```
Po-
si-
tional
Burrows-
Wheeler
Trans-
form
(PBWT)
                                                                                         trasfor-
mata
di
Burrows-
Wheeler
po-
                                                                                         sizionale
pan-
                                                                                   szzonate
pan-
nelli
di
aplotipi
Single-
Nucleotide
Poly-
mor-
phism
(SNP)
al-
lele
vari-
anti
al-
leliche
aplotipo
??
taq
                                                                                            tag \\ SNPs \\ diploide
                                                                                         genotipo X
M
i = 0
M - M
                                                                                      \tilde{i} = 0, \dots, M-

\begin{array}{c}
1, \dots, N \\
N \\
k = \\
0, \dots, N -
\end{array}

                                                                                   \begin{array}{l} 0, \dots, N-1 \\ \sum_{k=1}^{N} = \{0, 1\} \\ 0, 1 \\ 0, 1 \\ it ag \\ SNPs \\ x_i[k] = \{0, 1\} \end{array}
                       (1) x_i \\ x_i [k_1, k_2) \\ \mathbf{sot}_{\mathbf{ring}}
                                                                                   x_i|k_1, k_2|

sot-

tostringa

x_i

k_1

k_2-

x_j

match

k_1

k_2-

k_1

k_1

k_2-

k_1

k_2-

k_1

k_1

k_2-

k_1

k_2-

k_1

k_2-

k_1

k_2-

k_1

k_2-

k_1

k_2-

k_3-

k_1

k_2-

k_3-

k_4-

k_1

k_2-

k_3-

k_4-

k_1-

k_2-

k_3-

k_4-

k_4-

k_4-

k_5-

k
(2) \begin{array}{c} x_{i} \\ x_{j} \\ \text{lo-cal-mente} \\ \text{mas-si-male} \\ (k_{1} = 0 \lor x_{i}[k_{1}-1] \neq x_{j}[k_{1}-1]) \land (k_{2} = N \lor x_{i}[k_{2}] \neq x_{j}[k_{2}]) \end{array}
(3)
                                                                                         x_i[k_1, k_2) = x_j[k_1, k_2)
                                                                                      z_{X}
z_{X
```