**Table S1** Details of *E. sativa* accessions used in current study

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Accession no.** | **Code** | **Region** | **Province** | **Elevation**  | **Latitude** | **Longitude**  |
| 1 | 1759 | Es-1 | Badin | Sindh | 14 m | 24°39′21″ N | 68°50′18″ E |
| 2 | 3708 | Es-2 | Umerkot | Punjab | 17 m | 25°21′41″ N | 69°44′10″ E |
| 3 | 3673 | Es-3 | Karak | KPK | 579 m | 33°06′58″ N | 71°05′36″ E |
| 4 | 3677 | Es-4 | Haripur | KPK | 537 m | 33°59′59″ N  | 72°56′02″ E |
| 5 | 3646 | Es-5 | Chakwal | Punjab | 523 m | 32°56′00″ N  | 72°51′30″ E |
| 6 | 3650 | Es-6 | Khushab | Punjab | 186 m | 32°17′48″ N | 72°21′09″ E |
| 7 | 3652 | Es-7 | Bahawalpur | Punjab | 159 m | 29°59′55″ N | 73°15′12″ E |
| 8 | 3654 | Es-8 | Rajanpur | Punjab | 97 m | 29°06′12″ N | 70°19′30″ E |
| 9 | 3644 | Es-9 | Attock | Punjab | 355 m | 33°46′23″ N | 72°22′26″ E |
| 10 | 17409 | Es-10 | Hungu | KPK | 840 m | 33°31′55″ N | 71°03′34″ E |
| 11 | 17411 | Es-11 | Attock | Punjab | 355 m | 33°46′23″ N | 72°22′26″ E |
| 12 | 17412 | Es-12 | D.I. Khan | KPK | 178 m | 31°49′57″ N | 70°54′08″ E |
| 13 | 3651 | Es-13 | Vihari | Punjab | 140 m | 30°01′59″ N | 72°20′59″ E |
| 14 | 3696 | Es-14 | Sargodha | Punjab | 190 m | 32°05′00″ N | 72°40′15″ E |
| 15 | 3649 | Es-15 | Bhakkar | Punjab | 169 m | 31°37′30″ N | 71°03′56″ E |
| 16 | 3671 | Es-16 | Laki Marwat | Punjab | 268 m | 32°36′28″ N | 70°54′41″ E |
| 17 | 3692 | Es-17 | Hafizabad | Punjab | 207 m | 32°04′04″ N | 73°41′07″ E |
| 18 | 3699 | Es-18 | T.T. Singh | Punjab | 162 m | 30°58′27″ N | 72°28′57″ E |
| 19 | 3700 | Es-19 | Faiaslabad | Punjab | 186 m | 31°25′00″ N | 73°04′59″ E |
| 20 | 3701 | Es-20 | Okara | Punjab | 186 m | 30°48′29″ N | 73°26′44″ E |
| 21 | 3702 | Es-21 | Sahiwal | Punjab | 171 m | 31°58′28″ N | 72°19′51″ E |
| 22 | 3703 | Es-22 | Pakpattan | Punjab | 170 m | 30°20′27″ N | 73°23′11″ E |
| 23 | 3704 | Es-23 | Kasur | Punjab | 210 m | 31°06′56″ N | 74°26′48″ E |
| 24 | 3706 | Es-24 | Sheikhupura | Punjab | 209 m | 31°42′47″ N | 73°58′41″ E |
| 25 | 17387 | Es-25 | Layyah | Punjab | 151 m | 30°57′40″ N | 70°56′20″ E |

\*D.I. Khan; Dera Ismail Khan, KPK; Khyber Pakhtunkhwa, T.T. Singh; Toba Tek Singh