

First Outcross:

G0:

$\frac{Df(1);}{Y}$	$\frac{Dp}{+}$
--------------------	----------------

X

$\frac{FM3}{FM7a}$



F1 females: Choose $Df(1) / FM3$ and $D(1) / FM7a$ virgin females

Discard Dp Carrying flies, $Df(1)/FM3$ or $FM7a; Dp -$

Second Outcross:

G1: single-mating in the vial

Either $Df(1) / FM3$ females Or $Df(1) / FM7a$ females

X

$FM7a / Y$ males

F1 selection: Keep vials with males, only $FM7a$ can give a male progeny

Figure 2.4. Establishing Stocks from Duplication Carrying Lines. Several X-chromosome deficiencies in the Bloomington collection are carried in males, with compensatory duplications of X material on an autosome had to be crossed to eliminate the duplications. (A) $FM3/FM7a$ virgin females were mated to $DfY; Dp$ males. Among the F_1 progeny, half of the Df ($FM3$ or $FM7a$) daughters will carry the unwanted duplication, and half will be free of the duplication. In some cases, presence of the duplication could be determined from the females' phenotypes. (B) Up to twenty individual virgin Df ($FM3$ or $FM7$) F_1 progeny were backcrossed to $FM7a/Y$ males to establish stocks. In the F_2 , absence of the duplication could be established by examining sons; in all cases, the Df is male-lethal unless "rescued" by the duplication. In addition, $FM3$ is itself male-lethal. Thus, single-female stocks that produce only $FM7a$ sons had the desired genotypes and were kept for experiments.