

Supplementary Table 1: Summary of included studies

Reference	Region	Pasture	Crop	Duration of agricultural use (years)	Sampling technique	Sequencing target	Sequencing platform
Cuer <i>et al.</i> 2018	Amazon basin	-	eucalyptus	39	point plot	16s V4	Illumina MiSeq
de Carvalho <i>et al.</i> 2016	Amazon basin	Yes	maize, soy bean, upland rice	>20	point transect	16s V4	Illumina MiSeq
Khan <i>et al.</i> 2018	Amazon basin	Yes	-	38	point plot	16s V4	Illumina MiSeq
Kroeger <i>et al.</i> 2018	Amazon basin	Yes	-	38	-	metagenome	Illumina HiSeq
Mendes <i>et al.</i> 2015	Amazon basin	Yes	soy bean	5: soy bean, >10: pasture	point plot	metagenome	Illumina HiSeq
Navarrete <i>et al.</i> 2015	Amazon basin	-	-	2-4 (months)	point plot	16s V4 / metagenome	454 GS FLX (V4) & Illumina Hiseq (metagenomes)
Rodrigues <i>et al.</i> 2013	Amazon basin	Yes	-	22	point nested	16s V4	454 GS FLX
Meyer et al., 2019	Congo basin	-	manioc, banana	-	point nested	16s V3-V4	Illumina Miseq
Cai <i>et al.</i> 2018	Southeast Asia	-	rubber, <i>Ptychosperma</i> <i>volubilis</i>	25: Rubber, 4: <i>P. colubrilis</i>	plot pooled	16s V4-V5	Illumina MiSeq
Kerfahi <i>et al.</i> 2016	Southeast Asia	-	rubber	-	pooled plot	16s V3-V4	Illumina MiSeq
Lan <i>et al.</i> 2017	Southeast Asia	-	rubber	-	pooled plot	16s V3-V4	Illumina MiSeq
Lee-Cruz <i>et al.</i> 2013	Southeast Asia	-	oil palm	20-30	pooled transect	16s V3	Illumina HiSeq

Schneider <i>et al.</i> 2015	Southeast Asia	-	oil palm, rubber	6-16: rubber plantation, 15-40: Oil Palm	-	16s V3-V5	454 GS-FLX
Tin <i>et al.</i> 2018	Southeast Asia	-	oil palm	10	point transect	16s V4	Illumina MiSeq
Tripathi <i>et al.</i> 2012	Southeast Asia	Yes	oil palm, banana, lemongrass, papaya, sugarcane, & tapioca		pooled plot	16s V1-V3	454 GS-FLX
Tripathi <i>et al.</i> 2016	Southeast Asia	-	oil palm	20-30	pooled transect	16s V3 / metagenome	Illumina HiSeq
Wood <i>et al.</i> 2017	Southeast Asia	-	oil palm	25	pooled plot	16s V4	Illumina MiSeq

Table References

- Cai, Z., Zhang, Y., Yang, C., & Wang, S. (2018). Land-use type strongly shapes community composition, but not always diversity of soil microbes in tropical China. *Catena*, 165, 369–380. <https://doi.org/10.1016/J.CATENA.2018.02.018>
- Cuer, C. A., Rodrigues, R. de A. R., Balieiro, F. C., Jesus, J., Silva, E. P., Alves, B. J. R., & Rachid, C. T. C. C. (2018). Short-term effect of Eucalyptus plantations on soil microbial communities and soil-atmosphere methane and nitrous oxide exchange. *Scientific Reports*, 8(1), 15133. <https://doi.org/10.1038/s41598-018-33594-6>
- de Carvalho, T. S., Jesus, E. da C., Barlow, J., Gardner, T. A., Soares, I. C., Tiedje, J. M., & Moreira, F. M. de S. (2016). Land use intensification in the humid tropics increased both alpha and beta diversity of soil bacteria. *Ecology*, 97(10), 2760–2771. <https://doi.org/10.1002/ecy.1513>

- Kerfahi, D., Tripathi, B. M., Dong, K., Go, R., & Adams, J. M. (2016). Rainforest Conversion to Rubber Plantation May Not Result in Lower Soil Diversity of Bacteria, Fungi, and Nematodes. *Microbial Ecology*, 72(2), 359–371. <https://doi.org/10.1007/s00248-016-0790-0>
- Khan, M. A. W., Bohannan, B. J. M., Nüsslein, K., Tiedje, J. M., Tringe, S. G., Parlade, E., ... Rodrigues, J. L. M. (2018). Deforestation Impacts Network Co-occurrence Patterns of Microbial Communities in Amazon Soils. *FEMS Microbiology Ecology*, (April 2018), 1–12. <https://doi.org/10.1093/femsec/fiy230>
- Kroeger, M. E., Delmont, T. O., Eren, A. M., Meyer, K. M., Guo, J., Khan, K., ... Nüsslein, K. (2018). New biological insights into how deforestation in amazonia affects soil microbial communities using metagenomics and metagenome-assembled genomes. *Frontiers in Microbiology*, 9(JUL), 1635. <https://doi.org/10.3389/fmicb.2018.01635>
- Lan, G., Li, Y., Jatoi, M. T., Tan, Z., Wu, Z., & Xie, G. (2017). Change in Soil Microbial Community Compositions and Diversity Following the Conversion of Tropical Forest to Rubber Plantations in Xishuangbanna, Southwest China. *Tropical Conservation Science*, 10, 1–14. <https://doi.org/10.1177/1940082917733230>
- Lee-Cruz, L., Edwards, D. P., Tripathi, B. M., & Adams, J. M. (2013). Impact of logging and forest conversion to oil palm on soil bacterial communities in Borneo. SUPP. *Applied and Environmental Microbiology*, 79, 7290–7297. <https://doi.org/10.1128/AEM.02541-13>
- Mendes, L. W., Tsai, S. M., Navarrete, A. A., de Hollander, M., van Veen, J. A., & Kuramae, E. E. (2015). Soil-Borne Microbiome: Linking Diversity to Function. *Microbial Ecology*, 70(1), 255–265. <https://doi.org/10.1007/s00248-014-0559-2>
- Meyer, K. M., Petersen, I. A. B., Tobi, E., Korte, L., & Bohannan, B. J. M. (2019). Use of RNA and DNA to Identify Mechanisms of Bacterial Community Homogenization. *Frontiers in Microbiology*, 10, 2066. <https://doi.org/10.3389/fmicb.2019.02066>
- Navarrete, A. A., Tsai, S. M., Mendes, L. W., Faust, K., De Hollander, M., Cassman, N. A., ... Kuramae, E. E. (2015). Soil microbiome responses to the short-term effects of Amazonian deforestation. *Molecular Ecology*, 24(10), 2433–2448. <https://doi.org/10.1111/mec.13172>
- Rodrigues, J. L. M., Pellizari, V. H., Mueller, R., Baek, K., Jesus, E. D. C., Paula, F. S., ... Nüsslein, K. (2013). Conversion of the Amazon rainforest to agriculture results in biotic homogenization of soil bacterial communities. *Proceedings of the National Academy of Sciences of the United States of America*, 110(3), 988–993. <https://doi.org/10.1073/pnas.1220608110>
- Schneider, D., Engelhaupt, M., Allen, K., Kurniawan, S., Krashevskaya, V., Heinemann, M., ... Daniel, R. (2015). Impact of lowland rainforest transformation on diversity and composition of soil prokaryotic communities in Sumatra (Indonesia). *Frontiers in Microbiology*, 6(DEC), 1339. <https://doi.org/10.3389/fmicb.2015.01339>
- Tin, H. S., Palaniveloo, K., Anilik, J., Vickneswaran, M., Tashiro, Y., Vairappan, C. S., & Sakai, K. (2018). Impact of Land-use Change on Vertical Soil Bacterial Communities in Sabah. *Microbial Ecology*, 75(2), 459–467. <https://doi.org/10.1007/s00248-017-1043-6>
- Tripathi, B. M., Edwards, D. P., Mendes, L. W., Kim, M., Dong, K., Kim, H., & Adams, J. M. (2016). The Impact of tropical forest logging and oil

palm agriculture on the soil microbiome. *Molecular Ecology*, 25(10), 2244–2257. <https://doi.org/10.1111/mec.13620>

Tripathi, B. M., Kim, M., Singh, D., Lee-Cruz, L., Lai-Hoe, A., Ainuddin, A. N., ... Adams, J. M. (2012). Tropical Soil Bacterial Communities in Malaysia: PH Dominates in the Equatorial Tropics Too. *Microbial Ecology*, 64(2), 474–484. <https://doi.org/10.1007/s00248-012-0028-8>

Wood, S. A., Gilbert, J. A., Leff, J. W., Fierer, N., D'Angelo, H., Bateman, C., ... McGuire, K. L. (2017). Consequences of tropical forest conversion to oil palm on soil bacterial community and network structure. *Soil Biology and Biochemistry*, 112, 258–268.
<https://doi.org/10.1016/j.soilbio.2017.05.019>