**Supplementary Table 1 Information for original data material**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Order** | **Species name** | **Common name** | **Version** | **Accession** | **Data source** | **Journal** | **Reference** |
| 1 | *Vitis vinifera* | Grape vine | Genoscope.12X | CU459218–CU462737 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([Jaillon et al., 2007](#_ENREF_16)) |
| 2 | *Populus trichocarpa* | Western poplar | v3.0 | AARH00000000 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Science | ([Tuskan et al., 2006](#_ENREF_34)) |
| 3 | *Arabidopsis thaliana* | Thale cress | TAIR10 |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([Initiative, 2000](#_ENREF_11)) |
| 4 | *Arabidopsis lyrata* | Lyrate rockcress | v1.0 |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature Genetics | ([Hu et al., 2011](#_ENREF_8)) |
| 5 | *Brassica rapa* | Chinese cabbage | v1.3 |  | PGDD (http://chibba.agtec.uga.edu/duplication) | Nature Genetics | ([Wang et al., 2011](#_ENREF_40)) |
| 6 | *Brassica napus* | Oilseed rape | v1.0 | ERP005275/PRJEB6069 | *Brassica napus* Genome Resources(http://www.genoscope.cns.fr/brassicanapus) | Science | ([Chalhoub et al., 2014](#_ENREF_2)) |
| 7 | *Brassica oleracea* | Cabbage | v1.5 |  | BRAD (http://brassicadb.org/brad/index.php) | Nature Communications | ([Liu et al., 2014](#_ENREF_23)) |
| 8 | *Raphanus sativus L.* | Radish | v1.0 |  | RGD (http://radish.kazusa.or.jp/) | DNA Research | ([Kitashiba et al., 2014](#_ENREF_20)) |
| 9 | *Theobroma cacao* | Cocoa bean | v1.1 | ALXC0100000 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Genome Biology | ([Motamayor et al., 2013](#_ENREF_26)) |
| 10 | *Gossypium arboreum* | Tree cotton | v1.0 | SRA150181 | Cotton gen (www.cottongen.org/) | Nature Genetics | ([Li et al., 2014](#_ENREF_21)) |
| 11 | *Gossypium hirsutum* | Upland cotton | v1.1 | PRJNA248163 | Cotton gen (www.cottongen.org/) | Nature Biotechnology | ([Zhang et al., 2015](#_ENREF_46)) |
| 12 | *Gossypium raimondii* | Cotton | v2.1 | PRJNA171262 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([Paterson et al., 2012](#_ENREF_28)) |
| 13 | *Prunus persica* | Peach | v2.1 | AKXU02000000 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature Genetics | ([International Peach Genome et al., 2013](#_ENREF_13)) |
| 14 | *Prunus mume* | Mei | v1.0 |  | PGDD (http://chibba.agtec.uga.edu/duplication) | Nature Communications | ([Zhang et al., 2012b](#_ENREF_45)) |
| 15 | *Malus x domestica* | Apple | v1.0 |  | PGDD (http://chibba.agtec.uga.edu/duplication) | Nature Genetics | ([Velasco et al., 2010](#_ENREF_37)) |
| 16 | *Pyrus bretschneideri* | Pear | v1.0 |  | Pear Genome Project(http://peargenome.njau.edu.cn/) | Genome Research | ([Wu et al., 2013](#_ENREF_41)) |
| 17 | *Arachis duranensis* | Peanut | v1.0 | GCA\_000817695.1 | Peanut Base (http://peanutbase.org/) | Nature Genetics | ([Bertioli et al., 2016](#_ENREF_1)) |
| 18 | *Arachis ipaensis* | Peanut | v1.0 | GCA\_000816755.1. | Peanut Base (http://peanutbase.org/) | Nature Genetics | ([Bertioli et al., 2016](#_ENREF_1)) |
| 19 | *Lotus japonicus* | Lotus | v2.5 |  | PGDD (http://chibba.agtec.uga.edu/duplication) | DNA Research | ([Sato et al., 2008](#_ENREF_29)) |
| 20 | *Cicer arietinum* | Chickpea | v1.0 | PRJNA175619 | PGDD (http://chibba.agtec.uga.edu/duplication) | Nature Biotechnology | ([Varshney et al., 2013](#_ENREF_36)) |
| 21 | *Medicago truncatula* | Barrel medic | Mt4.0v1 | GCA000219495.2 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([Young et al., 2011](#_ENREF_43)) |
| 22 | *Cajanus cajan* | Pigeonpea | Nov 2011 |  | PGDD (http://chibba.agtec.uga.edu/duplication) | Nature Biotechnology | ([Varshney et al., 2012](#_ENREF_35)) |
| 23 | *Glycine max* | Soybean | Wm82.a2.v1 | ACUP00000000 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([Schmutz et al., 2010](#_ENREF_30)) |
| 24 | *Vigna angularis* | Adzuki bean | adzuki\_ver3 |  | Crop Genomics Lab.(http://plantgenomics.snu.ac.kr/) | Proceedings of the National Academy of Sciences | ([Yang et al., 2015](#_ENREF_42)) |
| 25 | *Vigna radiata* | Mung bean | Vradi.ver6 |  | Crop Genomics Lab.(http://plantgenomics.snu.ac.kr/) | Nature Communications | ([Kang et al., 2014](#_ENREF_18)) |
| 26 | *Phaseolus vulgaris* | Common bean | v1.0 | PRJNA221782 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Genome Biology | ([Vlasova et al., 2016](#_ENREF_38)) |
| 27 | *Coffea canephora* | Coffee | v1.0 |  | Coffee Genome Hub (http://coffee-genome.org/) | Science | ([Denoeud et al., 2014](#_ENREF_4)) |
| 28 | *Capsicum annuum* | Pepper | CM334 V1.55 | AYRZ00000000 | Pepper Genome Platform(http://peppergenome.snu.ac.kr/) | Nature Genetics | ([Kim et al., 2014](#_ENREF_19)) |
| 29 | *Solanum melongena* L. | Eggplant | SME\_r2.5.1 | DRA001153 | Eggplant Genome Database(http://eggplant.kazusa.or.jp/) | DNA Research | ([Hirakawa et al., 2014](#_ENREF_7)) |
| 30 | *Solanum tuberosum* L. | Potato | PGSC V3.4 |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature Genetics | ([Huang et al., 2009b](#_ENREF_10)) |
| 31 | *Solanum lycopersicum* | Tomato | iTAG2.3 |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([Tomato Genome, 2012](#_ENREF_33)) |
| 32 | *Spirodela polyrhiza* | Greater duckweed | v2.0 |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature Communications | ([Wang et al., 2014](#_ENREF_39)) |
| 33 | *Musa acuminata* | Banana | v1.0 |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([D'Hont et al., 2012](#_ENREF_3)) |
| 34 | *Elaeis guineensis* | Oil palm | v2.0 | ASJS00000000 | PGDD (http://chibba.agtec.uga.edu/duplication) | Nature | ([Singh et al., 2013](#_ENREF_32)) |
| 35 | *Oryza sativa* | Rice | v7\_JGI |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([International Rice Genome Sequencing, 2005](#_ENREF_14)) |
| 36 | *Aegilops tauschii* | Goat grass(Wheat D) | ASM34733v1 | AOCO010000000 | Ensembl Plants (http://plants.ensembl.org/index.html) | Nature | ([Jia et al., 2013](#_ENREF_17)) |
| 37 | *Triticum aestivum* | Common wheat | v2.2 |  | URGI (https://wheat-urgi.versailles.inra.fr/) | Science | ([International Wheat Genome Sequencing, 2014](#_ENREF_15)) |
| 38 | *Triticum urartu* | Wheat A | v1.0 | AOTI01000000 | PGDD (http://chibba.agtec.uga.edu/duplication) | Nature | ([Ling et al., 2013](#_ENREF_22)) |
| 39 | *Brachypodium distachyon* | Purple false brome | v3.1 | ADDN01000000 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([International Brachypodium, 2010](#_ENREF_12)) |
| 40 | *Setaria italica* | Foxtail millet | v2.2 | AGNK01000000 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature Biotechnology | ([Zhang et al., 2012a](#_ENREF_44)) |
| 41 | *Sorghum bicolor* | Cereal grass | v3.1 | ABXC03000000 | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([Paterson et al., 2009](#_ENREF_27)) |
| 42 | *Zea mays* | Maize | Ensembl-18 |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Science | ([Schnable et al., 2009](#_ENREF_31)) |
| 43 | *Citrullus lanatus* | Watermelon | v1.0 |  | Cucurbit Genomics Database (http://www.icugi.org/) | Nature Genetics | ([Guo et al., 2013](#_ENREF_6)) |
| 44 | *Cucumis sativus L.* | Cucumber | v1.0 |  | Cucurbit Genomics Database (http://www.icugi.org/) | Nature Genetics | ([Huang et al., 2009a](#_ENREF_9)) |
| 45 | *Cucumis melo L.* | Melon | v1.0 | ERP001463 | MELONOMICS (https://melonomics.net/) | Proceedings of the National Academy of Sciences | ([Garciamas et al., 2012](#_ENREF_5)) |
| 46 | *Ananas comosus* | Pineapple | v3 |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature genetics | ([Ming et al., 2015](#_ENREF_25)) |
| 47 | *Hordeum vulgare L.* | barely | R1 |  | JGI (https://phytozome.jgi.doe.gov/pz/portal.html) | Nature | ([Mascher et al., 2017](#_ENREF_24)) |

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