**Performance of high oil selections in a multi-location trial (2015-16)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entry | Indore | Parbhani | Phaltan | Raipur |
| IIOR-SAF-20 | 39.5 | 37.2 | 37.7 | 40.2 |
| IIOR-SAF-29 | 39.4 | 35.1 | 37.1 | 39.9 |
| IIOR-SAF-39 | 39.7 | 36.9 | 37.0 | 40.1 |
| IIOR-SAF-60 | 39.5 | 36.4 | 39.3 | 39.7 |
| IIOR-SAF-103 | 39.6 | 39.5 | 38.4 | 40.6 |
| A-1 (Check) | 28.4 | 24.0 | 27.7 | 29.5 |
| Bhima (Check) | 32.7 | 29.8 | 31.7 | 33.3 |
| PBNS-12 (Check) | 29.2 | 26.8 | 28.4 | 30.9 |
| NARI-57 (Check) | 39.6 | 35.5 | 37.5 | 40.8 |

Mean of three replications in a RBD trial

**Performance of high oil selections of safflower during 2015-16**

|  |  |
| --- | --- |
| **Selection ID** | **Oil content (%)** |
| SAF-20-O | 31.89±2.3 |
| SAF-20-Y | 32.47±2.2 |
| SAF-29-O | 33.34±1.6 |
| SAF-39-O | 32.39±0.64 |
| SAF-39-Y | 33.76±0.51 |
| SAF-40-O | 36.94±1.25 |
| SAF-40-Y | 38.52±0.86 |
| SAF-54A-O | 34.0±0.80 |
| SAF-54A-Y | 33.60±0.52 |
| SAF-54B-O | 33.68±0.47 |
| SAF-54B-Y | 34.84±1.44 |
| SAF-56-O | 38.03±0.79 |
| SAF-56-Y | 36.41±1.91 |
| SAF-57-O | 35.16±1.64 |
| SAF-60-O | 31.85±2.29 |
| SAF-60-Y | 30.8±0.44 |
| SAF-91-O | 37.35±1.20 |
| SAF-91-Y | 36.55±0.73 |
| SAF-103-O | 33.24±1.87 |
| SAF-103-Y | 33.08±1.75 |
| SAF-121-O | 35.17±0.47 |
| SAF-121-Y | 36.09±1.49 |
| A-1 (Check) | 25.78±3.2 |
| Bhima (Check) | 28.35±0.33 |
| PBNS-12 (Check) | 27.22±0.42 |
| NARI-57 (Check) | 30.5±0.91 |
| SSF-708 (Check) | 24.61±1.89 |

**Promising high oil F4 selections made in safflower during Rabi 2015-16**

|  |  |
| --- | --- |
| Selection ID | Oil content (%) |
| Bhima x S-334-F4-4 | 34.86 |
| Bhima x S-334-F4-8 | 37.97 |
| Bhima x S-334-F4-25 | 34.63 |
| Bhima x Aceitera-F4-55 | 34.47 |
| Bhima x Aceitera-F4-59 | 34.9 |
| Bhima x Aceitera-F4-65 | 34.42 |
| PBNS-12 x Aceitera-F4-96 | 36.02 |
| PBNS-12 x CW-99-F4-104 | 36.52 |
| PBNS-12 x CW-99-F4-105 | 34.18 |
| PBNS-12 x CW-99-F4-107 | 34.49 |
| PBNS-12 x CW-99-F4-114 | 34.69 |
| PBNS-12 x CW-99-F4-125 | 37.79 |
| PBNS-12 x CW-99-F4-134 | 35.25 |
| PBNS-12 x CW-99-F4-144 | 35.6 |
| PBNS-12 x EC-501-F4-154 | 36.31 |
| PBNS-12 x EC-501-F4-155 | 36.94 |
| PBNS-12 x EC-501-F4-157 | 36.63 |
| PBNS-12 x EC-501-F4-162 | 38.22 |
| PBNS-12 x EC-501-F4-166 | 37.57 |

**Promising high oil F4 selections made in safflower during Rabi 2014-15**

|  |  |  |  |
| --- | --- | --- | --- |
| Selection ID | Pedigree | Seed yield/plant (g) | Oil content (%) |
| **IIOR-SAF-20** | NARI-57 x EC-736500-F4 | 24 | 36 |
| **IIOR-SAF-29** | NARI-57 x EC-736500-F4 | 22 | 37 |
| **IIOR-SAF-39\*** | NARI-57 x EC-736500-F4 | 18 | 36 |
| IIOR-SAF-40 | NARI-57 x EC-736501-F4 | 13 | 41 |
| IIOR-SAF-54A | NARI-57 x EC-736501-F4 | 25 | 36 |
| IIOR-SAF-54B | NARI-57 x EC-736501-F4 | 25 | 36 |
| IIOR-SAF-56 | NARI-57 x EC-736501-F4 | 16 | 40 |
| IIOR-SAF-57 | NARI-57 x EC-736501-F4 | 16 | 37 |
| **IIOR-SAF-60** | NARI-57 x EC-736516-F4 | 27 | 37 |
| IIOR-SAF-91 | NARI-57 x EC-736501-F4 | 20 | 40 |
| **IIOR-SAF-103** | NARI-57 x EC-736501-F4 | 30 | 38 |
| IIOR-SAF-121 | NARI-57 x EC-736501-F4 | 12 | 39 |
| A1 (Check) | - | 25±5 | 26 |
| Bhima (Check) | - | 35±5 | 28 |
| PBNS-12 (Check) | - | 27±6 | 28 |
| SSF-708 (Check) | - | 26±7 | 28 |
| NARI-57 (Check) | - | 25±7 | 36 |

The entries in bold have been shortlisted for multi-location trials at AICRP centres-Indore, Parbhani, Phaltan, Raipur. \*Short stature, two weeks earlier than the checks.

**High oil F3 selections made in safflower during Rabi 2014-15**

|  |  |  |
| --- | --- | --- |
| Selection ID | Pedigree | Oil content (%) |
| 139 | A1 x Humaya-F3 | 38 |
| 189 | A1 x Humaya-F3 | 37 |
| 242 | A1 x Humaya-F3 | 37 |
| 249 | A1 x Humaya-F3 | 39 |
| 16 | PBNS-12 x CW-99-F3 | 37 |
| 22 | PBNS-12 x CW-99-F3 | 40 |
| 29 | PBNS-12 x CW-99-F3 | 37 |
| 37 | PBNS-12 x CW-99-F3 | 38 |
| 53 | PBNS-12 x CW-99-F3 | 38 |
| 64 | PBNS-12 x CW-99-F3 | 39 |
| 65 | PBNS-12 x CW-99-F3 | 37 |
| 76 | PBNS-12 x CW-99-F3 | 37 |
| 79 | PBNS-12 x CW-99-F3 | 37 |
| 94 | PBNS-12 x CW-99-F3 | 39 |
| 97 | PBNS-12 x CW-99-F3 | 37 |
| 104 | PBNS-12 x CW-99-F3 | 38 |
| 105 | PBNS-12 x CW-99-F3 | 38 |
| 109 | PBNS-12 x CW-99-F3 | 37 |
| 110 | PBNS-12 x CW-99-F3 | 38 |
| 115 | PBNS-12 x CW-99-F3 | 37 |
| 117 | PBNS-12 x CW-99-F3 | 38 |
| 118 | PBNS-12 x CW-99-F3 | 37 |
| 119 | PBNS-12 x CW-99-F3 | 39 |
| 128 | PBNS-12 x CW-99-F3 | 37 |
| 132 | PBNS-12 x CW-99-F3 | 41 |
| 135 | PBNS-12 x CW-99-F3 | 37 |
| 136 | PBNS-12 x CW-99-F3 | 37 |
| 144 | PBNS-12 x CW-99-F3 | 40 |
| 147 | PBNS-12 x CW-99-F3 | 39 |
| 150 | PBNS-12 x CW-99-F3 | 38 |
| 152 | PBNS-12 x CW-99-F3 | 37 |
| 154 | PBNS-12 x CW-99-F3 | 37 |
| 155 | PBNS-12 x CW-99-F3 | 40 |
| 159 | PBNS-12 x CW-99-F3 | 41 |
| 172 | PBNS-12 x CW-99-F3 | 37 |
| 173 | PBNS-12 x CW-99-F3 | 38 |
| 177 | PBNS-12 x CW-99-F3 | 38 |
| 180 | PBNS-12 x CW-99-F3 | 39 |
| 188 | PBNS-12 x CW-99-F3 | 37 |
| 190 | PBNS-12 x CW-99-F3 | 40 |
| 191 | PBNS-12 x CW-99-F3 | 38 |
| 192 | PBNS-12 x CW-99-F3 | 37 |
| 193 | PBNS-12 x CW-99-F3 | 39 |
| 195 | PBNS-12 x CW-99-F3 | 37 |
| 198 | PBNS-12 x CW-99-F3 | 39 |
| 210 | PBNS-12 x CW-99-F3 | 39 |
| 219 | PBNS-12 x CW-99-F3 | 40 |
| 222 | PBNS-12 x CW-99-F3 | 38 |
| 223 | PBNS-12 x CW-99-F3 | 39 |
| 224 | PBNS-12 x CW-99-F3 | 37 |
| 229 | PBNS-12 x CW-99-F3 | 37 |
| 238 | PBNS-12 x CW-99-F3 | 39 |
| 248 | PBNS-12 x CW-99-F3 | 39 |
| 251 | PBNS-12 x CW-99-F3 | 39 |
| 258 | PBNS-12 x CW-99-F3 | 38 |
| 259 | PBNS-12 x CW-99-F3 | 41 |
| 269 | PBNS-12 x CW-99-F3 | 37 |
| 272 | PBNS-12 x CW-99-F3 | 38 |
| 280 | PBNS-12 x CW-99-F3 | 40 |
| 281 | PBNS-12 x CW-99-F3 | 38 |
| 287 | PBNS-12 x CW-99-F3 | 37 |
| 291 | PBNS-12 x CW-99-F3 | 37 |
| 292 | PBNS-12 x CW-99-F3 | 37 |
| 298 | PBNS-12 x CW-99-F3 | 40 |
| 301 | PBNS-12 x CW-99-F3 | 37 |
| 306 | PBNS-12 x CW-99-F3 | 38 |
| 307 | PBNS-12 x CW-99-F3 | 37 |
| 314 | PBNS-12 x CW-99-F3 | 39 |
| 315 | PBNS-12 x CW-99-F3 | 39 |
| 327 | PBNS-12 x CW-99-F3 | 37 |
| 331 | PBNS-12 x CW-99-F3 | 38 |
| 336 | PBNS-12 x CW-99-F3 | 40 |
| 340 | PBNS-12 x CW-99-F3 | 40 |
| 345 | PBNS-12 x CW-99-F3 | 40 |
| 348 | PBNS-12 x CW-99-F3 | 37 |
| 352 | PBNS-12 x CW-99-F3 | 38 |
| 365 | PBNS-12 x CW-99-F3 | 37 |
| 369 | PBNS-12 x CW-99-F3 | 39 |
| 370 | PBNS-12 x CW-99-F3 | 37 |
| 372 | PBNS-12 x CW-99-F3 | 38 |
| 383 | PBNS-12 x CW-99-F3 | 40 |
| 56 | Bhima x Centennial-F3 | 37 |
| 64 | Bhima x Centennial-F3 | 37 |
| 107 | Bhima x Centennial-F3 | 37 |
| 174 | Bhima x Centennial-F3 | 38 |
| 8 | PBNS-12 x Aceitera-F3 | 37 |
| 32 | PBNS-12 x Aceitera-F3 | 37 |
| 51 | PBNS-12 x Aceitera-F3 | 39 |
| 59 | PBNS-12 x Aceitera-F3 | 41 |
| 67 | PBNS-12 x Aceitera-F3 | 39 |
| 71 | PBNS-12 x Aceitera-F3 | 38 |
| 75 | PBNS-12 x Aceitera-F3 | 37 |
| 77 | PBNS-12 x Aceitera-F3 | 38 |
| 80 | PBNS-12 x Aceitera-F3 | 37 |
| 91 | PBNS-12 x Aceitera-F3 | 37 |
| 104 | PBNS-12 x Aceitera-F3 | 37 |
| 124 | PBNS-12 x Aceitera-F3 | 38 |
| 126 | PBNS-12 x Aceitera-F3 | 39 |
| 131 | PBNS-12 x Aceitera-F3 | 37 |
| 138 | PBNS-12 x Aceitera-F3 | 40 |
| 147 | PBNS-12 x Aceitera-F3 | 37 |
| 153 | PBNS-12 x Aceitera-F3 | 37 |
| 160 | PBNS-12 x Aceitera-F3 | 37 |
| 176 | PBNS-12 x Aceitera-F3 | 38 |
| 187 | PBNS-12 x Aceitera-F3 | 39 |
| 197 | PBNS-12 x Aceitera-F3 | 37 |
| 206 | PBNS-12 x Aceitera-F3 | 38 |
| 259 | PBNS-12 x Aceitera-F3 | 37 |
| 261 | PBNS-12 x Aceitera-F3 | 37 |
| 272 | PBNS-12 x Aceitera-F3 | 38 |
| 278 | PBNS-12 x Aceitera-F3 | 38 |
| 279 | PBNS-12 x Aceitera-F3 | 40 |
| 283 | PBNS-12 x Aceitera-F3 | 38 |
| 291 | PBNS-12 x Aceitera-F3 | 38 |
| 28 | PBNS-12 x EC-736501-F3 | 37 |
| 30 | PBNS-12 x EC-736501-F3 | 39 |
| 32 | PBNS-12 x EC-736501-F3 | 38 |
| 45 | PBNS-12 x EC-736501-F3 | 44 |
| 68 | PBNS-12 x EC-736501-F3 | 37 |
| 70 | PBNS-12 x EC-736501-F3 | 39 |
| 87 | PBNS-12 x EC-736501-F3 | 38 |
| 103 | PBNS-12 x EC-736501-F3 | 38 |
| 126 | PBNS-12 x EC-736501-F3 | 38 |
| 135 | PBNS-12 x EC-736501-F3 | 38 |
| 143 | PBNS-12 x EC-736501-F3 | 40 |
| 150 | PBNS-12 x EC-736501-F3 | 39 |
| 193 | PBNS-12 x EC-736501-F3 | 37 |
| 251 | PBNS-12 x EC-736501-F3 | 37 |
| 92 | Bhima x S-334-F3 | 37 |
| 6 | Bhima x Aceitera-F3 | 41 |
| 46 | Bhima x Aceitera-F3 | 41 |
| 59 | Bhima x Aceitera-F3 | 37 |
| 63 | Bhima x Aceitera-F3 | 39 |
| 135 | Bhima x Aceitera-F3 | 37 |
| 153 | Bhima x Aceitera-F3 | 41 |
| 158 | Bhima x Aceitera-F3 | 38 |
| 174 | Bhima x Aceitera-F3 | 39 |
| 191 | Bhima x Aceitera-F3 | 38 |

**High oil thin hull F3 selections in safflower during Rabi 2014-15**

|  |  |  |
| --- | --- | --- |
| Selection ID | Pedigree | Oil content (%) |
| THS-8 | PBNS-12 x EC-736487-F3 | 41 |
| THS-14 | PBNS-12 x EC-736487-F3 | 37 |
| THS-33 | PBNS-12 x EC-736487-F3 | 38 |
| THS-34 | PBNS-12 x EC-736487-F3 | 40 |
| THS-41 | PBNS-12 x EC-736487-F3 | 37 |
| THS-49 | PBNS-12 x EC-736487-F3 | 40 |
| THS-51 | PBNS-12 x EC-736487-F3 | 35 |
| THS-53 | PBNS-12 x EC-736487-F3 | 35 |
| THS-70 | PBNS-12 x EC-736487-F3 | 41 |
| THS-74 | PBNS-12 x EC-736487-F3 | 38 |
| THS-75 | PBNS-12 x EC-736487-F3 | 35 |
| THS-82 | PBNS-12 x EC-736487-F3 | 39 |
| THS-83 | PBNS-12 x EC-736487-F3 | 39 |
| THS-90 | PBNS-12 x EC-736487-F3 | 38 |
| THS-95 | PBNS-12 x EC-736487-F3 | 42 |
| THS-131 | PBNS-12 x EC-736487-F3 | 37 |
| THS-167 | PBNS-12 x EC-736487-F3 | 37 |
| THS-175 | PBNS-12 x EC-736487-F3 | 35 |
| THS-194 | PBNS-12 x EC-736487-F3 | 37 |
| THS-201 | PBNS-12 x EC-736487-F3 | 37 |

**Initial evaluation of Mexican safflower varieties for oil content under Indian field conditions during** rabi 2013-14

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variety | Seed yield/plant (g)\* | Oil content (%) | Palmitic (%) | Stearic (%) | Oleic (%) | Linoleic (%) |
| EC755659-1 | 20.8 | 34.13 | 6.46 | 2.32 | 11.73 | 79.49 |
| EC755660 | 17.9 | 36.10 | 5.80 | 2.02 | 69.55 | 22.76 |
| EC755661 | 15.8 | 35.36 | 4.65 | 2.12 | 78.88 | 14.35 |
| EC755662 | 21.5 | 38.69 | 4.76 | 2.36 | 76.70 | 16.18 |
| EC755664 | 14.2 | 37.32 | 4.96 | 2.01 | 76.53 | 16.45 |
| EC755665 | 19.9 | 35.72 | 4.69 | 1.94 | 78.87 | 14.51 |
| EC755666 | 18.6 | 38.19 | 4.64 | 2.18 | 79.20 | 13.98 |
| EC755669 | 22.5 | 37.83 | 4.41 | 1.79 | 78.83 | 14.96 |
| EC755671 | 19.5 | 36.14 | 5.23 | 1.81 | 72.63 | 20.33 |
| EC755673 | 11.7 | 37.47 | 5.64 | 1.66 | 74.94 | 17.76 |
| EC755675 | 16.3 | 37.76 | 4.90 | 1.58 | 77.77 | 15.75 |
| EC755677 | 13.7 | 32.52 | 4.61 | 2.34 | 74.25 | 19.03 |
| EC755679 | 10.8 | 32.92 | 6.60 | 2.30 | 15.00 | 76.10 |
| EC755680 | 13.5 | 34.99 | 6.60 | 2.19 | 12.57 | 78.64 |
| EC755683 | 18.2 | 35.17 | 4.41 | 1.84 | 77.57 | 16.18 |
| EC755684 | 15.2 | 39.20 | 6.03 | 2.74 | 14.09 | 77.14 |
| EC755685 | 16.2 | 37.30 | 6.56 | 2.64 | 15.86 | 74.93 |
| EC755687 | 14.8 | 38.07 | 6.73 | 2.01 | 12.32 | 78.94 |
| EC755688 | 22.5 | 37.45 | 6.59 | 2.19 | 15.07 | 76.14 |
| EC736514 (Oleic Leed) | 15.9 | 36.07 | 3.57 | 1.31 | 78.63 | 16.49 |
| EC736515 (Montola 2000) | 23.4 | 39.10 | 4.84 | 1.95 | 80.15 | 13.06 |
| EC736516 (Centennial) | 12.4 | 41.39 | 7.05 | 2.28 | 13.63 | 77.06 |
| EC736517 (Lesaff) | 11.7 | 38.44 | 5.27 | 2.11 | 70.75 | 21.89 |
| EC736519 (Finch) | 17.3 | 35.31 | 6.41 | 4.08 | 14.21 | 75.31 |
| EC736521 (Oker) | 8.1 | 38.79 | 7.00 | 2.18 | 14.39 | 76.44 |
| A-1 | 24.6 | 26.31 | 5.56 | 2.40 | 15.60 | 76.43 |
| Bhima | 23.2 | 31.12 | 5.72 | 2.59 | 16.17 | 75.48 |
| NARI-57 | 38.3 | 37.11 |  7.61 |  2.62 |  13.41 |  75.90 |

**Initial evaluation of Mexican safflower varieties for oil content under Indian field conditions during rabi 2012-13**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variety | Seed yield/plant (g)\* | Oil content (%) | Palmitic (%) | Stearic (%) | Oleic (%) | Linoleic (%) |
| EC755659 | 35.53 | 35.17 | 4.73 | 1.99 | 77.19 | 16.09 |
| EC755660 | 43.40 | 35.15 | 5.08 | 1.81 | 76.97 | 16.14 |
| EC755661 | 47.92 | 32.24 | 5.01 | 1.88 | 79.94 | 13.17 |
| EC755662 | 18.31 | 36.51 | 5.07 | 2.34 | 78.92 | 13.67 |
| EC755663 | 37.93 | 30.45 | 5.68 | 1.84 | 44.09 | 48.39 |
| EC755664 | 25.91 | 37.77 | 4.61 | 2.35 | 74.75 | 18.29 |
| EC755665 | 23.21 | 35.35 | 4.18 | 1.94 | 80.36 | 13.51 |
| EC755666 | 37.68 | 36.80 | 9.92 | 5.18 | 53.69 | 31.21 |
| EC755667 | 28.85 | 31.31 | 6.45 | 3.24 | 42.09 | 48.23 |
| EC755668 | 28.43 | 32.78 | 4.97 | 2.17 | 76.89 | 15.98 |
| EC755669 | 21.06 | 37.03 | 4.51 | 2.09 | 79.28 | 14.12 |
| EC755670 | 25.40 | 31.74 | 10.62 | 3.13 | 54.71 | 31.54 |
| EC755671 | 33.65 | 36.44 | 5.00 | 1.99 | 76.85 | 16.16 |
| EC755672 | 25.30 | 28.00 | 5.00 | 1.89 | 77.95 | 15.17 |
| EC755673 | 27.50 | 33.44 | 5.48 | 1.57 | 78.69 | 14.25 |
| EC755674 | 13.99 | 28.91 | 6.26 | 2.57 | 73.06 | 18.12 |
| EC755675 | 34.35 | 35.46 | 6.88 | 2.30 | 70.58 | 20.24 |
| EC755676 | 21.78 | 30.74 | 7.12 | 2.94 | 14.25 | 75.70 |
| EC755677 | 28.60 | 33.74 | 6.88 | 4.36 | 37.78 | 50.98 |
| EC755678 | 41.58 | 32.06 | 8.80 | 2.10 | 27.72 | 61.39 |
| EC755679 | 21.64 | 32.14 | 7.31 | 2.17 | 14.49 | 76.03 |
| EC755680 | 22.95 | 32.57 | 7.56 | 2.27 | 15.55 | 74.63 |
| EC755681 | 23.46 | 33.84 | 6.36 | 2.30 | 58.68 | 32.67 |
| EC755682 | 16.60 | 26.71 | 7.40 | 3.29 | 24.97 | 64.33 |
| EC755683 | 16.98 | 31.71 | 6.14 | 2.38 | 39.90 | 51.58 |
| EC755684 | 33.09 | 32.81 | 7.04 | 2.72 | 24.22 | 66.03 |
| EC755685 | 23.48 | 34.05 | 7.06 | 2.77 | 16.63 | 73.54 |
| EC755686 | 12.82 | 32.19 | 8.86 | 3.43 | 25.03 | 62.68 |
| EC755687 | 21.67 | 34.21 | 7.22 | 2.61 | 18.90 | 71.27 |
| EC755688 | 8.39 | 35.68 | 7.17 | 3.09 | 23.54 | 66.19 |
| A-1 | 29.40 | 22.57 | 6.64 | 2.79 | 19.29 | 71.28 |
| Bhima | 27.72 | 26.08 | 6.11 | 2.56 | 18.10 | 73.23 |
| PBNS-12 | 26.68 | 23.66 | 6.09 | 2.48 | 17.06 | 74.36 |
| NARI-6 | 24.88 | 27.70 | 7.71 | 2.97 | 28.30 | 61.02 |
| Phule Kusuma | 31.37 | 23.53 | 6.80 | 2.60 | 16.75 | 73.84 |
| NARI-52 | 37.31 | 30.26 | 6.91 | 2.72 | 15.09 | 75.28 |
| NARI-57 | 39.91 | 30.59 | 7.77 | 2.45 | 24.87 | 64.91 |
| SSF-708 | 16.51 | 24.92 | 7.02 | 4.45 | 25.84 | 62.69 |
| SSF-748 | 18.86 | 22.33 | 5.39 | 1.98 | 18.52 | 74.10 |

\*Unreplicated trial data; 12 plants per accession; oil content and fatty acid profile data were obtained using bulked seed samples