

## 2. Linkage relationships of restorer genes.

The data from a linkage study using backcross data show a loose linkage of the restorer gene or genes in Mp307, NC77, and K55 with the gene  $a_1$  on chromosome 3. The crossover percentages and P values for linkage as calculated by the  $\chi^2$  test are shown in the table below.

| Inbred | Phenotypic Class | No. Plants | Crossover % | P Value for Linkage |
|--------|------------------|------------|-------------|---------------------|
| K55    | Fertile, A       | 169        | 44.6 ± 2.02 | <.01                |
|        | Sterile, A       | 139        |             |                     |
|        | Fertile, a       | 132        |             |                     |
|        | Sterile, a       | 168        |             |                     |
|        | Total            | 608        |             |                     |
| Mp307  | Fertile, A       | 226        | 45.6 ± 1.73 | .02 - .01           |
|        | Sterile, A       | 184        |             |                     |
|        | Fertile, a       | 193        |             |                     |
|        | Sterile, a       | 224        |             |                     |
|        | Total            | 827        |             |                     |
| NC77   | Fertile, A       | 193        | 40.3 ± 1.88 | <.01                |
|        | Sterile, A       | 141        |             |                     |
|        | Fertile, a       | 136        |             |                     |
|        | Sterile, a       | 21         |             |                     |
|        | Total            | 684        |             |                     |