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Lampiran 1. Hasil pengamatan suhu tubuh, pernafasan dan daya tahan panas sapi Bali dan persilangannya dengan riwayat kelahiran kembar dan tunggal

HASIL PENGAMATAN DAYA TAHAN PANAS DAN PENGHITUNGAN DTP SESUAI HUKUM BENEZRA

| NO. | SAPI | LOKASI | SUHU LINGKUNGAN | SUHU REKTAL | | PERNAFASAN | | DTP | GENOTIPE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | I (Pagi) | 2 (Siang) | 1 (Pagi) | 2 (Siang) | | |
| | ***Sapi Bali*** | | | | | | | | |
| 1 | Sapi Bali tunggal | Bantaeng | 32.8 | 38.6 | 39.4 | 27 | 36 | 2.35 | AA |
| 2 | Sapi Bali tunggal | Bantaeng | 32.8 | 38.3 | 38.8 | 22 | 23 | 2.06 | AC |
| 3 | Sapi Bali tunggal | Bantaeng | 32.8 | 38.1 | 38.2 | 25 | 30 | 2.20 | AA |
| 4 | Sapi Bali tunggal | Bantaeng | 32.8 | 38.3 | 37.8 | 25 | 29 | 2.15 | AA |
| 5 | Sapi Bali tunggal | Bantaeng | 32.8 | 38.3 | 38.7 | 22 | 23 | 2.06 | AA |
| 6 | Sapi Bali tunggal | Bantaeng | 32.8 | 38.5 | 38.9 | 19 | 25 | 2.33 | AA |
| 7 | Sapi Bali tunggal | Polman | 32 | 38.2 | 38.7 | 24 | 30 | 2.26 | AA |
| 8 | Sapi Bali tunggal | Polman | 32.5 | 38.5 | 39.1 | 19 | 24 | 2.28 | AA |
| | ***Sapi Bali persilangan*** | | ***32.66*** | | | | | | |
| 1 | Brahman x bali | Bantaeng | 32.8 | 38.8 | 38.9 | 29 | 39 | 2.35 | AA |
| 2 | brangus x bali | Bantaeng | 32 | 38.1 | 38.5 | 25 | 29 | 2.17 | AA |
| 3 | brahman x bali | Bantaeng | 32 | 37.8 | 38.8 | 26 | 27 | 2.06 | AA |
| 4 | brahman x limosin | Bantaeng | 32 | 37.9 | 38.1 | 23 | 25 | 2.09 | AA |
| 5 | bali x simental | Bantaeng | 32 | 38.2 | 38.5 | 25 | 28 | 2.13 | AA |
| 6 | bali x limosin | Bantaeng | 31.8 | 38.6 | 38.8 | 29 | 30 | 2.04 | AA |
| 7 | Bali x Brangus | Polman | 32 | 38.2 | 38.6 | 16 | 24 | 2.51 | AC |
| 8 | Simental x Balbra | Polman | 32 | 38.3 | 38.7 | 27 | 29 | 2.08 | AA |
| | ***Sapi Bali Kembar*** | | ***32.08*** | | | | | | |
| 1 | Sapi Bali Kembar | Bantaeng | 32.5 | 38.2 | 38.9 | 24 | 26 | 2.10 | AA |
| 2 | Sapi Bali Kembar | Polman | 32 | 38.2 | 38.7 | 18 | 25 | 2.40 | AA |
| 3 | Sapi Bali Kembar | Polman | 32 | 39.5 | 39.7 | 27 | 30 | 2.12 | AA |
| 4 | Sapi Bali Kembar | Polman | 33 | 39.3 | 39.9 | 26 | 29 | 2.13 | AA |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***Persilangan kembar*** | | ***32.17*** | | | | | | |
| 1 | Brangus x bali | Bantaeng | 32 | 38 | 39.6 | 26 | 29 | 2.16 | AA |
| 2 | simbal x limosin | Bantaeng | 32 | 38.2 | 38.9 | 17 | 20 | 2.19 | AA |
| 3 | Simental x Bali | Polman | 32.5 | 38.3 | 39.1 | 24 | 27 | 2.15 | AA |
| | | | ***32.27*** | | | | | | |

Lampiran 2 : Genotipe Sapi Bali dan Bali Persilangan dengan riwayat kekembaran

| No. Sampel | Jenis Sapi | Genotipe | No. Sampel | Jenis Sapi | Genotipe |
|---|---|---|---|---|---|
| 1 | Induk Bali Kembar | AA | I | Induk Bali Tunggal | AA |
| 3 | Induk Bali Kembar | AA | II | Induk Bali Tunggal | AC |
| 5 | Induk Bali Kembar | AA | III | Induk Bali Tunggal | AA |
| 6 | Induk Bali Kembar | AA | IV | Induk Bali Tunggal | AA |
| | | | VI | Induk Bali Tunggal | AA |
| | | | VII | Induk Bali Tunggal | AA |
| | | | XXV | Induk Bali Tunggal | AA |
| | | | XXVIII | Induk Bali Tunggal | AA |
| | | 4 | | | 8 |
| 23 | Induk Bali Cross Kembar | AA | XVI | Induk Bali Cross Tunggal | AA |
| 24 | Induk Bali Cross Kembar | AA | XVII | Induk Bali Cross Tunggal | AA |
| 26 | Induk Bali Cross Kembar | AA | XVIII | Induk Bali Cross Tunggal | AC |
| | | | XXI | Induk Bali Cross Tunggal | AA |
| | | | XXIII | Induk Bali Cross Tunggal | AA |
| | | | XXVIII | Induk Bali Cross Tunggal | AA |
| | | | XXXII | Induk Bali Cross Tunggal | AA |
| | | | XXXV | Induk Bali Cross Tunggal | AA |
| | | 3 | | | 8 |

Lampiran 3. Analisa frekuensi alel, genotipe, heterozogositas dan keseimbangan Hardy-Weinberg

Rekapitulasi Data Genotip Sapi Bali & Bali cross dengan Riwayat Kembar

| No | Jenis Sapi | Genotipe | | | |
|---|---|---|---|---|---|
| | | AA | AC | CC | Jumlah |
| 1 | Induk Bali | 11 | 1 | 0 | 12 |
| 2 | Induk Bali Persilangan | 10 | 1 | 0 | 11 |
| | Total Populasi | 21 | 2 | 0 | 23 |

Frekuensi Alel, Genotip dan Heterosigositas Sapi Bali & Bali cross dengan Riwayat kelahiran Kembar dan Tunggal

| No | Jenis Sapi | Frekuensi Alel | | Frekuensi Genotip | | | Heterozigositas (He) | H-W |
|---|---|---|---|---|---|---|---|---|
| | | A | C | AA | AC | CC | | |
| 1 | Induk Bali | 0.96 | 0.04 | 0.92 | 0.08 | 0.00 | 0.08 | 0.023 |
| 2 | Induk Bali Persilangan | 0.95 | 0.05 | 0.91 | 0.09 | 0.00 | 0.09 | 0.027 |
| | Total Populasi | 0.96 | 0.04 | 0.91 | 0.08 | 0.00 | 0.08 | 0.048 |

Lampiran 4 Genotipe pengamatan, harapan dan keseimbangan HW pada sapi Bali dan Bali Persilangan dengan riwayat kekembaran

Genotip Pengamatan, Genotip Harapan dan Keseimbangan Hardy-Weinberg pada Sapi Bali & Bali cross Dengan Riwayat Kelahiran Kembar dan Tunggal

| No | Jenis Sapi | Genotipe Pengamatan | | | Jumlah | Genotipe Harapan | | | Jumlah | X2 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | AA | AC | CC | | AA | AC | CC | | |
| 1 | Induk Bali | 11 | 1 | 0 | 12 | 11.02 | 0.96 | 0.02 | 12.00 | 0.023 |
| 2 | Induk Bali Persilangan | 11 | 1 | 0 | 12 | 10.93 | 1.04 | 0.02 | 12.00 | 0.027 |
| | Total Populasi | 21 | 2 | 0 | 23 | 21.04 | 1.91 | 0.04 | 23.00 | 0.048 |

Lampiran 5. Rekapitulasi hasil restriksi menggunakan enzim BSOB1 pada sapi Bali dan Bali persilangan dengan riwayat kekembaran

| No. | No. Sampel | Panjang Fragmen | Genotipe | Keterangan |
|---|---|---|---|---|
| ***Sapi Bali Kontrol*** | | | | |
| 1 | I | 400 bp, 144 bp | AA | Bali control |
| 2 | II | 400 bp, 200 bp, 144 bp | AC | Bali control |
| 3 | III | 400 bp, 144 bp | AA | Bali control |
| 4 | IV | 400 bp, 144 bp | AA | Bali control |
| 5 | VI | 400 bp, 144 bp | AA | Bali control |
| 6 | VII | 400 bp, 144 bp | AA | Bali control |
| 7 | XXV | 400 bp, 144 bp | AA | Bali Kontrol |
| 8 | XXVII | 400 bp, 144 bp | AA | Bali Kontrol |
| | | | | |
| ***Sapi Bali Kembar*** | | | | |
| 1 | 1 | 400 bp, 144 bp | AA | Bali Kembar |
| 2 | 3 | 400 bp, 144 bp | AA | Bali Kembar |
| 3 | 5 | 400 bp, 144 bp | AA | Bali Kembar |
| 4 | 6 | 400 bp, 144 bp | AA | Bali Kembar |
| | | | | |
| ***Sapi persilangan bali control*** | | | | |
| 1 | XVI | 400 bp, 144 bp | AA | Induk Simental Bali |
| 2 | XVII | 400 bp, 200 bp, 144 bp | AC | Induk ongole Bali |
| 3 | XVIII | 400 bp, 144 bp | AA | Induk Brahman Bali |
| 4 | XXI | 400 bp, 144 bp | AA | Persilangan simbal Kontrol |
| 5 | XXIII | 400 bp, 144 bp | AA | Induk Bali Brahman Kontrol |
| 6 | XXVIII | 400 bp, 144 bp | AA | Induk Brahman Bali |
| 7 | XXXII | 400 bp, 144 bp | AA | Induk Bali Brahman Kontrol |
| 8 | XXXV | 400 bp, 144 bp | AA | Induk Bali Angus |
| ***Sapi Persilangan Bali Kembar*** | | | | |
| 1 | 23 | 400 bp, 144 bp | AA | Persilangan Barhman Bali Kembar |
| 2 | 24 | 400 bp, 144 bp | AA | Persilangan Simbal Kembar |
| 3 | 28 | 400 bp, 144 bp | AA | Persilangan Brahman Bali Kembar |
| 4 | | | | |

Lampiran 6 . Hasil restriksi Gen HSP 70 dengan menggunakan enzim *BSOB1*