Texas

New World Screwworm

NEW WORLD SCREWWORM • MYIASIS CONTROL CONCEPT

Low-pH Membrane-Separated Functional Electrolyzed Water

Scientific solution presentation for a proposed non-pesticide, validation-stage platform targeting Cochliomyia hominivorax larval myiasis risk.

Palm Beach Springs Water Company Inc. • Paul E. Seaver

Introduction:

Advanced High-Amp Dual-Polarity Electrochemistry as the Delivery Platform

Advanced Dual-Polarity Electrochemistry
Manufactures non-pesticide Functional Electrolyzed Water mediums from water, NaCl electrolyte, electricity, and controlled electrochemical separation.

The differentiator is delivery
The platform is not focused on proving known sanitation chemistry. The proposed advantage is the aqueous ionic delivery system.

Why it matters
The mediums are designed to distribute active properties without relying on corrosive pesticide-style membrane destruction.

Dangerous chemical residuals can remain in the environment long after application.

There is a simple choice
Non-pesticide electrochemical mediums produced from water and NaCl

Medium Architecture: Acidic, Basic, and Neutral Streams

The acidic membrane-separated stream is referred to in this presentation as an **Ultra Low pH medium**. Typical measured values are approximately **pH 2.4** and **ORP +1170 mV**, with reactive dissolved gas and sanitation-associated properties that may include **OH, Cl_2, H_2O_2, O_3, and HOCl**. The basic membrane-separated stream is referred to as an **Ultra High pH medium**, typically near **pH 11.8** and **ORP -850 mV**, associated with **OH^-**-dominant reducing behavior. These two streams provide the foundation for the staged wash concept: acidic exposure, high-pH organic cleaning, and optional neutral residual support.

In neutral bonding, the acidic and basic electrochemical outputs are recombined into a single finished neutral stream. This neutral Functional Electrolyzed Water medium is conceptually similar in release behavior to **OCl^-**-type chemistry, but it is positioned here as a non-pesticide, validation-stage medium rather than a Class 8 corrosive EPA pesticide product. The proposed value is not corrosive oxidation, but controlled storage and release of anode-generated properties within a neutral carrier that remains compatible with aquaporin-oriented water transport.

Delivery Hypothesis: Ionic Product and Aquaporin-Compatible Transport

The delivery capability of these mediums is attributed to their increased ionic product, polarity dominance, and highly distributed aqueous structure. Ultra Low pH mediums are dominated by acidic ions. Ultra High pH mediums are dominated by basic ions. Neutral mediums are balanced but retain a functional polarity signature. The proposed result is a medium made of highly charged, single-molecule-scale water structures carrying dissolved ions and dissolved gas properties in a form intended for efficient distribution and bio-selective interaction.

This scale is important. A single drop of water at ambient temperature contains approximately **1.7 sextillion water molecules**. The proposed delivery environment is therefore extremely small, operating at the level of water molecules, ions, dissolved gas structures, and electrical polarity signaling. The working hypothesis is that properly manufactured dual-polarity electrochemical mediums may support delivery through aquaporin water channels using the correct charge condition — acidic, neutral, or basic — rather than requiring destructive oxidation or corrosion of the membrane wall.

The core innovation of Advanced High-Amp Dual-Polarity Electrochemistry is therefore the ability to manufacture functional water mediums that may reduce the need to destroy the organic cell membrane wall in order to deliver sanitation-associated properties. This positions the platform as a proposed safe, bio-selective, non-pesticide medium system for living environments, including humans, animals, plants, and agricultural infrastructure, subject to proper validation, veterinary review, and regulatory evaluation.

PROBLEM

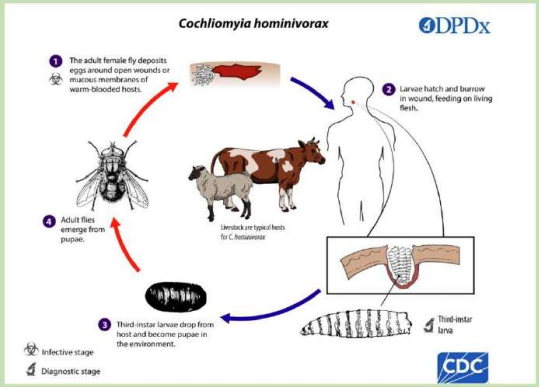
The biological problem: larvae in living tissue

PROBLEM

The threat: larvae feed in living tissue

New World Screwworm is a wound-invading fly whose larvae create destructive myiasis in living warm-blooded animals.

- Larvae burrow into tissue and enlarge wounds as they feed.
- Control requires both animal-care and environmental-pressure strategies.
- A scientific solution must separate topical, dip/rinse, vapor, and facility-use cases.



Living Hosts

cattle, livestock, wildlife, pets, and humans may be affected

Open Wounds

egg-laying site and larval entry zone

Pre-Metamorphosis

target window before larvae mature and spread

New World Screwworm risk

Cochliomyia hominivorax is a wound-invading fly. The larvae feed in living warm-blooded hosts, creating destructive myiasis that requires both animal-care and environmental-pressure strategies.

Target window

The concept focuses on larval disruption before metamorphosis, with clear separation between topical, dip/rinse, vapor, and facility-use cases.

Host and exposure zones

Cattle, livestock, wildlife, pets, and humans can be affected; open wounds are the egg-laying and larval entry zones.

Concept package — validation-stage; not positioned as an approved pesticide, veterinary drug, larvicide, cure, or wound medication.

SOLUTION CONCEPT

Proposed solution: a staged non-pesticide platform

Primary carrier: low-pH acidic Functional Electrolyzed Water from membrane separation using NaCl electrolyte.

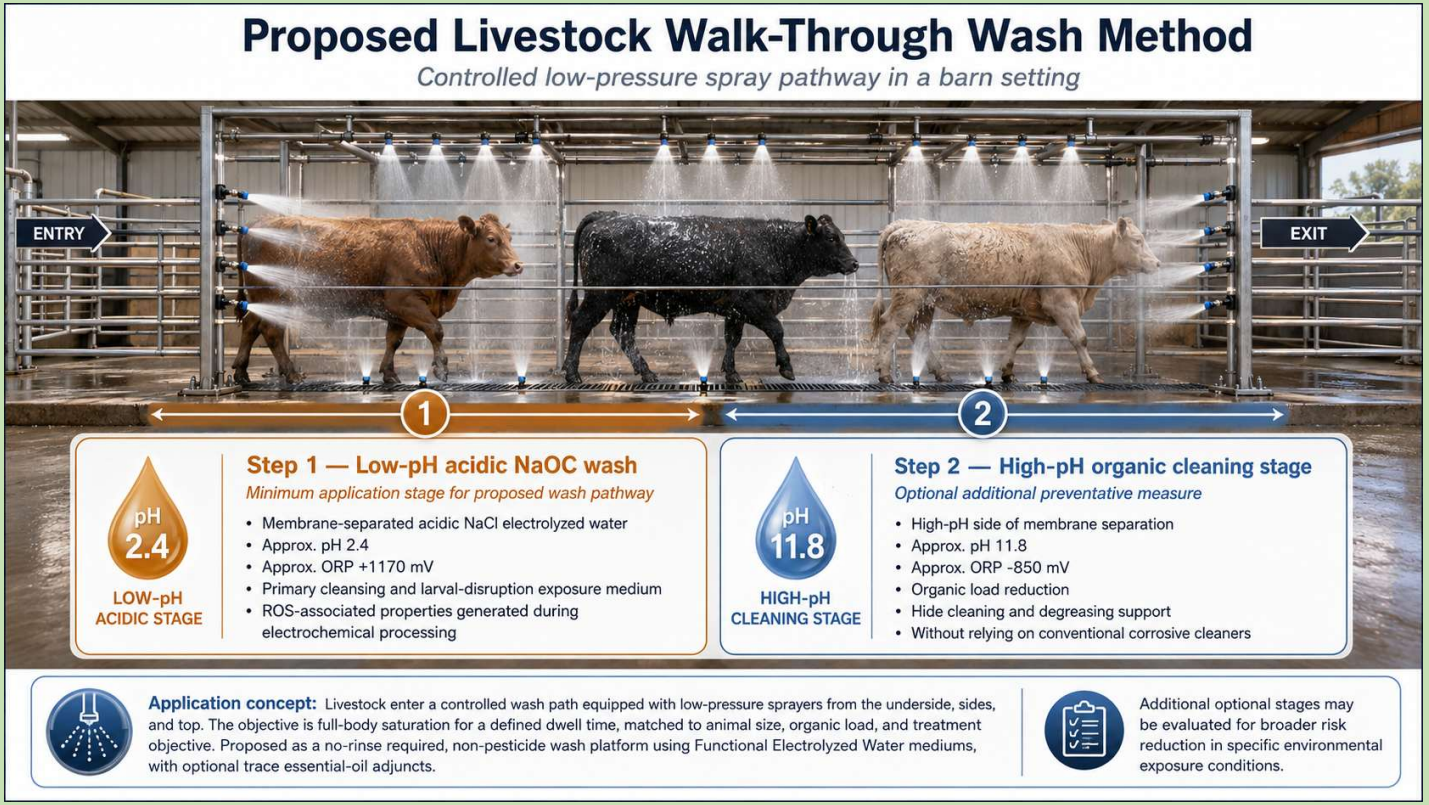
Optional high-pH stage: organic load reduction, hide cleaning, and degreasing support.

In addition:
Optional neutral residual stage: post-wash support and preventative maintenance surface conditioning.

Optional vapor stage: controlled chamber release of stabilized trace essential-oil vapors.

Claim boundary

No EPA pesticidal kill claim, veterinary drug claim, or wound medication claim is made. The proposed advantage is delivery behavior, ionic structure, and validation-stage control potential.



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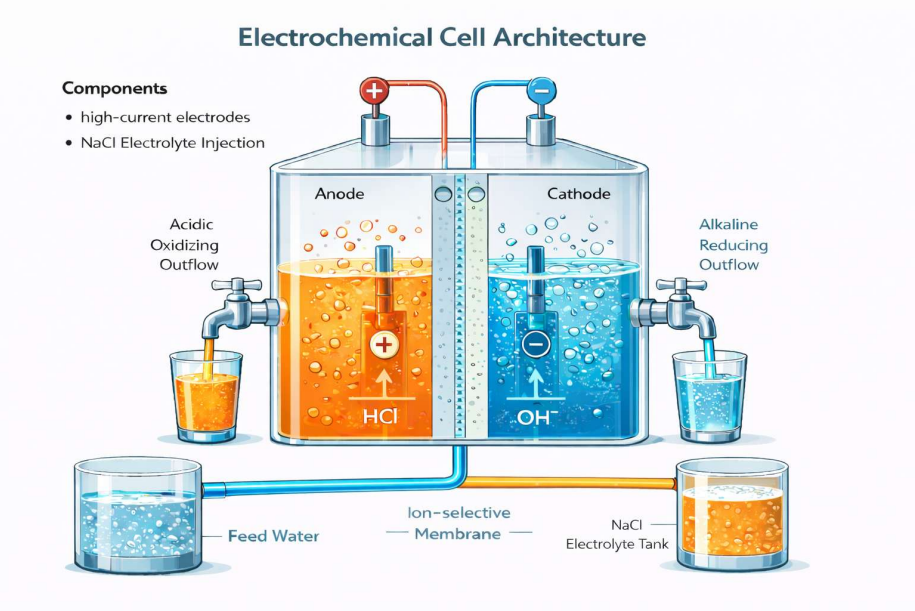
MEDIUM SCIENCE

Technology backbone: membrane-separated functional waters



Inputs

Water + NaCl or KCl electrolyte + electricity; optional acidic-compatible essential oils under defined conditions.

Core process

High-amp dual-polarity electrochemistry with membrane separation and neutral bonding to create low-pH, high-pH, and neutral functional mediums.

Key differentiator

Increased ionic product and polarity-dominant distribution are proposed to support efficient medium delivery without relying on corrosive membrane destruction.

Concept package — validation-stage; not positioned as an approved pesticide, veterinary drug, larvicide, cure, or wound medication.

MECHANISM

Proposed mode of action: stress before metamorphosis

Oxidative stress

ROS-associated medium challenges larval cellular stability.

Aquaporin-compatible delivery

Interaction is proposed at the membrane surface and water-channel pathway.

pH stress

Low-pH acidic carrier creates a hostile biochemical condition for larvae.

Metabolic interference

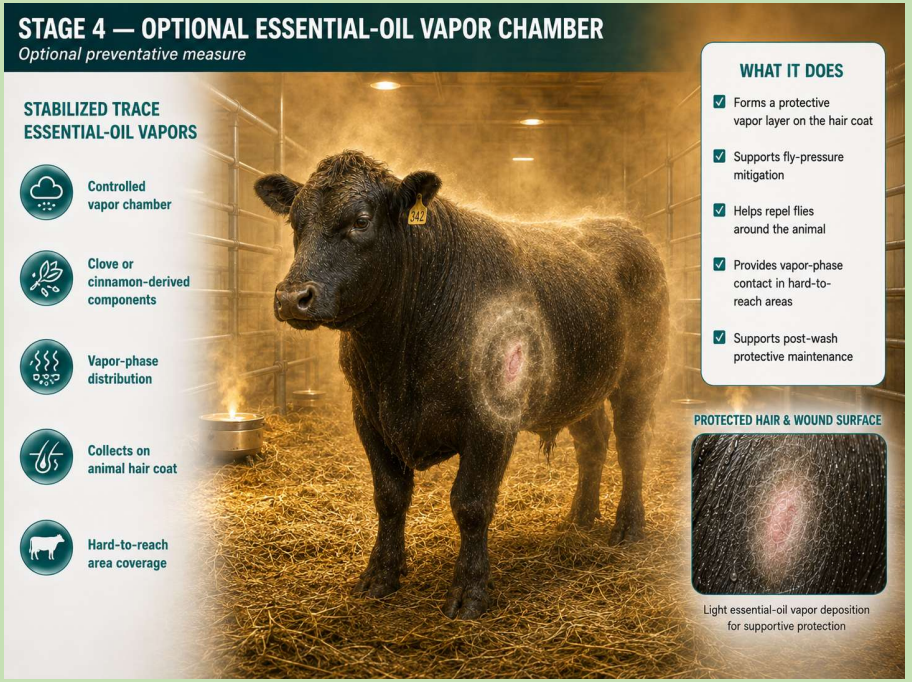
Optional essential-oil adjuncts may affect receptors, enzymes, and detoxification pathways.

Mechanistic claim: proposed and testable, not yet validated for C. hominivorax.

Concept package — validation-stage; not positioned as an approved pesticide, veterinary drug, larvicide, cure, or wound medication.

APPLICATION METHOD

Four-stage controlled livestock pathway



1 Low-pH acidic wash

Proposed method of control using the power of dissolved ROS gases in a highly charged delivery system

2 High-pH organic cleaning

Optional wash/rinse of organic material which takes more effort to remove. This medium uses high-pH reducing medium at approximately pH 11.8 and ORP -850 mV as an alternative to conventional corrosive high-pH cleaners

3 Neutral residual rinse

Optional neutral residual rinse with a medium that stores and releases dissolved contents in release behavior conceptually similar to OCl^- chemistry, while positioned as a non-pesticide validation-stage medium for prolonged protective support.

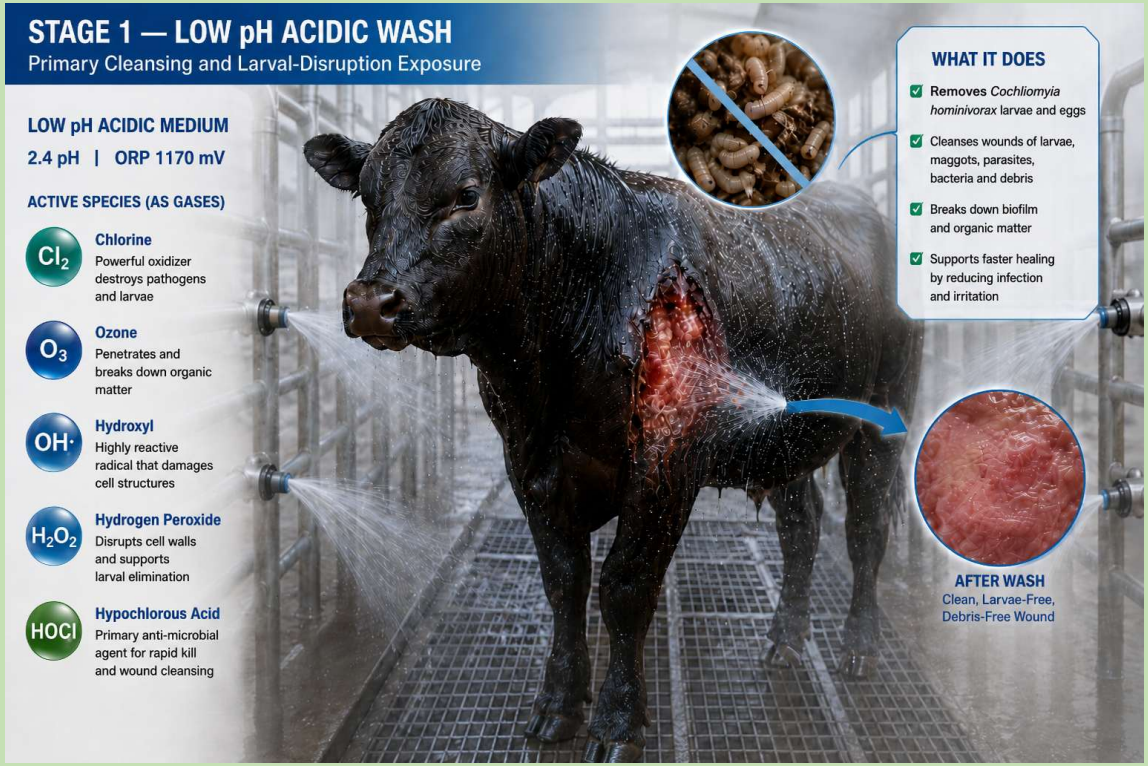
4 Essential-oil vapor chamber

Essential-oil vapor methods have been evaluated in honeybee and Varroa-related applications. This stage proposes controlled vapor distribution for fly-pressure management, subject to validation.

Concept package — validation-stage; not positioned as an approved pesticide, veterinary drug, larvicide, cure, or wound medication.

MINIMUM APPLICATION STAGE

Stage 1 — Low-pH acidic NaOC wash



Target medium

NaOC Ultra Low pH acidic water produced by membrane separation using NaCl electrolyte. Typical target values: pH ~2.4 and ORP ~+1170 mV.

Functional role

Primary cleansing and larval-disruption exposure medium; carries ROS-associated properties generated during electrochemical processing.

Validation focus

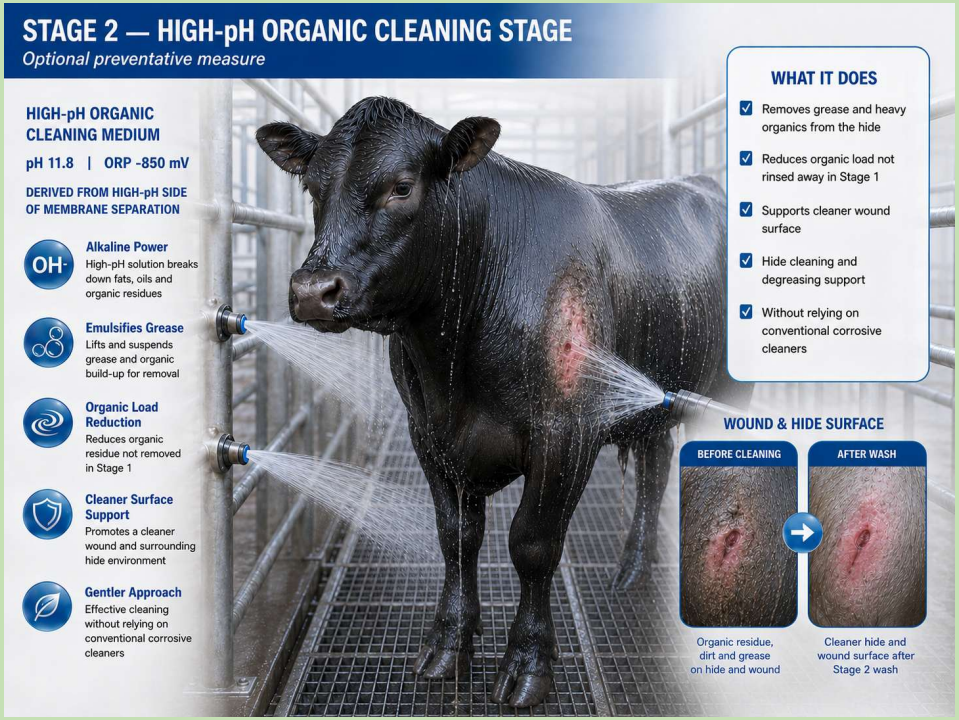
Confirm contact time, tissue compatibility, larval disruption, residue behavior, and animal comfort under veterinary-supervised protocols.

Concept package — validation-stage; not positioned as an approved pesticide, veterinary drug, larvicide, cure, or wound medication.

Visual note: AI illustration used to communicate concept only; not a real-life treatment photo.

OPTIONAL PREVENTATIVE MEASURE

Stage 2 — High-pH organic cleaning stage



Target medium

High-pH side of membrane separation. Typical target values: pH ~11.8 and ORP ~−850 mV.

Functional role

A heavy organic cleaner for residual organic load, grease, oils, dirt, hide cleaning, and wound-area surface preparation after Stage 1.

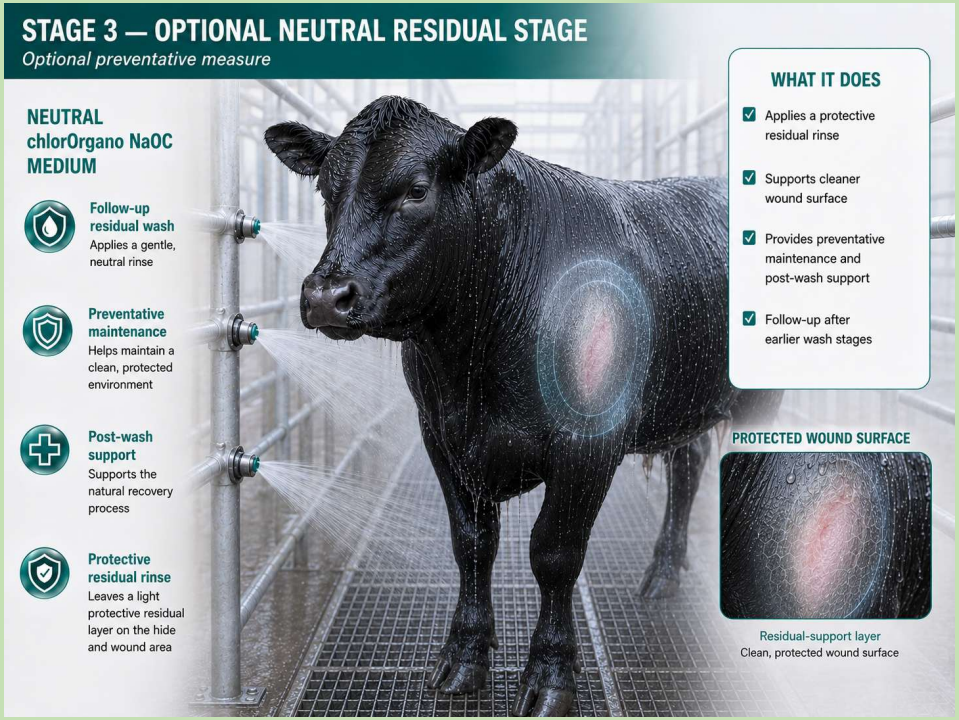
Boundary

Proposed for organic load reduction and degreasing support without relying on conventional corrosive cleaners; final parameters require validation.

Visual note: AI illustration used to communicate concept only; not a real-life treatment photo.

OPTIONAL PREVENTATIVE MEASURE

Stage 3 — Neutral residual rinse stage



Target medium

Neutral chlorOrgano NaOC– medium applied as a follow-up residual wash after Stage 1 and/or Stage 2.

Functional role

Proposed as preventative maintenance and post-wash support to extend surface conditioning and reduce re-exposure pressure between wash events.

Validation focus

Dwell time, residual longevity, animal-surface compatibility, environmental behavior, and veterinary/regulatory review.

Visual note: AI illustration used to communicate concept only; not a real-life treatment photo.

OPTIONAL PREVENTATIVE MEASURE

Stage 4 — Essential-oil vapor chamber

Controlled vapor chamber

Not a spray stage. Stabilized trace essential-oil vapors such as clove or cinnamon-derived components are evaluated in a controlled air environment.

Functional role

Vapor-phase distribution to hard-to-reach areas and fly-pressure management around livestock, holding areas, and wash infrastructure.

Validation focus

Essential-oil concentration, exposure time, residue behavior, ventilation, worker safety, animal comfort, and regulatory boundary.

Visual note: AI illustration used to communicate concept only; not a real-life treatment photo.

ADJUNCT CHEMISTRY

Essential oils: optional acidic-compatible adjunct

Trace amounts are proposed because the aqueous medium is the delivery carrier.
Compatibility target: stable distribution without phase separation or dissociation.
Candidate oils include clove, cinnamon, mint, thyme, eucalyptus, and rosemary.
Selection requires host safety, residue review, dose-response testing, and exposure controls.

Scientific boundary: essential-oil adjuncts support a testable hypothesis; they do not establish completed C. hominivorax field efficacy without direct validation.

SUPPORT MATERIAL

Evidence base: bridge known uses to targeted validation

Practical-use bridge

Related low-pH media have been used for fly and larvae pressure in drains, barns, troughs, poultry coops, and food-service environments.

Scientific analogs

Uploaded essential-oil studies support arthropod-control effects in Varroa destructor and related lab settings.

Specific gap

C. hominivorax larvae in living-host myiasis must be validated directly under professional scientific protocols.

Concept package — validation-stage; not positioned as an approved pesticide, veterinary drug, larvicide, cure, or wound medication.

DEVELOPMENT

Validation plan: from bench data to veterinary use case

1

Bench chemistry

pH, ORP, available species, stability, oil compatibility

2

Larval bioassays

contact, dip, vapor exposure; time-to-immobility and mortality

3

Host safety

tissue compatibility, irritation, wound-edge review, residue screening

4

Environmental trials

barns, drains, bedding, trailers, and fly-pressure reduction

5

Regulatory package

label boundary, veterinary positioning, and registration pathway

Success gate: demonstrate larval disruption without unacceptable host-tissue effects.

Concept package — validation-stage; not positioned as an approved pesticide, veterinary drug, larvicide, cure, or wound medication.

RISK CONTROL

Safety and regulatory boundary

Not positioned as an approved cure, larvicide, pesticide, veterinary drug, or wound medication until validated and reviewed.

Animal use

Veterinary-supervised protocols; prioritize validation of tissue compatibility, pain/irritation review, proving animal safety and welfare are not compromised.

Worker use

Worker-use protocols should evaluate whether PPE, ventilation, special handling, labeling, or additional training are required before field deployment.

Environmental use

Use-zone specific medium type separation: Live animal hide, holding facility, specific drains and organic waste are not necessarily interchangeable and will require specific protocols.

Recommended language: “proposed,” “hypothesized,” “candidate medium,” “validation-stage,” and “subject to veterinary/regulatory review.”

DISCLOSURE

Source-use and illustration disclosure

Concept status

This presentation organizes a proposed scientific solution package and does not present completed C. hominivorax efficacy data or approved animal-use claims.

Visual status

Stage images are AI illustrations used to communicate mechanism and deployment concepts. They are not real-life treatment photographs or field validation evidence.

Evidence status

Background and related-use support includes uploaded screwworm, low-pH medium, chemistry, and essential-oil analog materials. Direct target validation is still required.

Recommended next deliverable

Prepare a formal written solution package with an abstract, technical description, support documents for Stages 1–4, validation plan, and regulatory boundary statement.

Palm Beach Springs Water Company Inc. • Paul E. Seaver

Collaborating Technology Partners
Engineering and Equipment Manufacturing Providers

Palm Beach Springs Water Company Inc. Florida USA
Paul E. Seaver – President
Research and Development for operational use of ID&T Technologies in the USA. Developments into these specific structured mediums for this specific purpose. What mediums and or combinations of mediums and the application methods with modes of distribution for effective and efficient deployment success for the overall objective. I created these products and have been using them in every aspect of my life with no concern for better than 10 years. I specifically developed them for this ease of mind.

Innovative Designs and Technology California USA
Yuki Takara – President
USA Technology provider for ID&T Japan engineered and manufactured equipment. Working closely with ID&T Japan for smooth Japan to USA transitions. Professional translator for USA to Japan meetings, conversations, and document transcribing. Yuki enjoys the products sent to her as well as Essentia Bottled Water owned by Nestle Waters where she is the translator between the corporation and Tanaka San on engineering meetings.

Innovative Designs and Technology Japan
Hiroshi Tanaka – President
Engineering and manufacturing of custom advanced high amp dual polarity electrochemistry. Tanaka San is the master of engineering electrochemistry systems. In this context, Paul E. Seaver identifies what the project needs, translates this into what Tanaka San needs to know for engineering and manufacturing the specific generator for the task. Tanaka San has a variety of patented components to engineer this technology and manufacture the custom generators. He has spent decides developing the worlds most advanced electrochemistry for the Asian markets top engineering and industrial operations to include the Japanese Ministry. Tankas San makes and uses his own products from his own equipment in Japan.

Supporting Professional Collaboration Team:

SpiroFlo Texas, USA
Alan Miller – President
Specialty medium movements for specific objectives of delivery. Alan specializes in medium movement when mixing or not mixing become very important. Alan has a patented device he engineered for this task and brings this expertise to the team. Alan has no concern of using any of these products on himself.

pH3 Heartland ,Nebraska USA
Scott Colier - licensed General Contractor
Sales, Installation, and Installation of engineered systems. Scott has extensive experience from residential opportunities to commercial and commercial food processing. Scott has been involved with these mediums for at least 10 years and counting. Scott also manufactures products from his location in Nebraska to help better service the western USA. Scott has no concern of using any of these products on himself.

The Phyto Doctor, Florida USA & Spain
Sam Glucksman DPM, CP3, CAM – President
All agriculture qualifying as well as 10 years experience working with these mediums not only as a professional DPM on large commercial farms but also Sam has a small personal farm of Chickens, Ducks, Pigs, Dogs, fish pond, turtles and so on and he has used these products with his personal livestock and other for this entire time and understand s its overall safety and effectiveness as a professionally educated and employed Doctor of Plant Medicine in the commercial AG industry. Sam has no concern of using any of these products on his animals or himself.

L7 Ranch, Florida USA
Donavon Darroh 3rd generation Rancher
2500 acre Cattle ranch in Lake Placid Florida Don has lived and bread cattle on this property his entire life and has the livestock operation and experience expertise for the team. Don is the newest team member but has already seen how this technology is going to strengthen the health of his operation. Don has no concern of using any of these products on his herd or himself.

Drew Nagel Professional Horseman, Florida – California – and currently Mexico City.
Drew as a professional has used these mediums for over a decade on her equestrian problems. Anything and everything she typically runs into she treats and heals with these mediums. Drew has the most experience in using these mediums in this context on the team. She understand not only the power of these mediums but also the safety to the animal. Drew can speak professionally and with experience on this subject of open wound healing and wound sanitation. Drew has no concern of using any of these products on her Horses or himself.

NEXT STEPS

Path forward: build the formal scientific solution package

Executive summary and scientific abstract.

Detailed medium description and chemistry boundary.

Mode-of-action hypothesis with evidence mapping.

Veterinary validation protocol and safety gates.

Pilot deployment plan for facilities, drains, holding areas, and controlled vapor spaces.

Regulatory and AI/source-use disclosure language.

Scientific position

A practical, testable, non-pesticide solution concept for larval disruption and fly-pressure management — with clear boundaries around animal welfare, claims, and required validation.

READY FOR DOCUMENT EXPANSION