

# The Area-Wide Sterile Insect Technique for Screwworm (Diptera: [Calliphoridae](#))

## Eradication



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There are two screw-worm flies, the Old World screw-worm (*Chrysomya bezziana*) and the New World screw-worm (*Cochliomyia hominivorax*). Larvae of screw-worm flies are obligatory parasites of mammals, including humans (ref: poster1,2). The disease is due to the larvae of the flies which cause lesions known as myiasis that can be fatal and causes serious production losses. All domestic livestock and companion animal species are susceptible. The



greatest economic losses are in cattle, sheep and goats. SWF strikes also occur in various wildlife species and in humans. Screw-worm flies are classified on OIE List B disease.

The Old World screw-worm flies (OWS) occur throughout much of Africa, the Middle East, the Indian subcontinent, south east Asia and Papua New Guinea. OWS is not present in Australia but is considered to be a major threat to livestock and native

fauna owing to its presence in Papua New Guinea and Indonesia. A major element of Australia's long term screwworm fly preparedness is to validate the SIT for OWS. Compared to New World screw-worm flies (NWS), comparatively little research has been undertaken into OWS. Most of it was undertaken by Australia in Papua New Guinea and more recently in Malaysia.

The New World SWF is endemic in parts of Central and South America. It has been eliminated from the United States, Mexico and several Central American countries including Panama using an Area wide IPM approach (AW-IPM) including the SIT.

However, an outbreak of NWS occurred in Libya in 1988. Its discovery in the Libyan Arab Jamahiriya posed a threat to the rest of Africa, Asia, the Near East and southern Europe. During a year-long eradication campaign - headed by FAO - cardboard boxes of sterile male NWS were dropped from aircraft over an area of 40 000 square kilometres.



At the peak of the North African operation, 40 million flies were being released every week. These flies were transported by air in specially commissioned aircraft from the only available source in Mexico. The number of confirmed cases of screwworm in Libya had reached almost 3 000 in September 1990. By March 1991, there were no new cases.

The SIT was applied over a period of 20 years to eradicate NWS from North America and Mexico, and efforts to eradicate it from all of Central America are now under way.



#### **Related links:**

[Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture](#)

[Screwworm Flies](#)

[Tsetse fly eradicated on the Island of Zanzibar](#)

[BIOLOGY, DISTRIBUTION AND IDENTIFICATION \(Poster 1\)](#)

[SURVEY AND INTEGRATED MANAGEMENT \(poster 2\)](#)

[A Programme for the Eradication of the New World Screwworm from North Africa](#)