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## Sudan Techniques of *Trichogramma* Mass Rearing, Cold Storage, Release and Evaluation

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### Abstract

The egg parasitoids of the genus *Trichogramma* are efficient biological control agents, used worldwide for control of lepidopterans, dipterans, coleopterans, hymenopterans, neuropterans and megalopterans pests, attacking diverse crops. The potential range of *Trichogramma* use in the Sudan and elsewhere is very wide; for instance, against lepidopterans pests on cotton, okra, tomato, potato, pea, cowpea, sunflower, eggplant, faba beans, cucurbits, carrot and other vegetable crops. The paper illustrates detailed results for a unique case study on successful mass rearing techniques of the egg parasitoid *Trichogramma principium* (Sugonyaev et Sorokina) (Hymenoptera: Trichogrammatidae) in host eggs of the factitious insect *Corcyra cephalonica* (Stainton) (Lepidoptera: Pyralidae). The paper gives comprehensive details of mass rearing, cold storage of the parasitoid and the factitious host in rearing rooms and laboratory, and release of the parasitoid and evaluation of parasitism in the field. The mass rearing covers up choice of the substitute host, its rearing diet, rearing conditions, equipments and techniques. It provides factors governing choice of suitable parasitoid to introduce and implement, and identified ideal rearing conditions and techniques. The paper also makes available of the required optimum conditions for cold storage of intact host eggs prior to introduction to the parasitoid; the required optimum conditions for cold storage of preimaginal parasitoid before release in the field and optimum storage period for the preimaginal. It also demonstrates the release techniques that include: Indicators for the release, doses, distances between release points and release intervals, and monitoring and evaluation of parasitism and augmentation of the parasitoid in the field.

**Keywords:** Cold storage, evaluation, release, Sudan techniques, *Trichogramma* mass rearing