Supplementary:

**Figure 1.** Duncan’s analysis for body weight gain means (±SE) 0 to 12 weeks of males on high fat diet (HFD, 42% fat). No. of animals: 149 males).

**Figure 2.** Duncan’s analysis for total AUC means (±SE) of males on high fat diet (HFD, 42% fat). No. of animals: 149 males).

Supplementary 1 presents an illustrative Bar chart for male weight-gain of the 21 CC lines after 12 weeks on HFD. On Duncan’s multiple range test, there were 7 homogeneous groups, with much overlap among the groups. However close examination of the figure shows that lines IL2011, IL2076, and IL72 on the low side, do not overlap with, and hence differ significantly from lines IL3012, IL188, and IL4457 on the high side. Supplementary 2 shows the corresponding bar chart for male IPGTT AUC. In this case, lines IL111, IL3480, IL4256 and IL2750 on the low side differ significantly from lines IL1052, IL4141, IL2011, IL2573, IL4799 and IL 188 on the high side. Roughly similar results were obtained with the other trait x sex x diet combinations (data not shown).

**Figure 1:**

![Bar chart showing body weight gain of males on high fat diet](image)
Figure 2: