Table S1. Wild annual and perennial sunflower species Plant Introductions evaluated for fatty acid composition of original and regenerated accessions.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Species** | **PI number** | **Origin** | **Latitude****(deg min sec)** | **Longitude****(deg min sec)** | **Elevation****(m)** | **Name/identifier** |
| **Wild annual** |  |  |  |  |  |  |
| *H.* *annuus* | 413014 | South Dakota, USA | 44º 03’13” N | 98º 06’31” W | 393 | Common sunflower |
| *H.* *annuus* | 413018 | Wyoming, USA | 43º 51’10” N | 104º 12’00” W | 1333 | Common sunflower |
| *H.* *annuus* | 413019 | Wyoming, USA | 42º 45’45” N | 104º 26’07” W | 1533 | Common sunflower |
| *H.* *annuus* | 413022 | Wyoming, USA | 42º 47’30” N | 110º 56’09” W | 1001 | Common sunflower |
| *H.* *annuus* | 413025 | Colorado, USA | 38º 49’33” N | 103º 01’00” W | 1349 | Common sunflower |
| *H.* *annuus* | 413026 | Colorado, USA | 38º 03’00” N | 102º 18’00” W | 1077 | Common sunflower |
| *H.* *annuus* | 413027 | Kansas, USA | 37º 58’50” N | 101º 45’08” W | 984 | Common sunflower |
| *H.* *annuus* | 413028 | Kansas, USA | 37º 58’18” N | 100º 52’20” W | 865 | Common sunflower |
| *H.* *annuus* | 413041 | North Dakota, USA | 46º 35’09” N | 97º 29’27” W | 322 | Common sunflower |
| *H.* *annuus* | 413042 | North Dakota, USA | 46º 12’01” N | 97º 57’45” W | 404 | Common sunflower |
| *H.* *annuus* | 413044 | Arizona, USA | 34º 42’12” N | 113º 36’38” W | 604 | Common sunflower |
| *H.* *annuus* | 413051 | California, USA | 32º 44’22” N | 114º 38’02” W | 561 | Common sunflower |
| *H.* *annuus* | 413053 | California, USA | 36º 48’55” N | 120º 10’49” W | 61 | Common sunflower |
| *H.* *annuus* | 413054 | California, USA | 35º 00’08” N | 117º 38'51”W | 749 | Common sunflower |
| Table S1 (Cont’d) |  |  |  |  |  |  |
| **Species** | **PI number** | **Origin** | **Latitude****(deg min sec)** | **Longitude****(deg min sec)** | **Elevation****(m)** | **Name/identifier** |
| *H.* *annuus* | 413060 | California, USA | 37º 03’30” N | 120º 50’56” W | 36 | Common sunflower |
| *H.* *annuus* | 413062 | California, USA | 38º 17’13” N | 121º 40’39” W | 0 | Common sunflower |
| *H.* *annuus* | 413074 | California, USA | 37º 29’41” N | 120º 50’44” W | 31 | Common sunflower |
| *H.* *annuus* | 413079 | California, USA | 32º 48’54” N | 115º 22’22” W  | 0 | Common sunflower |
| *H.* *annuus* | 413092 | California, USA | 34º 59’59” N | 117º 38’56” W | 791 | Common sunflower |
| *H.* *annuus* | 413116 | California, USA | 38º 17’13” N | 121º 40’39” W | 0 | Common sunflower |
| *H.* *annuus* | 413118 | California, USA | 38º 05’00” N | 121º 32’30” W | 0 | Common sunflower |
| *H.* *annuus* | 413122 | Mexico | 32º 20’00” N | 117º 02’00” W | 10 | Common sunflower |
| *H.* *annuus* | 413123 | Mexico | 32º 20’00” N | 117º 02’00” W | 10 | Common sunflower |
| *H.* *annuus* | 413124 | Mexico | 17º 60’00” N | 92º 53’ 00” W | 227 | Common sunflower |
| *H.* *annuus* | 413125 | Mexico | 22º 46’59” N | 103º 31’06” W | 2400 | Common sunflower |
| *H.* *annuus* | 413143 | California, USA | 38º 34’54” N | 121º 29’36” W | 8 | Common sunflower |
| *H.* *annuus* | 413151 | Arizona, USA | 37º 49’58” N | 121º 02’02” W | 28 | Common sunflower |
| *H.* *annuus* | 413152 | Arizona, USA | 37º 50’48” N | 121º 08’12” W | 29 | Common sunflower |
| *H.* *annuus* | 413153 | Arizona, USA | 31º 58’04” N | 110º 17’38” W | 1092 | Common sunflower |
| Table S1 (Cont’d) |  |  |  |  |  |  |
| **Species** | **PI number** | **Origin** | **Latitude****(deg min sec)** | **Longitude****(deg min sec)** | **Elevation****(m)** | **Name/identifier** |
| *H.* *annuus* | 413154 | Arizona, USA | 32º 15’10” N | 109º 49’53” W | 1280 | Common sunflower |
| *H.* *annuus* | 413155 | Arizona, USA | 32º 16’15” N | 109º 39’53” W | 1444 | Common sunflower |
| *H.* *annuus* | 413156 | New Mexico, USA | 32º 11’ 24” N | 108º 20’00” W | 1388 | Common sunflower |
| *H.* *annuus* | 413158 | New Mexico, USA | 32º 12’14” N | 108º 20’22” W | 1399 | Common sunflower |
| *H.* *annuus* | 413160 | Texas, USA | 31º 02’23” N | 104º 49’49” W | 1231 | Common sunflower |
| *H.* *annuus* | 413161 | Texas, USA | 31º 04’09” N | 104º 14’00” W | 1285 | Common sunflower |
| *H.* *annuus* | 413165 | Texas, USA | 30º 54’00” N | 103º 01’30” W | 935 | Common sunflower |
| *H.* *annuus* | 413169 | Texas, USA | 33º 34’02” N | 100º 34’15” W | 663 | Common sunflower |
| *H.* *annuus* | 413170 | Kansas, USA | 37º 06’15” N | 96º 29’59” W | 289 | Common sunflower |
| *H.* *annuus* | 413179 | New Mexico, USA | 35º 08’50” N | 107º 51’03” W | 1968 | Common sunflower |
| *H.* *annuus* | 597890 | South Dakota, USA | 43º 03’00” N | 97º 30’00” W | 432 | Common sunflower |
| *H.* *annuus* | 597891 | South Dakota, USA | 43º 03’15” N | 97º 36’12” W | 417 | Common sunflower |
| *H.* *annuus* | 597892 | South Dakota, USA | 43º 19’00” N | 97º 46’10” W | 402 | Common sunflower |
| *H.* *annuus* | 597893 | South Dakota, USA | 43º 41’00” N | 97º 22’30” W | 460 | Common sunflower |
| Table S1 (Cont’d) |  |  |  |  |  |  |
| **Species** | **PI number** | **Origin** | **Latitude****(deg min sec)** | **Longitude****(deg min sec)** | **Elevation****(m)** | **Name/identifier** |
| *H.* *annuus* | 597894 | South Dakota, USA | 42º 55'00" N | 96º 57'00" W | 370 | Common sunflower |
| *H.* *annuus* | 597895 | Iowa, USA | 42º 44'00" N | 96º 14’00" W | 359 | Common sunflower |
| *H.* *annuus* | 597896 | Iowa, USA | 42º 34’00" N | 96º 21’00" W | 379 | Common sunflower |
| *H.* *annuus* | 597897 | Iowa, USA | 42º 55’02" N | 96º 34’00" W | 388 | Common sunflower |
| *H.* *annuus* | 597898 | Iowa, USA | 43º 05’00" N | 96º 11’00" W | 435 | Common sunflower |
| *H.* *annuus* | 597899 | South Dakota, USA | 42º 49’00" N | 96º 41’40" W | 359 | Common sunflower |
| *H.* *annuus* | 597900 | South Dakota, USA | 43º 17’05" N | 96º 45’00" W | 403 | Common sunflower |
| *H.* *annuus* | 597901 | Iowa, USA | 43º 05’00" N | 96º 11’00" W | 435 | Common sunflower |
| *H.* *annuus* | 597902 | Iowa, USA | 42º 24’00" N | 96º 3812" W | 414 | Common sunflower |
| *H.* *annuus* | 597903 | Iowa, USA | 42º 33’14" N | 96º 20’20" W | 341 | Common sunflower |
| *H.* *annuus* | 597904 | South Dakota, USA | 42º 49’00" N | 96º 41’40"W  | 359 | Common sunflower |
| *H. debilis* ssp. *cucumerifolius* | 435654 | Texas, USA | 29º 28’00" N | 96º 57’00" W | 711 | Cucumber-leaf sunflower |
| *H. debilis* ssp. *tardiflorus* | 468689 | Florida, USA | 29º 48’00" N | 85º 18’00" W  | 1 | Slow-flowering sunflower |
| *H. debilis* ssp. *vestitus* | 468693 | Florida, USA | 27º 46’00" N | 82º 40’00" W | 16 | Clothed sunflower |
| *H. debilis* ssp. *vestitus* | 468694 | Florida, USA | 27º 31’00" N | 82º 44’00" W | 0 | Clothed sunflower |
| Table S1 (Cont’d) |  |  |  |  |  |  |
| **Species** | **PI number** | **Origin** | **Latitude****(deg min sec)** | **Longitude****(deg min sec)** | **Elevation****(m)** | **Name/identifier** |
| *H. niveus* ssp. *tephrodes* | 613758 | Mexico | 32º 15’00" N | 114º 30’00" W | 61 | Algodones dunes sunflower |
| *H. petiolaris* | 435831 | Kansas, USA | 37º 58’24" N | 100º 52’34" W | 895 | Prairie sunflower |
| *H. petiolaris* | 531055 | Montana, USA | 47º 28’00" N | 114º 51’00" W | 935 | Prairie sunflower |
| *H. petiolaris* | 549165 | South Dakota, USA | 42º 47’00" N | 96º 56’00" W | 374 | Prairie sunflower |
| *H. petiolaris* | 597922 | South Dakota, USA | 42º 49’00" N | 96º 14’00" W | 402 | Prairie sunflower |
| *H. praecox* | 413176 | Texas, USA | 29º 18’99" N | 94º 47’00" W | 3 | Texas sunflower |
| *H. praecox* | 435850 | Texas, USA | 27º 35’00" N | 97º 27’11" W | 7 | Texas sunflower |
| *H. praecox* | 494604 | Texas, USA | 29º 30’00" N | 94º 29’00" W | 0 | Texas sunflower |
| *H. praecox* ssp. *hirtus* | 468849 | Texas, USA | 28º 31’00" N | 99º 51’00" W | 176 | Dimmit sunflower |
| **Wild perennial** |  |  |  |  |  |  |
| *H. decapetalus* | 503246 | Connecticut, USA | 41º 00’00" N | 73º 00’00" W  | 216 | Ten-petal sunflower |
| *H. divaricatus* | 503209 | Virginia, USA | 37º 00’00" N | 80º 00’00" W | 473 | Woodland sunflower |
| *H. giganteus* | 547177 | Wisconsin, USA | 46º 37’00" N | 90º 46’00" W | 189 | Giant sunflower |
|  |  |  |  |  |  |  |
| Table S1 (Cont’d) |  |  |  |  |  |  |
| **Species** | **PI number** | **Origin** | **Latitude****(deg min sec)** | **Longitude****(deg min sec)** | **Elevation****(m)** | **Name/identifier** |
| *H. nuttallii* | 531043 | Wyoming, USA | 41 º 46’00" N | 105 º 59’00" W | 2111 | Nuttall’s sunflower |
| **Cultivated check** |  |  |  |  |  |  |
| *H.* *annuus* | 599773 | Texas, USA | 30 º 37’40" N | 96 º 20'03" W | 108 | Inbred line HA 89 |