THE SUSCEPTIBILITY OF CROSSBRED MICE TO POLIOMYELITIS VIRUS

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As a result of an accidental cross between a Swiss white female mouse and a wild gray mouse frequenting our animal room, offspring were produced that proved to be markedly susceptible to the virus of poliomyelitis. The female mouse was nursing a litter of purebred Swiss white mice when she escaped from her cage on several occasions. Approximately 6 weeks after this series of escapades, she gave birth to a litter of 9 gray mice. The offspring were larger than those of another litter of 8 purebreds born on the same day. Also they gained weight more rapidly and otherwise appeared to be more sturdy. When both litters were 5 weeks of age, they were injected intracerebrally with 0.03 ml of a brain-cord suspension of the Lansing virus. Fifty per cent of the crossbred mice were paralyzed or dead of the infection within 4 days, as compared to 7 days for the purebreds. All the crossbreds had succumbed to the infection within a week, whereas 3 of the purebreds failed to show evidences of infection although kept until a month after inoculation.

Although it might be exceedingly difficult, under the usual circumstances of breeding laboratory livestock, to mate Swiss white and wild gray mice, our experience introduces the possibility that crossbreeding may produce a valuable laboratory animal for the cultivation of viruses to which the purebred white mouse is relatively insusceptible.