

WOAH Reference Laboratory Reports Activities 2025

This report has been submitted: 29 janvier 2026 18:04

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	New World Screwworm
*Address of laboratory:	Planta Productora de Moscas Estériles de Pacora, COPEG; Apdo. Postal 0816-07636; Panamá, República de Panamá
*Tel:	(+507) 2960006
*E-mail address:	janina.e.subia@usda.gov
Website:	www.copeg.org
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Carlos Moreno, General Director, Panama
*Name (including Title and Position) of WOAHO Reference Expert:	To Be Decided
*Which of the following defines your laboratory? Check all that apply:	Academic institution

TOR1: DIAGNOSTIC METHODS

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in WOAHO Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests			
Direct diagnostic tests			
Stereoscopic	No	32052	4
Inspection of animal for New world screwworm myiasis	No	212163	0

TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOAHO?

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAHO Members?

No

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAHO Members?

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

No

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7. Did your laboratory validate diagnostic methods according to WOAHA Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

9. Did your laboratory validate vaccines according to WOAHA Standards for the designated pathogen or disease?

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAHA Members?

Yes

Name of WOAHA Member Country seeking assistance	Date	Which diagnostic test used	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
BELIZE	2025-01-02	Stereoscopic Examination	1	0
EL SALVADOR	2025-06-10	Stereoscopic Examination	3	0

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOAHA Member?

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOAHA Members other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOAHA Member Countries involved other than your country
Fruit fly breeding equipment trials for NWSW breeding	10 days	SENASICA's fruit fly breeding equipment trials for adaptation to NWSW breeding.	SENASICA	MEXICO
"Gator" trick test	15 days	Gator Trap tests developed by Dr. Bolton, USDA-VS, on NWSW flies.	USDA-Veterinary Services	UNITED STATES OF AMERICA

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOAHA?

No

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

5

Arp AP, Tietjen M, Sagel A et al. 2025. Tetracycline has no long-term effects on gut physiology and microbiome of the new world screwworm, *Cochliomyia hominivorax*, which has positive implications for transgenic male-only rearing systems. *G3* 15(5):jkaf058. <https://doi.org/10.1093/g3journal/jkaf058>.

Arp AP, Lowman AV, Concha C et al. 2025. Development and evaluation of screwworm, *Cochliomyia hominivorax* (Diptera: Calliphoridae), transgenic sexing strains with embryonic gene promoters for a genetic control program. *J Econ Entomol*. <https://doi.org/10.1093/jeet/taaf295>.

Lowman AV, Arp AP, Sagel A et al. 2025. Improving the sex-specificity of a conditional female lethal system for genetic biocontrol of the New World screwworm, *Cochliomyia hominivorax*. *Sci Rep* 15(1):40516. <https://doi.org/10.1038/s41598-025-24434-5>.

To Be Decided - - PANAMA

Kapoor S, Hickner PV, Dickey AN, Bailey EM, Baldassio de Paula LC, Belikoff EJ, Davis RJ, Tandonnet S, Canettieri CK, Bertone MA, Anstead CA, Scott MJ. Comparative genomic analysis of necrophagous and parasitic subspecies of *Lucilia cuprina* (Diptera: Calliphoridae) provides important insights into their divergent biologies. *Int J Parasitol.* 2025.

Beza-Beza CF, Soghigian J, Bailey EM, Johnston NP, Cassel BK, Bayless KM, Wells J, Yeates DK, Wallman JF, Yan L, Thomas-Cabianca A, Hickner PV, Grzywacz A, Meiklejohn KA, Torres TT, Scott MJ, Mikaelyan A, Zhang D, Cerretti P, Szpila K, Pape T, Wiegmann BM. Phylogenomics and the evolution of larval feeding habits in the blow flies (Diptera: Calliphoridae). *Syst Entomol.* 2025.

b) International conferences:

1

Tietjen, M. "Using arthropod-'omics to characterize New World screwworm, *Cochliomyia hominivorax*, outbreak and control strains." Virtual Presentation at Southwestern Branch Entomological Society of America Meeting, Round Rock, Texas. March 26 2025.

c) National conferences:

3

Villarreal, L., Rodriguez, J., Vergara, M., MVs. – COPEG. Overview of the New world screwworm, Control, Prevention and sample collection. In-person presentations to 284 public health doctors in the provinces of Herrera, Veraguas, and Los Santos, Panama. March to December 2025.

Abrego, J., Alvarado, O., Barrios, D., Bravo, F., Coronel, R., Contreras, F., Gonzalez P, Rodriguez, F., Sagel, A., Urieta, N., Vega, D.. Good livestock practices, prevention of New world screwworm, and the importance of sample collection. In-person presentations to 3,587 livestock producers in all provinces of Panama. January to September 2025.

Alvarado, O., Coronel, R., Vergara, M.,. Overview of NWS, good livestock farming practices, and the importance of sample collection. In-person presentations to 407 agricultural students in all provinces of Panama. July to October 2025.

d) Other (Provide website address or link to appropriate information):

1

www.copeg.org, WhatsApp +507-6670-2164, <https://www.facebook.com/COPEGAmerica>, <https://twitter.com/COPEGAmerica>, <https://www.instagram.com/copegamerica/>, https://www.linkedin.com/authwall?trk=bf&trkInfo=AQFW5sMBqapBOQAAAY6pfWhAWOQhoPfgTVD5JGA8QkOT1YiqnXfAigW36LnuCMjR0i6rEZr-LWbEGw64J4NhF1wNrh4vqpEfnm_3VrRYnXeZkhYBHagZ6r6YElu_MG2z_2KpYyl=&originaL_referer=&sessionRedirect=https%3A%2F%2Fwww.linkedin.com%2Fcompany%2Festados-unidos-para-la-erradicaci%25C3%25B3n-y-prevegusano-barrenador-del-ganado%2F, Telephone: +507-296-0006, email: info@copeg.org

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAHA Members?

Yes

a) Technical visit : 2

b) Seminars : 4

c) Hands-on training courses: 1

d) Internships (>1 month) 4

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
A	PANAMA	55
A	UNITED STATES OF AMERICA	2
C	EL SALVADOR	10
D	PANAMA	4

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025:2017	PDF	Accreditacion Norma ISO-IEC 17025-2017-oct-2024.pdf

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19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Diagnostic Laboratory for identification of NWS	DGNTI-COPANIT ISO/IEC 17025:2017

20. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

COPEG has a Department of Biological Security to address Bsl-2 compliance and risk mitigation

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAHP?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAHP?

No

TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOAHP Reference Laboratories designated for the same pathogen or disease?

Not applicable (only WOAHP Reference Laboratory designated for the disease)

24. Are you a member of a network of WOAHP Reference Laboratories designated for the same pathogen?

Not applicable (only WOAHP Reference Laboratory designated for the disease)

25. Did you organise or participate in inter-laboratory proficiency tests with WOAHP Reference Laboratories designated for the same pathogen during the past 2 years?

Not applicable (Only WOAHP Reference Laboratory designated for the disease)

n/a

COPEG is the WOAHP Reference Laboratory for NWS

26. Did your laboratory collaborate with other WOAHP Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Not applicable (only WOAHP Reference Laboratory designated for the disease)

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAHP Reference Laboratories for the same pathogen during the past 2 years?

No

no

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOAHP?

No

29. Additional comments regarding your report:

Yes

The diagnoses issued by the reference laboratory were the basis for restructuring the epidemiological surveillance system in Panama, including 5,645 infested farms.