

by

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to successfully employ the irradiation-of-male method for insect control, only three radiation sensitivity parameters must be known:

1. To approximate 99% dominant lethal dose to sperm
2. The dose at which the spermatogonial cells can not replenish the testes and replace the nature lethal spermatozoa with new good ones - that is, it is necessary to know the "sterilization" dose for spermatogonia and
- 3- The dose at which true inactivation of sperm takes place.

a dose of radiation should be used that is slightly beyond the first two parameters and below that of the third. No data are required on radiation sensitivity of the female, and it does not matter how many times the females mate, that is, since dominant lethals are induced, it is a matter of sperm competition and not male competition among the normal and irradiated males.

Recently, in Israel, RACHEL ZALUN began some irradiation experiments on the tick, Ornithodoros tholozani. She found that after being irradiated with high doses, the ticks would not feed again. Apparently the intestine

will not absorb food in the adult after being irradiated. This discovery opens the way to studying the feasibility of irradiation-of-male method on those insects that ordinarily cause all their damage in the adult stage of the cycle.

the three keys to the wide spread applicability of the irradiation-of-male method for post control are that it can work on any insect to matter how many times they mate, and that even insects that are posts as adults can be released after the irradiation without their necessarily causing any damage. Their knowledge makes the irradiation-of-male method justifiable as a research that is all at once basic, applied and current. It is the ideal type of irradiation research project for investigators in developing nations because it is easy, inexpensive, indispensable for basic knowledge and applicable to the separate needs of the country. Fortunately, a means of assistance for this kind of research on an international scale exists within the framework of the United Nations, making all the more a research of choice.

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