



“Building a Model for Sustainable Organics Recycling”

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A Brief History



- **1995 - The City of Oceanside contracts with Agri Service, Inc. to develop and operate an open air green waste composting facility**
- **2005 - El Corazon conducts aerated, covered composting tests for odor reduction and good neighbor policy**
- **2006 – The El Corazon Planning Committee votes to maintain the Green Waste Facility in El Corazon Site Plan**
- **2007 – The City of Oceanside votes to continue to operate the El Corazon open-air compost facility**
- **2009 - City of Oceanside votes to approve the relocation of the El Corazon Compost Facility per Master Plan, allowing for installation of the enhanced odor control systems**

For the Past 14 years



- **Oceanside Residents have enjoyed curbside green waste pick-up and recycling**
- **Oceanside Residents benefit from free compost and mulches**
- **City of Oceanside is one of only two cities in San Diego County actually recycling green “waste”**
- **City-Private Partnership that benefits the rate payer**

And More



- Oceanside is compliant with AB939
- Oceanside avoids daily fines of up to \$10,000 for waste diversion requirements
- Oceanside reduces landfill waste
- Oceanside is prepared for increasingly stringent waste diversion standards

What is happening Regionally?



- **Demand for Organics Recycling Infrastructure**
- **Regional Landfill Capacity**
 - proposed closure dates
- **Demand for Recycled Organics Products**

What is happening Locally?





The previous slide shows a flow-chart of “What is happening Locally?” with the El Corazon Compost Facility in the middle and arrows pointing to:

- **Recycling Infrastructure;**
- **Recycling Culture;**
- **Recycling Jobs; and**
- **Recycling Revenue**

Why it is important?



- **Stabilize Rates**

- **According to the Morris Environmental Calculator (MEBCalc)**

- Composting mixed organics \$18.60 per ton
- Landfill with gas recovery \$45.09 per ton
- Energy from Waste \$57.29 per ton

- **Recycling organic wastes locally (per City staff)**

- \$500,000 per year savings in transportation costs

- **Reduce Liability**

- **Comply with Mandates**
- **Plan for Long-Term Sustainability**
- **City-Private Partnerships**



Continuing Programs

- **Compost and Mulch Residential give-away**
- **Municipal Workshops**
- **“Home Grown” Community Gardening Series**
- **“Green Week” Vermicomposting Education and give-away**
- **Carlsbad Flower Fields School-age programs**



What comes in...

Must go out



**What comes in...
Must go out**

At a Profit!

Sustainability: Recycling v Retention



What comes in:

Feedstock tipping fees

Control expenses

Must go out:

Develop markets locally

Develop products that are safe

Develop products that are value-added

Develop the high end markets

Barriers to Organic Sustainability



- Diversion Culture
- Feedstock “control”
- Local Land Use Planning
- Lack of Reliable Metrics
- Regulatory Double Standard

Properties of the Urban Waste Stream



- Pesticides Residues
- Weed Seeds
- Pathogens
- Insect Larvae
- Trash

Pathogen Reduction Process



The Title 14 “Process to Further Reduce Pathogens” is a natural activity that uses the heat generated by microbial activity to kill both plant and human pathogens.

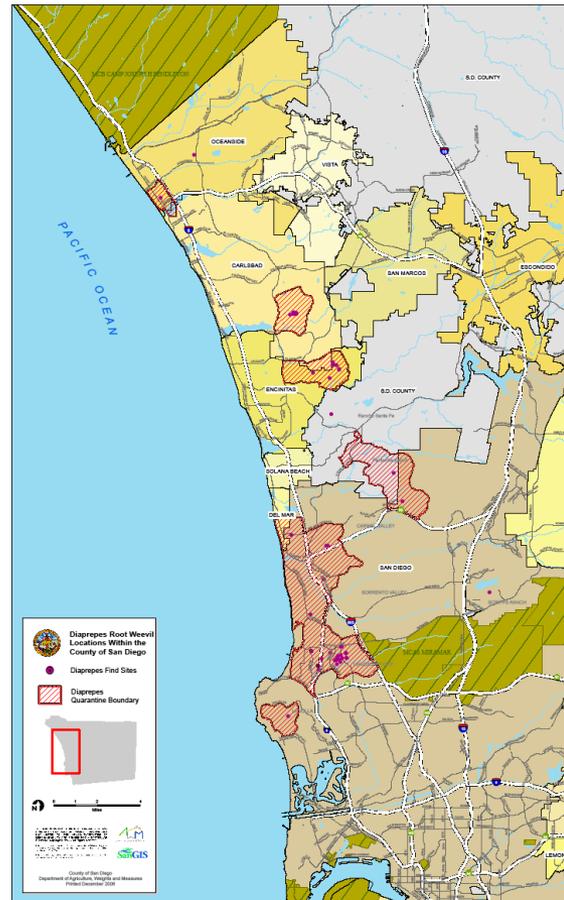
- **131° F for at least 15 days**
- **Turn at least five times during this process**
- **Water and nitrogen must be present in sufficient quantities**



Using PRFP to Mitigate Pesticides, Weed Seeds and Insect Larvae

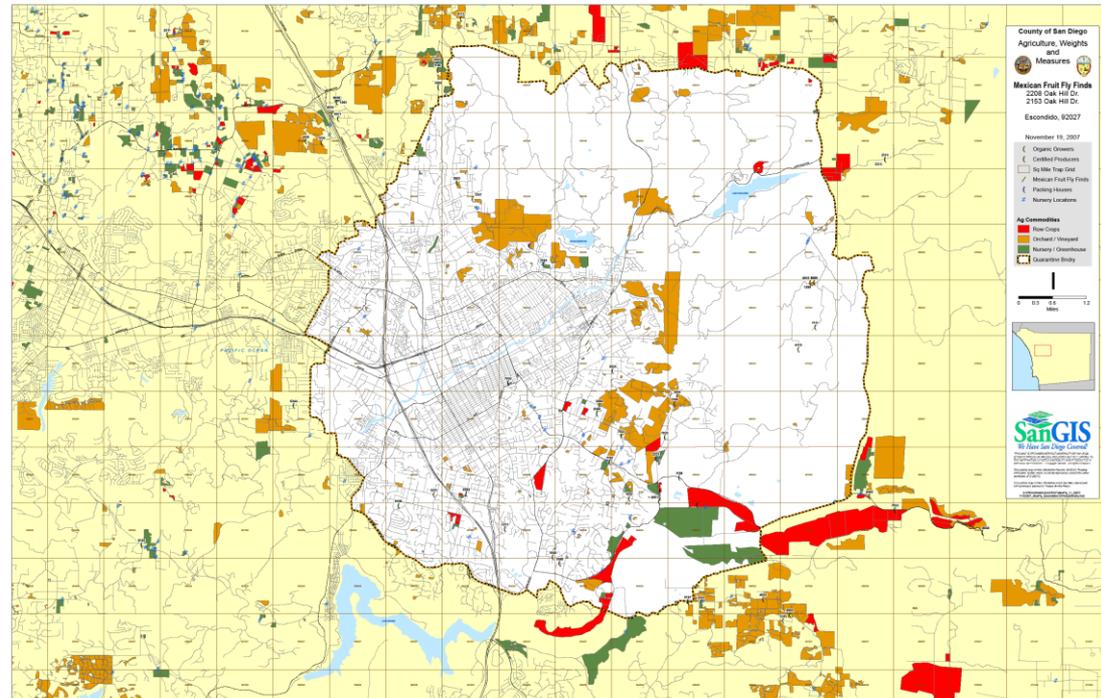
- Many pesticide residues, weed seeds and insects are controlled during the same time frame
- More resistant pesticides residues may require longer composting periods

Diaprepes Quarantine



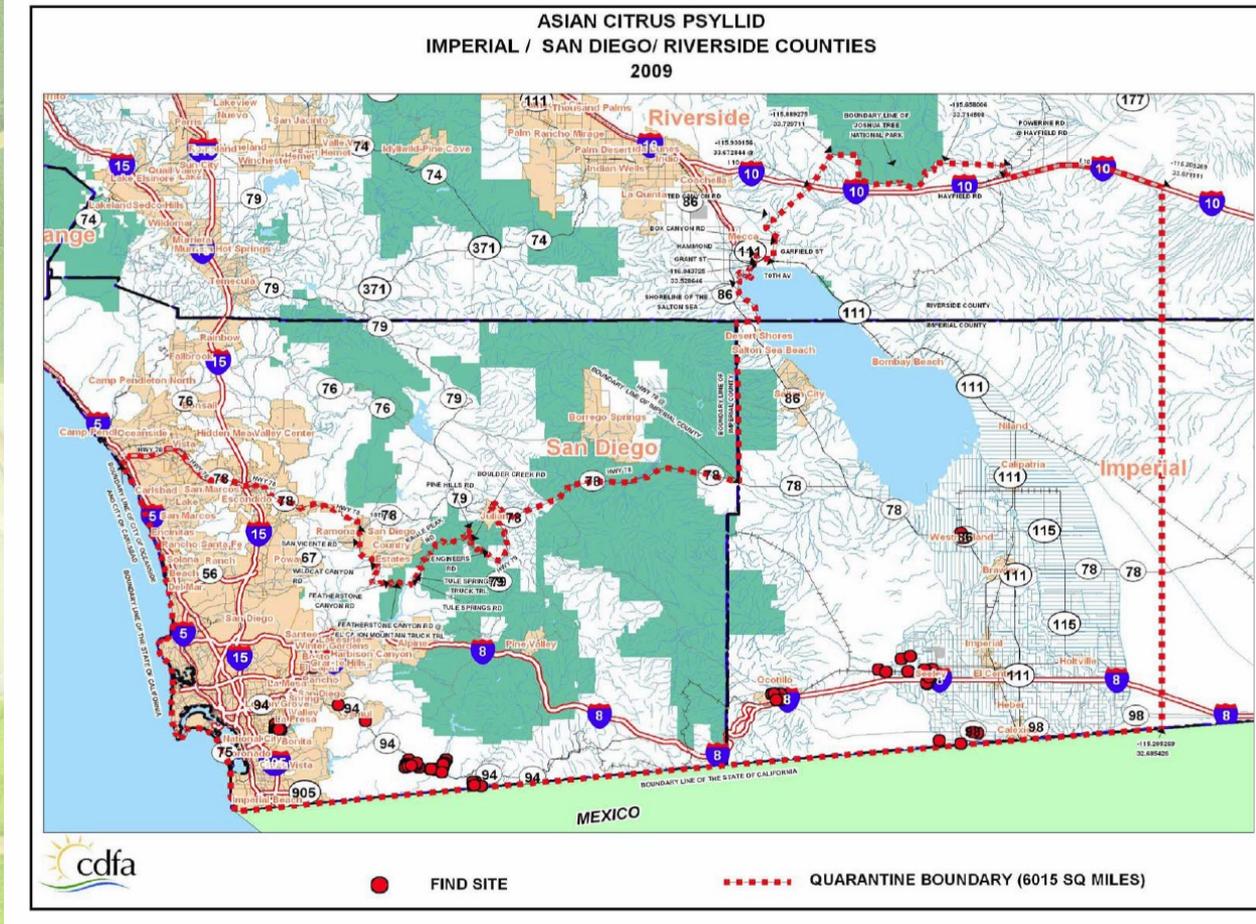
**Map of
Diaprepes
quarantine area**

Mexican Fruit Fly Quarantine



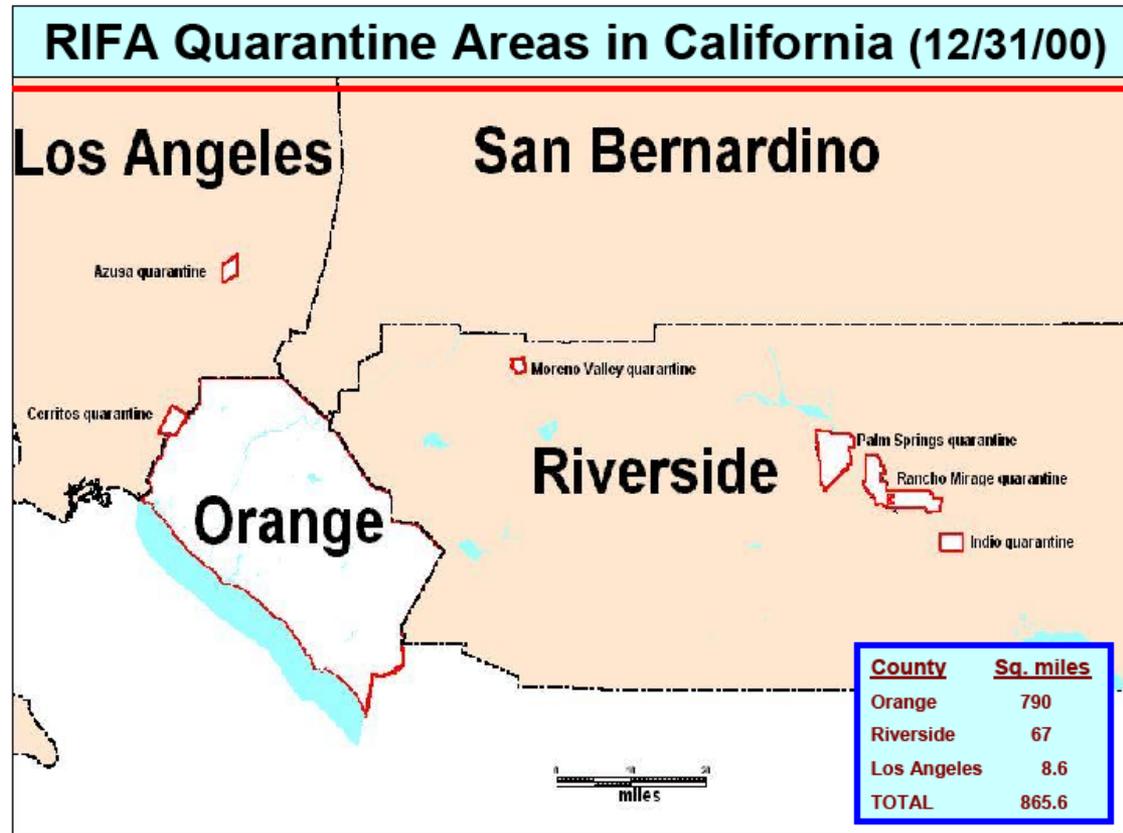
Map of Mexican fruit fly quarantine area

Asian Citrus Psyllid



Map of Asian Psyllid quarantine areas in Imperial, San Diego, and Riverside Counties, 2009.

Imported Red Fire Ants



Map of quarantine areas in Los Angeles, Orange, and Riverside Counties.

Sting Nematode



Photo by J. Hamill

Sting Nematode Damage



Photo by A. W. Johnson

Clopyralid: Pesticides



- Manufactured by Dow Agri Science
- Controls broadleaf weeds in grasses and grains
- Was found in compost in western states and eventually banned for horticultural use
- Caused damage in legumes, tomatoes and other crops at low levels

The Odor Control Solution

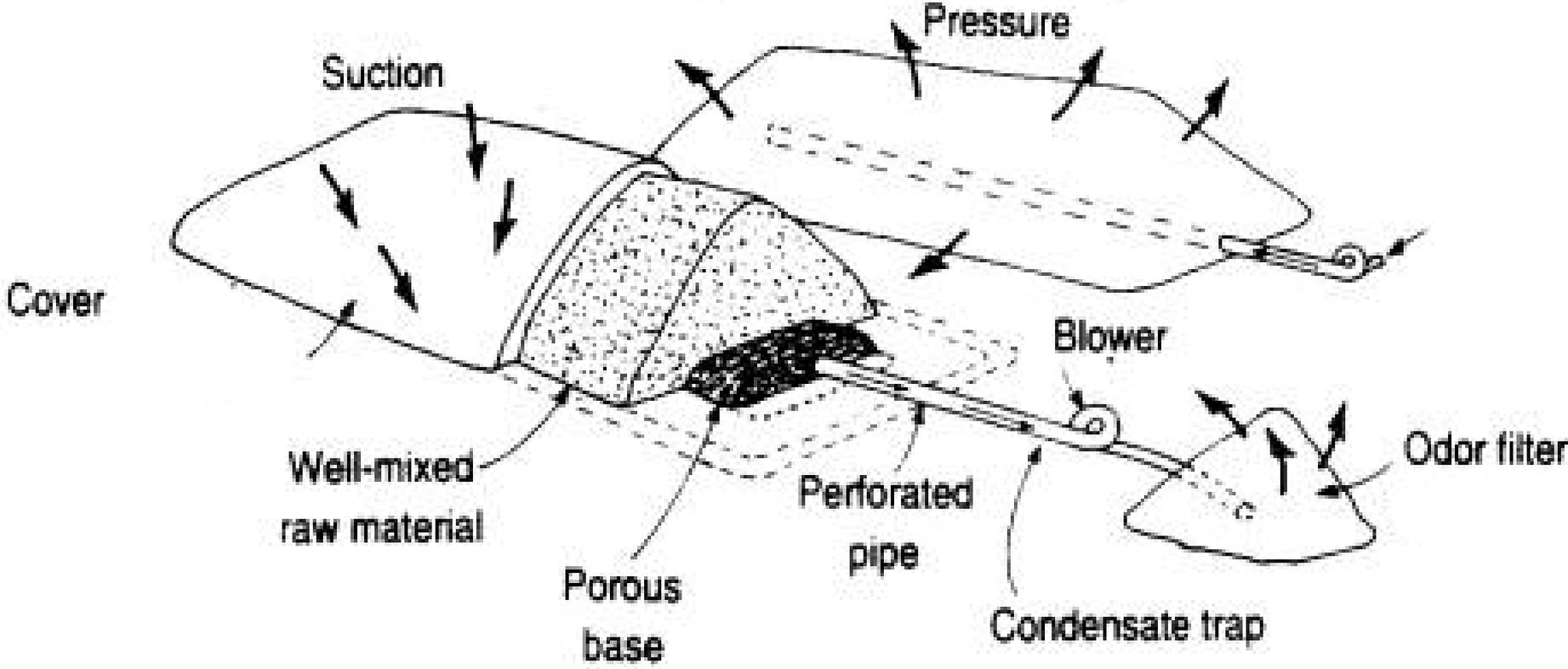


In August 2005, on-site tests concluded that the Aerated Composting System with Covers reduces odor by over 95%, and in a cost-effective manner

Aerated composting systems have been used and proven successful for over 15 years

Continued efforts since 1995 by Agri Service, Inc. to relocate in order to install odor control systems – enhanced good neighbor policy

Enhanced Systems





The previous slide is a schematic showing covered compost piles with both Suction (arrows pointing into pile) and Pressure (arrows pointing out of pile), and perforated pipe down the middle of the piles with blowers at the end. The Suction pile has a condensed trap and odor filter (with arrows pointing out of it) at the end of the perforated pipe. The Suction pile is also partially uncovered showing a porous base at the bottom center of pile and well-mixed raw material forming the pile.

Resource Conservation & Recycling



- There are significant environmental and economic benefits with a local composting facility.
- Recycling and composting conserves natural resources and reduces greenhouse gas emissions.
- Waste reduction can result in substantial fiscal savings related to trash and purchasing costs, and generates jobs in our local economy.

Agri Service is a Sustainable Business



- **Proven Economics**
 - Highest Value End Products & Markets for Inputs
 - Long Term Viability
 - City-Private Partnerships
- **Proven Environmental**
 - Recycling Organics into Value-Added Products for the Community
 - Less Organics Landfilled
 - Less Water and Chemical Fertilizer use
 - Less Transportation Impacts
- **Proven Social**
 - Living Wages
 - Full Medical Insurance for Employees and their Families
 - 401K Retirement Plans
 - Community Outreach and Education Programs



RECYCLE

Thank You!

www.AgriServiceInc.com