

Appendix 2

Genetic diversity of dominant plant species in tropical land-use systems on Sumatra, Indonesia

Natalie Breidenbach^{1*}, Sri Rahayu², Iskandar Z. Siregar³, Ulfah J. Siregar³, Ir. Hamzah⁴, Reiner Finkeldey^{1,5}

¹ Georg August University of Göttingen, Department of Forest Genetics and Forest Tree Breeding,
Büsgenweg 2, 37077 Göttingen, Germany

² Centre for Plant Conservation, Bogor Botanic Gardens, Indonesian Institute of Science (LIPI), Jl. Ir. H. Juanda,
Bogor 16143, Indonesia

³ Department of Silviculture, Faculty of Forestry, Bogor Agricultural University (IPB), Jl. Raya Dramaga, Bogor
16680, Indonesia

⁴ Forestry Faculty, Jambi University, Jl. Lintas Jambi-Muara Bulian Km15, Jambi 36122, Indonesia

⁵ Kassel University, Mönchbergstrasse 19, 34109 Kassel, Germany

*Corresponding author Email: natalie.breidenbach@forst.uni-goettingen.de

Tropical Conservation Science

Fragment pool	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6	Species 7
Forest plot 1	10111100	0000000000	10111111100	0000000000	00000	00000000000000	101111100
Forest plot 1	11111100	0000000000	1011110110	0000000000	00000	00000000000000	101001100
Forest plot 1	10111111	0000000000	10001011100	0000000000	00000	00000000000000	101011100
Forest plot 1	10111110	0000000000	10111101100	0000000000	00000	00000000000000	101110100
Forest plot 1	10111100	0000000000	101111000111	0000000000	00000	00000000000000	101101100
Forest plot 1	10101100	0000000000	10111101111	0000000000	00000	00000000000000	101111010
Forest plot 1	10100100	0000000000	11000111100	0000000000	00000	00000000000000	101111011
Forest plot 1	11111101	0000000000	10101000100	0000000000	00000	00000000000000	101111111
Forest plot 1	00011100	0000000000	10100111011	0000000000	00000	00000000000000	101001100
Forest plot 1	11111110	0000000000	10111110111	0000000000	00000	00000000000000	101110001
Jungle rubber plot 1	00000000	1110111100	000000000000	0000000000	00000	00000000000000	111001100
Jungle rubber plot 1	00000000	1011110011	0000000000	0000000000	00000	00000000000000	010111100
Jungle rubber plot 1	00000000	1011110111	0000000000	0000000000	00000	00000000000000	100111100
Jungle rubber plot 1	00000000	0001101100	0000000000	0000000000	00000	00000000000000	101011100
Jungle rubber plot 1	00000000	11011111100	0000000000	0000000000	00000	00000000000000	101101100
Jungle rubber plot 1	00000000	1011001100	0000000000	0000000000	00000	00000000000000	101111000
Jungle rubber plot 1	00000000	1011011010	0000000000	0000000000	00000	00000000000000	101001110
Jungle rubber plot 1	00000000	1010011100	0000000000	0000000000	00000	00000000000000	101001010
Jungle rubber plot 1	00000000	10111110110	0000000000	0000000000	00000	00000000000000	101011100
Jungle rubber plot 1	00000000	1000110110	0000000000	0000000000	00000	00000000000000	101111001
Oil palm plot 3	00000000	0000000000	1111110110	00000	00000	1011110001010	000000000
Oil palm plot 3	00000000	0000000000	10011111100	00000	00000	10111111111100	000000000
Oil palm plot 3	00000000	0000000000	1010110110	00000	00000	1011100111100	000000000
Oil palm plot 3	00000000	0000000000	1011110111	00000	00000	1010101011100	000000000
Oil palm plot 3	00000000	0000000000	1011110001	00000	00000	1011110011111	000000000
Oil palm plot 3	00000000	0000000000	1010101011	00000	00000	1011001101110	000000000
Oil palm plot 3	00000000	0000000000	1011001011	00000	00000	1011001101110	000000000
Oil palm plot 3	00000000	0000000000	1011001011	00000	00000	1011001101110	000000000
Oil palm plot 3	00000000	0000000000	1011001011	00000	00000	1011001101110	000000000
Oil palm plot 3	00000000	0000000000	1011001011	00000	00000	1011001101110	000000000
Rubber plot 6	00000000	0000000000	1011001001	10100	0111110101010	000000000	
Rubber plot 6	00000000	0000000000	1001101100	11100	0101010101010	000000000	
Rubber plot 6	00000000	0000000000	1011110111	10110	0011101010101	000000000	
Rubber plot 6	00000000	0000000000	1001111011	10101	0111011101010	000000000	
Rubber plot 6	00000000	0000000000	1011111111	11100	0010101010111	000000000	
Rubber plot 6	00000000	0000000000	1011000111	1110	0111010101011	000000000	
Rubber plot 6	00000000	0000000000	1011000111	1110	0111010101011	000000000	
Rubber plot 6	00000000	0000000000	1111011110	11111	0110111101010	000000000	
Rubber plot 6	00000000	0000000000	1011110110	00111	0101010101001	000000000	
Rubber plot 6	00000000	0000000000	1011110110	00110	1010101011011	000000000	
Rubber plot 6	00000000	0000000000	1011111100	00110	0011110101010	000000000	

Appendix 2: Illustration of the input file for the fragment pool approach with one plot of each land-use system randomly chosen from the eight possible plots and seven species. |101111100| presents the 1-0 matrix of one particular individual of the collected species with certain number of fragments, each fragment is in the input file one column. |00000| if a species does not occur in the plot all respective columns are filled with zeros. Species one, three and seven occurs in forest plot 1, species seven is shared with jungle rubber plot 1. Oil palm plot 3 and rubber plot 6 share species four and six, species five only occurs in rubber plot 6.

Fragment pool	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6	Species 7
Forest plot 1	11111111	0000000000	11111111111	0000000000	00000	0000000000000	111111111
Forest plot 1	11111111	0000000000	1111111111	0000000000	00000	000000000000	111111111
Forest plot 1	11111111	0000000000	11111111111	0000000000	00000	000000000000	111111111
Forest plot 1	11111111	0000000000	1111111111	0000000000	00000	000000000000	111111111
Forest plot 1	11111111	0000000000	1111111111	0000000000	00000	000000000000	111111111
Forest plot 1	11111111	0000000000	1111111111	0000000000	00000	000000000000	111111111
Forest plot 1	11111111	0000000000	1111111111	0000000000	00000	000000000000	111111111
Forest plot 1	11111111	0000000000	1111111111	0000000000	00000	000000000000	111111111
Forest plot 1	11111111	0000000000	1111111111	0000000000	00000	000000000000	111111111
Jungle rubber plot 1	00000000	111111111	000000000000	0000000000	00000	0000000000000	111111111
Jungle rubber plot 1	00000000	111111111	00000000000	000000000	00000	000000000000	111111111
Jungle rubber plot 1	00000000	111111111	00000000000	000000000	00000	000000000000	111111111
Jungle rubber plot 1	00000000	111111111	00000000000	000000000	00000	000000000000	111111111
Jungle rubber plot 1	00000000	111111111	00000000000	000000000	00000	000000000000	111111111
Jungle rubber plot 1	00000000	111111111	00000000000	000000000	00000	000000000000	111111111
Jungle rubber plot 1	00000000	111111111	00000000000	000000000	00000	000000000000	111111111
Jungle rubber plot 1	00000000	111111111	00000000000	000000000	00000	000000000000	111111111
Jungle rubber plot 1	00000000	111111111	00000000000	000000000	00000	000000000000	111111111
Jungle rubber plot 1	00000000	111111111	00000000000	000000000	00000	000000000000	111111111
Oil palm plot 3	00000000	0000000000	00000000000	111111111	00000	1111111111111	00000000
Oil palm plot 3	00000000	0000000000	00000000000	111111111	00000	1111111111111	00000000
Oil palm plot 3	00000000	0000000000	00000000000	111111111	00000	1111111111111	00000000
Oil palm plot 3	00000000	0000000000	00000000000	111111111	00000	1111111111111	00000000
Oil palm plot 3	00000000	0000000000	00000000000	111111111	00000	1111111111111	00000000
Oil palm plot 3	00000000	0000000000	00000000000	111111111	00000	1111111111111	00000000
Oil palm plot 3	00000000	0000000000	00000000000	111111111	00000	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000
Rubber plot 6	00000000	0000000000	00000000000	111111111	11111	1111111111111	00000000

Appendix 2a: Illustration of the input file for the clone fragment pool matrix calculation with one plot of each land-use system randomly chosen from the eight possible plots and seven species. |111111111| presents the exact same number of fragments of the original individual of the collected species with certain number of fragments, each fragment is in the input file one column. |00000| if a species does not occur in the plot all respective columns are filled with zeros. Resulting pairwise distance matrix reflects the species dissimilarity between each plot, the genetic dissimilarity is zero.