**Supplementary file 1a. List of *Xoo* strains used in this study**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CIX° Number** | **Strain name** | **CFBP ID** | **Country of origin** | **Region\*** | **Year of isolation** | **NCBI**  **Accession #** |
|
| 607 | Nati Park | 8172 | Benin | WA | 2013 | CP033173 |
| 609 | Tanguieta3 | NA | Benin | WA | 2013 | NA |
| 705 | Karfiguela13 | NA | Burkina Faso | WA | 2013 | NA |
| 2679 | BAI3 | 7321 | Burkina Faso | WA | 2004 | GCF\_003031385.1 |
| 4127 | BAI250 | NA | Burkina Faso | WA | 2016 | NA |
| 1917 | AXO1947 | NA | Cameroon | CA | NA | GCF\_001466505.1 |
| 2801 | CFBP1948 | 1948 | Cameroon | CA | 1979 | GCF\_004355465.1 |
| 1042 | CII-2 | NA | Ivory Coast | WA | NA | NA |
| 4083 | CII-1 | NA | Ivory Coast | WA | NA | NA |
| 894 | MAI145 | NA | Mali | WA | 2012 | GCF\_002850095.1 |
| 4079 | MAI73 | NA | Mali | WA | 2012 | GCF\_002850075.1 |
| 629 | Toula20 | NA | Niger | WA | 2013 | GCF\_004321555.1 |
| 2787 | NAI9 | 7324 | Niger | WA | 2004 | CP033177 |
| 4099 | NAI5 | 7323 | Niger | WA | 2004 | NA |
| 4482 | N2-4 | NA | Niger | WA | 2018 | NA |
| 4517 | MAI132 | NA | Niger | WA | 2013 | NA |
| 2374 | S62-2-22 | NA | Senegal | WA | 2014 | CP036377 |
| 2976 | S82-4-3 | NA | Senegal | WA | 2016 | NA |
| 4457 | iTzDak19-1 | NA | Tanzania | EA | 2019 | GCA\_030033735.1 |
| 4458 | iTzDak19-2 | NA | Tanzania | EA | 2019 | GCA\_030033715.1 |
| 4462 | iTzDak19-3 | NA | Tanzania | EA | 2019 | GCA\_030033655.1 |
| 4505 | iTzLuk21-3 | NA | Tanzania | EA | 2021 | GCA\_030033655.1 |
| 4506 | iTzLuk21-1 | NA | Tanzania | EA | 2021 | GCA\_029204265.1 |
| 4507 | iTzLuk21-4 | NA | Tanzania | EA | 2021 | GCA\_029224685.1 |
| 4508 | iTzLuk21-5 | NA | Tanzania | EA | 2021 | GCA\_030056695.1 |
| 4509 | iTzLuk21-2 | NA | Tanzania | EA | 2021 | GCA\_029204245.1 |
| 2839 | PXO86 | 7202 | Philippines | Asia | 1977 | GCA\_0000948075.1 |
| 2831 | PXO61 | 7201 | Philippines | Asia | 1973 | CP021789.1 |
| 2840 | PXO99 | NA | Philippines | Asia | NA | GCA\_000019585.2 |

°CIX, Collection IRD *Xanthomonas*. \*WA, West Africa; CA, Central Africa; EA, East Africa.

**Supplementary file 1b. Disease survey in multiple rice growing areas in Tanzania in 2022.** Note that data were obtained from local farmers and breeders. *Xoo* isolation from infected leaf material, molecular validation and genotyping will be initiated after transfer to IRD.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FIELD NO.** | **VILLAGE** | **DISTRICT** | **REGION/ PROVINCE** | **VARIETY** | **SOWING DATE** | **STAGE\* DURING SAMPLING** | **DISEASE SCALE\*\*** | **GEOGRAPHIC LOCATION (GPS)** |
| 1 | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  | Lupiro | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.368452, 36.674900 |
|  |  |  |  |  |  |  |  |  |
| 2 | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  | Lupiro | Ulanga | Morogoro | Lawama | March | Maturity | 3 | -8.370881, 36.677017 |
|  |  |  |  |  |  |  |  |  |
| 3 | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  | Idunda | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.482672, 36.692378 |
|  |  |  |  |  |  |  |  |  |
| 4 | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  | Minepa | Ulanga | Morogoro | TXD 306 | March | Maturity | 3 | -8.252905, 36.683281 |
|  |  |  |  |  |  |  |  |  |
| 5 | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  | Ifakara | Kilombero | Morogoro | Dunduli | February | Maturity | 3 | -8.137694, 36.684177 |
|  |  |  |  |  |  |  |  |  |
| 6 | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | EST PN. 326/44 | February | Maturity | 3 | -8.150813, 36.665661 |
|  |  |  |  |  |  |  |  |  |
| 7 | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
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|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  | Ifakara | Kilombero | Morogoro | DSR PN. 137/31 | February | Maturity | 3 | -8.150813, 36.665661 |
|  |  |  |  |  |  |  |  |  |
| 8 | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  | Njage | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.253896, 36.181780 |
|  |  |  |  |  |  |  |  |  |
| 9 | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  | Itongowa | Mlimba | Morogoro | TXD 306 | March | Maturity | 2 | -8.352210, 36.080054 |
|  |  |  |  |  |  |  |  |  |
| 10 | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  | Mkula | Kilombero | Morogoro | Lawama | March | Dough | 2 | -7.799772, 36.905489 |
|  |  |  |  |  |  |  |  |  |
| 11 | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.420505, 37.544786 |
|  |  |  |  |  |  |  |  |  |
| 12 | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  | Dakawa | Mvomero | Morogoro | Supa | February | Milk | 4 | -6.419846, 37.544267 |
|  |  |  |  |  |  |  |  |  |
| 13 | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.415932, 37.551897 |
|  |  |  |  |  |  |  |  |  |
| 14 | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Maturity | 3 | -6.400923, 37.567535 |
|  |  |  |  |  |  |  |  |  |
| 15 | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 3 | -6.395002, 37.567265 |
|  |  |  |  |  |  |  |  |  |
| 16 | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Flowering | 4 | -6.392945, 37.60610 |
|  |  |  |  |  |  |  |  |  |
| 17 | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | March | Milk | 5 | -6.395147, 37.574687 |
|  |  |  |  |  |  |  |  |  |
| 18 | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  | Dakawa | Mvomero | Morogoro | TXD 306 | February | Maturity | 4 | -6.385051, 37.598029 |
|  |  |  |  |  |  |  |  |  |
| 19 | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | March | Maturity | 4 | -6.234562, 37.678811 |
|  |  |  |  |  |  |  |  |  |
| 20 | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  | Lukenge | Mvomero | Morogoro | TXD 306 | April | Milk | 3 | -6.238532, 37.679524 |
|  |  |  |  |  |  |  |  |  |
| 21 | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  | Kwam-tonga | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.189823, 37.599676 |
|  |  |  |  |  |  |  |  |  |
| 22 | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  | Mkindo | Mvomero | Morogoro | TXD 306 | March | Maturity | 2 | -6.256603, 37.539718 |
|  |  |  |  |  |  |  |  |  |
| 23 | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  | Ruvu (Chauru) | Baga-moyo | Coast | TXD 306 | March | Maturity | 3 | -6.742699, 38.668300 |
|  |  |  |  |  |  |  |  |  |
| 24 | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  | Baga-moyo | Baga-moyo | Coast | Local | March | Maturity | 2 | -6.456316, 38.902098 |
|  |  |  |  |  |  |  |  |  |
| 25 | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  | Mombo | Koro-gwe | Tanga | TXD 306 | March | Maturity | 2 | -4.896162, 38.268456 |
|  |  |  |  |  |  |  |  |  |
| 26 | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 3 | -4.355418, 33.909460 |
|  |  |  |  |  |  |  |  |  |
| 27 | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.350908, 33.914491 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.350908, 33.914491 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.350908, 33.914491 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.350908, 33.914491 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.350908, 33.914491 |
|  |  |  |  |  |  |  |  |  |
| 28 | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349097, 33.916132 |
|  |  |  |  |  |  |  |  |  |
| 29 | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.349588, 33.916919 |
|  |  |  |  |  |  |  |  |  |
| 30 | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  | Mwama-puli | Igunga | Tabora | TXD 306 | February | Reproductive | 4 | -4.347134, 33.925409 |
|  |  |  |  |  |  |  |  |  |
| 31 | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.584835, 33.6997167 |
|  | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.584835, 33.6997167 |
|  | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.584835, 33.6997167 |
|  | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.584835, 33.6997167 |
|  | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.584835, 33.6997167 |
|  |  |  |  |  |  |  |  |  |
| 32 | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.587494, 33.691116 |
|  | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.587494, 33.691116 |
|  | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.587494, 33.691116 |
|  | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.587494, 33.691116 |
|  | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.587494, 33.691116 |
|  | Ngana | Kyela | Mbeya | TXD 306 | February | Maturity | 2 | -9.587494, 33.691116 |
|  |  |  |  |  |  |  |  |  |
| 33 | Kilasilo | Kyela | Mbeya | SUPA | March | Maturity | 2 | -9.587998, 33.806142 |
|  | Kilasilo | Kyela | Mbeya | SUPA | March | Maturity | 2 | -9.587998, 33.806142 |
|  | Kilasilo | Kyela | Mbeya | SUPA | March | Maturity | 2 | -9.587998, 33.806142 |
|  | Kilasilo | Kyela | Mbeya | SUPA | March | Maturity | 2 | -9.587998, 33.806142 |
|  | Kilasilo | Kyela | Mbeya | SUPA | March | Maturity | 2 | -9.587998, 33.806142 |
|  |  |  |  |  |  |  |  |  |
| 34 | Llilido | Mikin-dani | Mtwara | TARI RIC 1 | March | Maturity | 2 | -10.352557, 39.704874 |
|  | Llilido | Mikin-dani | Mtwara | TARI RIC 2 | March | Maturity | 2 | -10.352557, 39.704874 |
|  | Llilido | Mikin-dani | Mtwara | TARI RIC 3 | March | Maturity | 2 | -10.352557, 39.704874 |
|  | Llilido | Mikin-dani | Mtwara | TARI RIC 4 | March | Maturity | 2 | -10.352557, 39.704874 |
|  | Llilido | Mikin-dani | Mtwara | TARI RIC 5 | March | Maturity | 2 | -10.352557, 39.704874 |
|  |  |  |  |  |  |  |  |  |
| 35 | Lilido | Mikin-dani | Mtwara | Komboka | March | Maturity | 2 | -10.351676, 39.705414 |
|  | Lilido | Mikin-dani | Mtwara | Komboka | March | Maturity | 2 | -10.351676, 39.705414 |
|  | Lilido | Mikin-dani | Mtwara | Komboka | March | Maturity | 2 | -10.351676, 39.705414 |
|  | Lilido | Mikin-dani | Mtwara | Komboka | March | Maturity | 2 | -10.351676, 39.705414 |
|  | Lilido | Mikin-dani | Mtwara | Komboka | March | Maturity | 2 | -10.351676, 39.705414 |
|  |  |  |  |  |  |  |  |  |
| 36 | Lilido | Mikin-dani | Mtwara | TARI RIC 1 | March | Maturity | 2 | -10.350944, 39.706175 |
|  | Lilido | Mikin-dani | Mtwara | TARI RIC 2 | March | Maturity | 2 | -10.350944, 39.706175 |
|  | Lilido | Mikin-dani | Mtwara | TARI RIC 3 | March | Maturity | 2 | -10.350944, 39.706175 |
|  | Lilido | Mikin-dani | Mtwara | TARI RIC 4 | March | Maturity | 2 | -10.350944, 39.706175 |
|  | Lilido | Mikin-dani | Mtwara | TARI RIC 5 | March | Maturity | 2 | -10.350944, 39.706175 |
|  |  |  |  |  |  |  |  |  |
| 37 | Lilido | Mikin-dani | Mtwara | TXD 306 | March | Maturity | 2 | -10.353980, 39.705278 |
|  | Lilido | Mikin-dani | Mtwara | TXD 306 | March | Maturity | 2 | -10.353980, 39.705278 |
|  | Lilido | Mikin-dani | Mtwara | TXD 306 | March | Maturity | 2 | -10.353980, 39.705278 |
|  | Lilido | Mikin-dani | Mtwara | TXD 306 | March | Maturity | 2 | -10.353980, 39.705278 |
|  | Lilido | Mikin-dani | Mtwara | TXD 306 | March | Maturity | 2 | -10.353980, 39.705278 |
|  | Lilido | Mikin-dani | Mtwara | TXD 306 | March | Maturity | 2 | -10.353980, 39.705278 |

\*According to the IRRI Standard Evaluation System for rice, nine growth stages were considered: 1-Germination, 2-Seedling, 3-Tillering, 4-Stem elongation, 5-Booting, 6-Heading, 7-Milk stage, 8- Dough stage, and 9-Mature grain.

\*\*Bacterial Leaf Blight Disease score scale: 1=0-3%, 2=4-6%, 3=7-12%, 4=13-25%, 5=26-50%, 6=51-75%, 7= 76-87%, 8=88-94%, 9=95-100% (% of leaf area affected by the disease)

**Supplementary file 1c. Sequences of *Xa1* and *Xa4* genes from *Oryza sativa* cv. Komboka.** Capital letters represent exons, while small letters represent introns. Start and stop codons are highlighted in yellow and red, respectfully.

> *Oryza sativa* cv. Komboka *Xa1*

ATGGAGGAGGTGGAAGCCGGTTTGCTGGAGGGCGGGATCAGGTGGCTGGCGGAGACCATCCTGGATAACCTGGACGCCGACAAGCTGGATGAGTGGATTCGCCAGATTAGGCTCGCCGCTGACACCGAGAAGCTACGGGCTGAGATCGAGAAGGTGGATGGGGTGGTCGCTGCCGTGAAGGGGAGGGCGATCGGGAACAGGTCGCTGGCCCGATCTCTCGGCCGTCTCAGGGGGTTGCTGTACGACGCCGACGATGCGGTCGACGAGCTCGACTACTTCAGGCTCCAGCAGCAGGTCGAGGGAGGAGgtactgtctttgcatatatccgtgccttttaattaagtttgcaagctgcgttgcctgcaacaatggcgtattggcgtcagtttccaatccatgcttgtgctacagTTACTACACGGTTTGAGGCTGAAGAGACGGTCGGAGATGGAGCAGAGGACGAGGACGATATTCCGATGGACAATACTGATGTACCGGAGGCAGTGGCGGCAGGCAGCAGCAAGAAACGGTCCAAGGCATGGGAACACTTTACTACCGTAGAGTTCACTGCTGACGGGAAGGATTCTAAAGCACGGTGCAAGTACTGCCACAAGGACCTATGTTGCACATCTAAGAACGGGACATCAGCTTTGCGCAACCATCTCAATGTTTGCAAGAGGAAACGTGTAACAAGTACTGACCAACCGGTAAATCCATCAAGgtaatgctaatggagttctgaatttagtgtaaatccgttgaagtgtaaatttggcccgttacatctgcttaagatctcattctgtctctaatcttctaatagccaactcatggtcattttttttcctaatatatagtaccggtgatggtgcaccaaatgtaattagatgcaaggaaacaaaagtgaacaattgtatatatcaaatataattatatctaaaacatgagtagtgtatcaaatccaattctttcaaaaatctactatgcaaaattgagtgacaaaatctgctgccttttttttttacagaaagcaaccaattaatataagtcaaatataaaaacgctttgtagtctccaataaaatagctcattgtttcgtttatacttatgtttataaatttaaatttaaaacttaattttggagttgattttgtggttttcttttcatcctattttattttacaacatttgattttgaatagttaagaatgcgtatataaaaattttacccataagttattttttaaattgttaataaatcgtaaggataatcataagtataagtgaaacgattcgctcttcatctacttaagattgcgttatattgctgacctttctaatcgcctaaccacgatcacatgctcttccagTGCCGGTGAGGGTGCATCAAATGCAACTGGTAATTCAGTTGGCAGAAAAAGGATGAGAATGGATGGGACTTCAACACACCACGAGGCAGTTAGCACGCACCCTTGGAACAAGGCTGAACTTTCCAACAGGATCCAATGCATGACTCATCAGTTAGAAGAGGCTGTAAATGAGGTTATGAGGCTATGTCGATCCTCAAGTTCAAACCAGAGTCGACAGGGTACACCACCGGCCACAAATGCAACAACATCGTCTTATCTTCCGGAGCCCATAGTGTATGGGAGGGCTGCAGAGATGGAAACCATCAAACAGCTGATCATGAGCAATAGATCTAATGGCATAACCGTCCTGCCAATTGTAGGCAATGGAGGGATAGGAAAAACCACTTTGGCGCAACTGGTCTGCAAAGATCTGGTAATTAAAAGTCAGTTTAATGTTAAGATATGGGTGTATGTATCTGATAAATTTGATGTAGTTAAGATTACAAGGCAGATTTTGGATCATGTCTCCAACCAGAGCCACGAAGGAATAAGCAACCTTGATACGCTTCAGCAGGATCTTGAGGAACAAATGAAATCTAAGAAGTTCCTCATTGTCTTAGATGATGTGTGGGAAATCCGTACAGATGACTGGAAAAAACTACTGGCTCCTTTAAGACCTAAAGATCAGGTGAATTCGTCACAGGAAGAGGCAACAGGTAATATGATAATTTTGACAACTCGTATACAGAGTATTGCCAAAAGTCTTGGAACAGTACAATCAATTAAGTTAGAAGCTCTGAAAGATGACGATATATGGTCACTATTTAAAGTGCATGCTTTTGGTAATGATAAACATGATAGTAGTCCAGGCTTACAGGTTCTTGGGAAGCAAATTGCTAGCGAGCTAAAAGGCAACCCACTGGCAGCAAAAACTGTGGGTTCACTATTAGGAACGAATCTTACCATCGATCATTGGGATAGCATTATAAAGAGTGAAGAATGGAAATCCCTGCAACAAGCTTATGGCATCATGCAAGCGCTGAAGTTGAGCTATGATCATCTATCCAACCCCTTACAGCAATGCGTCTCTTATTGTTCTCTTTTCCCCAAGGGTTATTCTTTCAGCAAAGCACAACTAATACAAATATGGATTGCTCAAGGATTTGTGGAAGAATCCAGTGAGAAGTTGGAGCAGAAAGGATGGAAATATCTAGCTGAGTTGGTAAATTCGGGTTTCCTTCAGCAAGTTGAAAGCACACGGTTTTCATCAGAATATTTTGTTATGCACGATCTTATGCATGATTTAGCGCAAAAGGTTTCACAAACAGAATATGCAACTATAGATGGCTCAGAGTGCACAGAGTTAGCCCCAAGTATACGCCATTTGTCAATAGTAACTGATTCTGCATACCGCAAGGAGAAATATAGAAACATATCTCGTAATGAGGTGTTTGAGAAAAGGTTGATGAAAGTTAAGTCAAGGAGTAAGTTGAGGTCACTGGTATTAATTGGGCAATATGATTCTCATTTTTTTAAATATTTCAAAGATGCTTTCAAGGAAGCACAACATCTGCGACTGCTGCAGATCACTGCAACTTATGCTGATTCTGATTCATTTCTCTCCAGTTTGGTAAATTCTACACATCTCCGGTATCTGAAAATTGTGACCGAAGAATCCGGCAGAACTTTGCCCCGATCTCTAAGGAAGTATTACCATCTTCAAGTACTAGATATTGGCTATAGATTTGGAATTCCCCGTATATCTAATGATATAAATAATCTTCTCAGCCTGCGGCATCTTGTTGCATATGATGAAGTGTGTTCTTCCATTGCTAACATTGGTAAAATGACCTCACTTCAGGAACTAGGCAATTTTATTGTTCAGAATAATTTAAGTGGTTTTGAGGTGACACAATTGAAATCCATGAACAAGCTTGTACAACTTAGTGTGTCTCAGCTTGAAAATGTTAGAACTCAGGAGGAGGCATGTGGGGCAAAACTGAAAGACAAACAACACTTAGAAAAGCTACATTTGTCCTGGAAGGATGCATGGAATGGATATGACAGTGACGAAAGCTATGAAGATGAATACGGCAGTGATATGAATATAGAAACAGAAGGGGAGGAACTGTCAGTTGGTGATGCCAATGGTGCCCAAAGCTTACAACATCACAGTAATATAAGCTCTGAACTTGCTTCAAGTGAGGTGCTCGAAGGTCTTGAACCACATCACGGCCTCAAGTATCTACGGATATCTGGGTATAATGGATCTACCTCCCCAACTTGGCTTCCTTCTTCACTTACCTGTCTGCAAACACTTCATCTAGAAAAATGTGGAAAATGGCAAATACTTCCTTTAGAAAGGCTAGGGTTACTTGTAAAGCTCGTGTTGATCAAAATGAGGAATGCAACAGAACTCTCAATCCCTTCACTGGAGGAGCTTGTGTTAATTGCATTGCCAAGCTTGAACACATGCTCCTGCACTTCCATCAGGAACTTGAACTCCAGTTTAAAGGTTCTGAAAATTAAGAATTGCCCTGTACTGAAGGTATTTCCCTTGTTTGAGATTTCCCAGAAATTTGAAATCGAGCGGACGTCGTCATGGTTGCCCCATCTTAGCAAGCTTACCATCTATAATTATCCTCTTTCCTGTGTGCACAGTTCTCTGCCACCTTCCGCAATCAGTGGTTATGGAGAATATGGAAGGTGTACCCTTCCGCAATCACTTGAGGAACTTTACATCCATGAGTATTCTCAAGAAACTCTGCAGCCCTGCTTTTCAGGGAACCTCACTCTCCTGAGAAAATTACATGTACTGGGAAACTCAAATTTAGTGTCTCTGCAGCTCCATTCCTGCACAGCACTCGAAGAGTTGATAATTCAAAGCTGTGAGTCTCTTAGTTCTCTGGATGGCTTGCAATTGCTTGGCAATCTCAGGTTGCTGCAGGCACATAGATGCCTCAGTGGTCATGGAGAAGATGGAAGGTGTATCCTTCCGCAATCACTTGAGGAACTTTACATCCATGAGTATTCTCAAGAAACTCTGCAGCCCTGCTTTTCAGGGAACCTCACTCTCCTGAGAAAATTACATGTACTGGGAAACTCAAATTTAGTGTCTCTGCAGCTCCATTCCTGCACAGCACTCGAAGAGTTGATAATTCAAAGCTGTGAGTCTCTTAGTTCTCTGGATGGCTTGCAATTGCTTGGCAATCTCAGGTTGCTGCAGGCACATAGATGCCTCAGTGGTCATGGAGAAGATGGAAGGTGTATCCTTCCGCAATCACTTGAGGAACTTTACATCCATGAGTATTCTCAAGAAACTCTGCAGCCCTGCTTTTCAGGGAACCTCACTCTCCTGAGAAAATTACATGTACTGGGAAACTCAAATTTAGTGTCTCTGCAGCTCCATTCCTGCACAGCACTCGAAGAGTTGATAATTCAAAGCTGTGAGTCTCTTAGTTCTCTGGATGGCTTGCAATTGCTTGGCAATCTCAGGTTGCTGCAGGCACATAGATGCCTCAGTGGTCATGGAGAAGATGGAAGGTGTATCCTTCCGCAATCACTTGAGGAACTTTACATCCATGAGTATTCTCAAGAAACTCTGCAGCCCTGCTTTTCAGGGAACCTCACTCTCCTGAGAAAATTACATGTACTGGGAAACTCAAATTTAGTGTCTCTGCAGCTCCATTCCTGCACAGCACTCGAAGAGTTGATAATTCAAAGCTGTGAGTCTCTTAGTTCTCTGGATGGCTTGCAATTGCTTGGCAATCTCAGGTTGCTGCAGGCACATAGATGCCTCAGTGGTCATGGAGAAGATGGAAGGTGTATCCTTCCGCAATCACTTGAGGAACTTTACATCCATGAGTATTCTCAAGAAACTCTGCAGCCCTGCTTTTCAGGGAACCTCACTCTCCTGAGAAAATTACATGTACTGGGAAACTCAAATTTAGTGTCTCTGCAGCTCCATTCCTGCACAGCACTCGAAGTGTTGATAATTCAAAGCTGTGAGTCTCTTAGTTCTCTGGATGGCTTGCAATTGCTTGGCAACCTCAGGTTGCTGCAGGCACATAGATGCCTCAGTGGTCATGGAGAAGATGGAAGGTGTATCCTTCCGCAATCACTTGAGGAACTTTACATCCATGAGTATTCTCAAGAAACTCTGCAGCCCTGCTTTTCAGGGAACCTCACTCTCCTGAGAAAATTACATGTACTGGGAAACTCAAATTTAGTGTCTCTGCAGCTCCATTCCTGCACAGCACTCGAAGTGTTGATAATTCAAAGCTGTGAGTCTCTTAGTTCTCTGGATGGCTTGCAATTGCTTGGCAATCTCAGGTTGCTGCAGGCACATAGATGCCTCAGTGGTCATGGAGAAGATGGAAGGTGTATCCTTCCGCAATCACTTGAGGAACTTTTCATCAGTGAGTATTCTCTAGAAACTCTGCAGCCCTGCTTCCTGACGAATCTCACCTGCTTAAAACAATTAAGGGTATCAGGCACCACAAGTTTCAAATCTCTAGAACTGCAATCATGCACTGCACTCGAACATTTGAAGATTCAAGGTTGTGCGTCGCTTGCTACATTGGAGGGGTTGCAATTCCTCCACGCCCTCAGGCATATGGAAGTATTCAGATGCCCTGGCTTGCCTCCATATTTGGGGAGTTCGTCAGAGCAGGGCTATGAGCTATGCCCACGACTGGAAAGGCTCGACATCGATGACCCCTCTATCCTTACCACGTCGTTCTGCAAGCACCTCACCTCCCTCCAACGCCTAGAGCTTAACTATTGCGGAAGTGAAGTGGCAAGACTAACGGATGAGCAAGAGAGAGCGCTTCAGCTCCTCACGTCCCTGCAAGAGCTCCGGTTTAAGTATTGCTACAATCTCATAGATCTTCCTGCGGGGCTCCACAGCCTTCCCTCCCTCGAGAGGTTGGAGATCCGGAGTTGCAGGAGCATCGCGAGGCTGCCGGAGAAGGGCCTCCCACCTTCGTTCGAAGAACTGGATATCATCGCTTGCAGTAATGAGCTAGCTCAGCAGTGCAGAACTCTAGCAAGCACTCTGAAGGTCAAAATTAATGGGGGATATGTGAACTGA

> *Oryza sativa* cv. Komboka *Xa4*

ATGGCAGCAGCCGCCGCACTTTCTGCGGTGGCGCCTGGGCAGCGGCCCGCGGACTGCCCGAGCGAGTGCGGCGGCGTGGACATCCCCTACCCATTCGGCGTGGACAACTGCTCCTGGCCGGGTCCTGATGACTTCACCATCATCTGCAAATATAGCAGGCCGTACTACAGGGGCGCGGAGATCGTGAACATCTCGGTGGAGGCAGGGGAGATGCGCGTCTACTCTCCCGTGGTCTCCCAGTGCTACAACTCATCCAACACCACGGACTCTGACGGATTCGAGTTCTTGCGGCTCAACATCACCAACACGCCGTTCCTGGTCGCTCCGGAGAGAAACGAGTTCACGGCCATCGGCTGTGCCACGTTGGCGTGGCTATGGGGCAGAGACGATGGGAGCTACTTGACCGGCTGCATCTCGACGTGCGCGAGCTTGGCGACGGCTGCCAAGGACCGTGACCCATGTACGGGGCTGGGTTGCTGCCAGGTGCCCTCCATCCCGGCCAACCTTAGCGTCTTAAATATTTCCTTGGGCACAGGCATCGCCAACGTTGCCTGGGAAGAAAGTCCCTGTAGCTACGCCTTCGTGGCCGAAAAACACTGgtacgtaactaagtacgaacacatacctactacttcatacatctatttttatttttgatagtgatatttctaaatcagaaaaatttacttttgataggtatatttcaatccaaccatttattcttttaatgactttcttggatttaatgcgtgaatctccattctttcacacaaaattggctacatgagcatcaagaaatgtaaatattattatatcgcttgtttacgaggaataactaatactccactagtatgtttaaatggatgataagtagaattatttattcttggtcattgtgccaagataaaatatgactatcaaaggactctatctatcgtctagactcacgaatttgaatacatatatatggatggatacacggatctatatctctatctctactattttaagttttcgttaatactttagtacgtagtttgtatttgagtcggtttttaaatccgttcgcttttcaaaatacataaggagtcatacaaggaattcttttaaaaaacttgcatgctaactgggatgagcgagaattagactcctaattgcatcagaattcctaccaagacataagaaaacaacgtatatgatatggttattatccgtcccaacttagatatcaaatactatctcaaagtaaaattcacatttactttttagataaaataaatctaataataatatgattaaaatagcattcacatgttgcaacgcacaagtatttttctgtatatatagatatatattcaaaacccaatacgttaagttcatcttataatatgaaaaagagaatatactccctccgtccctaaatatttgacgccgttaacttttttaaatatgtttgaccgttcgtcttattcaaaaaaatttaagtaattattcattctttttgattcattgttaaatgtacttttatgtatatatatagttttaaatatttcataaaagttttcaaataagattaacggtcaaatatatttaaaaaaatcaacggtgtcaaatatttagggacggagggagtatataagtacacaaaatccattagtattataattatatggatctaattattaatgataatgattattcactctatttggtgtccatactagtttaatttattttgatgtatatccttatatgtgacggttctttaaaagaaacagcatgtacgtgtatcttcatatccgttgtttttactgagaacagcacatatatatcgacatcatatttgcgttggttctcaatgaaacaggcatatgagtgcagcataatatgcaatattttacacatgcatggtggatatttttatatgtgcatattgtgccgtcacttatatgtgcatatttttaataacttttaaaattatatgaagttggatgaagataaattttactatactaagttcatagagttcaacgagatgtaacaactttgcagataattgatatatagctttttcacttgggattagttatatgtccgaatatactttagaaactcttggaccaatttggatatataaatagacttttaaaattttaaacgacttcgtacgcgctatacaaaagttatacgagaccatcggatggcttattggcttattggggaaataagccaaacggcatatttacaaacaaaaaataatttgtgaataaaacttttatatacatgttcttaataatctaaaaacaaaggctgaaaaataaacttcaatgaaaaaacctcaaaatcaactccaaatttaaagttgaaaatttaaattttggctgataagtataagcataagcgaaaagatgaggccgataaagcttgacgagatctaaaattttgtagtttataaccttttcatttgaactcatttggggtgcaacatacgcattatgaatttttgacgggagtagtaacaagatacatttgttttctaacgacaaatgctcgatagttgagatgataagaaagctgcacatgcagataaaaggtctcggatttgaattccacatttcccatgtgcacgtatttcgcatgaaaaatctcgtgacttgtgacttgcaaaattagaaatactactctgggttttaaatttgcacctaggaaattcaaaatgtagcaccactgtatttgccggttttactttagaatcgaaatataatatgcctaacaccaaatggtttaagaattaagtgggttaacaaaataaatggcacatggatgactttcatgtgtgatgattcttaataaaaattagcacatatataattttcatttgttacagttcttaataaaaacctgaacatatgaaggtatatatgtgccggttcttttaactttggctctatatgcatcttggggtgaatgagagattaataccttatttgtgttagtttttggataatcagtatatatagtattgtcacttatttaatgtttttcagccgtgaactgattgtgcacctgttgtccgtatgtgaatcagGTATAATTTCAACAGGCAAGATTTCGAACGTGACGGTAAAAGCTTTGAACACCGGGATGAGAAAATGGTAGTTCCGACGGTGCTTGACTGGGCCATCAGGAAAAATGGGTCGTGCCCGTCAACCGGACAGGGTGCTCCTGCCTGTAAGAGCGAACATAGTGAGTGCGTCAACGCCACCAACGGCAAGGGCTACCTCTGCAATTGCTCCAGGGGATACGCCGGCAATCCCTATAGGGACGATGGATGCAAAAgttagttacgttcttaattagctcgctagctatcacctaagcatagaattcttctctaattttattttggatgctagattagtatttacagtacgtggtgatgattaatgacgagcatgcttgcttagtgtttaaatttacttatttatgacttaattgttctaactctttaatttgattgtttatcaccaatacgtctgtagATATTAATGAGTGTAAGGAACCTTCTATTACTTGTTACGGTGGTAGCACATGCCAGGACACAGACGGCAGTTACGAGTGCAAATGCCAATTTGGATATAGAGGCGATGGCAGGAAGAATGAGAGTCAGAAGGGACGATGCCAACCCATAATTCCCGCTGCTATAGCCAATGCAATAGgtaaaccgatagagtgttaattcttaactactccaacacgtagcaatataaatttaatttgctacctattagcaaatgtggatcaacactgtatatctttatcttatgtttctttgtatgcagCGATTGTTTGCATTGTGATTGTTCTCTTGGGCCTTTTCTGGTTGCCTAAGAGATGGAAGCGGAGAGTGTTCTTCGATAATAACGGTGGTCGCCTACTGAAGGATATGGACATCATCGTTTTCACTGAGAAGGAACTCAACAAGATAACAAACAAGAAGCGCACTAAGATTGGAGAGGGCGCCTTTGGCGAGGTCTACAAGGGGAACCACAATAACCAACCGGTTGCTGTCAAGTACTCCATCGCAAAGAACATGACTCAAACACATTACAAAGACGTCGTCGAGAGCATAAACCAAAACGTATTCCAGACTGTTTTTCGTCAGTCAAAAGTTCCACCATCAACACCGGGCCAGAATGCAGTCGTCAACGAGATAAAGGTTCAGCTGCAGATCCGGCACCCCAACATTGTCCGCCTCATCGGGTGCTGTATGGAAACAGAGGTCCCCATGCTTGTCTTTGAGTTCATCCCTAACGGGAGCCTCGAGACAGTTCTCCATGGTATCGATCGATGCAGCCTTTCTCTCCAGCAACGCCTGGACATCGCGATCGGCTCTGCAGAGGCTCTTGCCTACATGCATTGGCACGGCCATCATCAGATCATACATGGGGATATCAAGCCTGGCAACATTCTCCTTGGTGACAATCTCATGCCTAAGGTCTCCGACTTTGGATCATCTGAGCTCACGTTGAAAGTCAAGCGTGCAGGGAAGTGGAACGTATATGCTGACATGAACTACATCGACCCTGTGTACATCAAGACAGGCGATTTCACGGATAAGAGCGATGTATATAGTTTTGGGGTTGTGCTCCTAGAGCTCATCACCAGGAAGAAGGCCAAGTATGACGATAGAAGCCTCCCGGTAGAATTTGTCAGCCATTATGAGGATGAAGACACAAGGAGGAAAATGTATGACCAGGACATGTTGCCTACCGAGGCCTCGCATCCTCACTGCATGGAGTGTCTTGACAGAATGGCCGATATTGTGCTCCGTTGTCTTGAAAATGAAGTGGGCAAGAGGCCAACCATGGCTGAGGTGCTAGAGGAGCTTAAGAAGTTGTTACCATTGCTAACCACGACGCCGGTCGAACTCGTGTAG

**Supplementary file 1d. Characteristics of the TALome of *Xanthomonas oryzae* pv. *oryzae* Tanzanian iTz strains**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Site** | **Year** | **Major Vir TALe\*** | **Number of TALes** | **iTALe** |
| TzDak11-1 | Dakawa | 2011 | TalC | 9 | - |
| TzDak11-2 | Dakawa | 2011 | TalC | 9 | - |
| TzDak18-1 | Dakawa | 2018 | TalC | 9 | - |
| iTzDak19-1 | Dakawa | 2019 | PthXo1-like | nd | + |
| iTzDak19-2 | Dakawa | 2019 | PthXo1-like | nd | + |
| iTzDak19-3 | Dakawa | 2019 | PthXo1-like | >16 | + |
| iTzLuk21-1 | Lukenge | 2021 | PthXo1-like | >16 | + |
| iTzLuk21-2 | Lukenge | 2021 | PthXo1-like | >16 | + |
| iTzLuk21-3 | Lukenge | 2021 | PthXo1-like | nd | + |
| iTzLuk21-4 | Lukenge | 2021 | PthXo1-like | >16 | + |
| iTzLuk21-5 | Lukenge | 2021 | PthXo1-like | nd | + |

\*TALe inducing *SWEET11*, *SWEET13* or *SWEET14*.

**Supplementary file 1e. *OsSWEET* promoter sequences for the rice varieties Komboka and Kitaake.**

***OsSWEET11a* sequence. PthXo1 EBE is highlighted in yellow. First exon is highlighted in grey.**

>OsSWEET11a\_Komboka\_ 1756 bp.

CTCTCTAAGAATAGGCATATTATGGTTTAATTAGCTAGACAAGAAATTAGTTAAGGTTCTTAATGAAGATTCCGTCACTTTTGCTAGCTTTGAAAACCTGCAGAGTGAATTGTGCAAAACATCTTGGCATGTTGGTGTTAGTGGTACAACAGATGCTGATACAAAGAAATTAATGCTGCAATTGTTAGAAGCTCTTTTTTTTTTCTCTCTTTTGAACACCAAAGCACTTTTGTTCATGGTGAAAGGGACTACCCTTCTCTTTCATATGTTCCCTTCTTCCTCTGTTCTTTTCATGAGATTTATTTGATGACTTCCCTCTGCTCTGTTATTTTCATGTTCTTTGATAAATGTGCTGATTGTATTATCAGTGTTATTGCACTCAATTCATTCTTGAACAGTGTGTGAATTAACTCTTTGTTCGATTTGAGCTTAGTCACTTGATTGCACACGAACTACTCTGCAATTCTTTTCTGACGATAGAAGTCGATTGATGGATCACCCAACATGTTACTAATTAAGTTGCATCATTGTCCATGGTTGTACATCCTTCTACAAATAAAACTACACAAATCAAGAAAATTTTCAATAACATTTCAACTATTGTAACAAGTAAAAGAAACCTATATGAGAGCTCCAGCTCTCCAAATGGCAACAGACACACTGAGTGGTCATACGTGTCATATTGCCCCTCAGTTATGCATTCATATGACCACATATTCAGAGTAGTGGAGAGAGGGACAGATCTAGAGGTAGAAAAAGAAAATTCATATAAATGATATATCAGAGTGAAAAAGAAATATCAAGCACAAGAAAAAAAAAAGCAAAGGTTAGATATGCATCTCCCCCTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACACTGAGCCATGGCCAAGGCCAAACCACACATGCAGTTGTAGTAGCACTTAAGCCTTCCTCTCTAGCTAGCATCTCTTGTGTCAGGAAGTTGGAAGGGATTTCTGGCTAGTTTCTAGCTGGTGTCTCCTCTCCTCTTCCTAACCTTCTCACTGATTAACACCTTAGAGTTAGTTAATAACCTTCATCACCAGTAGCAATGGCAGGAGGTTTCTTGTCCATGGCTAACCCGGCGGTCACCCTCTCCGGTGTTGCAGGTAAAGCATGCAACCAATGCATAATGCTCAAACTTAATTTCATCATTATCATCATCATCATCTTCACAGCCATGATCATCCATGGACAAATGCAACTGAAGATCATTTTAGTTTTCATATGCTAATGATCAAATTCAGGTTAATTGCTGTTTAATTTCTCCATACACTAGTTGTCTGCACCATTGCATTGTGCACAGCACACACACGCTTTTGATGCTTCTAGGAATGCATATCTGTTCAGCAGTTCACACAGTGCAGCAGGGCAATGTTGTTAAAAAATCTTCTCCTTTTTTTTTATGTCCTTGTATTCTTGAGCTTTCTGTCTCCATTGATCTGCTTTTTTCTTGTTTACAAGTGATGGGCACAAGTCACTTCCCTTAGCTTCAGCTCATGCATGGAGCAGGAATCTCACTTCAAAAGACCTAGCACTTTTTCTCTCTTCACCTTTTTGCCTCAACACATGCCCAGTTTCTGGCCACACAAACATAAACACATATACTATCTAGCTGCATAATTGCATCAAATTAAGCAGGGTTTGTTTCAGCTAGGAATTCCACACATAGGTCATTAATTAGTATTGCCAACTTTCTCAACATGCATGCACTCTAGTACT

> OsSWEET11a\_Kitaake\_OsativaKitaake\_499.genome\_Chr8 Chr8: 27602383..27604137 (-strand) class=match length=1755 bp

CTCTCTAAGAATAGGCATATTATGGTTTAATTAGCTAGACAAGAAATTAGTTAAGGTTCTTAATGAAGATTCCGTCACTTTTGCTAGCTTTGAAAACCTGCAGAGTGAATTGTGCAAAACATCTTGGCATGTTGGTGTTAGTGGTACAACAGATGCTGATACAAAGAAATTAATGCTGCAATTGTTAGAAGCTCTTTTTTTTCTCTCTTTTGAACACCAAAGCACTTTGTTCATGGTGAAAGGGACTACCCTTCTCTTTCATATGTTCCCTTCTTCCTCTGTTCTTTTCATGAGATTTATTTGATGACTTCCCTCTGCTCTGTTATTTTCATGTTCTTTGATAAATGTGCTGATTGTATTATCAGTGTTATTGCACTCAATTCATTCTTGAACAGTGTGTGAATTAACTCTTTGTTCGATTTGAGCTTAGTCACTTGATTGCACACGAACTACTCTGCAATTCTTTTCTGACGATAGAAGTCGATTGATGGATCACCCAACATGTTACTAATTAAGTTGCATCATTGTCCATGGTTGTACATCCTTCTACAAATAAAACTACACAAATCAAGAAAATTTTCAATAACATTTCAACTATTGTAACAAGTAAAAGAAACCTATATGAGAGCTCCAGCTCTCCAAATGGCAACAGACACACTGAGTGGTCATACGTGTCATATTGCCCCTCAGTTATGCATTCATATGACCACATATTCAGAGTAGTGGAGAGAGGGACAGATCTAGAGGTAGAAAAAGAAAATTCATATAAATGATATATCAGAGTGAAAAAGAAATATCAAGCACAAGAAAAAAAAGCAAAGGTTAGATATGCATCTCCCCCTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACACTGAGCCATGGCCAAGGCCAAACCACACATGCAGTTGTAGTAGCACTTAAGCCTTCCTCTCTAGCTAGCATCTCTTGTGTCAGGAAGTTGGAAGGGATTTCTGGCTAGTTTCTAGCTGGTGTCTCCTCTCCTCTTCCTAACCTTCTCACTGATTAACACCTTAGAGTTAGTTAATAACCTTCATCACCAGTAGCAATGGCAGGAGGTTTCTTGTCCATGGCTAACCCGGCGGTCACCCTCTCCGGTGTTGCAGGTAAAGCATGCAACCAATGCATAATGCTCAAACTTAATTtcatcatcatcatcatcatcatcatcTTCACAGCCATGATCATCCATGGACAAATGCAACTGAAGATCATTTTAGTTTTCATATGCTAATGATCAAATTCAGGTTAATTGCTGTTTAATTTCTCCATACACTAGTTGTTGTCTGCACCATTGCATTGTGCACAGCACACACACGCTTTTGATGCTTCTAGGAATGCATATCTGTTCAGCAGTTCACACAGTGCAGCAGGGCAATGTTGTTAAAAAATCTTCTCCTTTTTTTTATGTCCTTGTGTTCTTGAGCTTTCTGTCTCCATTGATCTGCTTTTTTCTTGTTTACAAGTGATGGGCACAAGTCACTTCCCTAGCTTCAGCTCATGCATGGAGCAGGAATCTCACTTCAAAAGACCTAGCACTTTTTCTCTCTTCACCTTTTTGCCTCAACACATGCCCAGTTTCTGGCCACACAAACATAAACACATATACTATCTAGCTGCATAATTGCATCAAATTAAGCAGGGTTTGTTTCAGCTAGGAATTCCACACATAGGTCATTAATTAGTATTGCCAACTTTCTCAACATGCATGCACTCTAGTACT

***OsSWEET13* sequence. PthXo2 EBE is highlighted in yellow. First exon is highlighted in grey.**

>OsSWEET13\_Komboka\_ 1444 bp

TAAAAGAACAATTAAATACGAGTACCCGTATCAAATTTAGGATTTAAATATATGTATGTATCATATATATTTCGAAATTAAGTATGCTTATATATGCAGATTGATTGCGTATATATATTGTGCTATGCTTATAGGTTGATTGGAAAGGCAAGCAGCCGCGCGCACAGAAAAAAGTAGAGAGAAAAAAAAAAGCAGATCCACTAGCTTAGCTTCATATACGTGGGAGTAGAACAAGATCAACGCGCTTCGCAGAAGCAGAAATCGACCTGTCTTCCCAACAAACTGTGTATGATAGCTTAGTCGACAGGGATGTCTACTGCAGGTGAAAACAATCCTTCGACAAAAAATAAGTTACTTTTGGTAAAGACAGTTAAATAATAAGCAGCTATATCACGCGCATGGGAGAATTGCATATTCAATTACAATCATTATTTTTTTTTCAGAACACTGTCGGCGACATTGAGAATTAATCTACCCGTGCAAACAAAGAACAGAGAAACTATAGTATACCTACATGTATCTATCACCCAATAATTGCAAGATCATGTTACAAAACGGTTCTAATTAATATATAGAAACAAGGCAGAGAATTCTACCTTTCTTTTGTCTAAGTACAATTATCTTTTTCTCCGCGATTAATATTTTTCGAGTAGTAAAATTTAAGTCAAAAGCCGTATCAGGATTCAGGAATAATCCTTCACTGGGAGAGATCTCATGTGATTTGCTGTTGCACTCGGCGGCTATCTTTTACCGTTCCCAGCAGGAAGCTGCAGACGTTGGAGAGATCGATCTCTACTGACAATGCACAAAGCAATTACTCACTAAATTGGCTATGGCTAGTGAGAGGTGCGCTGCGCACAAAGCCAATGCAACTTTTTTTGAAAATTAGCCAGGATTATCTCCAACAGTAGCTCATTTTTGTAAAAGCCTAATTATTGTGCGTGTCCAAAAGACTTTCCTCAAAAGCAAATAAAGAAAAAAAATCTTTGCATAATTATTCTATGATTACTTTGATGCGTACGTGAATGGCCATGGGTAGGAGGCAACCAAGTGATTCGCACCTAGCTAGCTTTTCTCCTATATAAGCACCACAACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACTCTTCTTCAGAGCTCTCCCTTCCCTCCACAAAGGGGTCTAGGGTTAGAGTGTGTGTGTCTGTGACAAGTTCCAAGCTAGCAACAACAAGCTCAATTCCTTGCTTGTTTGCTTCCATATTACACTACATCTCTTCCCTTCAATTACCCCCCTTTTAGCACACAAAAATGGCTGGCCTGTCCCTGCAGCATCCCTGGGCTTTTGCCTTCGGCCTCCTTGGTATATCATCATCACCTACCACAACTAAGACATTCCCTTCATTGCCAACATTTTACTTCTTTTTATTAGAAACCATTGAGTTTGTACAT

> *OsSWEET13*\_Kitaake\_OsativaKitaake\_499.genome \_Chr12 Chr12:17058815..17060261 (- strand) class=match length=1447 bp

TAAAAGAACAATTAAATACGAGTACCTGTATCAAATTTAGGATTTAAATATATGTATGTATCATATATATTTCGAAATTAAGTATGCTTATATATATGCAGATTGATTGCGTATATATATTGTGCTATGCTTATAGGTTGATTGGAAAGGCAAGCAGCCGCGCGCACAGAAAAAAGTAGAGAGAAAAAAAAAGCAGATCCACTAGCTTAGCTTCATATACGTGGGAGTAGAACAAGATCAACGCGCTTCGCAGAAGCAGAAATCGACCTGTCTTCCCAACAAACTGTGTATGAAAGCTTAGTCGACAGGGATGTCTACTGCAGGTGAAAACAATCCTTCGACAAAAAATAAGTTACTTTTGGTAAAGACAGTTAAATAATAAGCAGCTATATCACGCGCATGGGAGAATTGCATATTCAATTACAATCATTATTTTTTTTTCAGAACACTGTCGGCGACATTGAGAATTAATCTACCCGTGCAAACAAAGAACAGAGAAACTATAGTATACCTACATGTATCTATCACCCAATAATTGCAAGATCATGTTACAAAACGGTTCTAATTAATATATAGAAACAAGGCAGAGAATTCTACCTTTCTTTTGTCTAAGTACAATTATCTTTTTCTCCGCGATTAATATTTTTCGAGTAGTAAAATTTAAGTCAAAAGCCGTATCAGGATTCAGGAATAATCCTTCACTGGGAGAGATCTCATGTGATTTGCTGTTGCACTCGGCGGCTATCTTTTACCGTTCCCAGCAGGAAGCTGCAGACGTTGGAGAGATCGATCTCTACTGACAATGCACAAAGCAATTACTCACTAAATTGGCTATGGCTAGTGAGAGGTGCGCTGCGCACAAAGCCAATGCAACTTTTTTTGAAAATTAGCCAGGATTATCTCCAACAGTAGCTCATTTTTGTAAAAGCCTAATTATTGTGCGTGTCCAAAAGACTTTCCTCAAAAGCAAATAAAGAAAAAAAATCTTTGCATAATTATTCTATGATTACTTTGATGCGTACGTGAATGGCCATGGGTAGGAGGCAACCAAGTGATTCCCACCTAGCTAGCTTTGCTCCTATATAAAGCACCACAACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACTCTTCTTCAGAGCTCTCCCTTCCCTCCACAAAGGGGGTCTAGGGTTAGAGTGTGTGTGTCTGTGACAAGTTCCAAGCTAGCAACAACAAGCTCAATTCCTTGCTTGTTTGCTTCCATATTACACTACATCTCTTCCCTTCAATTACCCCCCTTTTAGCACACAAAAATGGCTGGCCTGTCCCTGCAGCATCCCTGGGCTTTTGCCTTCGGCCTCCTTGGTATATCATCATCACCTACCACAACTAAGACATTCCCTTCATTGCCAACATTTTACTTCTTTTTATTAGAAACCATTGAGTTTGTACAT

***OsSWEET14* sequence. TalC is highlighted in yellow. AvrXa7 EBE is colored in red. PthXo3 is highlighted in light turquoise. TalF EBE is underlined. First exon is highlighted in grey.**

>OsSWEET14\_Komboka\_ 888 bp

TGCGGCTCATCAGTTTCTCTAAGCTCTCACCATTCATTCCACTATACAAGCCTAAGGCAGCTAGCTTAGTTAATTACCTAATAACTATAGCTTGCCCAACTCTAGATCCCTTAACTAGGACAACTTGGAGTACACAACAATGTTAATAATCCCATGCATTGAGGACAGAGTTGTGAAGGAAACAAAAAAAAGCTAGCAGATTGGCACTTTCTGTCATGCATGGGTGCTGATGATTATCTTGTATCTAATTTAATCAATCCCATGGCTGTGATTGATCAGGAATAGTTTGTGTGTGCAGCTATATTACCTATTGGTGTCCAGGGTCACACACCATAAGGGCATGCATGTCAGCAGCTGGTCATGTGTGCCTTTTCATTCCCTTCTTCCTTCCTAGCACTATATAAACCCCCTCCAACCAGGTGCTAAGCTCATCAAGCCTTCAAGCAAAGCAAACTCAAGTAGTAGCTGATTACCAGCTCTTCTCTCTTCTCATTGAGAAGAGGGAATTAAGTTTTGATCTCTGCTTTATTGCCTGATCATCCTCTTGTTACTTGCAAGCAAGAACAGTAGTGTACTGTGCCTCATTGATCTCCTCTCACCAAACTCTCTCTCTCTCTCTCATATTCCGAGCTAGCTAGTTAATCAAGATCTTGCTGCAATGGCTGGCATGTCTCTTCAGCATCCCTGGGCCTTCGCCTTTGGTCTCCTAGGTGTGTTGCCTTTGATCTGATCCAAGGAATTCTCTTGAGAATTAATCTTGCATGGTTATTTACTTTTGTTGTTATTATTCTCTACATTTTTAATCATGTACTTTTCCATGTTCCTCTTTTGTTGCCAAAGCTACTATATTTTTCCTACCAATTCATCCAAAACTACTATATTATAGCA

> OsSWEET14\_Kitaake\_OsativaKitaake\_499.genome Chr11 Chr11:18397214..18398101 (- strand) class=match length=888 bp

TGCGGCTCATCAGTTTCTCTAAGCTCTCACCATTCATTCCACTATACAAGCCTAAGGCAGCTAGCTTAGTTAATTACCTAATAACTATAGCTTGCCCAACTCTAGATCCCTTAACTAGGACAACTTGGAGTACACAACAATGTTACTAATCCCATGCATTGAGGACAGAGTTATGAAGGAAACAAAAAAAAGCTAGCAGATTGGCACTTTCTGTCATGCATGGGTGCTGATGATTATCTTGTATCTAATTTAATCAATCCCATGGCTGTGATTGATCAGGAATAGTTTGTGTGTGCAGCTATATTGCCTATTGGTGTCCAGGGTCACACACCATAAGGGCATGCATGTCAGCAGCTGGTCATGTGTGCCTTTTCATTCCCTTCTTCCTTCCTAGCACTATATAAACCCCCTCCAACCAGGTGCTAAGCTCATCAAGCCTTCAAGCAAAGCAAACTCAAGTAGTAGCTGATTACCAGCTCTTCTCTCTTCTCATTGAGAAGAGGGAATTAAGTTTTGATCTCTGCTTTATTGCCTGATCATCCTCTTGTTACTTGCAAGCAAGAACAGTAGTGTACTGTGCCTCATTGATCTCCTCCCACCAAACTCTCTCTCTCTCTCTCATATTCCGAGCTAGCTAGTTAATCAAGATCTTGCTGCAATGGCTGGCATGTCTCTTCAGCATCCCTGGGCCTTCGCCTTTGGTCTCCTAGGTGTGTTGCCTTTGATCTGATCCAAGGAATTCTCTTGAGAATTAATCTTGCATGGTTATTTACTTTTGTTGTTATTATTCTCTACATTTTTAATCATGTACTTTTCCATGTTCCACTTTTGTTGCCAAAGCTACTATATTTTTCCTACCAATTCATCCAAAACTACTATATTATAGCA

**Supplementary file 1f: Guide RNA sequences.** Green letters indicate the protospacer adjacent motif (PAM) sequence NGG.

|  |  |  |  |
| --- | --- | --- | --- |
| **Genome** | **gRNA/cRNA** | **Target locus** | **Sequence** |
| *Oryza sativa* japonica (Nipponbare, IRGSP1.0) | cXo1 | chr08: 26728846-26728872 | TTTG GTGGTGTACAGTAGGGGGAGATG |
| *Oryza sativa* indica (Shuhui498) | cXo1 | chr08: 28035804-28035830 | TTTG GTGGTGTACAGTAGGGGGAGATG |
| *Oryza sativa* japonica (Nipponbare, IRGSP1.0) | cXo2c | Komboka specific | TTTC TCCTATATAAGCACCACAACTCC |
| *Oryza sativa* indica (Shuhui498) | cXo2c | Komboka specific | TTTC TCCTATATAAGCACCACAACTCC |
| *Oryza sativa* japonica (Nipponbare, IRGSP1.0) | cXo2d | variety specific | TTTG TTCCTATATAAAGCACCACAACT |
| *Oryza sativa* indica (Shuhui498) | cXo2d | variety specific | TTTG TTCCTATATAAAGCACCACAACT |
| *Oryza sativa* japonica (Nipponbare, IRGSP1.0) | cTalF | chr11: 18174461-18174487 | TTTG CTTGAAGGCTTGATGAGCTTAGC |
| *Oryza sativa* indica (Shuhui498) | cTalF | chr11: 20518333-20518359 | TTTG CTTGAAGGCTTGATGAGCTTAGC |
| *Oryza sativa* japonica (Nipponbare, IRGSP1.0) | gTalC | chr11: 18174551-18174572 | GGGCATGCATGTCAGCAGC TGG |
| *Oryza sativa* indica (Shuhui498) | gTalC | chr11: 20518423-20518444 | GGGCATGCATGTCAGCAGC TGG |

**Supplementary file 1g. EBE sequences in select *SWEET* promoters of Komboka wild-type and CRISPR-edited lines.** DNA sequences shaded in gray are *SWEET* EBEs for respective TALes. Letters in blue: PAM sequence for LbCpf1; letters in pink: PAM sequence for SpCas9; letters in red: TATA boxes; bold lowercase letters: insertion mutations; dashed lines: deletions; Italic lowercase letters: substitution mutations. Lines in orange and bold font were subjected to pathogen tests. n.d., not determined.

|  |  |  |  |
| --- | --- | --- | --- |
| ***SWEET11*** |  | AGCAAAGGTTAGATATGCATCTCCCCCTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC (PthXo1 EBE is shaded) | Genotype |
|  | T0 generation | | |
| 1.1 to 1.7 | Biallelic | AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATATGC------------TGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9  -12 |
| 2 | Biallelic | AGCAAAGGTTAGATATG----------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATA-------------------------//---GCTAGCAT | -10  -119 |
| 4 | Biallelic | AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTA*a*ATATG**g**CAT----CCCTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9  -4 |
| 7 | Biallelic | AGCAAAGGTTA*c*ATATG-------------TGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTA------------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -13  -18 |
| **9** | Biallelic | AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATATGC------------TGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9  -12 |
| 10 | Biallelic | AGCAAAGGTTAGATAT-------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAaATA--------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -13  -14 |
| **12** | Biallelic | AGCAAAGGTTAGATATG----------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATA-----------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -10  -11 |
| **14** | **Homo-zygous** | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 16 | Biallelic | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATA-----------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12  -11 |
| **18** | Biallelic | AGCAAAGGTTAGATATGC--------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -8  -9 |
|  | T1 generation | | |
| 1.1\_10 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 1.1\_22 | Homo-zygous | AGCAAAGGTTA*G\**ATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9;\*G or C |
| 1.2\_17 | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 1.2\_38 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| **1.2\_40** | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| **1.2\_45** | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 1.2\_64 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 1.3\_18 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 1.3\_22 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| **1.3\_24** | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 1.3\_29 | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 1.3\_34 | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 1.3\_54 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 1.3\_74 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 1.3\_78 | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 1.4\_03 | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 1.4\_12 | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 1.4\_15 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| **1.4\_21** | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| **1.5\_19** | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 1.5\_20 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 1.5\_24 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| **1.7\_10** | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 9\_32 | Biallelic | AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATATGC------------TGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 /-12 |
| 9\_33 | Biallelic | AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATATGC------------TGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 /-12 |
| 9\_34 | Homo-zygous | AGCAAAGGTTAGATATGC------------TGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 12\_57 | Homo-zygous | AGCAAAGGTTAGATA-----------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -11 |
| 12\_69 | Homo-zygous | AGCAAAGGTTAGATA-----------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -11 |
| 12\_81 | Homo-zygous | AGCAAAGGTTAGATA-----------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -11 |
| **14\_19** | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 14\_29 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 14\_32 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| **14\_65** | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 16\_5 | Homo-zygous | AGCAAAGGTTAGATATG------------CTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -12 |
| 18\_31 | Biallelic | AGCAAAGGTTAGATATGC--------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -8 /-9 |
| 18\_68 | Homo-zygous | AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 18\_118 | Biallelic | AGCAAAGGTTAGATATGC--------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC  AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -8 /-9 |
| 18\_142 | Homo-zygous | AGCAAAGGTTAGATATGC---------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
| 18\_160 | Homo-zygous | AGCAAAGGTTAGATATGC--------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -8 |
| T2 generation |  | | |
| 1.2\_45\_25 | Homo-zygous | AGCAAAGGTTAGATATG----------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -10 |
| 1.3\_24\_1 | Homo-zygous | AGCAAAGGTTAGATATG----------TACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -10 |
| 1.3\_24\_29 | Homo-zygous | AGCAAAGGTTAGATATG---------CTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACAC | -9 |
|  |  |  |  |
| ***SWEET13*** |  | CTTTTCTCCTATATAAGCACCACAACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT (PthXo2A EBE is shaded) |  |
|  | T0 generation | | |
| 1.1 | Biallelic | CTTTTCTCCTATATAAGCAC*t*-----------------CTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCACC-----------CATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -17  -11 |
| 1.2 | Biallelic | CTTTTCTCCTATATAAGCAC---------CTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9  -11 |
| 1.3 | Biallelic | CTTTTCTCCTATATAAGCACC---ACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -3  -11 |
| 1.4 | Biallelic | CTTTTCTCCTATATAAGCAC--------------TTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -14  -11 |
| 1.5 | Biallelic | CTTTTCTCCTATATAAGCAC-------CCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCAC*t*A-----------ATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -7  -11 |
| 1.6 | Biallelic | CTTTTCTCCTATATAAGCACC*c*--ACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -2  -11 |
| 1.7 | Biallelic | CTTTTCTCCTATATAAGCAC----------TTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCACC-----------CATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -10  -11 |
| 2 | Biallelic | CTTTTCTCCTATATAAGCAC*a*-------CCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAA-----------------------TCTCCAAGAGTTTTCAGCCAACACATTGAACT | -7  -23 |
| 4 | Biallelic | CTTTTCTCCTATATAAGCACC--------CTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCACC-----TCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -8  -5 |
| 7 | Biallelic | CTTTTCTCCTATATAAGCAC---------------TCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTAT--------------------CATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -15  -20 |
| **9** | Biallelic | CTTTTCTCCTATATAA*c*GCACC---------TTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTA-----------------CCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9  -17 |
| 10 | Biallelic | CTTTTCTCCTATATAAGCAC------------//---AACACATTCCTCTC  CTTTTCTCCTATATAAGCACC--------CTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -37  -8 |
| **12** | Biallelic | CTTTTCTCCTATATAAGCACCA-----CCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGC-----------CTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -5b  -11 |
| **14** | Biallelic | CTTTTCTCCTATATAAGCACC----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCAC----------TTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -10  -10 |
| 16 | Biallelic | CTTTTCTCCTATATAAGCAC*t*A---------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCAC-------CCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9  -7 |
| **18** | Biallelic | CTTTTCTCCTATATAAGCAC-----CTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  TTCGCA--//------------------CCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -5  -37 |
|  | T1 generation | | |
| 1.1\_10 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| 1.1\_22 | Homo-zygous | CTTTTCTCCTATATAAGCA-----------------CCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -17 |
| 1.2\_17 | Homo-zygous | CTTTTCTCCTATATAAGCA---------CCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9 |
| 1.2\_38 | Homo-zygous | CTTTTCTCCTATATAAGCA---------CCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9 |
| **1.2\_40** | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| **1.2\_45** | Homo-zygous | CTTTTCTCCTATATAAGCA---------CCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9 |
| 1.2\_64 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| 1.3\_18 | Homo-zygous | CTTTTCTCCTATATAAGCACC---ACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -3 |
| 1.3\_22 | Homo-zygous | CTTTTCTCCTATATAAGCACC---ACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -3 |
| **1.3\_24** | Homo-zygous | CTTTTCTCCTATATAAGCACC---ACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -3 |
| 1.3\_29 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| 1.3\_34 | Homo-zygous | CTTTTCTCCTATATAAG--------------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -14 |
| 1.3\_54 | Homo-zygous | CTTTTCTCCTATATAAG--------------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -14 |
| 1.3\_74 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| 1.3\_78 | Homo-zygous | CTTTTCTCCTATATAAG--------------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -14 |
| 1.4\_03 | Homo-zygous | CTTTTCTCCTATATAAGCAC--------------TTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -14 |
| 1.4\_12 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| 1.4\_15 | Homo-zygous | CTTTTCTCCTATATAAGCAC--------------TTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -14 |
| **1.4\_21** | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| **1.5\_19** | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| 1.5\_20 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| 1.5\_24 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| **1.7\_10** | Homo-zygous | CTTTTCTCCTATATAAGCACC----------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -10 |
| 9\_32 |  | n.d |  |
| 9\_33 | Homo-zygous | CTTTTCTCCTA-----------------CCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -17 |
| 9\_34 | Homo-zygous | n.d. |  |
| 12\_57 | Homo-zygous | CTTTTCTCCTATATAAGCACCA----CCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -5 |
| 12\_69 | Homo-zygous | CTTTTCTCCTATATAAGCACCA----CCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -5 |
| 12\_81 | Homo-zygous | CTTTTCTCCTATATAAG-----------CCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -11 |
| **14\_19** | Homo-zygous | CTTTTCTCCTATATAAGCA----------CTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -10 |
| 14\_29 | Biallelic | CTTTTCTCCTATATAAGCA----------CTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCA----------C*c*TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -10 /-10 |
| 14\_32 | Biallelic | CTTTTCTCCTATATAAGCA----------CTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCA----------C*c*TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -10/ -10 |
| **14\_65** | Biallelic | CTTTTCTCCTATATAAGCA----------CTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT  CTTTTCTCCTATATAAGCA----------C*c*TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -10/ -10 |
| 16\_5 | Homo-zygous | CTTTTCTCCTATATAAGCACCA---------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9 |
| 18\_31 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----CTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -5 |
| 18\_68 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----CTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -5 |
| 18\_118 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----CTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -5 |
| 18\_142 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----CTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -5 |
| 18\_160 | Homo-zygous | CTTTTCTCCTATATAAGCAC-----CTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -5 |
|  | T2 generation | | |
| 1.2\_45\_25 | Homo-zygous | CTTTTCTCCTATATAAGCACCA---------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9 |
| 1.3\_24\_1 | Homo-zygous | CTTTTCTCCTATATAAGCACCA---------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9 |
| 1.3\_24\_29 | Homo-zygous | CTTTTCTCCTATATAAGCACCA---------TCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAACT | -9 |
|  |  | | |
| ***SWEET14*** |  | CATGCATGTCAGCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGCTAAGCTCATCAAGCCTTCAAGCAAA  (TalC, PthXo3, AvrXa7, TalF) | |
|  | T0 generation | | |
| 1.1 | Biallelic | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG-----------AAGCCTTCAA  CATGCA--------GCTGGTCATG...TAATAAACCCCCTCCAACCAGGTGC*a*----TCATCAAGCCTTCAA | -4/ -11  -8/ -4 |
| 1.2 | Biallelic | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA  CATGCA--------GCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -4/ -8  -8/ -7 |
| 1.3 | Biallelic | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG-----------AAGCCTTCAA  CATGCA--------GCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC*a*----TCATCAAGCCTTCAA | -4/ -11  -8/ -4 |
| 1.4 | Biallelic | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA  CATGCA--------GCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -4/ -8  -8/ -7 |
| 1.5, 1.6  and 1.7 | Biallelic | CATGCA-------AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA  CATGCA--------GCTGGTCATG...TATATAAACCCCCTCCAACCAGGT*t*--------ATCAAGCCTTCAA | -7/ -8  -8/ -8 |
| 2 | Biallelic | CATGCATGTCAGCA**a**GCTGGTCATG...TATATAAACCCCCTCCAACCAGG-------//--CAAAGCAACTA  CATGCA--------GCTGGTC*c*TG...TATATAAACCCCCTCCAACCAGGTG-------CATCAAGCCTTCAA | **+a**/ -24  -8/ -7 |
| 4 | Biallelic | CATGCATGTCAGC---TGGTCATG...TATATAAACCCCCTCCAACCAGGTGC--------------CTTCAA  CATGCATGTCAGC**c**AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGCTA----CATCAAGC*g*TTCAA | -3/ -14  **+c**/ -4 |
| 7 | Biallelic | CATGCATGTCAGC---TGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA  CATGCAT------AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC---------CAAGCCTTCAA | -3/ -8  -6/ -9 |
| **9** | Biallelic | CATGCATGT---CAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG-------CATCAAGCCTTCAA  CATGCATGTCAGCAGCTGGTCATG...TATATAAACCCCCTCCAA--------------------GCCTTCAA | -3/ -7  WT/ -20 |
| 10 | Biallelic | CATGCATGTCAGC---TGGT*a*ATG...TATATAAACCCCCTCCAACCAGGTGCTAAGCT--TCAAGCCTTCAA  CATGCA-------AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGCTAA------TCAAGCC*a*TCAA | -3/ -2  -7/ -6 |
| **12** | Biallelic | CATGCAT-----CAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG------TCATCAAGCCTTCAA  CATGCA*a*G-----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGCTAA-----TCAAGCCTTCAA | -5/ -6  -5/ -5 |
| **14** | Biallelic | CATGCA-------AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGT-------TCATCAAGCCTTCAA  CATGCATGTCAGC**t**AGCTGGTCATG...TATATAAACCCCCTCCAACC---------------------TTCAA | -7/ -7  +**t**/ -21 |
| 16 | Biallelic | CATGCATGTCAGC---TGGTCATG...TATATAAACCCCCTCCAACCAGGTG-------CATCAAGCCTTCAA  CATGCAT------AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC------------GCCTTCAA | -3/ -7  -6/ -12 |
| **18** | Biallelic | CATGCATGTCAGCAG---GTCATG...TATATAAACCCCCTCCAACC-------------ATCAAGCCTTCAA  CATGCA--------GCTGGTC*t*TG...TATATAAACCCCCTCCAACCAGGTG------------//--TACTG | -3/ -13  -8/ -150 |
|  | T1 generation | | |
| 1.1\_10 | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |
| 1.1\_22 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| 1.2\_17 | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/-7 |
| 1.2\_38 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| **1.2\_40** | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |
| **1.2\_45** | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |
| 1.2\_64 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| 1.3\_18 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| 1.3\_22 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| **1.3\_24** | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |
| 1.3\_29 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| 1.3\_34 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| 1.3\_54 | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |
| 1.3\_74 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| 1.3\_78 | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |
| 1.4\_03 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| 1.4\_12 | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |
| 1.4\_15 | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| **1.4\_21** | Homo-zygous | CATGCATGT----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -4/ -8 |
| **1.5\_19** | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGT*t*--------ATCAAGCCTTCAA | -8/ -8 |
| 1.5\_20 | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGT*t*--------ATCAAGCCTTCAA | -8/ -8 |
| 1.5\_24 | Homo-zygous | CATGCA-------AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -7/ -8 |
| **1.7\_10** | Homo-zygous | CATGCA-------AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG--------ATCAAGCCTTCAA | -7/ -8 |
| 9\_32 | Homo-zygous | CATGCATGT---CAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG-------CATCAAGCCTTCAA | -3/ -7 |
| 9\_33 | Homo-zygous | CATGCATGTCAGCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGCTAAGCTCATCAAGCCTTCAA | WT |
| 9\_34 | Homo-zygous | CATGCATGT---CAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTG-------CATCAAGCCTTCAA | -3 /-7 |
| 12\_57 | Homo-zygous | CATGCATG-----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGCTAA-----TCAAGCCTTCAA | -5/ -5 |
| 12\_69 | Homo-zygous | CATGCATG-----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGCTAA-----TCAAGCCTTCAA | -5/ -5 |
| 12\_81 | Homo-zygous | CATGCATG-----AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGCTAA-----TCAAGCCTTCAA | -5/ -5 |
| **14\_19** | Homo-zygous | CATGCATGTCAGC**t**GCTGGTCATG...TATATAAACCCCCTCCAACC---------------------TTCAA | +**t**/ -21 |
| 14\_29 | Homo-zygous | CATGCATGTCAGC**t**GCTGGTCATG...TATATAAACCCCCTCCAACC---------------------TTCAA | +**t**/ -21 |
| 14\_32 | Homo-zygous | CATGCATGTCAGC**t**GCTGGTCATG...TATATAAACCCCCTCCAACC---------------------TTCAA | +**t**/ -21 |
| **14\_65** | Homo-zygous | CATGCA-------AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGT-------TCATCAAGCCTTCAA | -7/ -7 |
| 16\_5 | Homo-zygous | CATGCAT------AGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC------------GCCTTCAA | -6/ -12 |
| 18\_31 | Homo-zygous | CATGCATGTCAGCAG---GTCATG...TATATAAACCCCCTCCAACC-------------ATCAAGCCTTCAA | -3/ -13 |
| 18\_68 | Homo-zygous | CATGCATGTCAGCAG---GTCATG...TATATAAACCCCCTCCAACC-------------ATCAAGCCTTCAA | -3/ -13 |
| 18\_118 | Homo-zygous | CATGCATGTCAGCAG---GTCATG...TATATAAACCCCCTCCAACC-------------ATCAAGCCTTCAA | -3/ -13 |
| 18\_142 | Homo-zygous | CATGCATGTCAGCAG---GTCATG...TATATAAACCCCCTCCAACC-------------ATCAAGCCTTCAA | -3/ -13 |
| 18\_160 | Homo-zygous | CATGCATGTCAGCAG---GTCATG...TATATAAACCCCCTCCAACC-------------ATCAAGCCTTCAA | -3/ -13 |
|  | T2 generation | | |
| 1.2\_45\_25 | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |
| 1.3\_24\_1 | Homo-zygous | CAT--------GCA*t*CTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |
| 1.3\_24\_29 | Homo-zygous | CAT--------GCAGCTGGTCATG...TATATAAACCCCCTCCAACCAGGTGC-------ATCAAGCCTTCAA | -8/ -7 |

**Supplementary file 1h. List of SNPs and Indels in SWEET promoters after editing of the rice varieties of Komboka and Kitaake**

|  |  |  |  |
| --- | --- | --- | --- |
| Gene | Position before start codon\* | Komboka | Kitaake |
| *SWEET11a* | 816 | +AA |  |
| *SWEET11a* | 857 | +T |  |
| *SWEET11a* | 888 | +TT |  |
| *SWEET13* | 132 | -G |  |
| *SWEET13* | 221 | -A (at PthXo2 EBE) |  |
| *SWEET13* | 232 | T | G |
| *SWEET13* | 248 | G | C |
| *SWEET13* | 1013 | T | A |
| *SWEET13* | 1122 | +A |  |
| *SWEET13* | 1216 | -TA |  |
| *SWEET13* | 1280 | C | T |
| *SWEET14* | 63 | T | C |
| *SWEET14* | 353 | A | G |
| *SWEET14* | 486 | G | A |
| *SWEET14* | 513 | A | C |

\* for details see Supplementary Table 1g

**Supplementary file 1i. List of T0 lines with biallelic mutations at all targeted EBEs.** Same mutation types are highlighted with the same colors. Asterisks indicate mutations outside the EBE. For example: G/A\*, +G, -4bp means one substitution of G to A outside of the EBE, one G insertion and a 4-bp deletion within the EBE.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Trans-forma-**  **tion Experiment** | **T0 Event** | **PthXo1** | | **PthXo2** | | **TalC** | | **PthXo3,**  **AvrXa7, TalF** | |
|  |  | **Allele 1** | **Allele 2** | **Allele 1** | **Allele 2** | **Allele 1** | **Allele 2** | **Allele 1** | **Allele 2** |
| 1 | 1.1 | -9bp | -12bp | C/T,  -17bp\* | -11bp | -4bp | -8bp | -11bp | T/A,  -4bp |
| 1.2 | -9bp | -12bp | -9bp | -11bp | -4bp | -8bp | -8bp | -7bp |
| 1.3 | -9bp | -12bp | -3bp | -11bp | -4bp | -8bp | -11bp | T/A,  -4bp |
| 1.4 | -9bp | -12bp | -14bp\* | -11bp | -4bp | -8bp | -8bp | -7bp |
| 1.5 | -9bp | -12bp | -7bp | C/T,  -11bp\* | -7bp | -8bp | -8bp | G/T,  -8bp |
| 1.6 | -9bp | -12bp | A/C,  -2bp | -11bp | -7bp | -8bp | -8bp | G/T,  -8bp |
| 1.7 | -9bp | -12bp | -10bp | -11bp | -7bp | -8bp | -8bp | G/T,  -8bp |
| 2 | 2 | -10bp | -119bp\* | C/A,  -7bp | -23bp | +A | -8bp, A/C | -24bp | -7bp |
| 4 | -9bp | G/A\*, +G, -4bp | -8bp | -5bp | -3bp | +C | -14bp | -4bp, C/G |
| 7 | G/C\*,  -13bp | -18bp | -15bp | -20bp | -3bp | -6bp | -9bp | -8bp |
| 9 | -9bp | -12bp | A/C,  -9bp | -17bp | -3bp | WT | -7bp | -20bp |
| 10 | -13bp | G/A\*,  -14bp | -37bp | -8bp | -3bp, C/A | -7bp | -2bp | -6bp, T/A |
| 12 | -10bp | -11bp | -5bp | -11bp | -5bp | T/A,  -5bp | -6bp | -5bp |
| 14 | -9bp (homo-allelic) | | -10bp | -10bp | -7bp | +T | -7bp | -21bp |
| 16 | -12bp | -11bp | C/T,  -9bp | -7bp | -3pb | -6pb | -7bp | -12bp |
| 18 | -8bp | -9bp | -5bp | -37bp | -3bp | -8bp, A/T | -13bp | -150bp\* |
|  | Total | 15 variants | | 27 variants | | 16 variants | | 21 variants | |

**Supplementary file 1j. Screening of the T1 generation for homozygous mutations in all six SWEET EBEs.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **T0 event** | **# of plants screened** | **Homozygous mutations**  **in all six EBEs** |
| Transformation  Round 1 | 1.1 | 14 | 2 |
| 1.2 | 52 | 5 |
| 1.3 | 87 | 8 |
| 1.4 | 21 | 4 |
| 1.5 | 26 | 3 |
| 1.6 | 21 | 0 |
| 1.7 | 12 | 1 |
| **Total for Round 1** | **233** | **23** |
| Transformation  Round 2 | 12 | 26 | 3 |
| 14 | 10 | 4 |
| 16 | 16 | 0 |
| **Total for Round 2** | **52** | **7** |
| **Sum** |  | **285** | **30** |

**Supplementary file 1k. List of T1 lines with homozygous mutations of all targeted EBEs.** n.d. not determined.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **EBE / Line ID** | **SWEET11 PthXo1** | **SWEET13 PthXo2** | **SWEET14 TalC** | **SWEET14 PthXo3** | **SWEET14 AvrXa7** | **SWEET14 TalF** | **SpCas9 gene copy/2n** |
| 1.1\_10 | -9bp | -11bp | -8bp | -5bp | -4bp | -5bp | 7 |
| 1.1\_22 | -9bp | -17bp | -4bp | -5bp | -4bp | -6bp | 3 |
| 1.2\_17 | -12bp | -9bp | -8bp | -5bp | -4bp | -5bp | 5 |
| 1.2\_38 | -9bp | -9bp | -4bp | -5bp | -4bp | -6bp | 7 |
| 1.2\_40 | -9bp | -11bp | -8bp | -5bp | -4bp | -5bp | 4 |
| 1.2\_45 | -9bp | -9bp | -8bp | -5bp | -4bp | -5bp | 4 |
| 1.2\_64 | -9bp | -11bp | -4bp | -5bp | -4bp | -6bp | 4 |
| 1.3\_18 | -9bp | -3bp | -4bp | -5bp | -4bp | -6bp | 3 |
| 1.3\_22 | -9bp | -3bp | -4bp | -5bp | -4bp | -6bp | 1 |
| 1.3\_24 | -9bp | -3bp | -8bp | -5bp | -4bp | -5bp | 2 |
| 1.3\_29 | -12bp | -11bp | -4bp | -5bp | -4bp | -6bp | 4 |
| 1.3\_34 | -12bp | -14bp | -4bp | -5bp | -4bp | -6bp | 4 |
| 1.3\_54 | -9bp | -14bp | -8bp | -5bp | -4bp | -5bp | 6 |
| 1.3\_74 | -9bp | -11bp | -4bp | -5bp | -4bp | -6bp | 3 |
| 1.3\_78 | -12bp | -14bp | -8bp | -5bp | -4bp | -5bp | 7 |
| 1.4\_03 | -12bp | -14bp | -4bp | -5bp | -4bp | -6bp | 6 |
| 1.4\_12 | -12bp | -11bp | -8bp | -5bp | -4bp | -5bp | 4 |
| 1.4\_15 | -9bp | -14bp | -4bp | -5bp | -4bp | -6bp | 4 |
| 1.4\_21 | -12bp | -11bp | -4bp | -5bp | -4bp | -6bp | 4 |
| 1.5\_19 | -12bp | -11bp | -8bp | -7bp; G/T | G/T, -4bp | -5bp | 4 |
| 1.5\_20 | -9bp | -11bp | -8bp | 7bp; G/T | G/T, -4bp | -5bp | 6 |
| 1.5\_24 | -9bp | -11bp | -7bp | -5bp | -4bp | -6bp | 6 |
| 1.7\_10 | -12bp | -10bp | -7bp | -5bp | -4bp | -6bp | 4 |
| 12\_57 | -11bp | -5bp | -5bp | -2bp | -1bp | -4bp | 0 |
| 12\_69 | -11bp | -5bp | -5bp | -2bp | -1bp | -4bp | 0 |
| 12\_81 | -11bp | -11bp | -5bp | -2bp | -1bp | -4bp | 0 |
| 14\_19 | -9bp | -10bp | +T | -12bp | -11bp | -12bp | 0 |
| 14\_29 | -9bp | -10bp/  -10bp | +T | -12bp | -11bp | -12bp | 0 |
| 14\_32 | -9bp | -10bp/  -10bp | +T | -12bp | -11bp | -12bp | 0 |
| 14\_65 | -9bp | -10bp/  -10bp | -7bp | -6bp | -5bp | -4bp | 2 |
| 16\_5 | -12bp | -9bp | -6bp | -4bp | -3bp | -11bp | n.d. |

**Supplementary file 1m. Alignment of the promoters of OsSWEET11a from the rice cv. Komboka and Kitaake**

>jgi:Chr8\_499 OsativaKitaake|499|v3.1

Length=29331338

Score = 3090 bits (3426), Expect = 0.0

Identities = 1747/1762 (99%), Gaps = 13/1762 (1%)

Strand=Plus/Minus

Query 1 CTCTCTAAGAATAGGCATATTATGGTTTAATTAGCTAGACAAGAAATTAGTTAAGGTTCT 60

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27604137 CTCTCTAAGAATAGGCATATTATGGTTTAATTAGCTAGACAAGAAATTAGTTAAGGTTCT 27604078

Query 61 TAATGAAGATTCCGTCACTTTTGCTAGCTTTGAAAACCTGCAGAGTGAATTGTGCAAAAC 120

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27604077 TAATGAAGATTCCGTCACTTTTGCTAGCTTTGAAAACCTGCAGAGTGAATTGTGCAAAAC 27604018

Query 121 ATCTTGGCATGTTGGTGTTAGTGGTACAACAGATGCTGATACAAAGAAATTAATGCTGCA 180

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27604017 ATCTTGGCATGTTGGTGTTAGTGGTACAACAGATGCTGATACAAAGAAATTAATGCTGCA 27603958

Query 181 ATTGTTAGAAGCTCttttttttttCTCTCTTTTGAACACCAAAGCACTTTTGTTCATGGT 240

|||||||||||||||||||||| |||||||||||||||||||||||||| |||||||||

Sbjct 27603957 ATTGTTAGAAGCTCTTTTTTTT--CTCTCTTTTGAACACCAAAGCACTTT-GTTCATGGT 27603901

Query 241 GAAAGGGACTACCCTTCTCTTTCATATGTTCCCTTCTTCCTCTGTTCTTTTCATGAGATT 300

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603900 GAAAGGGACTACCCTTCTCTTTCATATGTTCCCTTCTTCCTCTGTTCTTTTCATGAGATT 27603841

Query 301 TATTTGATGACTTCCCTCTGCTCTGTTATTTTCATGTTCTTTGATAAATGTGCTGATTGT 360

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603840 TATTTGATGACTTCCCTCTGCTCTGTTATTTTCATGTTCTTTGATAAATGTGCTGATTGT 27603781

Query 361 ATTATCAGTGTTATTGCACTCAATTCATTCTTGAACAGTGTGTGAATTAACTCTTTGTTC 420

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603780 ATTATCAGTGTTATTGCACTCAATTCATTCTTGAACAGTGTGTGAATTAACTCTTTGTTC 27603721

Query 421 GATTTGAGCTTAGTCACTTGATTGCACACGAACTACTCTGCAATTCTTTTCTGACGATAG 480

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603720 GATTTGAGCTTAGTCACTTGATTGCACACGAACTACTCTGCAATTCTTTTCTGACGATAG 27603661

Query 481 AAGTCGATTGATGGATCACCCAACATGTTACTAATTAAGTTGCATCATTGTCCATGGTTG 540

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603660 AAGTCGATTGATGGATCACCCAACATGTTACTAATTAAGTTGCATCATTGTCCATGGTTG 27603601

Query 541 TACATCCTTCTACAAATAAAACTACACAAATCAAGAAAATTTTCAATAACATTTCAACTA 600

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603600 TACATCCTTCTACAAATAAAACTACACAAATCAAGAAAATTTTCAATAACATTTCAACTA 27603541

Query 601 TTGTAACAAGTAAAAGAAACCTATATGAGAGCTCCAGCTCTCCAAATGGCAACAGACACA 660

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603540 TTGTAACAAGTAAAAGAAACCTATATGAGAGCTCCAGCTCTCCAAATGGCAACAGACACA 27603481

Query 661 CTGAGTGGTCATACGTGTCATATTGCCCCTCAGTTATGCATTCATATGACCACATATTCA 720

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603480 CTGAGTGGTCATACGTGTCATATTGCCCCTCAGTTATGCATTCATATGACCACATATTCA 27603421

Query 721 GAGTAGTGGAGAGAGGGACAGATCTAGAGGTagaaaaagaaaattcatataaatgatata 780

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603420 GAGTAGTGGAGAGAGGGACAGATCTAGAGGTAGAAAAAGAAAATTCATATAAATGATATA 27603361

Query 781 tcagagtgaaaaagaaatatcaagcacaagaaaaaaaaaaGCAAAGGTTAGATATGCATC 840

|||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||

Sbjct 27603360 TCAGAGTGAAAAAGAAATATCAAGCACAAG--AAAAAAAAGCAAAGGTTAGATATGCATC 27603303

Query 841 TCCCCCTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACACTGAGCCATG 900

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603302 TCCCCCTACTGTACACCACCAAAAGTGGAGGGTCTCCAACTATATAAACACTGAGCCATG 27603243

Query 901 GCCAAGGCCAAACCACACATGCAGTTGTAGTAGCACTTAAGCCTTCCTCTCTAGCTAGCA 960

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603242 GCCAAGGCCAAACCACACATGCAGTTGTAGTAGCACTTAAGCCTTCCTCTCTAGCTAGCA 27603183

Query 961 TCTCTTGTGTCAGGAAGTTGGAAGGGATTTCTGGCTAGTTTCTAGCTGGTGTCTCCTCTC 1020

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603182 TCTCTTGTGTCAGGAAGTTGGAAGGGATTTCTGGCTAGTTTCTAGCTGGTGTCTCCTCTC 27603123

Query 1021 CTCTTCCTAACCTTCTCACTGATTAACACCTTAGAGTTAGTTAATAACCTTCATCACCAG 1080

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603122 CTCTTCCTAACCTTCTCACTGATTAACACCTTAGAGTTAGTTAATAACCTTCATCACCAG 27603063

Query 1081 TAGCAATGGCAGGAGGTTTCTTGTCCATGGCTAACCCGGCGGTCACCCTCTCCGGTGTTG 1140

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27603062 TAGCAATGGCAGGAGGTTTCTTGTCCATGGCTAACCCGGCGGTCACCCTCTCCGGTGTTG 27603003

Query 1141 CAGGTAAAGCATGCAACCAATGCATAATGCTCAAACTTAATT---tcatcattatcatca 1197

|||||||||||||||||||||||||||||||||||||||||| ||||||| |||||||

Sbjct 27603002 CAGGTAAAGCATGCAACCAATGCATAATGCTCAAACTTAATTTCATCATCATCATCATCA 27602943

Query 1198 tcatcatcttcacagccatgatcatccatGGACAAATGCAACTGAAGATCATTTTAGTTT 1257

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27602942 TCATCATCTTCACAGCCATGATCATCCATGGACAAATGCAACTGAAGATCATTTTAGTTT 27602883

Query 1258 TCATATGCTAATGATCAAATTCAGGTTAATTGCTGTTTAATTTCTCCATACACTA---GT 1314

||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||

Sbjct 27602882 TCATATGCTAATGATCAAATTCAGGTTAATTGCTGTTTAATTTCTCCATACACTAGTTGT 27602823

Query 1315 TGTCTGCACCATTGCATTGTGCACAGCACACACACGCTTTTGATGCTTCTAGGAATGCAT 1374

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27602822 TGTCTGCACCATTGCATTGTGCACAGCACACACACGCTTTTGATGCTTCTAGGAATGCAT 27602763

Query 1375 ATCTGTTCAGCAGTTCACACAGTGCAGCAGGGCAATGTTGTTAAAAAATCTTCTCCtttt 1434

|||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||

Sbjct 27602762 ATCTGTTCAGCAGTTCACACAGTGCAGCAGGGCAATGTTGTTAAAAAATCTTCTCC-TTT 27602704

Query 1435 tttttATGTCCTTGTATTCTTGAGCTTTCTGTCTCCATTGATCTGCTTTTTTCTTGTTTA 1494

||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27602703 TTTTTATGTCCTTGTGTTCTTGAGCTTTCTGTCTCCATTGATCTGCTTTTTTCTTGTTTA 27602644

Query 1495 CAAGTGATGGGCACAAGTCACTTCCCTTAGCTTCAGCTCATGCATGGAGCAGGAATCTCA 1554

|||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||

Sbjct 27602643 CAAGTGATGGGCACAAGTCACTTCCC-TAGCTTCAGCTCATGCATGGAGCAGGAATCTCA 27602585

Query 1555 CTTCAAAAGACCTAGCACTTTTTCTCTCTTCACCTTTTTGCCTCAACACATGCCCAGTTT 1614

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27602584 CTTCAAAAGACCTAGCACTTTTTCTCTCTTCACCTTTTTGCCTCAACACATGCCCAGTTT 27602525

Query 1615 CTGGCCACACAAACATAAACACATATACTATCTAGCTGCATAATTGCATCAAATTAAGCA 1674

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27602524 CTGGCCACACAAACATAAACACATATACTATCTAGCTGCATAATTGCATCAAATTAAGCA 27602465

Query 1675 GGGTTTGTTTCAGCTAGGAATTCCACACATAGGTCATTAATTAGTATTGCCAACTTTCTC 1734

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 27602464 GGGTTTGTTTCAGCTAGGAATTCCACACATAGGTCATTAATTAGTATTGCCAACTTTCTC 27602405

Query 1735 AACATGCATGCACTCTAGTACT 1756

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Sbjct 27602404 AACATGCATGCACTCTAGTACT 27602383

**Alignment of OsSWEET13\_1444bp between Komboka and Kitaake**

>jgi:Chr12\_499 OsativaKitaake|499|v3.1

Length=27153574

Score = 2558 bits (2836), Expect = 0.0

Identities = 1439/1448 (99%), Gaps = 5/1448 (0%)

Strand=Plus/Minus

Query 1 TAAAAGAACAATTAAATACGAGTACCCGTATCAAATTTAGGATTTAAATATATGtatgta 60

|||||||||||||||||||||||||| |||||||||||||||||||||||||||||||||

Sbjct 17060261 TAAAAGAACAATTAAATACGAGTACCTGTATCAAATTTAGGATTTAAATATATGTATGTA 17060202

Query 61 tcatatatatttcgaaattaagtatgcttatatat--gcagattgattgcgtatatatat 118

||||||||||||||||||||||||||||||||||| |||||||||||||||||||||||

Sbjct 17060201 TCATATATATTTCGAAATTAAGTATGCTTATATATATGCAGATTGATTGCGTATATATAT 17060142

Query 119 TGTGCTATGCTTATAGGTTGATTGGAAAGGCAAGCAGCCGCGCGCACAGAAAAAAGTAGA 178

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17060141 TGTGCTATGCTTATAGGTTGATTGGAAAGGCAAGCAGCCGCGCGCACAGAAAAAAGTAGA 17060082

Query 179 GAGaaaaaaaaaaGCAGATCCACTAGCTTAGCTTCATATACGTGGGAGTAGAACAAGATC 238

|||||||||||| |||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17060081 GAGAAAAAAAAA-GCAGATCCACTAGCTTAGCTTCATATACGTGGGAGTAGAACAAGATC 17060023

Query 239 AACGCGCTTCGCAGAAGCAGAAATCGACCTGTCTTCCCAACAAACTGTGTATGATAGCTT 298

|||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||

Sbjct 17060022 AACGCGCTTCGCAGAAGCAGAAATCGACCTGTCTTCCCAACAAACTGTGTATGAAAGCTT 17059963

Query 299 AGTCGACAGGGATGTCTACTGCAGGTGAAAACAATCCTTCGACAAAAAATAAGTTACTTT 358

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059962 AGTCGACAGGGATGTCTACTGCAGGTGAAAACAATCCTTCGACAAAAAATAAGTTACTTT 17059903

Query 359 TGGTAAAGACAGTTAAATAATAAGCAGCTATATCACGCGCATGGGAGAATTGCATATTCA 418

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059902 TGGTAAAGACAGTTAAATAATAAGCAGCTATATCACGCGCATGGGAGAATTGCATATTCA 17059843

Query 419 ATTACAATCATTAtttttttttCAGAACACTGTCGGCGACATTGAGAATTAATCTACCCG 478

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059842 ATTACAATCATTATTTTTTTTTCAGAACACTGTCGGCGACATTGAGAATTAATCTACCCG 17059783

Query 479 TGCAAACAAAGAACAGAGAAACTATAGTATACCTACATGTATCTATCACCCAATAATTGC 538

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059782 TGCAAACAAAGAACAGAGAAACTATAGTATACCTACATGTATCTATCACCCAATAATTGC 17059723

Query 539 AAGATCATGTTACAAAACGGTTCTAATTAATATATAGAAACAAGGCAGAGAATTCTACCT 598

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059722 AAGATCATGTTACAAAACGGTTCTAATTAATATATAGAAACAAGGCAGAGAATTCTACCT 17059663

Query 599 TTCTTTTGTCTAAGTACAATTATCTTTTTCTCCGCGATTAATATTTTTCGAGTAGTAAAA 658

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059662 TTCTTTTGTCTAAGTACAATTATCTTTTTCTCCGCGATTAATATTTTTCGAGTAGTAAAA 17059603

Query 659 TTTAAGTCAAAAGCCGTATCAGGATTCAGGAATAATCCTTCACTGGGAGAGATCTCATGT 718

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059602 TTTAAGTCAAAAGCCGTATCAGGATTCAGGAATAATCCTTCACTGGGAGAGATCTCATGT 17059543

Query 719 GATTTGCTGTTGCACTCGGCGGCTATCTTTTACCGTTCCCAGCAGGAAGCTGCAGACGTT 778

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059542 GATTTGCTGTTGCACTCGGCGGCTATCTTTTACCGTTCCCAGCAGGAAGCTGCAGACGTT 17059483

Query 779 GGAGAGATCGATCTCTACTGACAATGCACAAAGCAATTACTCACTAAATTGGCTATGGCT 838

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059482 GGAGAGATCGATCTCTACTGACAATGCACAAAGCAATTACTCACTAAATTGGCTATGGCT 17059423

Query 839 AGTGAGAGGTGCGCTGCGCACAAAGCCAATGCAACtttttttGAAAATTAGCCAGGATTA 898

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Sbjct 17059422 AGTGAGAGGTGCGCTGCGCACAAAGCCAATGCAACTTTTTTTGAAAATTAGCCAGGATTA 17059363

Query 899 TCTCCAACAGTAGCTCATTTTTGTAAAAGCCTAATTATTGTGCGTGTCCAAAAGACTTTC 958

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Sbjct 17059362 TCTCCAACAGTAGCTCATTTTTGTAAAAGCCTAATTATTGTGCGTGTCCAAAAGACTTTC 17059303

Query 959 CTCAAAAGCAAATAAAGaaaaaaaaTCTTTGCATAATTATTCTATGATTACTTTGATGCG 1018

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Sbjct 17059302 CTCAAAAGCAAATAAAGAAAAAAAATCTTTGCATAATTATTCTATGATTACTTTGATGCG 17059243

Query 1019 TACGTGAATGGCCATGGGTAGGAGGCAACCAAGTGATTCGCACCTAGCTAGCTTTTCTCC 1078

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Sbjct 17059242 TACGTGAATGGCCATGGGTAGGAGGCAACCAAGTGATTCCCACCTAGCTAGCTTTGCTCC 17059183

Query 1079 TATAT-AAGCACCACAACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAA 1137

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Sbjct 17059182 TATATAAAGCACCACAACTCCCTTCATTCCTCTCCAAGAGTTTTCAGCCAACACATTGAA 17059123

Query 1138 CTCTTCTTCAGAGCTCTCCCTTCCCTCCACAAA-GGGGTCTAGGGTTAGAGTGTGTGTGT 1196

||||||||||||||||||||||||||||||||| ||||||||||||||||||||||||||

Sbjct 17059122 CTCTTCTTCAGAGCTCTCCCTTCCCTCCACAAAGGGGGTCTAGGGTTAGAGTGTGTGTGT 17059063

Query 1197 CTGTGACAAGTTCCAAGCTAGCAACAACAAGCTCAATTCCTTGCTTGTTTGCTTCCATAT 1256

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059062 CTGTGACAAGTTCCAAGCTAGCAACAACAAGCTCAATTCCTTGCTTGTTTGCTTCCATAT 17059003

Query 1257 TACACTACATCTCTTCCCTTCAATTACCCCCCTTTTAGCACACAAAAATGGCTGGCCTGT 1316

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17059002 TACACTACATCTCTTCCCTTCAATTACCCCCCTTTTAGCACACAAAAATGGCTGGCCTGT 17058943

Query 1317 CCCTGCAGCATCCCTGGGCTTTTGCCTTCGGCCTCCTTGGTATATCATCATCACCTACCA 1376

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Sbjct 17058942 CCCTGCAGCATCCCTGGGCTTTTGCCTTCGGCCTCCTTGGTATATCATCATCACCTACCA 17058883

Query 1377 CAACTAAGACATTCCCTTCATTGCCAACATTTTACTTCTTTTTATTAGAAACCATTGAGT 1436

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 17058882 CAACTAAGACATTCCCTTCATTGCCAACATTTTACTTCTTTTTATTAGAAACCATTGAGT 17058823

Query 1437 TTGTACAT 1444

||||||||

Sbjct 17058822 TTGTACAT 17058815

**Alignment of OsSWEET14\_ 888bp between Komboka and Kitaake**

>jgi:Chr11\_499 OsativaKitaake|499|v3.1

Length=29738898

Score = 1579 bits (1750), Expect = 0.0

Identities = 883/888 (99%), Gaps = 0/888 (0%)

Strand=Plus/Minus

Query 1 TGCGGCTCATCAGTTTCTCTAAGCTCTCACCATTCATTCCACTATACAAGCCTAAGGCAG 60

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 18398101 TGCGGCTCATCAGTTTCTCTAAGCTCTCACCATTCATTCCACTATACAAGCCTAAGGCAG 18398042

Query 61 CTAGCTTAGTTAATTACCTAATAACTATAGCTTGCCCAACTCTAGATCCCTTAACTAGGA 120

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 18398041 CTAGCTTAGTTAATTACCTAATAACTATAGCTTGCCCAACTCTAGATCCCTTAACTAGGA 18397982

Query 121 CAACTTGGAGTACACAACAATGTTAATAATCCCATGCATTGAGGACAGAGTTGTGAAGGA 180

||||||||||||||||||||||||| |||||||||||||||||||||||||| |||||||

Sbjct 18397981 CAACTTGGAGTACACAACAATGTTACTAATCCCATGCATTGAGGACAGAGTTATGAAGGA 18397922

Query 181 AACaaaaaaaaGCTAGCAGATTGGCACTTTCTGTCATGCATGGGTGCTGATGATTATCTT 240

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 18397921 AACAAAAAAAAGCTAGCAGATTGGCACTTTCTGTCATGCATGGGTGCTGATGATTATCTT 18397862

Query 241 GTATCTAATTTAATCAATCCCATGGCTGTGATTGATCAGGAATAGTTTGTGTGTGCAGCT 300

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 18397861 GTATCTAATTTAATCAATCCCATGGCTGTGATTGATCAGGAATAGTTTGTGTGTGCAGCT 18397802

Query 301 ATATTACCTATTGGTGTCCAGGGTCACACACCATAAGGGCATGCATGTCAGCAGCTGGTC 360

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Sbjct 18397801 ATATTGCCTATTGGTGTCCAGGGTCACACACCATAAGGGCATGCATGTCAGCAGCTGGTC 18397742

Query 361 ATGTGTGCCTTTTCATTCCCTTCTTCCTTCCTAGCACTATATAAACCCCCTCCAACCAGG 420

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 18397741 ATGTGTGCCTTTTCATTCCCTTCTTCCTTCCTAGCACTATATAAACCCCCTCCAACCAGG 18397682

Query 421 TGCTAAGCTCATCAAGCCTTCAAGCAAAGCAAACTCAAGTAGTAGCTGATTACCAGCTCT 480

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 18397681 TGCTAAGCTCATCAAGCCTTCAAGCAAAGCAAACTCAAGTAGTAGCTGATTACCAGCTCT 18397622

Query 481 TCTCTCTTCTCATTGAGAAGAGGGAATTAAGTTTTGATCTCTGCTTTATTGCCTGATCAT 540

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 18397621 TCTCTCTTCTCATTGAGAAGAGGGAATTAAGTTTTGATCTCTGCTTTATTGCCTGATCAT 18397562

Query 541 CCTCTTGTTACTTGCAAGCAAGAACAGTAGTGTACTGTGCCTCATTGATCTCCTCTCACC 600

||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||

Sbjct 18397561 CCTCTTGTTACTTGCAAGCAAGAACAGTAGTGTACTGTGCCTCATTGATCTCCTCCCACC 18397502

Query 601 AAActctctctctctctctcATATTCCGAGCTAGCTAGTTAATCAAGATCTTGCTGCAAT 660

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 18397501 AAACTCTCTCTCTCTCTCTCATATTCCGAGCTAGCTAGTTAATCAAGATCTTGCTGCAAT 18397442

Query 661 GGCTGGCATGTCTCTTCAGCATCCCTGGGCCTTCGCCTTTGGTCTCCTAGGTGTGTTGCC 720

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Sbjct 18397441 GGCTGGCATGTCTCTTCAGCATCCCTGGGCCTTCGCCTTTGGTCTCCTAGGTGTGTTGCC 18397382

Query 721 TTTGATCTGATCCAAGGAATTCTCTTGAGAATTAATCTTGCATGGTTATTTACTTTTGTT 780

||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Sbjct 18397381 TTTGATCTGATCCAAGGAATTCTCTTGAGAATTAATCTTGCATGGTTATTTACTTTTGTT 18397322

Query 781 GTTATTATTCTCTACATTTTTAATCATGTACTTTTCCATGTTCCTCTTTTGTTGCCAAAG 840

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Sbjct 18397321 GTTATTATTCTCTACATTTTTAATCATGTACTTTTCCATGTTCCACTTTTGTTGCCAAAG 18397262

Query 841 CTACTATATTTTTCCTACCAATTCATCCAAAACTACTATATTATAGCA 888

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Sbjct 18397261 CTACTATATTTTTCCTACCAATTCATCCAAAACTACTATATTATAGCA 18397214