

**Table S2 SAS code to compare among-2° sub-line variances between high-fitness and low-fitness 1° lines.**

```
PROC MIXED COVTEST DATA=<MA lines only, line 579.1 not line 579>;  
  CLASS Fitness Line Subline Replicate;  
  MODEL w*=/DDFM=Kenwardroger;  
  RANDOM Subline(Line)/Group=Fitness;  
  REPEATED Replicate(Subline)/GROUP=Line;  
RUN;
```

vs.

```
PROC MIXED COVTEST DATA=< MA lines only, line 579.1 not line 579>;  
  CLASS Fitness Treatment Line Subline Replicate;  
  MODEL w*=/DDFM=Kenwardroger;  
  RANDOM Subline(Line);  
  REPEATED Replicate(Subline)/GROUP=Line;  
RUN;
```

In the code at top, the among-subline variance is estimated separately for each fitness group (RANDOM Subline/GROUP=Fitness); in the code at bottom a single among-sub-line variance is estimated. Note that the dependent variable is  $w^*$ , relative fitness standardized to the mean of the 1° line.