Kitagawa, O. Tokyo Metropolitan University, Japan. Heterozygous effect of natural lethals accumulated on second chromosomes of D. melanogaster. Twenty second chromosomes with at least one recessive lethal were extracted from the natural population of D. melanogaster. Double, triple and quadruple lethals were accumulated in cis-phase on second chromosomes through recombination of females with two or more lethals in trans-phase. Preadult viability of wild phenotype flies were determined by the Cy-Pm technique. Following results are obtained:

<table>
<thead>
<tr>
<th>No. of lethals per zygote</th>
<th>No. of crosses</th>
<th>Preadult viability (Cy/Pm = 1.0000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>55</td>
<td>1.0281 ± .0116</td>
</tr>
<tr>
<td>1</td>
<td>33</td>
<td>1.0147 ± .0239</td>
</tr>
<tr>
<td>2</td>
<td>65</td>
<td>.9782 ± .0185</td>
</tr>
<tr>
<td>3</td>
<td>57</td>
<td>.9524 ± .0269</td>
</tr>
<tr>
<td>4</td>
<td>45</td>
<td>.9170 ± .0223</td>
</tr>
<tr>
<td>5</td>
<td>37</td>
<td>.8391 ± .0365</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>.8092 ± .0664</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>.7367 ± .1078</td>
</tr>
</tbody>
</table>

This synergistic interaction between lethals compared to induced ones is very relevant to the problem of the maintainance of genetic load in natural populations.

Burckhardt, B. and E. Hadorn. Zoologisches Institut der Universität, Zürich, Switzerland. The ductus ejaculatorius of Drosophila melanogaster as a test object for physiological media.

Genital apparatuses of young adult males have been prepared free and immersed in different salt solutions. Quality and persistence of movement of the ductus ejaculatorius are used as the criteria of the quality of media. Our table shows how long "normal" and declining movements are maintained in vitro in a few of the tested solutions (room temperature). Solution component quantities are given for 1000 cc aqua bidest.

<table>
<thead>
<tr>
<th>Medium</th>
<th>&quot;normal&quot; Movement</th>
<th>declining Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Holtfreter:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NaCl 3.5 g</td>
<td>0 - 15 Min.</td>
<td>until 10 h</td>
</tr>
<tr>
<td>CaCl₂ (2 H₂O) 0.066 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KCl 0.05 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NaHCO₃ 0.2 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Insect Ringer:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NaCl 7.5 g</td>
<td>0 - 60 Min.</td>
<td>until 29 h</td>
</tr>
<tr>
<td>KCl 0.287 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CaCl₂ (2H₂O) 0.287 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. NaCl:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 3 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 - 8 g</td>
<td>10 - 14 Min.</td>
<td></td>
</tr>
<tr>
<td>9 - 10 g</td>
<td>7 - 9 Min.</td>
<td></td>
</tr>
<tr>
<td>11 - 15 g</td>
<td>1 - 3 Min.</td>
<td></td>
</tr>
<tr>
<td>16 - 20 g</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Among many others of the tested combinations, "Insect Ringer" proved to be the best medium.