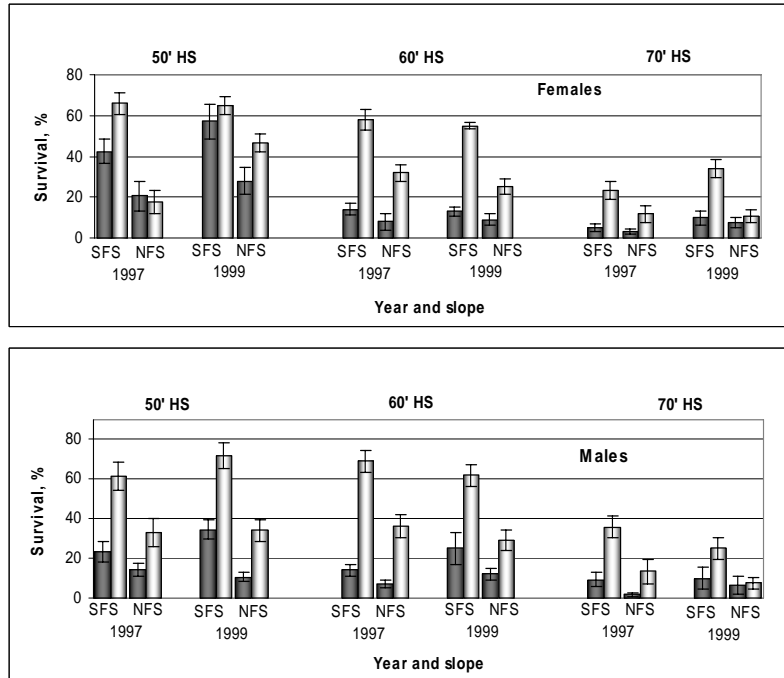


THERMOADAPTATION

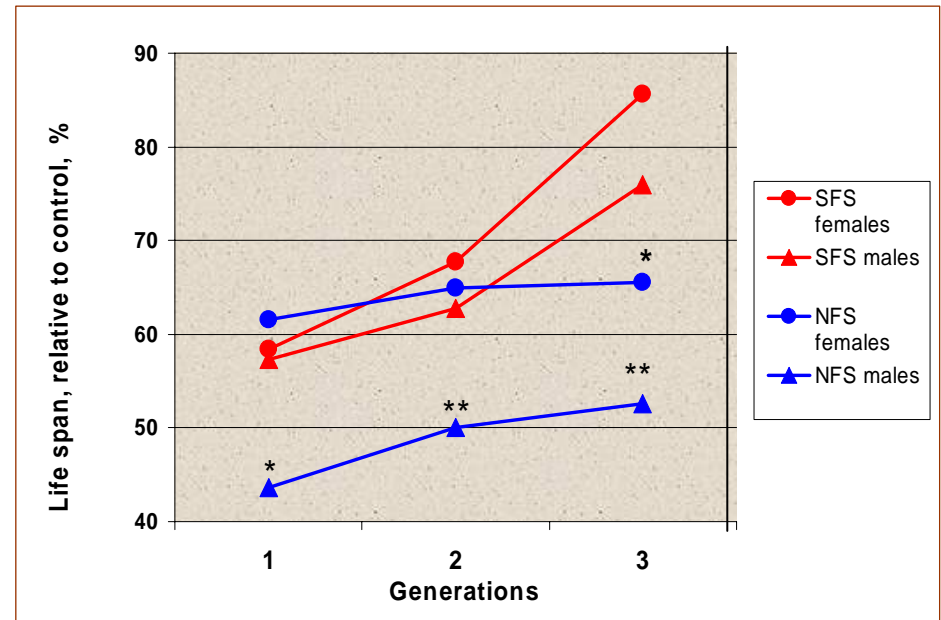


We compared response to temperature treatments between *D. melanogaster* lines and synthetic populations originating from the opposite slopes using different schemes.

For different years of collection, SFS flies consistently exceeded NFS flies in basal and inducible thermotolerance after diverse heat shocks, with and without thermal pretreatment, no matter whether isofemale lines, synthetic populations, or inbred lines were compared (Rashkovetsky et al., 2006).



Effect of high temperature on lifespan



Basal (gray columns) and inducible (white columns) thermotolerance of *Drosophila* from the opposite slopes of the canyon. Heat shock was at 38.5°C and pretreatment was at 36°C, both for 60 min.

The data revealed a lower influence of heat treatment (29°C) on longevity of the SFS than the NFS flies, and corroborates well the conclusions reached in artificial selection experiments: selection for stress resistance may increase longevity (Korol et al., 2006).

The results on fresh and laboratory stocks (after dozens of generations of standard laboratory conditions) suggest that interslope difference in thermotolerance is ongoing and genetically based.