Table S1. List of 170 *A. indica* accessions with its geographical locations and source

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Code** | **Place** | **Pop** | **S.No** | **Code** | **Place** | **Pop** | **S.No** | **Code** | **Place** | **Pop** |
| 1 | VKAF-25 | Hisar | NC | 31 | VKAF-34 | Tikamgarh | NC | 61 | UP-1 | Kalpi | NC |
| 2 | VKAF-76 | Hisar | NC | 32 | VKAF-35 | Chhatarpur | NC | 62 | VKAF-6 | Bhognipur | NC |
| 3 | Sel-7 | Chhatarpur | NC | 33 | VKAF-36 | Satna | NC | 63 | VKAF-7 | Gauthampur | NC |
| 4 | VKAF-183 | Rajgargh | NC | 34 | VKAF-37 | Satana | NC | 64 | VKAF-8 | Gulganj | NC |
| 5 | VKAF-184 | Shajapur | NC | 35 | VKAF-38 | Jabalpur | NC | 65 | VKAF-18 | Charkha | NC |
| 6 | VKAF-185 | Indore | NC | 36 | VKAF-39 | Jabalpur | NC | 66 | VKAF-28 | Orai | NC |
| 7 | VKAF-82 | Sagar | NC | 37 | VKAF-40 | Sagar | NC | 67 | VKAF-29 | Orai | NC |
| 8 | VKAF-1 | Datia | NC | 38 | VKAF-41 | Boira | NC | 68 | VKAF-44 | Jhansi | NC |
| 9 | VKAF-2 | Dabra | NC | 39 | VKAF-42 | Bara | NC | 69 | VKAF-45 | Jhansi | NC |
| 10 | VKAF-3 | Morena | NC | 40 | VKAF-43 | Tonk | NC | 70 | UP-2 | Jhansi | NC |
| 11 | VKAF-9 | Tikkamgar | NC | 41 | MP-1 | Chhatarpur | NC | 71 | VKAF-47 | Faizabad | NC |
| 12 | VKAF-10 | Panna | NC | 42 | MP-2 | Chhatarpur | NC | 72 | UP-3 | Jhansi | NC |
| 13 | VKAF-11 | Satna | NC | 43 | MP-3 | Bhopal | NC | 73 | Sel-1 | Moth | NC |
| 14 | VKAF-12 | Rewa | NC | 44 | VKAF-48 | Hoshangabad | NC | 74 | VKAF-56 | Kurnool | SE |
| 15 | VKAF-13 | Katani | NC | 45 | VKAF-50 | Chindwara | NC | 75 | VKAF-57 | Anandpur | SE |
| 16 | VKAF-14 | Jabalpur | NC | 46 | VKAF-62 | Chhatarpur | NC | 76 | VKAF-58 | Prakasam | SE |
| 17 | VKAF-15 | Damoh | NC | 47 | VKAF-97 | Indore | NC | 77 | VKAF-59 | Guntur | SE |
| 18 | VKAF-16 | Sagar | NC | 48 | VKAF-99 | Balaghat | NC | 78 | VKAF-60 | Krishna | SE |
| 19 | VKAF-19 | Vidisha | NC | 49 | VKAF-100 | Durg | NC | 79 | VKAF-61 | Warangal | SE |
| 20 | VKAF-20 | Bhopal | NC | 50 | VKAF-101 | Rajnandgaon | NC | 80 | VKAF-78 | Adilabad | SE |
| 21 | VKAF-21 | Boira | NC | 51 | Sel-2 | Bhopal | NC | 81 | VKAF-79 | W Godavari | SE |
| 22 | VKAF-22 | Guna | NC | 52 | Sel-3 | Jabalpur | NC | 82 | VKAF-80 | Karim Nagar | SE |
| 23 | VKAF-23 | Shivpuri | NC | 53 | Sel-4 | Jabalpur | NC | 83 | VKAF-83 | Madak | SE |
| 24 | VKAF-24 | Rajgargh | NC | 54 | Sel-6 | Mauranipur | NC | 84 | VKAF-103 | Vizianagaram | SE |
| 25 | VKAF-26 | Datia | NC | 55 | VKAF-17 | Kota | NC | 85 | VKAF-104 | Vizagapatinam | SE |
| 26 | VKAF-27 | Gwalior | NC | 56 | VKAF-81 | Jodhpur | NC | 86 | VKAF-105 | Srikakulam | SE |
| 27 | VKAF-30 | Chhatarpur | NC | 57 | RJ-1 | Bilara | NC | 87 | VKAF-106 | Srikakulam | SE |
| 28 | VKAF-31 | Chhatarpur | NC | 58 | Sel-8 | Kota | NC | 88 | VKAF-49 | Hoshangabad | SE |
| 29 | VKAF-32 | Chhatarpur | NC | 59 | VKAF-4 | Jhansi | NC | 89 | VKAF-77 | Dharwad | SE |
| 30 | VKAF-33 | Chhatarpur | NC | 60 | VKAF-5 | Moth | NC | 90 | VKAF-102 | Koraput | SE |

*Population: NC: North Central, WC: West Central and SE: South Eastern*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Code** | **Place** | **Pop** | **S.No** | **Code** | **Place** | **Pop** | **S.No** | **Code** | **Place** | **Pop** |
| 91 | VKAF-107 | Ganjam | SE | 121 | VKAF-182 | Guna | WC | 151 | VKAF-96 | Pusad | WC |
| 92 | VKAF-108 | Puri | SE | 122 | GJ-1 | Dantiwada | WC | 152 | MH-3 | Bethwadagaon | WC |
| 93 | VKAF-110 | Khordha | SE | 123 | VKAF-46 | Palanpur | WC | 153 | VKAF-124 | Latur | WC |
| 94 | VKAF-113 | Dhenkanal | SE | 124 | VKAF-51 | Wardha | WC | 154 | VKAF-125 | Chakur | WC |
| 95 | VKAF-114 | Bhadrak | SE | 125 | VKAF-63 | Nagpur | WC | 155 | VKAF-126 | Nanded | WC |
| 96 | VKAF-115 | Baleshwar | SE | 126 | VKAF-64 | Seoni | WC | 156 | VKAF-127 | Nanded | WC |
| 97 | VKAF-116 | Kendujhargarh | SE | 127 | VKAF-65 | Akola | WC | 157 | MH-4 | Vathuvwada | WC |
| 98 | VKAF-117 | Angul | SE | 128 | VKAF-66 | Jalgaon | WC | 158 | MH-5 | Murur | WC |
| 99 | VKAF-118 | Sambalpur | SE | 129 | VKAF-67 | Bhusawan | WC | 159 | MH-6 | Nandgaon | WC |
| 100 | VKAF-120 | Sonapur | SE | 130 | VKAF-68 | Dhule | WC | 160 | MH-7 | Algarwadi | WC |
| 101 | VKAF-121 | Balangir | SE | 131 | VKAF-69 | Nasik | WC | 161 | MH-8 | Loha | WC |
| 102 | VKAF-122 | Nuparha | SE | 132 | VKAF-70 | Ahmednagar | WC | 162 | MH-9 | Karegaon | WC |
| 103 | OR-1 | Puri | SE | 133 | MH-1 | Aurangabad | WC | 163 | VKAF-128 | Hangoli | WC |
| 104 | VKAF-123 | Baleshwar | SE | 134 | MH-2 | Aurangabad | WC | 164 | VKAF-129 | Nanded | WC |
| 105 | VKAF-130 | Ganjam | SE | 135 | VKAF-71 | Jalna | WC | 165 | VKAF-186 | Pune | WC |
| 106 | VKAF-131 | Puri | SE | 136 | VKAF-72 | Parbhani | WC | 166 | VKAF-187 | Satara | WC |
| 107 | VKAF-132 | Dhenkanal | SE | 137 | VKAF-73 | Naded | WC | 167 | VKAF-188 | Kholapur | WC |
| 108 | VKAF-133 | Baleshwer | SE | 138 | VKAF-74 | Yavatamal | WC | 168 | MP-4 | Khargaon | WC |
| 109 | VKAF-134 | Mayurbhanja | SE | 139 | VKAF-84 | Satara | WC | 169 | MH-10 | Shirwal | WC |
| 110 | VKAF-135 | Mayurbhanja | SE | 140 | VKAF-85 | Sangli | WC | 170 | MH-11 | Karad | WC |
| 111 | VKAF-136 | Mayurbhanja | SE | 141 | VKAF-86 | Kohlapur | WC |  |  |  |  |
| 112 | VKAF-137 | Mayurbhanja | SE | 142 | VKAF-87 | Solapur | WC |  |  |  |  |
| 113 | VKAF-138 | Mayurbhanja | SE | 143 | VKAF-88 | Solapur | WC |  |  |  |  |
| 114 | VKAF-139 | Keonjhar | SE | 144 | VKAF-89 | Osmanabad | WC |  |  |  |  |
| 115 | VKAF-75 | Coimbatore | SE | 145 | VKAF-90 | Osmanabad | WC |  |  |  |  |
| 116 | VKAF-52 | Nizamabad | SE | 146 | VKAF-91 | Mandala | WC |  |  |  |  |
| 117 | VKAF-54 | Hyderabad | SE | 147 | VKAF-92 | Latur | WC |  |  |  |  |
| 118 | VKAF-55 | Mehabonagar | SE | 148 | VKAF-93 | Ahmednagar | WC |  |  |  |  |
| 119 | VKAF-53 | Hyderabad | SE | 149 | VKAF-94 | Nanded | WC |  |  |  |  |
| 120 | VKAF-181 | Shivpuri | WC | 150 | VKAF-95 | Hingoli | WC |  |  |  |  |

*Population: NC: North Central, WC: West Central and SE: South Eastern*

Table S2. Descriptive statistical analysis for six quantitative traits

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Parameters | PHT | DBH | FRW | SEW | KEW | OIP |
| Minimum | 6.09 | 31.37 | 30.96 | 11.21 | 4.30 | 6.67 |
| Maximum | 11.68 | 117.50 | 140.36 | 27.96 | 15.07 | 46.33 |
| Freq. of minimum | 1 | 1 | 1 | 1 | 1 | 1 |
| Freq. of maximum | 1 | 1 | 1 | 1 | 1 | 1 |
| Mean | 9.38 | 75.94 | 83.53 | 15.48 | 7.61 | 29.74 |
| Standard deviation (n-1) | 1.53 | 17.78 | 23.33 | 2.21 | 1.30 | 7.21 |
| Standard error of the mean | 0.11 | 1.36 | 1.78 | 0.16 | 0.10 | 0.55 |
| Skewness (Fisher) | 0.16 | 0.49 | 0.06 | 1.27 | 1.24 | 0.23 |
| Kurtosis (Fisher) | 0.08 | 0.10 | 0.35 | 5.69 | 6.04 | 0.04 |

Table S3. Correlation coefficient of six phenotypic traits of neem germplasm

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | PHT | DBH | FW | SW |
| PHT | **1** | **0.463** | **0.340** | 0.065 |
| DBH | **0.463** | **1** | 0.143 | **0.232** |
| FW | **0.340** | 0.143 | **1** | -0.006 |
| SW | 0.065 | **0.232** | -0.006 | **1** |
| KW | 0.016 | **0.188** | -0.048 | **0.828** |
| OC | -0.106 | **0.377** | **-0.200** | **0.429** |

Values in bold indicates its significance <p value 0.05.