Indian Journal of Experimental Biology
Vol. 62, December 2024, pp. 1010-1017
DOI: 10.56042/ijeb.v62i12.6036

# Exploring the genetic diversity of upland cotton (*Gossypium hirsutum* L.) genotypes using EST-SSR markers

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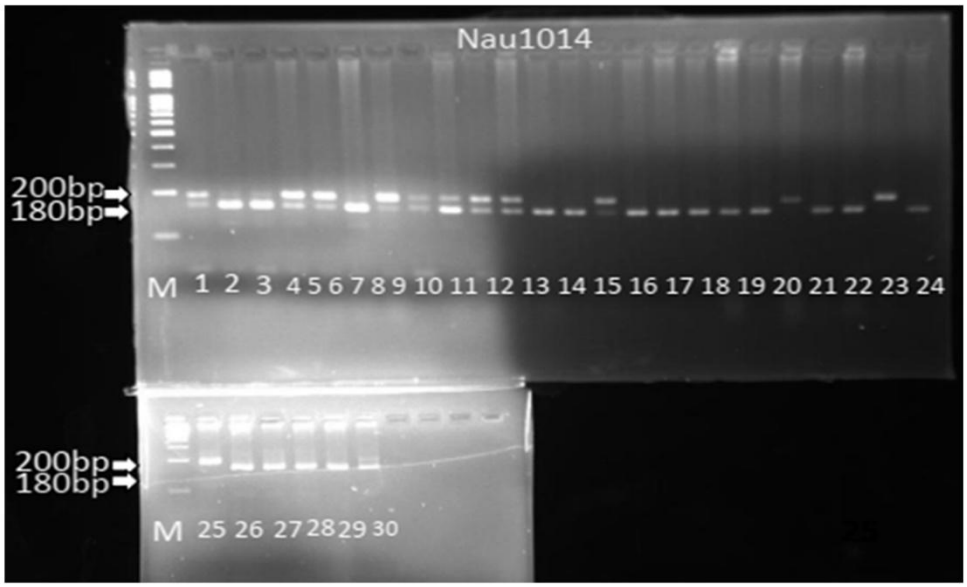
*Received 05 October 2023; revised 17 May 2024*




Supplementary fig. 1 — Illustration of alleles per locus using SSR markers. [M: Ladder; 1: AA-802; 2: FH-Lalazar; 3: CIM-616; 4: Sitar-008; 5: IR-3701; 6: FH-142; 7: BH-160; 8: FH-326; 9: SLH-19; 10: CIM- 598; 11: CIM-599; 12: SLH-1; 13: MNH-786; 14: CIM-625;15: CIM-632; 16: DNH-105; 17: IUB-222; 18: Cyto-178; 19: NIBG-2; 20: FH-114; 21: FH-118; 22: CEMB-33; 23: SLH-13; 24: FH-952; 25: CIM-622; 26: SLH-6; 27: CIM-612; 28:NIAB-78; 29: MNH-886; 30: SLH-12]

Supplementary table 1 — List of EST-SSR markers were used in this study

| Primers | Annealing temperature (°C) | Forward sequence | Reverse sequence |
|---|---|---|---|
| NAU915 | 55 | CCCGTTACAAACAAACCATA | GCGTGAGAGAAAGAACCCA |
| NAU 1014 | 55 | GCCTCCACTTGTTTTCTACC | GGCACCCATATCAGAAGAAG |
| NAU1023 | 55 | CTGGGATGATTGTGTTTTCA | CGAGAGGAATTTGTTGTCTG |
| NAU1063 | 55 | CACACTCACCCCTTTTTCTT | AGCAGGTTTACGGTTGTTGT |
| NAU1070 | 55 | CCCTCCATAACCAAAAGTTG | ACCAACAATGGTGACCTCTT |
| NAU 1207 | 55 | AAGCAAGAGTGAGGATGAGG | TGCAAACAAAACATCCCTTC |
| NAU1231 | 55 | TTGAGACCAAAAACATGTGG | GCTCATTTTGATCTGAACTCTG |
| NAU1301 | 55 | AAACCCCGATTAGACATCAA | CAAGTGTGCTCTCTGCAATG |
| NAU2002 | 55 | GCCCTTTTTGGTAGATGAAC | ATCACTTCAGCTGGGGTTT |
| NAU2220 | 55 | CTACAAAAGAAGCCCAGGAA | GTAGCAAAAAGGTTGGGAGA |
| NAU3009 | 55 | CCTCCACTTTCAGATGTCCT | GCCAGCTCAGGATCTATGTT |
| NAU3093 | 55 | GTCTTGAACCGGAACTTGAT | TCCTGTTGAACACCAAAGTG |
| NAU3158 | 55 | TTAGCCGGAACTTAGGAACA | CACAAAGCAAAAATGGATGA |
| NAU3234 | 55 | GTGATCGGAGAGAGGGTAAA | TCAAACAACACTAACCACGTC |
| NAU3239 | 55 | GCCAATTTCTCACAGCTCTT | TTTCTCAGCGTCTTCATTCA |
| NAU3279 | 55 | ACCTCCCACCTTTCTGACTA | GGTTTTTGTGGCTGTAAAGG |
| NAU3306 | 55 | ACAACCCAAGAGGACAAAGA | ATAACCACAGCGACCACTTT |
| NAU3427 | 55 | CCACCACTCACAGAATCTCA | TTCCAGATCCCCACTACTTC |
| NAU3735 | 55 | AATACCCGGTTTCAGTTTCA | CTCAGCTCACATTCACCAAG |
| NAU3558 | 55 | CAAGGCCTGACTTTCCTTTA | ATGGCTGTTGAATCTTTGGT |
| NAU3773 | 55 | AGTCTCGCACTTGGTCTCTC | CCAAAACAGAAGAGCCAGAT |
| NAU3897 | 55 | CTCCAATTGGGTCATCATTC | GTACTCTTCAATCGGCCTTT |
| NAU4014 | 55 | CACTCCCAAAATCATCATCA | AAAGTTTTCCAGTGGCTGAA |
| NAU4047 | 55 | ATTGGAGCTGTTTGGCTAAG | AATGGCTCCTCAATGGTAAA |
| NAU4065 | 55 | ACCCTTTCCTCTTTTCGTTT | GTCTTCTCGGTTTCAGCCTA |
| NAU4871 | 55 | CTGCTTCTAATGGCCGTAAT | AAGCCTGGAAAAAGAACCTT |
| NAU4912 | 55 | CCTTCTCTCAATCGCTCTTT | TGTTATTGAAGCGGTTGTGT |
| NAU5046 | 55 | CTTCCCTCCTCTGTCTCTCA | GAGAGAGGGGAAAGTTAGGG |

Supplementary table 2 — Similarity matrix of thirty cotton genotypes

| | AA-802 | FH-Lalzar | CIM-616 | Sitara-008 | IR-3701 | FH-142 | BH-160 | FH-326 | SLH-19 | CIM-598 | CIM-599 | SLH-1 | MNH-786 | CIM-625 | CIM-632 | DNH-105 | IUB-222 | Cyto-178 | NIBG-2 | FH-114 | FH-118 | CEMB-33 | SLH-13 | FH-952 | CIM-622 | SLH-6 | CIM-612 | NIAB-78 | MNH-886 | SLH-12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AA-802 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FH-Lalzar | 0.95 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CIM-616 | 0.92 | 0.97 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sitara-008 | 0.92 | 0.97 | 0.95 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| IR-3701 | 0.92 | 0.97 | 0.95 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| FH-142 | 0.89 | 0.95 | 0.92 | 0.97 | 0.97 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| BH-160 | 0.97 | 0.92 | 0.89 | 0.95 | 0.95 | 0.92 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| FH-362 | 0.92 | 0.86 | 0.89 | 0.84 | 0.84 | 0.81 | 0.89 | 1 | | | | | | | | | | | | | | | | | | | | | |
| SLH-19 | 0.89 | 0.95 | 0.97 | 0.97 | 0.97 | 0.95 | 0.92 | 0.86 | 1 | | | | | | | | | | | | | | | | | | | | |
| CIM-598 | 0.92 | 0.97 | 0.95 | 1 | 1 | 0.97 | 0.95 | 0.84 | 0.97 | 1 | | | | | | | | | | | | | | | | | | | |
| CIM-599 | 0.89 | 0.95 | 0.92 | 0.97 | 0.97 | 0.95 | 0.92 | 0.86 | 0.95 | 0.97 | 1 | | | | | | | | | | | | | | | | | | |
| SLH-1 | 0.89 | 0.95 | 0.92 | 0.97 | 0.97 | 1 | 0.92 | 0.81 | 0.95 | 0.97 | 0.95 | 1 | | | | | | | | | | | | | | | | | |
| MNH-786 | 0.89 | 0.95 | 0.92 | 0.97 | 0.97 | 1 | 0.92 | 0.81 | 0.95 | 0.97 | 0.95 | 1 | 1 | | | | | | | | | | | | | | | | |
| CIM-625 | 0.92 | 0.97 | 0.95 | 1 | 1 | 0.97 | 0.95 | 0.84 | 0.97 | 1 | 0.97 | 0.97 | 0.97 | 1 | | | | | | | | | | | | | | | |
| CIM-632 | 0.86 | 0.92 | 0.89 | 0.95 | 0.95 | 0.97 | 0.89 | 0.78 | 0.92 | 0.95 | 0.92 | 0.97 | 0.97 | 0.95 | 1 | | | | | | | | | | | | | | |
| DNH-105 | 0.81 | 0.86 | 0.84 | 0.89 | 0.89 | 0.92 | 0.84 | 0.78 | 0.86 | 0.89 | 0.92 | 0.92 | 0.92 | 0.89 | 0.89 | 1 | | | | | | | | | | | | | |
| IUB-222 | 0.86 | 0.92 | 0.89 | 0.95 | 0.95 | 0.97 | 0.89 | 0.78 | 0.92 | 0.95 | 0.92 | 0.97 | 0.97 | 0.95 | 0.95 | 0.95 | 1 | | | | | | | | | | | | |
| Cyto-178 | 0.89 | 0.84 | 0.81 | 0.86 | 0.86 | 0.89 | 0.92 | 0.86 | 0.84 | 0.86 | 0.89 | 0.89 | 0.89 | 0.86 | 0.86 | 0.92 | 0.92 | 1 | | | | | | | | | | | |
| NBGE-2 | 0.89 | 0.89 | 0.86 | 0.92 | 0.92 | 0.95 | 0.92 | 0.81 | 0.89 | 0.92 | 0.89 | 0.95 | 0.95 | 0.92 | 0.92 | 0.86 | 0.92 | 0.89 | 1 | | | | | | | | | | |
| FH-114 | 0.84 | 0.89 | 0.86 | 0.92 | 0.92 | 0.89 | 0.86 | 0.81 | 0.89 | 0.92 | 0.95 | 0.89 | 0.89 | 0.92 | 0.86 | 0.86 | 0.86 | 0.84 | 0.84 | 1 | | | | | | | | | |
| FH-118 | 0.86 | 0.92 | 0.89 | 0.95 | 0.95 | 0.97 | 0.89 | 0.84 | 0.92 | 0.95 | 0.97 | 0.97 | 0.97 | 0.95 | 0.95 | 0.95 | 0.95 | 0.92 | 0.92 | 0.92 | 1 | | | | | | | | |
| CEMB-33 | 0.89 | 0.95 | 0.92 | 0.97 | 0.97 | 1 | 0.92 | 0.81 | 0.95 | 0.97 | 0.95 | 1 | 1 | 0.97 | 0.97 | 0.92 | 0.97 | 0.89 | 0.95 | 0.89 | 0.97 | 1 | | | | | | | |
| SLH-13 | 0.84 | 0.89 | 0.86 | 0.92 | 0.92 | 0.89 | 0.86 | 0.81 | 0.89 | 0.92 | 0.95 | 0.89 | 0.89 | 0.92 | 0.86 | 0.86 | 0.86 | 0.84 | 0.84 | 0.95 | 0.92 | 0.89 | 1 | | | | | | |
| FH-952 | 0.84 | 0.89 | 0.86 | 0.92 | 0.92 | 0.95 | 0.86 | 0.81 | 0.89 | 0.92 | 0.95 | 0.95 | 0.95 | 0.92 | 0.97 | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 | 0.97 | 0.95 | 0.89 | 1 | | | | | |
| CIM-622 | 0.89 | 0.95 | 0.92 | 0.97 | 0.97 | 0.95 | 0.92 | 0.81 | 0.95 | 0.97 | 0.95 | 0.95 | 0.95 | 0.97 | 0.92 | 0.86 | 0.92 | 0.84 | 0.89 | 0.95 | 0.92 | 0.95 | 0.95 | 0.89 | 1 | | | | |
| SLH-6 | 0.89 | 0.95 | 0.92 | 0.97 | 0.97 | 1 | 0.92 | 0.81 | 0.95 | 0.97 | 0.95 | 1 | 1 | 0.97 | 0.97 | 0.92 | 0.97 | 0.89 | 0.95 | 0.89 | 0.97 | 1 | 0.89 | 0.95 | 0.95 | 1 | | | |
| CIM-612 | 0.92 | 0.92 | 0.89 | 0.95 | 0.95 | 0.97 | 0.95 | 0.84 | 0.92 | 0.95 | 0.92 | 0.97 | 0.97 | 0.95 | 0.95 | 0.89 | 0.95 | 0.92 | 0.92 | 0.86 | 0.95 | 0.97 | 0.86 | 0.92 | 0.92 | 0.97 | 1 | | |
| NIAB-78 | 0.89 | 0.89 | 0.86 | 0.92 | 0.92 | 0.95 | 0.92 | 0.81 | 0.89 | 0.92 | 0.89 | 0.95 | 0.95 | 0.92 | 0.92 | 0.86 | 0.92 | 0.89 | 0.89 | 0.84 | 0.92 | 0.95 | 0.84 | 0.89 | 0.89 | 0.95 | 0.97 | 1 | |
| MNH-886 | 0.92 | 0.92 | 0.89 | 0.95 | 0.95 | 0.97 | 0.95 | 0.84 | 0.92 | 0.95 | 0.92 | 0.97 | 0.97 | 0.95 | 0.95 | 0.89 | 0.95 | 0.92 | 0.97 | 0.86 | 0.95 | 0.97 | 0.86 | 0.92 | 0.92 | 0.97 | 0.95 | 0.92 | 1 |
| SLH-12 | 0.89 | 0.95 | 0.92 | 0.97 | 0.97 | 1 | 0.92 | 0.81 | 0.95 | 0.97 | 0.95 | 1 | 1 | 0.97 | 0.97 | 0.92 | 0.97 | 0.89 | 0.95 | 0.89 | 0.97 | 1 | 0.95 | 0.95 | 0.95 | 1 | 0.97 | 0.95 | 0.97 | 1 |