 740 1.01 117 8 6 41   37 23 762 1.06 125 13 10 38.5	7	24	848	1.11	130	10	8	42	<b>✓</b>	
10	8			V	VITHDRAWI	N				
11       23       894       1.20       130       12       10       38.5       ✓         12       23       825       1.10       119       13       10       42.5       ✓         13       22       848       1.19       132       10       8       39.5       ✓         14       23       800       1.08       133       14       11       39       ✓         15       23       782       1.06       120       16       11       39       PASS         16       23       778       1.06       124       13       10       38       ✓         17       23       822       1.11       125       10       9       38       ✓         18       24       842       1.11       125       10       9       38       ✓         19       23       743       1.01       110       9       7       37       ✓         20       22       772       1.10       125       9       9       39.5       ✓         21       22       790       1.10       117       10       6       38.5       ✓	9	23	836	1.14	129	11	10	36	<b>✓</b>	
12       23       825       1.10       119       13       10       42.5       ✓         13       22       848       1.19       132       10       8       39.5       ✓         14       23       800       1.08       133       14       11       39       ✓         15       23       782       1.06       120       16       11       39       PASS         16       23       778       1.06       124       13       10       38       ✓         17       23       822       1.11       125       10       9       38       ✓         18       24       842       1.11       125       10       9       38       ✓         19       23       743       1.01       110       9       7       37       ✓         20       22       772       1.10       125       9       9       39.5       ✓         21       22       790       1.10       117       10       6       38.5       ✓         22       23       780       1.06       123       13       8       39.5       ✓      <	10	23	814	1.11	125	12	10	39.5	<b>✓</b>	
13       22       848       1.19       132       10       8       39.5       ✓         14       23       800       1.08       133       14       11       39       ✓         15       23       782       1.06       120       16       11       39       PASS         16       23       778       1.06       124       13       10       38       ✓         17       23       822       1.11       125       10       9       38       ✓         18       24       842       1.11       125       13       8       39       ✓         19       23       743       1.01       110       9       7       37       ✓         20       22       772       1.10       125       9       9       39.5       ✓         21       22       790       1.10       117       10       6       38.5       ✓         22       23       775       1.05       124       10       7       36       ✓         23       23       780       1.06       123       13       8       39.5       ✓	11	23	894	1.20	130	12	10	38.5	<b>✓</b>	
14       23       800       1.08       133       14       11       39       ✓         15       23       782       1.06       120       16       11       39       PASS         16       23       778       1.06       124       13       10       38       ✓         17       23       822       1.11       125       10       9       38       ✓         18       24       842       1.11       125       13       8       39       ✓         19       23       743       1.01       110       9       7       37       ✓         20       22       772       1.10       125       9       9       39.5       ✓         21       22       790       1.10       117       10       6       38.5       ✓         22       23       775       1.05       124       10       7       36       ✓         23       23       780       1.06       123       13       8       39.5       ✓         24       22       766       1.12       113       6       5       34.5       ✓	12	23	825	1.10	119	13	10	42.5	<b>✓</b>	
15	13	22	848	1.19	132	10	8	39.5	<b>✓</b>	
16       23       778       1.06       124       13       10       38       ✓         17       23       822       1.11       125       10       9       38       ✓         18       24       842       1.11       125       13       8       39       ✓         19       23       743       1.01       110       9       7       37       ✓         20       22       772       1.10       125       9       9       39.5       ✓         21       22       790       1.10       117       10       6       38.5       ✓         22       23       775       1.05       124       10       7       36       ✓         23       23       780       1.06       123       13       8       39.5       ✓         24       22       766       1.12       113       6       5       34.5       ✓         25       23       802       1.07       121       6       6       40.5       ✓         26       24       880       1.14       118       8       5       39       ✓	14	23	800	1.08	133	14	11	39	<b>✓</b>	
17     23     822     1.11     125     10     9     38     ✓       18     24     842     1.11     125     13     8     39     ✓       19     23     743     1.01     110     9     7     37     ✓       20     22     772     1.10     125     9     9     39.5     ✓       21     22     790     1.10     117     10     6     38.5     ✓       22     23     775     1.05     124     10     7     36     ✓       23     23     780     1.06     123     13     8     39.5     ✓       24     22     766     1.12     113     6     5     34.5     ✓       25     23     802     1.07     121     6     6     40.5     ✓       26     24     880     1.14     118     8     5     39     ✓       27-30     These lots have been withdrawn       31     22     788     1.12     116     9     9     37     ✓       32     22     721     1.01     114     7     4     38     ✓       33 <td< td=""><td>15</td><td>23</td><td>782</td><td>1.06</td><td>120</td><td>16</td><td>11</td><td>39</td><td>PASS</td></td<>	15	23	782	1.06	120	16	11	39	PASS	
18       24       842       1.11       125       13       8       39       ✓         19       23       743       1.01       110       9       7       37       ✓         20       22       772       1.10       125       9       9       39.5       ✓         21       22       790       1.10       117       10       6       38.5       ✓         22       23       775       1.05       124       10       7       36       ✓         23       23       780       1.06       123       13       8       39.5       ✓         24       22       766       1.12       113       6       5       34.5       ✓         25       23       802       1.07       121       6       6       40.5       ✓         26       24       880       1.14       118       8       5       39       ✓         27-30       These lots have been withdrawn         31       22       788       1.12       116       9       9       37       ✓         32       22       721       1.01       114	16	23	778	1.06	124	13	10	38	<b>✓</b>	
19       23       743       1.01       110       9       7       37       ✓         20       22       772       1.10       125       9       9       39.5       ✓         21       22       790       1.10       117       10       6       38.5       ✓         22       23       775       1.05       124       10       7       36       ✓         23       23       780       1.06       123       13       8       39.5       ✓         24       22       766       1.12       113       6       5       34.5       ✓         25       23       802       1.07       121       6       6       40.5       ✓         26       24       880       1.14       118       8       5       39       ✓         27-30       These lots have been withdrawn         31       22       788       1.12       116       9       9       37       ✓         32       22       721       1.01       114       7       4       38       ✓         34       22       766       1.08       125       7	17	23	822	1.11	125	10	9	38	<b>✓</b>	
20       22       772       1.10       125       9       9       39.5       ✓         21       22       790       1.10       117       10       6       38.5       ✓         22       23       775       1.05       124       10       7       36       ✓         23       23       780       1.06       123       13       8       39.5       ✓         24       22       766       1.12       113       6       5       34.5       ✓         25       23       802       1.07       121       6       6       40.5       ✓         26       24       880       1.14       118       8       5       39       ✓         27-30       These lots have been withdrawn         31       22       788       1.12       116       9       9       37       ✓         32       22       721       1.01       114       7       4       38       ✓         33       23       766       1.02       128       17       13       39       ✓         34       22       766       1.08       125 <td< td=""><td>18</td><td>24</td><td>842</td><td>1.11</td><td>125</td><td>13</td><td>8</td><td>39</td><td><b>✓</b></td></td<>	18	24	842	1.11	125	13	8	39	<b>✓</b>	
21       22       790       1.10       117       10       6       38.5       ✓         22       23       775       1.05       124       10       7       36       ✓         23       23       780       1.06       123       13       8       39.5       ✓         24       22       766       1.12       113       6       5       34.5       ✓         25       23       802       1.07       121       6       6       40.5       ✓         26       24       880       1.14       118       8       5       39       ✓         27-30       These lots have been withdrawn       31       22       788       1.12       116       9       9       37       ✓         32       22       721       1.01       114       7       4       38       ✓         33       23       766       1.02       128       17       13       39       ✓         34       22       766       1.08       125       7       7       38       ✓         35       WITHDRAWN         36       23       740<	19	23	743	1.01	110	9	7	37	<b>✓</b>	
22       23       775       1.05       124       10       7       36       ✓         23       23       780       1.06       123       13       8       39.5       ✓         24       22       766       1.12       113       6       5       34.5       ✓         25       23       802       1.07       121       6       6       40.5       ✓         26       24       880       1.14       118       8       5       39       ✓         27-30       These lots have been withdrawn       31       22       788       1.12       116       9       9       37       ✓         32       22       721       1.01       114       7       4       38       ✓         33       23       766       1.02       128       17       13       39       ✓         34       22       766       1.08       125       7       7       38       ✓         35       WITHDRAWN       36       23       740       1.01       117       8       6       41       ✓         37       23       762       1.06 <td< td=""><td>20</td><td>22</td><td>772</td><td>1.10</td><td>125</td><td>9</td><td>9</td><td>39.5</td><td><b>✓</b></td></td<>	20	22	772	1.10	125	9	9	39.5	<b>✓</b>	
23       23       780       1.06       123       13       8       39.5       ✓         24       22       766       1.12       113       6       5       34.5       ✓         25       23       802       1.07       121       6       6       40.5       ✓         26       24       880       1.14       118       8       5       39       ✓         27-30       These lots have been withdrawn       31       22       788       1.12       116       9       9       37       ✓         32       22       721       1.01       114       7       4       38       ✓         33       23       766       1.02       128       17       13       39       ✓         34       22       766       1.08       125       7       7       38       ✓         35       WITHDRAWN         36       23       740       1.01       117       8       6       41       ✓         37       23       762       1.06       125       13       10       38.5       ✓	21	22	790	1.10	117	10	6	38.5	<b>✓</b>	
24       22       766       1.12       113       6       5       34.5       ✓         25       23       802       1.07       121       6       6       40.5       ✓         26       24       880       1.14       118       8       5       39       ✓         27-30       These lots have been withdrawn	22	23	775	1.05	124	10	7	36	<b>✓</b>	
25	23	23	780	1.06	123	13	8	39.5	<b>✓</b>	
26       24       880       1.14       118       8       5       39       ✓         27-30       These lots have been withdrawn       31       22       788       1.12       116       9       9       37       ✓         32       22       721       1.01       114       7       4       38       ✓         33       23       766       1.02       128       17       13       39       ✓         34       22       766       1.08       125       7       7       38       ✓         35       WITHDRAWN         36       23       740       1.01       117       8       6       41       ✓         37       23       762       1.06       125       13       10       38.5       ✓	24	22	766	1.12	113	6	5	34.5	<b>✓</b>	
27-30     These lots have been withdrawn       31     22     788     1.12     116     9     9     37     ✓       32     22     721     1.01     114     7     4     38     ✓       33     23     766     1.02     128     17     13     39     ✓       34     22     766     1.08     125     7     7     38     ✓       35     WITHDRAWN       36     23     740     1.01     117     8     6     41     ✓       37     23     762     1.06     125     13     10     38.5     ✓	25	23	802	1.07	121	6	6	40.5	<b>✓</b>	
31     22     788     1.12     116     9     9     37     ✓       32     22     721     1.01     114     7     4     38     ✓       33     23     766     1.02     128     17     13     39     ✓       34     22     766     1.08     125     7     7     38     ✓       35     WITHDRAWN       36     23     740     1.01     117     8     6     41     ✓       37     23     762     1.06     125     13     10     38.5     ✓	26	24	880	1.14	118	8	5	39	<b>✓</b>	
32     22     721     1.01     114     7     4     38     ✓       33     23     766     1.02     128     17     13     39     ✓       34     22     766     1.08     125     7     7     38     ✓       35     WITHDRAWN       36     23     740     1.01     117     8     6     41     ✓       37     23     762     1.06     125     13     10     38.5     ✓	27-30	These lots	ese lots have been withdrawn							
33     23     766     1.02     128     17     13     39     ✓       34     22     766     1.08     125     7     7     38     ✓       35     WITHDRAWN       36     23     740     1.01     117     8     6     41     ✓       37     23     762     1.06     125     13     10     38.5     ✓	31	22	788	1.12	116	9	9	37	<b>✓</b>	
34     22     766     1.08     125     7     7     38     ✓       35     WITHDRAWN       36     23     740     1.01     117     8     6     41     ✓       37     23     762     1.06     125     13     10     38.5     ✓	32	22	721	1.01	114	7	4	38	<b>✓</b>	
35 WITHDRAWN 36 23 740 1.01 117 8 6 41 ✓ 37 23 762 1.06 125 13 10 38.5 ✓	33	23	766	1.02	128	17	13	39	~	
36     23     740     1.01     117     8     6     41     ✓       37     23     762     1.06     125     13     10     38.5     ✓	34	22	766	1.08	125	7	7	38	<b>✓</b>	
37 23 762 1.06 125 13 10 38.5 <b>✓</b>	35			V	VITHDRAWI	N				
	36	23	740	1.01	117	8	6	41	<b>✓</b>	
	37	23	762	1.06	125	13	10	38.5	~	
38    24    739    0.96    125    12    8    40    ✓	38	24	739	0.96	125	12	8	40	<b>✓</b>	

LOT	AGE	WEIGHT	A.D.G.	EMA	RUMP	RIB	SCROTAL	MORPH
39	21	698	1.04	124	13	9	41	<b>✓</b>
40	23	726	1.00	118	11	7	40	<b>✓</b>
41	22	705	1.01	118	14	8	40.5	<b>~</b>
42	23	790	1.06	119	10	8	41	<b>✓</b>
43	22	706	1.00	120	12	9	40.5	<b>~</b>
44	22	710	0.98	125	11	7	37	PASS
45		7 2 0		VITHDRAW			37	17.55
46	22	772	1.10	125	10	7	36	<b>~</b>
47	22	724	1.03	121	12	10	37.5	<b>~</b>
48	22	724	1.03	114	12	9	41.5	<b>~</b>
49	23	666	0.90	125	10	10	39	<b>~</b>
50				VITHDRAW				
51	22	695	1.00	112	11	7	34.5	<b>~</b>
52	23	730	0.98	118	7	4	40	<b>~</b>
53	20	700	1.07	123	10	9	40.5	<b>~</b>
54	23	722	0.97	110	10	7	39.5	<b>✓</b>
55	23	848	1.14	123	7	5	39	<b>~</b>
56	23			126	10	8	38	<b>✓</b>
57	23	880	1.21	121	12	10	39	<b>~</b>
58	24	822	1.09	127	13	10	38	<b>✓</b>
59		011		VITHDRAW!			00	
60	25	866	1.10	132	9	7	42	<b>~</b>
61	23	822	1.11	127	14	12	41	<b>~</b>
62	23	794	1.06	131	10	9	41.5	<b>✓</b>
63	23	816	1.11	130	7	6	40	<b>~</b>
64	23	844	1.14	134	6	5	41.5	· •
65	23	800	1.06	134	9	7	38.5	<b>✓</b>
66	22		-0.05	127	7	6	38.5	<b>✓</b>
67	23			VITHDRAW				
68	23	752	1.02	130	16	8	42	<b>~</b>
69	23	804	1.10	128	12	12	39	<b>~</b>
70	22	770	1.04	132	11	10	36	<b>✓</b>
71	22			VITHDRAW				
72	23	822	1.11	117	7	5	40	<b>~</b>
73	22	760	1.06	120	6	5	39	<b>~</b>
74	23	710	0.94	114	8	4	34.5	✓
75	23	820	1.12	125	13	9	39.5	<b>~</b>
76	23	754	1.03	127	9	7	39	✓
77	22	800	1.15	117	10	9	41	<b>→</b>
78	23	744	1.00	122	14	9	38	·
79	23	708	0.97	115	12	10	39.5	PASS
80-81		have been v					35.5	155
82				VITHDRAW	N			
83	20	740	1.16	120	14	9	40.5	<b>→</b>
84	23	743	1.01	130	10	8	39	<b>✓</b>
85	22	706	0.98	117	10	5	36	<b>~</b>
86	22	734	1.05	120	10	8	39	<b>✓</b>
Average d								

Average daily gain has been calculated after subtracting 32kg for estimated birth weight