Aerial release of sterile flies using radio-controlled aircraft

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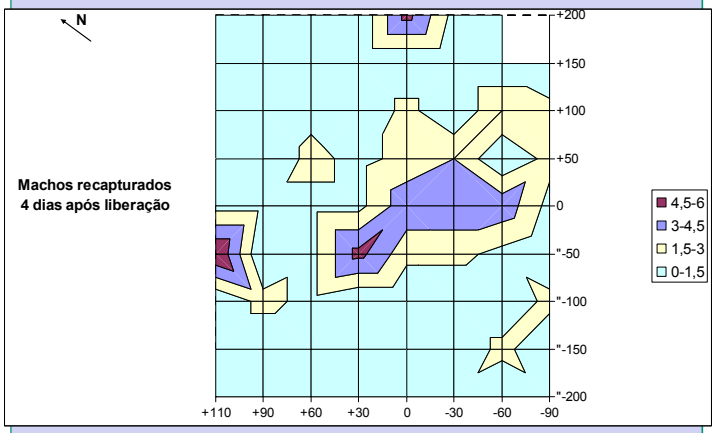
Sterile Mediterranean fruit flies, *Ceratitis capitara*, were realased over commercial 9.2 hectares mango field using a radio-controlled aircraft 2.00 meters long, 3.60 m wingspan equipped with a 50 cc gas engine in Sao Francisco Valley, State of Pernambuco, Brazil.

The objective was to evaluate the use of RC aircraft as releasing method and determine the distribution pattern, recapture rate and survivorship in the field.

Flies 3-4 days old were knock down at -4ºC for 15 minutes in the laboratory and brought to the release point in ice cooler with dry ice 20 min driving.
Three releases of approximately 60,000 sterile males were carried out at 50 to 100 meters altitude and 50-60 km speed in one single line through middle of the mango orchard with green fruit.



After releases, 64 Jackson traps baited with trimedlure were installed in days 0, 1, 2, 4, 8 and 16 and exposed for 2, 4, 6, 8, 8 and 8 hours, respectively. Spatial and temporal dispersal pattern of the released males were according decay models. The dispersion was not uniform and varied in each release.

Recapture rate ranged from 0.83 to 2.28%. The highest capture in day one after release and flies were found until the 16th day. The data suggest that RC aircraft should be a good inexpensive alternative for aerial release when compare with conventional airplane, take in consideration, release altitude, aircraft speed during releases and flight precision over the target area