**Supplementary Materials:**

Table S1. Inventory of species found in traditional cocoa agroforestry systems.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Date** | **X** | **Y** | **Height** | **Zone** | **Producer** | **Location** | **District** | **Cooperative** | **Species** | **Country** | **Species origin reference** |
| CE\_01 | 3/03/2021 | 782488.4 | 9378185.3 | 740 m s. n. m. | 17 | Gilberto Zambrano | San Francisco | La Peca | CEPROAA | *Averrhoa carambola* | Costa Rica | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_01 | 9/03/2021 | 786897.9 | 9372633.1 | 1049 m s. n. m. | 17 | Domitila Ortiz | Humbate | La Peca | APROCAM | *Calycophyllum spruceanum* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_02 | 18/03/2021 | 790228.4 | 9373724.7 | 989 m s. n. m. | 17 | Francisco Mendoza | El Porvenir | Copallin | APROCAM | *Cedrela odorata* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_02 | 26/03/2021 | 794626.7 | 9365958.5 | 956 m s. n. m | 17 | Lorenzo Delgado | Santa Isabel | Cajaruro | CEPROAA | *Citrus sinensis* | México | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_03 | 26/03/2021 | 739216.9 | 9366191.3 | 956 m s. n. m | 17 | Sarita Yaquelin Delgado | Santa Isabel | Cajaruro | CEPROAA | *Citrus x aurantifolia* | Sudeste Asiático | https://www.arbolesornamentales.es/Citrusaurantifolia.htm |
| CE\_04 | 27/03/2021 | 790183.1 | 9363765.8 | 534 m s. n. m. | 17 | Margarita Benavides Bravo | La Curva Santa Cruz | Cajaruro | CEPROAA | *Cordia alliodora* | Colombia | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_05 | 27/03/2021 | 796817.6 | 9360415.1 | 944 m s. n. m. | 17 | Maximandro Gonsales Asticendo | Nuevo Piura | Cajaruro | CEPROAA | *Guazuma crinita* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_06 | 28/03/2021 | 787991.5 | 9369308.6 | 635 m s. n. m. | 17 | Timoteo Diaz Calderon | San Jose Bajo | Cajaruro | CEPROAA | *Mammea americana* | Guatemala | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_07 | 30/03/2021 | 787996.5 | 9370415.1 | 534 m s. n. m. | 17 | Jose Rosillo Alberca | La Cruz | Cajaruro | CEPROAA | *Matisia cordata* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_08 | 30/03/2021 | 789104.9 | 9370410.1 | 635 m s. n. m. | 17 | Romulo Diaz Calderon | San Jose bajo | Cajaruro | CEPROAA | *Mangifera indica* | México | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_20 | 5/04/2021 | 785818.9 | 9379277.2 | 1049 m s. n. m. | 17 | Segundo Chiquimango | Humbate | La Peca | APROCAM | *Eucalyptus* sp. | Bolivia | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_07 | 6/04/2021 | 790228.4 | 9373724.7 | 1433 m s. n. m. | 17 | Noe Cruz | Pan de Azucar | Copallin | APROCAM | *Inga* sp. | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_09 | 8/04/2021 | 790223.4 | 9372618.2 | 1433 m s. n. m. | 17 | Medardo Perez Carmona | Pan de Azucar | Copallin | CEPROAA | *Persea americana* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_10 | 15/04/2021 | 789099.9 | 9369303.6 | 778 m s. n. m. | 17 | Luz Victoria León Toro | Concordia | Cajaruro | CEPROAA | *Ocotea* sp. | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_11 | 15/04/2021 | 789095.9 | 9368418.3 | 778 m s. n. m. | 17 | Julio Toro Torres | Concordia | Cajaruro | CEPROAA | *Annona muricata* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_12 | 15/04/2021 | 780227.9 | 9368236.6 | 778 m s. n. m. | 17 | Felipa Gavidia Estela | Concordia | Cajaruro | CEPROAA | *Citrus reticulata* | México | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_13 | 15/04/2021 | 779172.4 | 9380412.6 | 778 m s. n. m. | 17 | Natividad Quispe Flores | Concordia | Cajaruro | CEPROAA | *Artocarpus heterophyllus* | Asia | https://www.arbolesornamentales.es/Artocarpusheterophyllus.htm |
| AP\_03 | 15/04/2021 | 790223.4 | 9372618.2 | 973 m s. n. m. | 17 | María Diaz | Lluhuana | Copallin | APROCAM | *Persea caerulea* | Costa Rica | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_04 | 15/04/2021 | 790228.4 | 9373724.7 | 1433 m s. n. m. | 17 | Segundo Bustamante | Pan de Azucar | Copallin | APROCAM | *Colubrina glandulosa* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_05 | 15/04/2021 | 790223.4 | 9372618.2 | 973 m s. n. m. | 17 | Miguel Ramirez | Lluhuana | Copallin | APROCAM | *Grevillea robusta* | Australia | https://catalogofloravalleaburra.eia.edu.co/species/89 |
| AP\_06 | 15/04/2021 | 790218.3 | 9371511.6 | 973 m s. n. m. | 17 | Eloy Acuña | Lluhuana | Copallin | APROCAM | *Cocos nucifera* | Puerto Rico | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_14 | 17/04/2021 | 781399.1 | 9382616 | 1131 m s. n. m. | 17 | Faustino Leon Torres | El Tigre | Cajaruro | CEPROAA | *Annona cherimola* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_08 | 20/04/2021 | 784656.4 | 9367110.5 | 1319 m s. n. m. | 17 | Porfirio Becerra | Chomza Alta | La Peca | APROCAM | *Durio zibethinus* | Sudeste Asiático | https://ecuador.inaturalist.org/taxa/64443-Durio-zibethinus |
| AP\_10 | 20/04/2021 | 788031.1 | 9378160.8 | 1319 m s. n. m. | 17 | José Llamo | Chomza Alta | La Peca | APROCAM | *Citrus limetta* | Himalaya | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_11 | 20/04/2021 | 784720 | 9381495.1 | 1220 m s. n. m. | 17 | Alfredo Aguilar | Nueva Florida | La Peca | APROCAM | *Muntingia calabura* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_17 | 23/04/2021 | 791326.8 | 9371506.6 | 1002 m s. n. m. | 17 | Delicia Sanchez Rizco | San Juan de la Libertad | Cajaruro | CEPROAA | *Swietenia macrophylla* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_18 | 23/04/2021 | 799050 | 9363724.5 | 1131 m s. n. m. | 17 | Maximandro Gonzalez Vasque | El Tigre | Cajaruro | CEPROAA | *Guadua* sp. | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_20 | 23/04/2021 | 786893 | 9371526.6 | 973 m s. n. m. | 17 | Elevi Muñoz Fernandez  | Lluhuana | Copallin | CEPROAA | *Eriobotrya japonica* | Asia | https://catalogofloravalleaburra.eia.edu.co/species/90 |
| CE\_21 | 23/04/2021 | 788001.4 | 9371521.6 | 534 m s. n. m. | 17 | Victor Oblitas Berru | La cruz | Cajaruro | CEPROAA | *Morinda citrifolia* | Costa Rica | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_09 | 27/04/2021 | 793553.9 | 9373709.7 | 1056 m s. n. m. | 17 | Santos Cruz | La Palma | Copallin | APROCAM | *Spondias mombin* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_12 | 28/04/2021 | 748128.2 | 9378326 | 1056 m s. n. m. | 17 | Rosendo Cruz | La Palma | Copallin | APROCAM | *Acrocarpus fraxinifolius* | India Sur | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_22 | 1/05/2021 | 799060.4 | 9365937.8 | 991 m s. n. m. | 17 | Alli padilla Flores | Jose Olaya | Cajaruro | CEPROAA | *Annona mucosa* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_25 | 1/05/2021 | 783680.9 | 9397654.7 | 772 m s. n. m. | 17 | German Rodas | La Reserva | Aramango | APROCAM | *Croton cf. draconoides* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_23 | 2/05/2021 | 787991.5 | 9369308.6 | 534 m s. n. m. | 17 | Eduardo Mera Leon | La Cruz | Cajaruro | CEPROAA | *Inga edulis* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_13 | 4/05/2021 | 779172.4 | 9380412.6 | 620 m s. n. m. | 17 | Alcidez Silva | Tolopampa | El Parco | APROCAM | *Syzygium malaccense* | Colombia | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_24 | 5/05/2021 | 794631.9 | 9367065.1 | 1434 m s. n. m. | 17 | Segunado Cayetano Vega Dante | Diamante bajo | Cajaruro | CEPROAA | *Artocarpus altilis* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_25 | 5/05/2021 | 796864.2 | 9370374.6 | 1217 m s. n. m. | 17 | Salome Hernandez Lopez | Santa Fe | Cajaruro | CEPROAA | *Albizia niopoides* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_26 | 5/05/2021 | 796864.2 | 9370374.6 | 1217 m s. n. m. | 17 | Marino Barboza Pinedo | Santa Fe | Cajaruro | CEPROAA | *Lauraceae* sp. | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_14 | 5/05/2021 | 781394.8 | 9381620.2 | 835 m s. n. m. | 17 | Ronal Sena | Caserio del Shambo | El Parco | APROCAM | *Aspidosperma polyneuron* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_15 | 5/05/2021 | 779172.4 | 9380412.6 | 620 m s. n. m. | 17 | Umberto Lopez | Tolopampa | El Parco | APROCAM | *Handroanthus sp.* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_16 | 5/05/2021 | 781399.1 | 9382616 | 906 m s. n. m. | 17 | Victor Espinoza | Shambo | El Parco | APROCAM | *Hura crepitans* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_17 | 18/05/2021 | 800163.6 | 9364825.9 | 1926 m s. n. m. | 17 | Olga Ramos | Caña Brava | Cajaruro | APROCAM | *Mauritia flexuosa* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_18 | 18/05/2021 | 800158.4 | 9363719.3 | 849 m s. n. m. | 17 | William Cubas | Lagunas | Cajaruro | APROCAM | *Guarea kunthiana* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_19 | 18/05/2021 | 799055.2 | 9364831.1 | 1926 m s. n. m. | 17 | Daniel Perez | Caña Brava | Cajaruro | APROCAM | *Pinus sp.* | México | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_19 | 24/05/2021 | 784641.5 | 9363790.9 | 426 m s. n. m. | 17 | Wilmer Llatas Zulveta | Santa ana | Copallin | CEPROAA | *Sapindus saponaria* | Colombia | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_22 | 25/05/2021 | 804861.4 | 9422351.1 | 332 m s. n. m. | 17 | Leopoldo Delgado | Alto Pakui | Imaza | APROCAM | *Tamarindus indica* | México | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_23 | 25/05/2021 | 800438 | 9425690.2 | 313 m s. n. m. | 17 | Ricardo Aguilar | Pakui | Imaza | APROCAM | *Cedrelinga cateniformis* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_21 | 28/05/2021 | 802685.4 | 9432320.5 | 335 m s. n. m. | 17 | Benecio Godos | Numparque | Imaza | APROCAM | *Geoffroea spinosa* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_24 | 1/06/2021 | 783687.4 | 9399203.8 | 772 m s. n. m. | 17 | José Huanca | La Reserva | Aramango | APROCAM | *Maclura tinctoria* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN8 | 10/02/2022 | 809712.8 | 9400936.9 | 1043 m s. n. m. | 17 | Jadiel Diaz Cueva | Diamante alto | Cajaruro | CEPROAA | *Moringa oleifera* | Costa Rica | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_T1 | 12/02/2022 | 790470.2 | 9371067.9 | 1002 m s. n. m. | 17 | Delicia Sanchez Rizco | San Juan de la Libertad | Cajaruro | CEPROAA | *Tectona grandis* | Honduras | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN1 | 12/02/2022 | 789653.9 | 9361975.6 | 488 m s. n. m. | 17 | Eleuterio Constantino Aguilar | El paraíso | Cajaruro | CEPROAA | *Terminalia oblonga* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN2 | 13/02/2022 | 796946 | 9364154.9 | 1131 m s. n. m. | 17 | Gabriel Fernández Alfaro | El Tigre | Cajaruro | CEPROAA | *Senegalia sp.* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN3 | 13/02/2022 | 798250 | 9365676 | 991 m s. n. m. | 17 | Estanislao Barboza Altamirano | Jose Olaya | Cajaruro | CEPROAA | *Pouteria lucuma* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN4 | 14/02/2022 | 805593.8 | 9364545.4 | 944 m s. n. m. | 17 | Alipio Abad Bermejo | Nuevo Piura | Cajaruro | CEPROAA | *Jacaranda copaia* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN5 | 14/02/2022 | 806267.2 | 9363955.6 | 944 m s. n. m. | 17 | Sabulon Abad | Nuevo Piura | Cajaruro | CEPROAA | *Myroxylon peruiferum* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN6 | 14/02/2022 | 792268.2 | 9364066 | 679 m s. n. m. | 17 | Néstor Jiménez García | Naranjo Alto | Cajaruro | CEPROAA | *Psidium guajava* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN7 | 15/02/2022 | 802501.4 | 9405407.4 | 740 m s. n. m. | 17 | Gilberto Zambrano Quiroz | San Francisco | La Peca | CEPROAA | *Pouteria caimito* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN9 | 16/02/2022 | 807508.5 | 9396730.4 | 956 m s. n. m | 17 | Rosario Burga Tamayo | Santa Isabel | Cajaruro | CEPROAA | *Inga japurensis* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_JN10 | 16/02/2022 | 809712.8 | 9400936.9 | 679 m s. n. m. | 17 | Amerson Dávila Alejandría | Naranjo Alto | Cajaruro | CEPROAA | *Citrus paradisi* | Ecuador | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN02 | 23/02/2022 | 795532 | 9441161.9 | 270 m s. n. m. | 17 | Efreo Wisum | Yumanakat | Imaza | APROCAM | *Trema micrantha* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN05 | 24/02/2022 | 791231.9 | 9426199.7 | 313 m s. n. m. | 17 | Evaristo Atamain | Pakui | Imaza | APROCAM | *Erythrina edulis* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN07 | 25/02/2022 | 799015.2 | 9430284.8 | 319 m s. n. m. | 17 | Elena Shijap | Umukai | Imaza | APROCAM | *Inga vera* | Costa Rica | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN09 | 25/02/2022 | 802557.2 | 9428295 | 331 m s. n. m. | 17 | Noe Asangkay | Pakun | Imaza | APROCAM | *Leucaena leucocephala* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN10 | 25/02/2022 | 798241.8 | 9431065.8 | 319 m s. n. m. | 17 |  Uwak Apotw  | Umukai | Imaza | APROCAM | *Myrsine oligophylla* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN11 | 25/02/2022 | 794523.8 | 9444293 | 292 m s. n. m. | 17 | Tulio Uwek Ikanan | Duship | Imaza | APROCAM | *Euphorbia laurifolia* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN08 | 26/02/2022 | 793232.8 | 9224250.3 | 270 m s. n. m. | 17 | Americo Wuachapea Sukot | Yumanakat | Imaza | APROCAM | *Theobroma bicolor* | Brazil | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN01 | 23/03/2022 | 801863.8 | 9427993 | 331 m s. n. m. | 17 | Elsa Euyajvis shimpu | Pakun | Imaza | APROCAM | *Bixa Orellana* | Ecuador | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN04 | 23/03/2022 | 802131.5 | 9428639 | 331 m s. n. m. | 17 | Abelardo TsegKuane | Pakun | Imaza | APROCAM | *Citrus sp.* | Asia | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| AP\_JN06 | 24/03/2022 | 790122.2 | 9426131.4 | 313 m s. n. m. | 17 | Hifco Datsa | Pakui | Imaza | APROCAM | *Corymbia torelliana* | Australia | https://www.arbolesornamentales.es/Eucalyptustorelliana.htm |
| CE\_15 | 17/04/2022 | 779172.4 | 9380412.6 | 1131 m s. n. m. | 17 | Orfiles Alarcon | El tigre | Cajaruro | CEPROAA | *Cedrela fissilis* | Perú | https://plantidtools.fieldmuseum.org/es/rrc/search-results/Eucalyptus+saligna |
| CE\_16 | 17/04/2022 | 781399.1 | 9382616 | 1131 m s. n. m. | 17 | Segundo Rogelio Puntado | El tigre | Cajaruro | CEPROAA | *Eucalyptus saligna* | Australia | https://spain.inaturalist.org/taxa/162763-Eucalyptus-saligna |

**Figure S1.** Frequency and abundance of the total number of species found in agroforestry farms.