Enhanced protein synthesis in Triatoma infestans treated with DDT

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The effect of DDT and DDE, a DDT-non toxic analog, on protein biosynthesis in Triatoma infestans nymphs and adult specimens has been studied. DDT increases the in vivo rate of incorporation of dl-leucine-1-C14 into total proteins, while a slight inhibitory effect is observed in adult males. DDE does not appreciably change the rate of protein biosynthesis in nymphs, although it appears to be inhibitory in males. Nymphal microsomes and sarcosomes show the highest specific activity after dl-leucine-1-C14 injection. This activity is markedly increased by DDT, while DDE again is inhibitory. A cell-free system obtained from nymphal specimens incorporates dl-leucine-1-C14 into proteins in the presence of ATP, an ATP-generating system, GTP, and magnesium ions. In vivo pretreatment with DDT at low concentrations increases the rate of dl-leucine-1-C14 incorporation into protein by this system. In vitro added DDT also is stimulatory at very low concentrations, while higher ones are inhibitory. Th