Table S1: PIC and Amplification efficiency for 38 SNP markers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SNP name**  **/Locus** | **SNP alleles** | **Chromosome**  **Location** | **PIC** | **Amplification efficiency (%)** |
| Me\_MEF\_c\_0126 | T:C | X | 0.3749 | 99.07 |
| Me\_MEF\_c\_0153 | T:G | XIII | 0.3659 | 98.15 |
| Me\_MEF\_c\_0227 | T:A | IV | 0.3750 | 99.07 |
| Me\_MEF\_c\_0262 | T:C | XVI | 0.3736 | 95.37 |
| Me\_MEF\_c\_0284 | T:C | XVIII | 0.3750 | 98.15 |
| Me\_MEF\_c\_0363 | T:G | II | 0.3742 | 98.15 |
| Me\_MEF\_c\_0556 | C:A | XV | 0.3677 | 96.3 |
| Me\_MEF\_c\_0566 | T:G | XIV | 0.3677 | 96.3 |
| Me\_MEF\_c\_0587 | T:A | XVII | 0.3749 | 87.04 |
| Me\_MEF\_c\_0869 | T:A | X | 0.3735 | 95.37 |
| Me\_MEF\_c\_0936 | C:G | V | 0.3742 | 100 |
| Me\_MEF\_c\_0979 | T:C | XVIII | 0.3659 | 97.22 |
| Me\_MEF\_c\_0981 | G:A | II | 0.3736 | 97.22 |
| Me\_MEF\_c\_1018 | G:A | XV | 0.3728 | 99.07 |
| Me\_MEF\_c\_1074 | T:C | VIII | 0.3742 | 95.37 |
| Me\_MEF\_c\_1081 | T:C | XVII | 0.3736 | 97.22 |
| Me\_MEF\_c\_1094 | C:A | XVI | 0.3750 | 98.15 |
| Me\_MEF\_c\_1179 | T:C | VII | 0.3727 | 95.37 |
| Me\_MEF\_c\_1186 | C:A | VIII | 0.3736 | 98.15 |
| Me\_MEF\_c\_1187 | C:A | III | 0.3742 | 100 |
| Me\_MEF\_c\_1361 | G:A | I | 0.3742 | 96.3 |
| Me\_MEF\_c\_1568 | T:C | III | 0.3742 | 99.07 |
| Me\_MEF\_c\_1585 | C:A | XIII | 0.3728 | 98.15 |
| Me\_MEF\_c\_1671 | G:A | IX | 0.3746 | 99.07 |
| Me\_MEF\_c\_2177 | C:A | XI | 0.3742 | 97.22 |
| Me\_MEF\_c\_2268 | C:G | XIV | 0.3750 | 100 |
| Me\_MEF\_c\_2297 | G:A | XII | 0.3749 | 100 |
| Me\_MEF\_c\_2368 | C:A | I | 0.3736 | 94.44 |
| Me\_MEF\_c\_2515 | T:A | IX | 0.3746 | 97.22 |
| Me\_MEF\_c\_2574 | C:G | V | 0.3749 | 98.15 |
| Me\_MEF\_c\_2644 | T:C | XI | 0.3706 | 100 |
| Me\_MEF\_c\_2911 | T:G | IV | 0.3749 | 97.22 |
| Me\_MEF\_c\_3025 | T:G | XII | 0.3749 | 100 |
| Me\_MEF\_c\_3142 | T:C | VI | 0.3749 | 97.22 |
| MeSc11\_7401569 | T:C | XI | 0.3749 | 98.15 |
| MeSc11\_23108428 | G | XI |  |  |
| MeSc11\_23161661 | A | XI |  |  |
| MeSc11\_23161808 | G | XI |  |  |

**PIC-** Polymorphism information content

Table S2: Origin and response to CBSD for 108 genotypes

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No | Genotypes | Origin | CBSD response | No | Genotypes | Origin | CBSD response | |
| 1 | 6meses | Maputo | Unknown | 28 | Guaguana2 | Maputo | Tolerant\*\* | |
| 2 | Albert | Tanzania | Susceptible\* | 29 | Guegue1 | Inhambane | Tolerant\*\* | |
| 3 | Amarelinha | Maputo | Tolerant\* | 30 | Impacuwa | Nampula | Susceptible\*\* | |
| 4 | Amarelo | Inhambane | Tolerant\*\* | 31 | Implicoto | Nampula | Tolerant\*\* | |
| 5 | Anitani | Inhambane | Tolerant\*\* | 32 | Inrieri | Nampula | Susceptible\*\* | |
| 6 | Buanaviraga | Nampula | Tolerant\*\* | 33 | Inroro | Nampula | Susceptible\*\* | |
| 7 | Calamidade | Nampula | Susceptible\* | 34 | Insiricano | Nampula | Susceptible\*\* | |
| 8 | Chamisava1 | Maputo | Tolerant\*\* | 35 | Jaime | Nampula | Susceptible\*\* | |
| 9 | Chamissava2 | Maputo | Tolerant\*\* | 36 | Kabila | Nampula | Susceptible\*\* | |
| 10 | Chinhembwe | Inhambane | Susceptible\* | 37 | Kamakabi1 | Inhambane | Unknown |  |
| 11 | Chinhembwe2 | Maputo | Susceptible\*\* | 38 | Kiroba | Tanzania | Tolerant\*\*\* | |
| 12 | Cipuari | Nampula | Tolerant\*\* | 39 | Kubha | Nampula | Unknown\*\* | |
| 13 | Clone3 | Maputo | Unknown\*\* | 40 | Leheia | Nampula | Tolerant\*\* | |
| 14 | Clone4 | Maputo | Unknown\*\* | 41 | Machebela | Nampula | Susceptible\*\* | |
| 15 | Clone8 | Maputo | Unknown\*\* | 42 | Maisvelho | Nampula | Unknown\*\* | |
| 16 | Cucci | Inhambane | Tolerant\* | 43 | Maita1 | Inhambane | Tolerant\*\* | |
| 17 | Desconhecido1 | Maputo | Tolerant\*\* | 44 | Makela | Nampula | Susceptible\*\* | |
| 18 | Desconhecido2 | Maputo | Tolerant\*\* | 45 | Malaia1 | Inhambane | Tolerant\*\* | |
| 19 | Drumua | Nampula | Susceptible\*\* | 46 | Malaia2 | Inhambane | Susceptible\*\* | |
| 20 | Eduardo1 | Maputo | Tolerant\*\* | 47 | Malaia3 | Inhambane | Tolerant\*\* | |
| 21 | Eduardo2 | Maputo | Tolerant\*\* | 48 | Malaia4 | Inhambane | Tolerant\*\* | |
| 22 | Eyope | Maputo | Tolerant\*\* | 49 | Manel | Nampula | Tolerant\*\* | |
| 23 | Fernandointer | Nampula | Susceptible\*\* | 50 | Maria | Nampula | Susceptible\*\* | |
| 24 | Fp1 | Inhambane | Tolerant\*\* | 51 | MariaBranca | Inhambane | Susceptible\*\* | |
| 25 | Fpo | Maputo | Tolerant\* | 52 | Marungujose | Inhambane | Susceptible\*\* | |
| 26 | Gangasol1 | Maputo | Tolerant\*\* | 53 | Mayonasse | Inhambane | Tolerant\*\* | |
| 27 | Guaguana1 | Maputo | Tolerant\*\* | 54 | Mitilene2 | Maputo | Tolerant\*\* | |

\* Diseased response based on experimental trial (Zacarias, 2008; Oyesigye, 2016 Unpublished)

\*\* Disease response based on farmers’ knowledge

# \*\*\* Disease response based on genotyped data and experimental trial (Kawuki *et al.,* 2012*;* Pariyo *et al.,* 2013*)*

**Table S2:** Continued, origin and response to CBSD for 108 genotypes

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Genotypes | Origin | CBSD response | No. | Genotypes | Origin | CBSD response |
| 55 | Muamuali | Nampula | Tolerant\*\* | 81 | Paulo | Nampula | Susceptible\*\* |
| 56 | Muchope | Inhambane | Tolerant\*\* | 82 | Polani2 | Maputo | Tolerant\*\* |
| 57 | Muhindi | Nampula | Susceptible\*\* | 83 | Polani3 | Inhambane | Tolerant\*\* |
| 58 | Mukalane | Maputo | Tolerant\* | 84 | Porani1 | Maputo | Tolerant\*\* |
| 59 | Muvanguele | Inhambane | Susceptible\*\* | 85 | Porani4 | Inhambane | Tolerant\*\* |
| 60 | Nachinyaya | Nampula | Susceptible\*\* | 86 | Pungwe1 | Inhambane | Tolerant\*\* |
| 61 | Nachinyaya | Tanzania | Tolerant\*\*\* | 87 | Pungwe2 | Inhambane | Tolerant\*\* |
| 62 | Namalide | Nampula | Tolerant\*\* | 88 | Pungwe3 | Inhambane | Tolerant\*\* |
| 63 | Namikonga | Tanzania | Tolerant\*\*\* | 89 | Rungusabonet | Inhambane | Resistant\*\* |
| 64 | Navalatane | Maputo | Tolerant\*\* | 90 | Salimina | Inhambane | Tolerant\*\* |
| 65 | Ndl06 | Tanzania | Tolerant\*\*\* | 91 | Sanamalide | Nampula | Susceptible\*\* |
| 66 | Nguilande | Inhambane | Tolerant\*\* | 92 | Sarani | Inhambane | Tolerant\*\* |
| 67 | Nhanombe1 | Inhambane | Tolerant\*\* | 93 | Sizankala | Inhambane | Resistant\*\* |
| 68 | Nhanombe2 | Inhambane | Tolerant\*\* | 94 | T11 | Maputo | Susceptible\* |
| 69 | Nhanombe3 | Inhambane | Tolerant\*\* | 95 | Tambuca | Nampula | Tolerant\*\* |
| 70 | Nhatiani | Inhambane | Susceptible\*\* | 96 | Tapioca | Maputo | Unknown |
| 71 | Nincatapuara | Nampula | Tolerant\*\* | 97 | Tecnico | Moma | Susceptible\*\* |
| 72 | Niri | Nampula | Susceptible\*\* | 98 | Timbilu | Maputo | Tolerant\* |
| 73 | Nivalapa | Nampula | Tolerant\*\* | 99 | Tomo | Nampula | Susceptible\* |
| 74 | Xino Nn’gole | Nampula | Tolerant\*\* | 100 | Turuwa | Nampula | Tolerant\*\* |
| 75 | Olinda | Inhambane | Susceptible\*\* | 101 | Virginia | Nampula | Susceptible\*\* |
| 76 | Orera | Nampula | Tolerant\*\* | 102 | Vitoria | Inhambane | Tolerant\*\* |
| 77 | P1\_2161 | Nampula | Tolerant\* | 103 | Wild1 | Inhambane | Unknown |
| 78 | P2\_922 | Nampula | Susceptible\* | 104 | Xidamwane | Inhambane | Tolerant\*\* |
| 79 | Padre | Maputo | Tolerant\*\* | 105 | Xingatane | Maputo | Unknown |
| 80 | Passi | Inhambane | Tolerant\*\* | 106 | Xipolaini | Inhambane | Tolerant\*\* |
| 107 | Xipraini | Nampula | Tolerant\*\* | 108 | Xixikele | Maputo | Unknown\*\* |

\* Diseased response based on experimental trial (Zacarias, 2008; Oyesigye, 2016 Unpublished)

\*\* Disease response based on farmers’ knowledge

\*\*\* Disease response based on genotyped data and experimental trial (Kawuki *et al.,* 2012*;* Pariyo *et al.,* 2013*)*

**Table S3**: Allele frequency by population

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Locus | Allele | Maputo | Inhambane | Nampula | Locus | Allele | Maputo | Inhambane | Nampula |
| 556 | A | 0.538 | 0.543 | 0.689 | 2368 | A | 0.346 | 0.314 | 0.515 |
|  | C | 0.462 | 0.457 | 0.311 |  | C | 0.654 | 0.686 | 0.485 |
| 566 | T | 0.365 | 0.375 | 0.486 | 1361 | A | 0.288 | 0.400 | 0.554 |
|  | G | 0.635 | 0.625 | 0.514 |  | G | 0.712 | 0.600 | 0.446 |
| 587 | A | 0.340 | 0.304 | 0.586 | 2268 | C | 0.577 | 0.514 | 0.284 |
|  | T | 0.660 | 0.696 | 0.414 |  | G | 0.423 | 0.486 | 0.716 |
| 869 | A | 0.360 | 0.347 | 0.622 | 3025 | T | 0.385 | 0.333 | 0.257 |
|  | T | 0.640 | 0.653 | 0.378 |  | G | 0.615 | 0.667 | 0.743 |
| 936 | C | 0.365 | 0.431 | 0.392 | 1568 | T | 0.615 | 0.458 | 0.473 |
|  | G | 0.635 | 0.569 | 0.608 |  | C | 0.385 | 0.542 | 0.527 |
| 979 | T | 0.692 | 0.681 | 0.583 | 1585 | A | 0.615 | 0.708 | 0.500 |
|  | C | 0.308 | 0.319 | 0.417 |  | C | 0.385 | 0.292 | 0.500 |
| 981 | A | 0.558 | 0.625 | 0.392 | 1671 | A | 0.250 | 0.236 | 0.153 |
|  | C | 0.442 | 0.375 | 0.608 |  | G | 0.750 | 0.764 | 0.847 |
| 1018 | A | 0.577 | 0.667 | 0.595 | 227 | A | 0.327 | 0.389 | 0.378 |
|  | G | 0.423 | 0.333 | 0.405 |  | T | 0.673 | 0.611 | 0.622 |
| 363 | T | 0.442 | 0.583 | 0.297 | 2177 | A | 0.404 | 0.292 | 0.392 |
|  | G | 0.558 | 0.417 | 0.703 |  | C | 0.596 | 0.708 | 0.608 |
| 1074 | T | 0.827 | 0.714 | 0.708 | 2297 | A | 0.635 | 0.694 | 0.676 |
|  | C | 0.251 | 0.286 | 0.292 |  | G | 0.365 | 0.306 | 0.324 |
| 1081 | T | 0.385 | 0.472 | 0.486 | 2515 | A | 0.673 | 0.721 | 0.608 |
|  | C | 0.615 | 0.528 | 0.514 |  | T | 0.327 | 0.279 | 0.392 |
| 1094 | A | 0.500 | 0.569 | 0.378 | 284 | T | 0.385 | 0.375 | 0.347 |
|  | C | 0.500 | 0.431 | 0.622 |  | C | 0.615 | 0.625 | 0.653 |
| 1179 | T | 0.577 | 0.588 | 0.649 | 2574 | C | 0.635 | 0.625 | 0.500 |
|  | C | 0.423 | 0.412 | 0.351 |  | G | 0.365 | 0.375 | 0.500 |
| 1186 | A | 0.231 | 0.250 | 0.473 | 2644 | T | 0.404 | 0.625 | 0.392 |
|  | C | 0.769 | 0.750 | 0.527 |  | C | 0.596 | 0.375 | 0.608 |
| 153 | T | 0.692 | 0.792 | 0.736 | 2911 | T | 0.500 | 0.486 | 0.541 |
|  | G | 0.308 | 0.208 | 0.264 |  | G | 0.500 | 0.514 | 0.459 |
| 1187 | A | 0.346 | 0.333 | 0.230 | 3142 | T | 0.442 | 0.426 | 0.311 |
|  | C | 0.654 | 0.667 | 0.770 |  | C | 0.558 | 0.574 | 0.689 |
| 262 | T | 0.577 | 0.569 | 0.557 | 126 | T | 0.558 | 0.597 | 0.319 |
|  | C | 0.423 | 0.431 | 0.443 |  | C | 0.442 | 0.403 | 0.681 |
| 7401569 | T | 0.635 | 0.529 | 0.750 |  |  |  |  |  |
|  | C | 0.365 | 0.471 | 0.250 |  |  |  |  |  |

A-Adenine, T-Thymine, C-Cytosine, G-Guanine

Figure S1: Summary of farmers’ information collected during survey

