

Carefully read the description of the experiment below. Be prepared to answer the questions that follow the design description as a class quiz.

An entomologist wants to determine if leafrollers (an insect) would find apple, pear, cherry and alfalfa to be suitable host plants. Apple, pear and cherry are not the usual hosts plants for leafrollers, but leafrollers are occasionally found on these plants. In addition to examining various hosts for suitability the investigator wants to determine if the level of suitability is the same for both male and female leafrollers. Measures of suitability as included the mean development time for larva and mean development time for pupa (see table). These are two separate variables of interest for analysis.



Table 1.1. Development of *X. pallorana* reared on different hosts in Petri dishes.

Host	Sex	n	Larval developmental time (days)	Pupal developmental time (days)
<i>Cherry</i>	Male	13	35.6a	11.9a
<i>Pear</i>	Male	21	32.0b	11.8a
<i>Apple</i>	Male	11	34.4ab	11.9a
<i>Alfalfa</i>	Male	14	25.8c	11.9a
<i>Cherry</i>	Female	13	40.8a	11.1a
<i>Pear</i>	Female	8	36.5b	10.9a
<i>Apple</i>	Female	19	35.8bc	10.8a
<i>Alfalfa</i>	Female	9	33.1bc	10.2a

Means within a column followed by the same letter are not significantly different ($P > 0.05$) Fisher's protected LSD test.