|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. no** | **Genotypes** | **Horticultural group** | **Varietal group** | **Sl. no** | **Genotypes** | **Horticultural group** | **Varietal group** |
| 1 | CM 17187 | *momordica* | *Cucumis melo var momordica* | 24 | DCM 36 |  | *Cucumis melo var cantalupensis* |
| 2 | DSM 11 | *Cucumis melo var momordica* | 25 | DCM 31 | *Cucumis melo var cantalupensis* |
| 3 | DSM 17 | *Cucumis melo var momordica* | 26 | DCM 173 | *Cucumis melo var cantalupensis* |
| 4 | DSM 28 | *Cucumis melo var momordica* | 27 | DCM 172 | *Cucumis melo var cantalupensis* |
| 5 | DSM 29 | *Cucumis melo var momordica* | 28 | DCM 174 | *Cucumis melo var cantalupensis* |
| 6 | DSM 16 | *Cucumis melo var momordica* | 29 | DCM 175 | *Cucumis melo var cantalupensis* |
| 7 | IC 274026 | *Cucumis melo var momordica* | 30 | DCM 176 | *Cucumis melo var cantalupensis* |
| 8 | DSM 10 | *Cucumis melo var momordica* | 31 | DCM 177 | *Cucumis melo var cantalupensis* |
| 9 | DSM 18 | *Cucumis melo var momordica* | 32 | DCM 178 | *Cucumis melo var cantalupensis* |
| 10 | DSM 19 | *Cucumis melo var momordica* | 33 | DCM 179 | *Cucumis melo var cantalupensis* |
| 11 | DHM 153 | *Cucumis melo var inodorous* | 34 | DCM 144 | *Cucumis melo var cantalupensis* |
| 12 | DHM 38 | *inodorus* | *Cucumis melo var inodorous* | 35 | DCM 35 | *Cucumis melo var cantalupensis* |
| 13 | DHM 163 | *Cucumis melo var inodorous* | 36 | DCM 34 | *Cucumis melo var cantalupensis* |
| 14 | DHM 162 | *Cucumis melo var inodorous* | 37 | DMM 159 | *Cucumis melo var reticulatus* |
| 15 | DHM 154 | *Cucumis melo var inodorous* | 38 | DMM 154 | *Cucumis melo var reticulatus* |
| 16 | DHM 155 | *Cucumis melo var inodorous* | 39 | DMM 148 | *Cucumis melo var reticulatus* |
| 17 | KashiMadhu | *cantalupensis* | *Cucumismelo var reticulatus* | 40 | Bagpat local | *Cucumismelo var reticulatus* |
| 18 | PusaMadhuras | *Cucumismelo var reticulatus* | 41 | DMM 151 | *Cucumis melo var reticulatus* |
| 19 | Cheranties | *Cucumis melo var cantalupensis* | 42 | Punjab Suneheri | *Cucumis melo var reticulatus* |
| 20 | Doublon | *Cucumis melo var cantalupensis* | 43 | Annas | *Cucumis melo var cantalupensis* |
| 21 | Hara Madhu | *Cucumismelo var reticulatus* | 44 | Wild melon | *conomon* | *Cucumis melo var conomon* |
| 22 | DCM 144 | *Cucumis melo var cantalupensis* | 45 | Oriental melon | *Cucumis melo var conomon* |
| 23 | DCM 56 | *Cucumis melo var cantalupensis* | 46 | DG12 |  | *Cucumis melo var callosus* |

**Table S1. Horticultural classification of 46 muskmelon accessions**

**Table S2. Morphological character and place of collection of 46 muskmelon accessions**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl**  **no** | **Genotypes** | **Place of collection** | **Fruit colour** | **Fruit shape** | **Netting** | **Flesh colour** | **Flesh juiciness** | **Aroma** |
| 1 | CM 17187 | Exotic collection | Yellow -green | Oblate | Non-Netted | Light-Orange | Intermidiate | Intermidiate |
| 2 | DSM 11 | Rajasthan, India | Green | Ovate | Sparsely-Netted | Orange | Juicy | Intermidiate |
| 3 | DSM 17 | Punjab, India | Yellow-Green | Ovate | Partially-Netted | Light Orange | Juicy | Weak |
| 4 | DSM 28 | Punjab, India | Yellow-Green | Ovate | Non-Netted | Green | Juicy | Intermidiate |
| 5 | DSM 29 | Rajasthan, India | Yellow | Oblate | Non-Netted | Light-Green | Intermidiate | Intermidiate |
| 6 | DSM 16 | Haryana, India | Yellow-Green | Oblate | Non-Netted | Green | Juicy | Intermidiate |
| 7 | IC 274026 | Punjab, India | Yellow | Oblate | Non-Netted | Light-Green | Intermidiate | Intermidiate |
| 8 | DSM 10 | Rajasthan, India | Yellow | Ovate | Non-Netted | Orange | Intermidiate | Intermidiate |
| 9 | DSM 18 | Rajasthan, India | White-Yellow | Round/Globular | Non-Netted | Green | Intermidiate | Intermidiate |
| 10 | DSM 19 | Rajasthan, India | Green | Ovate | Non-Netted | Yellow-Green | Juicy | Intermidiate |
| 11 | DHM 153 | Exotic collection | Green | Round/Globular | Non-Netted | Light-Green | Intermidiate | Intermidiate |
| 12 | DHM 38 | Exotic collection | White-Yellow | Round/Globular | Non-Netted | Yellow-Orange | Juicy | Weak |
| 13 | DHM 163 | Exotic collection | Yellow | Round/Globular | Non-Netted | Yellow | Juicy | Intermidiate |
| 14 | DHM 162 | Exotic collection | Yellow | Round/Globular | Non-Netted | Golden-Yellow | Juicy | Weak |
| 15 | DHM 154 | Exotic collection | Brown-Green | Oblate | Non-Netted | Green | Intermidiate | Intermidiate |
| 16 | DHM 155 | Exotic collection | Green | Ovate | Non-Netted | White | Juicy | Intermidiate |
| 17 | Kashi Madhu | Varanasi, India | Yellow-Green | Round | Non-Netted | Orange | Juicy | Strong |
| 18 | Pusa Madhuras | Delhi, India | Yellow-Green | Round | Non-Netted | Orange | Juicy | Strong |
| 19 | Cheranties | Exotic collection | Brown-yellow | round | Sparsely-Netted | Yellow-Orange | intermediate | intermediate |
| 20 | Doublon | Exotic collection | Brown0yellow | round | Sparsely-Netted | Yellow-Orange | intermediate | intermediate |
| 21 | Hara Madhu | Punjab, India | Green-Yellow | Round/Globular | Non-Netted | Green | Intermidiate | Strong |
| 22 | DCM 144 | Exotic collection | Yellow | Ovate | Sparsely-Netted | Yellow-White | Juicy | Weak |
| 23 | DCM 56 | Exotic collection | Yellow | Ovate | Partially-Netted | Orange | Juicy | Intermidiate |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl**  **no** | **Genotypes** | **Place of collection** | **Fruit colour** | **Fruit shape** | **Netting** | **Flesh colour** | **Flesh juiciness** | **Aroma** |
| 24 | DCM 36 | Exotic collection | White-Yellow | Round/Globular | Non-Netted | Yellow-Orange | Intermidiate | Intermidiate |
| 25 | DCM 31 | Exotic collection | Green | Round/Globular | Partially-Netted | Orange | Intermidiate | Intermidiate |
| 26 | DCM 173 | Exotic collection | Yellow-Green | Ovate | Non-Netted | Green | Intermidiate | Intermidiate |
| 27 | DCM 172 | Exotic collection | Yellow | Round/Globular | Sparsely-Netted | Light-Green | Juicy | Intermidiate |
| 28 | DCM 174 | Exotic collection | Yellow | Oblate | Non-Netted | Green | Intermidiate | Intermidiate |
| 29 | DCM 175 | Exotic collection | Yellow | Oblate | Non-Netted | Light-Green | Juicy | Intermidiate |
| 30 | DCM 176 | Exotic collection | Brown-Green | Oblate | Non-Netted | Orange-Green | Juicy | Intermidiate |
| 31 | DCM 177 | Exotic collection | Yellow-Green | Oblate | Non-Netted | Yellow-Green | Intermidiate | Intermidiate |
| 32 | DCM 178 | Exotic collection | Yellow | Oblate | Non-Netted | Green | Intermidiate | Intermidiate |
| 33 | DCM 179 | Exotic collection | Yellow | Oblate | Non-Netted | Green | Intermidiate | Intermidiate |
| 34 | DCM 144 | Exotic collection | Yellow | Ovate | Sparsely-Netted | Yellow/White | Juicy | Weak |
| 35 | DCM 35 | Exotic collection | White-yellow | Round | Sparsely-Netted | Orange | Juicy | Intermidiate |
| 36 | DCM 34 | Exotic collection | Green-yellow | Round | Sparsely-Netted | Orange | Juicy | Intermidiate |
| 37 | DMM 159 | U.P, India | Creamish-Green | Round/Globular | Sparsely-Netted | Green | Juicy | Strong |
| 38 | DMM 154 | Rajasthan, India | Brown-Green | Round | Non-Netted | Green | Juicy | Strong |
| 39 | DMM 148 | Rajasthan, India | Brown-Green | Round | Non-Netted | Green | Juicy | Strong |
| 40 | Bagpat local | U.P, India | Yellow-Green | Round | Non-Netted | Orange | Juicy | Strong |
| 41 | DMM 151 | U.P, India | Brown-Yellow | Flattened | Non-Netted | Green | Intermidiate | Intermidiate |
| 42 | Punjab Suneheri | Punjab, India | Orange | Oblate | Non-Netted | Orange | Juicy | Strong |
| 43 | Annas | Rajasthan, India | Yellow-Green | Ovate/Elliptical | Sparsely-Netted | Green | Juicy | Weak |
| 44 | Wild melon | Tripura, India | Yellow | Oblate | Non-Netted | Yellow/White | Intermidiate | Intermidiate |
| 45 | DG 12 | Haryana, India | brown | Round | Non-Netted | White | Intermidiate | weak |
| 46 | Oriental melon | Kerala, India | Green-Yellow | Ovate | Non-Netted | Yellow/orange | Intermidiate | weak |

**Table S3. List of 38 polymorphic SSR markers, their forward and reverse sequences**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | DM0300 | CATTATTGAAGTTAGGTCCC | GGGGGTTGAGTTAGAAAAG |
| 2 | CMATN240 | GAACACACACAAAAATGAG | AAAGGGAAGATTCTAGTTG |
| 3 | CMCTN86 | GTGACAGTTATCAAGGATGC | GTGACAGTTATCAAGGATGC |
| 4 | DM0699 | CTTGACTGTGATTCCAAGG | TCACCTAGCGTACCAAATC |
| 5 | CMCT505 | GACAGTAATCACCTCATCAAC | GGGAATGTAAATTGGATATG |
| 6 | CMMS43 | ACCGAAATCATAAGGAACATAAGAG | TATGAGCTGTGTTGTGTATGAAAAC |
| 7 | DM0198 | GTGTAGGCCATGAAAATG | TTCCTTCTCTTCCTTCATC |
| 8 | CMAGN16 | CGATAAATGTTGATGAAAGTC | TTCCTCAGGTCATATTCTTC |
| 9 | DE1411 | TGGAGAAGAGAAAGTGAGAAC | TTCCTTCCTCATTTTGCAG |
| 10 | DE1602 | CCTCCTCAAGAACTCATCG | GTCGCAGAACAGAAATCAAC |
| 11 | CMCTN5 | CACCTTAAAGTTTAGCCCC | AAAAATGCAATGAACTGAGCGC |
| 12 | DE1667 | AATTAATTTAAGTGTTGAGAATCC | CTCATAATCACGAGTCTGCC |
| 13 | DM0744 | CTCAATGAGAAGGAAGTCG | ATCCCTCAAATCTTTAACC |
| 14 | DE1220 | TGACAAACCTTAATTTGAAAAAG | GCATGTTTGATTCATTAATTTTG |
| 15 | DM0933 | AGTCCACTCCTCCAATAAAAC | GGCCTTTAAATTGCCATAAC |
| 16 | DE1035 | TCTTCATTTTCTTTGCCTTTC | CTTCCAAGGGTCTTCAATG |
| 17 | CMCTN35 | CCAATAATGTAATCGTCTTGG | GTTCCAAACTTTCTACCAATCA |
| 18 | DM0552 | TTTTAATGCCCATGGTATC | AAAAGGAACAGAACAAGGG |
| 19 | CMTCN50 | TCTACTTCCATGAATCCATC | TAGAATGGTTAGGAAACCCT |
| 20 | DE1686 | GGCCAGTCAATTCTTCTTG | CGATGATAAAGGCAAAAGG |
| 21 | DE1581 | CGCTGTACGGAGTTTCTTC | CATTCTTTACAACTATACGCTGC |
| 22 | CSCT335 | CCTTCACTTCCATCTTCATC | CGGTCCTTCATTTCATAGAC |
| 23 | DM0228 | GACGAGAATTTGTTGGAAG | AGTGCCAGAGATGATGAAC |
| 24 | DE1099 | CCAAAGTCTTCAAAACAACG | ATGGATGCTTTGATTCTGG |
| 25 | DM0777 | AGAAGGAAGGATGGGTATG | TCTTCTGCTTTGATTACGG |
| 26 | DM0069 | CGAGATTTTGACTGCTGAG | CGAGATTTTGACTGCTGAG |
| 27 | DM0367 | GAACACAAATGGAAAGCAC | CATCATTTGACCATCCATC |
| 28 | DE1400 | AACTTTTGCTTTCCCTTCC | AACTTTTGCTTTCCCTTCC |
| 29 | DE1320 | TCGAAGTCCAGGAAGAGAG | TCGAAGTCCAGGAAGAGAG |
| 30 | DM0456 | CATCAGAGGACAAGCATTC | TTACATGAGAAAAGACATGTAAG |
| 31 | CMCTN71 | TCAATTTTTGCCAAACAAGC | CAAGGACACAGATTTAATAC |
| 32 | DE1887 | CGTGCTTCCCTCTTAAATC | GAAGGGAGTATTGAGTTGGG |
| 33 | DE1750 | TTCGGGTACTCTTGACTGG | GCACATAGAGCACATTCTTTC |
| 34 | DM0913 | GCTCTGTTATAACCGTAACTGG | ACGTGGCTAAATCTCGTTC |
| 35 | DM0229 | GACTTGACGAAAATTCCAC | TCTTCTTGTCCACCATCTC |
| 36 | DE1917 | TCCTAATACCTTTGAATTTTGC | TCCTAATACCTTTGAATTTTGC |
| 37 | DE1851 | CACCCTTCATTATCCCAAC | CCAGAGACGAAAAGAAATTG |
| 38 | DE1957 | CAATAAAGGAAAAACTAGAAATG | TTGGATTTTCTCATACCCG |

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**Supplementary Figure S1. Three dimensional PCA graph based on genotypic data of polymorphic SSR markers in 46 Muskmelon accessions**