

EFFECT OF POLLEN SOURCE ON OOGENESIS IN
PEA WEEVIL, BRUCHUS PISORUM L. (COLEOPTERA: BRUCHIDAE)

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A study was conducted to determine if the pollen of genotypes of pea, Pisum sativum L., and other species, differed in the ability to promote oogenesis in the pea weevil, Bruchus pisorum L. Female weevils were fed blossoms of pea genotypes resistant and susceptible to the pea weevil for 2 weeks and then dissected for examination of their ovaries. Similarly, female weevils were fed blossoms of Lathyrus tingitanus, L. sativus, Vicia faba, V. americana, Phaseolus vulgaris, Caragana arborescens, Lupinus sp., and Rosa sp., and examined for ovarian development. Reproductive development of females in the field was studied in northern Idaho to determine if pollen of species other than pea promotes oogenesis prior to flowering of pea. Numbers of females initiating oocyte development did not differ significantly among those fed pollen of resistant genotypes of susceptible cultivars. Differences in numbers of females developing mature eggs were due to the amount of pollen ingested rather than nutritional quality. Oocyte growth was promoted following feeding on the blossoms of several species other than pea. Female weevils collected in the field prior to the flowering of peas had begun ovarian development, suggesting that adults in nature feed on the pollen of non-host species. We conclude that pollen quality is not a component of resistance to the pea weevil in the pea genotypes examined, and that pea pollen is not specifically required for sexual maturation of the insect.