



FIGURE 9.23. Mutagenesis screen in zebrafish. (A) Males are treated with a chemical mutagen and then mated to a wild-type female. Some F_1 progeny will carry induced mutations but will not be homozygous, so for recessive mutations, no phenotypes will be visible. By controlled mating, some homozygous mutant animals will be generated in the F_3 generation (see Box 13.2 for a similar technique in *Drosophila*), and these can be screened for phenotypes of interest. Examples of phenotypes include (B) embryonic lethal mutations that result in embryos that fail to form somites (arrows point to somites in the wild-type [WT] embryo) and (C) viable adult phenotypes that alter the color patterns of the fish.

9.23B, redrawn from www.ls.berkeley.edu/images/divisions/bio/gallery_mcb/fish_embryo>lg.jpg, © Sharon Amacher; 9.23C bottom, redrawn from Parichy D.M., *Heredity* 97: 200–210, © Macmillan, www.nature.com