

**HOW TO CITE:**

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**Supplementary table 1:** Variability among genotypes for cassava mosaic disease severity score (CMDSS)

| Genotype ID | CMDSS BLUE value | Groups | Standard deviation | Genotype ID | CMDSS BLUE value | Groups | Standard deviation |
|-------------|------------------|--------|--------------------|-------------|------------------|--------|--------------------|
| UIC-17-1178 | 4.83             | a      | +/- 0.23           | UIC-17-1248 | 1                | n      | 0                  |
| UIC-17-1749 | 4.83             | a      | +/- 0.19           | UIC-17-1308 | 1                | n      | 0                  |
| UIC-17-2662 | 4.83             | a      | +/-0.19            | UIC-17-1345 | 1                | n      | 0                  |
| UIC-17-1738 | 4.66             | a      | +/-0.27            | UIC-17-1374 | 1                | n      | 0                  |
| UIC-17-2462 | 4.50             | ab     | +/-0.19            | UIC-17-1453 | 1                | n      | 0                  |
| UIC-17-554  | 4.50             | ab     | +/-0.79            | UIC-17-15   | 1                | n      | 0                  |
| TMS30555    | 4.33             | ab     | +/-0.27            | UIC-17-1677 | 1                | n      | 0                  |
| UIC-17-2561 | 4.33             | ab     | +/-0.27            | UIC-17-1713 | 1                | n      | 0                  |
| UIC-17-1971 | 4.16             | bc     | +/-0.64            | UIC-17-174  | 1                | n      | 0                  |
| UIC-17-7    | 4.16             | bc     | +/-0.79            | UIC-17-176  | 1                | n      | 0                  |
| UIC-17-2089 | 4.11             | bcd    | +/-0.19            | UIC-17-1780 | 1                | n      | 0                  |
| UIC-17-766  | 3.83             | cde    | +/-0.63            | UIC-17-1787 | 1                | n      | 0                  |
| TMS30572    | 3.75             | cde    | +/-0.32            | UIC-17-18   | 1                | n      | 0                  |
| UIC-17-2511 | 3.75             | cde    | +/-0.32            | UIC-17-2760 | 1                | n      | 0                  |
| UIC-17-2024 | 3.66             | def    | +/-0.72            | UIC-17-2778 | 1                | n      | 0                  |
| UIC-17-2428 | 3.66             | def    | +/-0.27            | UIC-17-281  | 1                | n      | 0                  |
| UIC-17-2721 | 3.66             | def    | +/-0.47            | UIC-17-282  | 1                | n      | 0                  |
| UIC-17-1861 | 3.58             | defg   | +/-0.91            | UIC-17-2823 | 1                | n      | 0                  |
| UIC-17-1902 | 3.58             | defg   | +/-0.99            | UIC-17-2831 | 1                | n      | 0                  |
| UIC-17-2074 | 3.50             | efgh   | +/-0.43            | UIC-17-311  | 1                | n      | 0                  |
| UIC-17-423  | 3.50             | efgh   | +/-0.19            | UIC-17-325  | 1                | n      | 0                  |
| UIC-17-106  | 3.49             | efgh   | +/-0.33            | UIC-17-339  | 1                | n      | 0                  |
| UIC-17-1048 | 3.41             | efgh   | +/-0.32            | UIC-17-350  | 1                | n      | 0                  |
| UIC-17-2486 | 3.41             | efgh   | +/-0.32            | UIC-17-375  | 1                | n      | 0                  |
| UIC-17-2584 | 3.41             | efgh   | +/-0.32            | UIC-17-38   | 1                | n      | 0                  |
| UIC-17-584  | 3.41             | efgh   | +/-0.41            | UIC-17-396  | 1                | n      | 0                  |
| UIC-17-2259 | 3.25             | fgh    | +/-0.50            | UIC-17-426  | 1                | n      | 0                  |
| UIC-17-1964 | 3.24             | fgh    | +/-1.06            | UIC-17-46   | 1                | n      | 0                  |
| UIC-17-1972 | 3.22             | fgh    | +/-0.50            | UIC-17-464  | 1                | n      | 0                  |
| UIC-17-662  | 3.11             | ghi    | +/-0.76            | UIC-17-491  | 1                | n      | 0                  |
| UIC-17-1343 | 3.08             | hi     | +/-0.95            | UIC-17-5    | 1                | n      | 0                  |
| UIC-17-679  | 2.55             | ij     | +/-0.38            | UIC-17-572  | 1                | n      | 0                  |
| UIC-17-660  | 2.44             | jk     | +/-0.69            | UIC-17-61   | 1                | n      | 0                  |
| UIC-17-2193 | 2.41             | jk     | +/-1.13            | UIC-17-646  | 1                | n      | 0                  |

| Genotype ID | CMDSS BLUE value | Groups | Standard deviation | Genotype ID | CMDSS BLUE value | Groups | Standard deviation |
|-------------|------------------|--------|--------------------|-------------|------------------|--------|--------------------|
| UIC-17-707  | 2.11             | jk     | +/-1.16            | UIC-17-74   | 1                | n      | 0                  |
| UIC-17-28   | 2.00             | jkl    | +/-0.33            | UIC-17-746  | 1                | n      | 0                  |
| UIC-17-444  | 2.00             | kl     | +/-1.58            | UIC-17-750  | 1                | n      | 0                  |
| UIC-17-90   | 1.49             | lm     | +/-0.33            | UIC-17-799  | 1                | n      | 0                  |
| UIC-17-1250 | 1.33             | mn     | +/-0.66            | UIC-17-8    | 1                | n      | 0                  |
| UIC-17-2009 | 1.33             | mn     | +/-0.47            | UIC-17-93   | 1                | n      | 0                  |
| UIC-17-75   | 1.33             | mn     | +/-0.66            | UIC-17-957  | 1                | n      | 0                  |
| UIC-17-1632 | 1.25             | mn     | +/-0.50            | UIC-17-968  | 1                | n      | 0                  |
| UIC-17-2174 | 1.25             | mn     | +/-0.32            | UIC-17-1808 | 1                | n      | 0                  |
| UIC-17-2600 | 1.25             | mn     | +/-0.50            | UIC-17-1842 | 1                | n      | 0                  |
| UIC-17-833  | 1.25             | mn     | +/-0.32            | UIC-17-1887 | 1                | n      | 0                  |
| UIC-17-2249 | 1.22             | mn     | +/-0.38            | UIC-17-1909 | 1                | n      | 0                  |
| UIC-17-986  | 1.22             | mn     | +/-0.19            | UIC-17-1911 | 1                | n      | 0                  |
| UIC-17-110  | 1.16             | mn     | +/-0.33            | UIC-17-2031 | 1                | n      | 0                  |
| UIC-17-2013 | 1.16             | mn     | +/-0.33            | UIC-17-2040 | 1                | n      | 0                  |
| UIC-17-2287 | 1.16             | mn     | +/-0.33            | UIC-17-207  | 1                | n      | 0                  |
| UIC-17-490  | 1.16             | mn     | +/-0.33            | UIC-17-2075 | 1                | n      | 0                  |
| UIC-17-120  | 1.16             | mn     | +/-0.23            | UIC-17-2081 | 1                | n      | 0                  |
| UIC-17-2432 | 1.16             | mn     | +/-0.19            | UIC-17-2177 | 1                | n      | 0                  |
| TMS07/0593  | 1.08             | mn     | +/-0.16            | UIC-17-220  | 1                | n      | 0                  |
| UIC-17-1114 | 1.08             | mn     | +/-0.16            | UIC-17-2205 | 1                | n      | 0                  |
| UIC-17-1119 | 1.08             | mn     | +/-0.16            | UIC-17-222  | 1                | n      | 0                  |
| UIC-17-1657 | 1.08             | mn     | +/-0.16            | UIC-17-2251 | 1                | n      | 0                  |
| UIC-17-2513 | 1.08             | mn     | +/-0.16            | UIC-17-228  | 1                | n      | 0                  |
| UIC-17-265  | 1.08             | mn     | +/-0.16            | UIC-17-2298 | 1                | n      | 0                  |
| UIC-17-376  | 1.08             | mn     | +/-0.16            | UIC-17-2341 | 1                | n      | 0                  |
| UIC-17-58   | 1.08             | mn     | +/-0.16            | UIC-17-2402 | 1                | n      | 0                  |
| UIC-17-583  | 1.08             | mn     | +/-0.16            | UIC-17-2455 | 1                | n      | 0                  |
| UIC-17-627  | 1.08             | mn     | +/-0.16            | UIC-17-2487 | 1                | n      | 0                  |
| UIC-17-1034 | 1                | n      | 0                  | UIC-17-25   | 1                | n      | 0                  |
| UIC-17-1044 | 1                | n      | 0                  | UIC-17-2532 | 1                | n      | 0                  |
| UIC-17-108  | 1                | n      | 0                  | UIC-17-2557 | 1                | n      | 0                  |
| UIC-17-1116 | 1                | n      | 0                  | UIC-17-257  | 1                | n      | 0                  |
| UIC-17-1150 | 1                | n      | 0                  | UIC-17-2576 | 1                | n      | 0                  |
| UIC-17-119  | 1                | n      | 0                  | UIC-17-26   | 1                | n      | 0                  |
| UIC-17-1200 | 1                | n      | 0                  | UIC-17-2610 | 1                | n      | 0                  |
| UIC-17-1216 | 1                | n      | 0                  | UIC-17-2624 | 1                | n      | 0                  |
| UIC-17-122  | 1                | n      | 0                  | UIC-17-2659 | 1                | n      | 0                  |
| UIC-17-1222 | 1                | n      | 0                  |             |                  |        |                    |

**Supplementary table 2:** Performance of the logistic regression model on the bootstrapped samples

| <b>Bootstraps</b> | <b>Accuracy</b> | <b>Area under curve</b> |
|-------------------|-----------------|-------------------------|
| 1                 | 0.73            | 0.65                    |
| 2                 | 0.76            | 0.61                    |
| 3                 | 0.83            | 0.68                    |
| 4                 | 0.72            | 0.61                    |
| 5                 | 0.75            | 0.64                    |
| 6                 | 0.80            | 0.55                    |
| 7                 | 0.77            | 0.55                    |
| 8                 | 0.83            | 0.66                    |
| 9                 | 0.75            | 0.54                    |
| 10                | 0.76            | 0.60                    |