**Modelling for the inheritance of endangered equid multiple births and fertility: determining risk factors and genetic parameters in donkeys *(Equus asinus)***

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|  |
| --- |
| Animals |
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**Supplementary Table S6.**Summary of the results of the independent sample median test for the effects for whose levels there were statistically significant differences on the historical foal number born per animal, maximum foal number per birth and multiple birth number per animal compared to the significances for the results of the Dunn's test for the same parameters.

**SEX**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Level | P-value | Median | Frequencies over the median | Mann-Whitney U significancies |
| Historical foal number born per donkey | Jack | 0.000 | 0.000 | 70 | There were significant differences |
| Historical foal number born per donkey | Jenny | 213 | There were significant differences |
| Maximum foal number per birth | Jack | 0.049 | 1.000 | 22 | There were significant differences |
| Maximum foal number per birth | Jenny | 44 | There were significant differences |
| Multiple birth number per animal for a given donkey | Jack | 0.022 | 0.000 | 22 | There were significant differences |
| Multiple birth number per animal for a given donkey | Jenny | 44 | There were significant differences |

**FARM/OWNER**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Level | P-value | Median | Frequencies over the median | Dunn's Test significancies |
| Historical foal number born per donkey | 1 | 0.000 | 0.000 | 1 | There were statistically sigificant differences between farms 1. 3. 4. 5. 6. 7. 8. 9. 20. 27. 43. 64. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 33. 34. 35. 36. 40. 41. 42. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 56. 58. 59. 61. 62. 63. 65. 66. 67. 69. 76. 79. 80. 81. 82. 83. 85. 87. 89 and 90. |
| Historical foal number born per donkey | 2 | 9 |
| Historical foal number born per donkey | 3 | 1 |
| Historical foal number born per donkey | 4 | 11 |
| Historical foal number born per donkey | 5 | 2 |
| Historical foal number born per donkey | 6 | 5 |
| Historical foal number born per donkey | 7 | 5 |
| Historical foal number born per donkey | 8 | 6 |
| Historical foal number born per donkey | 9 | 37 |
| Historical foal number born per donkey | 10 | 5 |
| Historical foal number born per donkey | 11 | 2 |
| Historical foal number born per donkey | 12 | 2 |
| Historical foal number born per donkey | 13 | 5 |
| Historical foal number born per donkey | 14 | 9 |
| Historical foal number born per donkey | 15 | 21 |
| Historical foal number born per donkey | 16 | 5 |
| Historical foal number born per donkey | 17 | 0 |
| Historical foal number born per donkey | 18 | 2 |
| Historical foal number born per donkey | 19 | 15 |
| Historical foal number born per donkey | 20 | 14 |
| Historical foal number born per donkey | 21 | 5 |
| Historical foal number born per donkey | 22 | 9 |
| Historical foal number born per donkey | 23 | 0 |
| Historical foal number born per donkey | 24 | 2 |
| Historical foal number born per donkey | 25 | 0 |
| Historical foal number born per donkey | 26 | 16 |
| Historical foal number born per donkey | 27 | 3 |
| Historical foal number born per donkey | 28 | 2 |
| Historical foal number born per donkey | 29 | 2 |
| Historical foal number born per donkey | 30 | 2 |
| Historical foal number born per donkey | 31 | 2 |
| Historical foal number born per donkey | 32 | 7 |
| Historical foal number born per donkey | 33 | 3 |
| Historical foal number born per donkey | 34 | 1 |
| Historical foal number born per donkey | 35 | 3 |
| Historical foal number born per donkey | 36 | 1 |
| Historical foal number born per donkey | 37 | 1 |
| Historical foal number born per donkey | 38 | 4 |
| Historical foal number born per donkey | 39 | 5 |
| Historical foal number born per donkey | 40 | 0 |
| Historical foal number born per donkey | 41 | 0 |
| Historical foal number born per donkey | 42 | 2 |
| Historical foal number born per donkey | 43 | 1 |
| Historical foal number born per donkey | 44 | 1 |
| Historical foal number born per donkey | 45 | 1 |
| Historical foal number born per donkey | 46 | 2 |
| Historical foal number born per donkey | 47 | 0 |
| Historical foal number born per donkey | 48 | 0 |
| Historical foal number born per donkey | 49 | 1 |
| Historical foal number born per donkey | 50 | 5 |
| Historical foal number born per donkey | 51 | 4 |
| Historical foal number born per donkey | 52 | 1 |
| Historical foal number born per donkey | 53 | 0 |
| Historical foal number born per donkey | 54 | 1 |
| Historical foal number born per donkey | 55 | 3 |
| Historical foal number born per donkey | 56 | 0 |
| Historical foal number born per donkey | 57 | 2 |
| Historical foal number born per donkey | 58 | 2 |
| Historical foal number born per donkey | 59 | 0 |
| Historical foal number born per donkey | 60 | 0 |
| Historical foal number born per donkey | 61 | 0 |
| Historical foal number born per donkey | 62 | 1 |
| Historical foal number born per donkey | 63 | 2 |
| Historical foal number born per donkey | 64 | 0 |
| Historical foal number born per donkey | 65 | 3 |
| Historical foal number born per donkey | 66 | 4 |
| Historical foal number born per donkey | 67 | 0 |
| Historical foal number born per donkey | 68 | 1 |
| Historical foal number born per donkey | 69 | 0 |
| Historical foal number born per donkey | 70 | 0 |
| Historical foal number born per donkey | 71 | 0 |
| Historical foal number born per donkey | 72 | 2 |
| Historical foal number born per donkey | 73 | 0 |
| Historical foal number born per donkey | 74 | 1 |
| Historical foal number born per donkey | 75 | 3 |
| Historical foal number born per donkey | 76 | 1 |
| Historical foal number born per donkey | 77 | 0 |
| Historical foal number born per donkey | 78 | 0 |
| Historical foal number born per donkey | 79 | 1 |
| Historical foal number born per donkey | 80 | 0 |
| Historical foal number born per donkey | 81 | 1 |
| Historical foal number born per donkey | 82 | 0 |
| Historical foal number born per donkey | 83 | 0 |
| Historical foal number born per donkey | 84 | 1 |
| Historical foal number born per donkey | 85 | 0 |
| Historical foal number born per donkey | 86 | 0 |
| Historical foal number born per donkey | 87 | 0 |
| Historical foal number born per donkey | 88 | 1 |
| Historical foal number born per donkey | 89 | 0 |
| Historical foal number born per donkey | 90 | 0 |
| Maximum foal number per birth | 1 |  | 1.000 | 1 | There were statistically sigificant differences between farms 1. 3. 4. 5. 6. 7. 8. 9. 20. 27. 43. 64. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 33. 34. 35. 36. 40. 41. 42. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 56. 58. 59. 61. 62. 63. 65. 66. 67. 69. 76. 79. 80. 81. 82. 83. 85. 87. 89 and 90. |
| Maximum foal number per birth | 2 | 0 |
| Maximum foal number per birth | 3 | 2 |
| Maximum foal number per birth | 4 | 1 |
| Maximum foal number per birth | 5 | 2 |
| Maximum foal number per birth | 6 | 1 |
| Maximum foal number per birth | 7 | 0 |
| Maximum foal number per birth | 8 | 1 |
| Maximum foal number per birth | 9 | 6 |
| Maximum foal number per birth | 10 | 1 |
| Maximum foal number per birth | 11 | 0 |
| Maximum foal number per birth | 12 | 1 |
| Maximum foal number per birth | 13 | 0 |
| Maximum foal number per birth | 14 | 1 |
| Maximum foal number per birth | 15 | 0 |
| Maximum foal number per birth | 16 | 0 |
| Maximum foal number per birth | 17 | 0 |
| Maximum foal number per birth | 18 | 0 |
| Maximum foal number per birth | 19 | 1 |
| Maximum foal number per birth | 20 | 15 |
| Maximum foal number per birth | 21 | 5 |
| Maximum foal number per birth | 22 | 1 |
| Maximum foal number per birth | 23 | 0 |
| Maximum foal number per birth | 24 | 0 |
| Maximum foal number per birth | 25 | 1 |
| Maximum foal number per birth | 26 | 0 |
| Maximum foal number per birth | 27 | 4 |
| Maximum foal number per birth | 28 | 1 |
| Maximum foal number per birth | 29 | 0 |
| Maximum foal number per birth | 30 | 0 |
| Maximum foal number per birth | 31 | 0 |
| Maximum foal number per birth | 32 | 1 |
| Maximum foal number per birth | 33 | 4 |
| Maximum foal number per birth | 34 | 0 |
| Maximum foal number per birth | 35 | 1 |
| Maximum foal number per birth | 36 | 0 |
| Maximum foal number per birth | 37 | 0 |
| Maximum foal number per birth | 38 | 1 |
| Maximum foal number per birth | 39 | 2 |
| Maximum foal number per birth | 40 | 0 |
| Maximum foal number per birth | 41 | 0 |
| Maximum foal number per birth | 42 | 0 |
| Maximum foal number per birth | 43 | 2 |
| Maximum foal number per birth | 44 | 1 |
| Maximum foal number per birth | 45 | 0 |
| Maximum foal number per birth | 46 | 0 |
| Maximum foal number per birth | 47 | 0 |
| Maximum foal number per birth | 48 | 0 |
| Maximum foal number per birth | 49 | 0 |
| Maximum foal number per birth | 50 | 0 |
| Maximum foal number per birth | 51 | 0 |
| Maximum foal number per birth | 52 | 0 |
| Maximum foal number per birth | 53 | 0 |
| Maximum foal number per birth | 54 | 0 |
| Maximum foal number per birth | 55 | 1 |
| Maximum foal number per birth | 56 | 1 |
| Maximum foal number per birth | 57 | 0 |
| Maximum foal number per birth | 58 | 1 |
| Maximum foal number per birth | 59 | 0 |
| Maximum foal number per birth | 60 | 0 |
| Maximum foal number per birth | 61 | 0 |
| Maximum foal number per birth | 62 | 0 |
| Maximum foal number per birth | 63 | 0 |
| Maximum foal number per birth | 64 | 2 |
| Maximum foal number per birth | 65 | 0 |
| Maximum foal number per birth | 66 | 1 |
| Maximum foal number per birth | 67 | 0 |
| Maximum foal number per birth | 68 | 0 |
| Maximum foal number per birth | 69 | 0 |
| Maximum foal number per birth | 70 | 0 |
| Maximum foal number per birth | 71 | 0 |
| Maximum foal number per birth | 72 | 0 |
| Maximum foal number per birth | 73 | 1 |
| Maximum foal number per birth | 74 | 0 |
| Maximum foal number per birth | 75 | 1 |
| Maximum foal number per birth | 76 | 0 |
| Maximum foal number per birth | 77 | 1 |
| Maximum foal number per birth | 78 | 0 |
| Maximum foal number per birth | 79 | 0 |
| Maximum foal number per birth | 80 | 0 |
| Maximum foal number per birth | 81 | 0 |
| Maximum foal number per birth | 82 | 0 |
| Maximum foal number per birth | 83 | 0 |
| Maximum foal number per birth | 84 | 0 |
| Maximum foal number per birth | 85 | 0 |
| Maximum foal number per birth | 86 | 0 |
| Maximum foal number per birth | 87 | 0 |
| Maximum foal number per birth | 88 | 0 |
| Maximum foal number per birth | 89 | 0 |
| Maximum foal number per birth | 90 | 0 |
| Multiple birth number per animal for a given donkey | 1 | 0.000 | 0.000 | 1 | There were statistically sigificant differences between farms 1. 3. 4. 5. 6. 7. 8. 9. 20. 27. 43. 64. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 33. 34. 35. 36. 40. 41. 42. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 56. 58. 59. 61. 62. 63. 65. 66. 67. 69. 76. 79. 80. 81. 82. 83. 85. 87. 89 and 90. |
| Multiple birth number per animal for a given donkey | 2 | 0 |
| Multiple birth number per animal for a given donkey | 3 | 2 |
| Multiple birth number per animal for a given donkey | 4 | 1 |
| Multiple birth number per animal for a given donkey | 5 | 2 |
| Multiple birth number per animal for a given donkey | 6 | 1 |
| Multiple birth number per animal for a given donkey | 7 | 0 |
| Multiple birth number per animal for a given donkey | 8 | 1 |
| Multiple birth number per animal for a given donkey | 9 | 6 |
| Multiple birth number per animal for a given donkey | 10 | 1 |
| Multiple birth number per animal for a given donkey | 11 | 0 |
| Multiple birth number per animal for a given donkey | 12 | 1 |
| Multiple birth number per animal for a given donkey | 13 | 0 |
| Multiple birth number per animal for a given donkey | 14 | 1 |
| Multiple birth number per animal for a given donkey | 15 | 0 |
| Multiple birth number per animal for a given donkey | 16 | 0 |
| Multiple birth number per animal for a given donkey | 17 | 0 |
| Multiple birth number per animal for a given donkey | 18 | 0 |
| Multiple birth number per animal for a given donkey | 19 | 1 |
| Multiple birth number per animal for a given donkey | 20 | 15 |
| Multiple birth number per animal for a given donkey | 21 | 5 |
| Multiple birth number per animal for a given donkey | 22 | 1 |
| Multiple birth number per animal for a given donkey | 23 | 0 |
| Multiple birth number per animal for a given donkey | 24 | 0 |
| Multiple birth number per animal for a given donkey | 25 | 1 |
| Multiple birth number per animal for a given donkey | 26 | 0 |
| Multiple birth number per animal for a given donkey | 27 | 4 |
| Multiple birth number per animal for a given donkey | 28 | 1 |
| Multiple birth number per animal for a given donkey | 29 | 0 |
| Multiple birth number per animal for a given donkey | 30 | 0 |
| Multiple birth number per animal for a given donkey | 31 | 0 |
| Multiple birth number per animal for a given donkey | 32 | 1 |
| Multiple birth number per animal for a given donkey | 33 | 4 |
| Multiple birth number per animal for a given donkey | 34 | 0 |
| Multiple birth number per animal for a given donkey | 35 | 1 |
| Multiple birth number per animal for a given donkey | 36 | 0 |
| Multiple birth number per animal for a given donkey | 37 | 0 |
| Multiple birth number per animal for a given donkey | 38 | 1 |
| Multiple birth number per animal for a given donkey | 39 | 2 |
| Multiple birth number per animal for a given donkey | 40 | 0 |
| Multiple birth number per animal for a given donkey | 41 | 0 |
| Multiple birth number per animal for a given donkey | 42 | 0 |
| Multiple birth number per animal for a given donkey | 43 | 2 |
| Multiple birth number per animal for a given donkey | 44 | 1 |
| Multiple birth number per animal for a given donkey | 45 | 0 |
| Multiple birth number per animal for a given donkey | 46 | 0 |
| Multiple birth number per animal for a given donkey | 47 | 0 |
| Multiple birth number per animal for a given donkey | 48 | 0 |
| Multiple birth number per animal for a given donkey | 49 | 0 |
| Multiple birth number per animal for a given donkey | 50 | 0 |
| Multiple birth number per animal for a given donkey | 51 | 0 |
| Multiple birth number per animal for a given donkey | 52 | 0 |
| Multiple birth number per animal for a given donkey | 53 | 0 |
| Multiple birth number per animal for a given donkey | 54 | 0 |
| Multiple birth number per animal for a given donkey | 55 | 1 |
| Multiple birth number per animal for a given donkey | 56 | 1 |
| Multiple birth number per animal for a given donkey | 57 | 0 |
| Multiple birth number per animal for a given donkey | 58 | 1 |
| Multiple birth number per animal for a given donkey | 59 | 0 |
| Multiple birth number per animal for a given donkey | 60 | 0 |
| Multiple birth number per animal for a given donkey | 61 | 0 |
| Multiple birth number per animal for a given donkey | 62 | 0 |
| Multiple birth number per animal for a given donkey | 63 | 0 |
| Multiple birth number per animal for a given donkey | 64 | 2 |
| Multiple birth number per animal for a given donkey | 65 | 0 |
| Multiple birth number per animal for a given donkey | 66 | 1 |
| Multiple birth number per animal for a given donkey | 67 | 0 |
| Multiple birth number per animal for a given donkey | 68 | 0 |
| Multiple birth number per animal for a given donkey | 69 | 0 |
| Multiple birth number per animal for a given donkey | 70 | 0 |
| Multiple birth number per animal for a given donkey | 71 | 0 |
| Multiple birth number per animal for a given donkey | 72 | 0 |
| Multiple birth number per animal for a given donkey | 73 | 1 |
| Multiple birth number per animal for a given donkey | 74 | 0 |
| Multiple birth number per animal for a given donkey | 75 | 1 |
| Multiple birth number per animal for a given donkey | 76 | 0 |
| Multiple birth number per animal for a given donkey | 77 | 1 |
| Multiple birth number per animal for a given donkey | 78 | 0 |
| Multiple birth number per animal for a given donkey | 79 | 0 |
| Multiple birth number per animal for a given donkey | 80 | 0 |
| Multiple birth number per animal for a given donkey | 81 | 0 |
| Multiple birth number per animal for a given donkey | 82 | 0 |
| Multiple birth number per animal for a given donkey | 83 | 0 |
| Multiple birth number per animal for a given donkey | 84 | 0 |
| Multiple birth number per animal for a given donkey | 85 | 0 |
| Multiple birth number per animal for a given donkey | 86 | 0 |
| Multiple birth number per animal for a given donkey | 87 | 0 |
| Multiple birth number per animal for a given donkey | 88 | 0 |
| Multiple birth number per animal for a given donkey | 89 | 0 |
| Multiple birth number per animal for a given donkey | 90 | 0 |

**HUSBANDRY SYSTEM**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Level | P-value | Median | Frequencies over the median | Dunn's Test significancies |
| Maximum foal number per birth | Intensive | 0.185 | 1.000 | 1 | No significant differences |
| Maximum foal number per birth | Semiintensive | 0.185 | 1.000 | 11 | There were significant differences |
| Maximum foal number per birth | Semiextensive | 0.185 | 1.000 | 50 | There were significant differences |
| Maximum foal number per birth | Extensive | 0.185 | 1.000 | 4 | There were significant differences |