



Entry for:  
2011 CCDEH Excellence in  
Environmental Health Award  
June 30, 2011

**Agricultural Field Toilet  
Inspection Program (AFTIP)**

**Monterey County Health Department  
Environmental Health Bureau  
1270 Natividad Rd  
Salinas CA 93906**

**Director John Ramirez, MPA, REHS  
(831) 755-4539**



# Monterey County Health Department, Environmental Health Bureau Agricultural Field Toilet Inspection Program

## Overview

Unsanitary field toilets are one of many sources that can contribute to *Escherichia coli* contamination of agricultural produce. This can also contribute to unsafe field worker conditions, food borne illness, and substantial economic impacts to the agricultural industry. In 2005, a United States Food and Drug Administration (FDA) investigation of food-borne illnesses linked outbreaks to fresh-cut lettuce and spinach grown in the Salinas Valley, California. In response to the FDA investigative findings the Monterey County Health Department's Environmental Health Bureau (MCEHB) launched an array of potential source mitigations, including the Agricultural Field Toilet Inspection Program (AFTIP) to register, monitor, and enforce sanitary practices. Results of a two-year study indicate that the AFTIP has been successful in lowering risk factors that help decrease the probability of crop contamination, food-borne illness, and economic loss for Monterey County agricultural products due to unsanitary field toilets. The Monterey County Environmental Health Bureau maintained a process to adhere to public health regulations and standards with relatively minor impact on resources. The MCEHB developed a local health policy, procedures, and materials that could be used to assist other counties in enacting similar policies and cost effective programs

## Background

Many opportunities for *Shigella*, *Salmonella*, *Escherichia coli* and *hepatitis A virus* contamination of human foods exist in agricultural growing, harvesting, processing and packing. Pathogen vectors and pathways range from domesticated and wild animals, water run off from nearby dairy farms and grazing pastures, contaminated irrigation water, and pathogen transportation via farm equipment. Another potential source of contamination is unsanitary agricultural field toilets and uses. This public health risk can lead to unhealthy conditions for field workers, wide-spread food borne illness, extensive product recalls, and substantial economic impacts to the agricultural industry. Outbreaks of one serotype of *E. coli* has steadily increased over the past decade and has become increasingly resistant to available antimicrobial agents. Contamination of food crops in agricultural could occur from field workers harvesting or transporting food crops with unwashed hands; when food crops are contaminated by excreta (urine or feces) deposited in the soil; and possibly from flies attracted to excreta from unsecured field toilets contaminating food crops. California statutes require farms to meet field toilet sanitation standards to ensure food safety and healthy working conditions for field workers.

In 1975, the California Legislature mandated local health officers to be responsible for enforcement of state health and safety codes stated in the California Health & Safety Code, Food Crop Growing and Harvesting Section 113310 to 113360:

*The primary responsibility for enforcement of this article shall be vested in the local health officers; county agricultural commissioners may participate in enforcement. The State Departments of Health Services, Industrial Relations, and Food and Agriculture may also enforce this article.*

Ongoing AGTIP field inspections by the MCEHB from fall/winter 2007 through 2009 found that some worksites did not have properly maintained or adequate field toilets available for their workers, while some toilets were located a 30-minute or more walking distance from the work site. When field workers do not have any accessible toilets at all, they may relieve themselves in the fields, thereby increasing the potential for contaminating fields, produce, other workers, and water supplies. By law, field toilet and hand washing facilities must be located within a five-minute walk or ¼ mile from the work location. Inspectors required immediate correction when this situation was discovered.

### **Program Description**

#### ***Educational Outreach***

MCEHB determined the best means to educate and gain support from the agricultural community on the implementation of the AFTIP would be through cooperative partnerships with stakeholders beginning in spring 2007. Stakeholders were reached through local media, television ad campaigns, letters describing the AFTIP and workshops. Stakeholder outreach efforts were aided with the help of the United Farm Workers and California Rural Legal Assistance and farm labor contractors.

#### ***Inspections and Program staffing***

In the fall and winter of 2007 MCEHB began registering and inspecting all portable toilets located on Monterey County agricultural farmland or in agricultural storage yards. MCEHB identified, registered, and permitted each field toilet “unit” with non-removable seal (annual health permit seal) that changed color with every program year. Stakeholders were not assessed fines or penalties for health code violations during the AFTIP startup period. Violations were recorded during the fall and winter of 2007 to gauge the type and frequency of violations seen. Full program implementation began in January 2008. As of January 1, 2008, any portable toilet owner or brokers operating in Monterey County is required to properly identify ownership and display a valid, annual health permit seal on the outside, front, upper left corner of every unit. Proper permitting allowed MCEH to track inspections and violations on an ongoing basis.

MCEHB initially assigned 10 EHS staff to implement the program in 2007 and has since assigned one staff member, a Consumer Protection Technician (CPT), to the AFTIP to conduct registrations and initial inspections and up to three follow-up inspections per owner/broker.

The CPT inspected field toilets, hand washing facilities, and drinking water stations for proper function and maintenance. An inspection report completed at each inspection site documented any violations and referenced the statute or regulation violated. MCEHB does not levy violation penalties if cooperative correction action is taken during inspections. AFTIP managers and inspectors prefer to take an educational approach to making needed corrections. All violations are reported to the Employment Development Department as required by Section 113355 (b), H&S.

### Funding

The AFTIP was budgeted to be a net zero operation, although many unknown startup costs were estimated on historical program implementation data. Initial inspection fees were adjusted in 2009 and again in 2010 to achieve a balance between small and large field toilet owners and brokers, and the cost of the inspection and certification process.

Per unit, flat fees, caps, and combinations thereof were used to strike the best balance. For example, the initial per unit inspection fee was \$100 per unit up to 19 units. Owners of five units therefore paid a total of \$500 for inspection and certification fees, and owners of 19 units paid \$1,900. In 2009 the inspection fee was changed to \$75/unit for up to 19 units. Owners of five units paid a total of \$375 for inspection and certification fees, and owners of 19 units paid \$1,425. In 2010, a base fee of \$133 was charged for five or fewer toilets, and a \$75 per unit fee was paid for units six to 19. Owners of five units therefore paid a total of \$133 for inspection and certification fees, and owners of 19 units paid \$1,183. Lower fees related to the efficiencies developed during the implementation of the program and time required to inspect large farm operations vs. small farms.

**Figure 1: AFTIP Budget for FY 2010-11**

Activity	Expenditures	Revenues	Notes
1.0 FTE MCEH Technician	\$74,408		Regular salary, retirement, insurance and benefits
0.2 FTE MCEH Specialist	\$16,321		Regular salary, retirement, insurance and benefits
Services and Supplies	\$25,224		Postage, graphics, general liability insurance, data management, other
Transportation	\$10,000		Vehicle, gasoline, maintenance, and replacement costs
Administrative Overhead	\$40,000		Supervision; clerical support; county and departmental overhead
Annual AFTIP Permit Fees		\$174,486	FY 2010-11 total invoiced
Violation Penalties		\$0	No violation penalties are anticipated
Uncollected Invoices		\$-8,725	Historically 5%
<b>Expected Totals FY 09-10</b>	<b>\$165,953</b>	<b>\$165,761</b>	

## Findings

In the fall/winter 2007 AFTIP launch period, 371 field toilet units located in fields and storage yards were inspected by MCEH to evaluate the program objectives and to estimate staff time conducting inspections. In 2008, more than 20 times that number (7,554 units) were inspected. It was believed that this number accounted for nearly all field toilets in use or in storage in Monterey County in 2008. In 2009, nearly 5,000 field toilets were re-inspected. The growing season for various crops was a factor in the number of units inspected in 2009.

In the fall/winter 2007 AFTIP launch period, 66% of all field toilet inspections resulted in a violation of some type. Inspection staff worked with owners of units to educate them on the program goals and to allow owners to make necessary repairs. This percentage declined to 19% in 2008, and declined further to 6% in 2009. Declining percentages of violations per inspected units are attributed to program awareness and corrections based on first-time inspection results. At the end of 2009, AFTIP had issued a total of 2,061 field toilet violations, of which a total of 294 required immediate corrections. Many of these were for farm labor contractors who began seasonal worker operations in Monterey County. These violations did not result in penalties or fines as the programs intent was to obtain compliance and provide for safe and clean field toilets for field workers.

The most common violation requiring immediate correction from fall/winter 2007 to 2008 was violation #16, *Provide soap and towels at hand wash facilities*. This violation accounted for 37 (88%) of all violations requiring immediate correction in fall/winter 2007 and 133 (59%) in 2008. No violations of this sort were found in 2009. The most common violation found in 2009 that required immediate correction was #15: *Hand wash facilities are provided at the unit or in the immediate vicinity*, which accounted for 5 (63%) of all violations requiring immediate correction. Lack of soap and water constitutes a violation that must be immediately corrected before field work can continue.

**Figure 2: Most Frequent Health Code Violations Requiring Immediate Correction**

Monterey County 2007, 2008, 2009

Violation Description	Fall/Winter 2007		2008		2009	
	n	(%)	n	(%)	n	(%)
#3 Clean and sanitary conditions	3	(7)	6	(3)	3	(38)
#15 Handwash facilities available	1	(2)	13	(6)	5	(63)
#16 Soap and towels available	37	(88)	133	(59)	0	(0)
#20 Accessible drinking water	1	(2)	48	(22)	0	(0)
#21 Available fresh, pure drinking water	0	(0)	12	(5)	0	(0)
#22 Single use drinking cups or fountain	0	(0)	14	(6)	0	(0)
<b>Total</b>	<b>42</b>	<b>(100)</b>	<b>226</b>	<b>(100)</b>	<b>8</b>	<b>(100)</b>

A total of 75 violations (numbers 20, 21, and 22) were issued in 2008 and 2009 due to lack of readily accessible, fresh, single dispensed, or adequate quantities of drinking water. The MCEH inspector noted units lacking of drinking water and/or lack of single serving cups, or having only one cup for all workers. The Centers for Disease Control and Prevention reported 423 agricultural and nonagricultural heat-related deaths from 1992 to 2006.

### **Conclusion and Recommendations**

Results of the AFTIP strongly suggest that ongoing inspections of field toilet units, hand washing stations, and drinking water conditions are feasible measures to ensure safe agricultural produce growing and harvesting conditions, and important means to protect the health of field workers and consumers. Adoptions of similar practices by other local health departments throughout the U.S. can provide similar results and benefits. However, because agricultural workers and farming equipment (machinery, trucks, tools, toilet units, etc.) are seasonally transported across county and state boundaries, possibilities of contamination will exist due to differentials in inspections and regulations between counties. Yet implementing an AFTIP in California counties through environmental health programs would provide greater protections to field workers safety and health reduce potential impacts to produce contamination, lessen the economic impacts to agriculture, and build consumer confidence in agricultural produce.



Regulation Description		Fall/Winter 2007 Violations		2008 Violations		2009 Violations	
		n	(%)	n	(%)	n	(%)
1	Toilet facilities are properly identified.	192	79%	991	66%	270	86%
2	Toilet and handwash facilities are within a 5 minute walk or ¼ mile from the work location.	0	0%	0	0%	0	0%
3	Toilet facilities are maintained in a clean and sanitary manner constructed of rigid, non-absorbent material.	3	1%	6	0%	3	1%
4	Toilet facilities are appropriately screened to exclude vermin and flies.	0	0%	7	0%	1	0%
5	Toilet facilities are properly ventilated.	0	0%	23	2%	6	2%
6	Toilet facilities are provided with self-closing doors.	1	0%	4	0%	4	1%
7	Toilet facilities are lockable from the inside.	0	0%	0	0%	0	0%
8	Toilet facilities have a minimum area of 8 sq. ft. and a minimum width of 2 ½ ft.	0	0%	1	0%	0	0%
9	Toilet facilities containing a urinal have a minimum area of 10 sq. ft. and a minimum width of 2 ½ ft.	0	0%	2	0%	0	0%
10	The waste water tank is durable and easily cleanable.	0	0%	6	0%	0	0%
11	The waste water tank has a capacity of 40 gallons or greater.	0	0%	2	0%	0	0%
12	For each 20 employees, one separate toilet is required for each gender.	0	0%	0	0%	0	0%
13	The contents of the toilets are disposed of in a permitted manner.	0	0%	0	0%	0	0%
14	Toilet paper is provided in a suitable holder for each toilet.	0	0%	18	1%	0	0%
15	Handwash facilities are provided at the unit or in the immediate vicinity.	1	0%	13	1%	0	0%
16	Provide soap and towels at handwash facilities.	37	15%	133	9%	5	2%
17	The water tank has a minimum capacity of 15 gallons or greater.	0	0%	0	0%	0	0%
18	Wastewater tank at handwash facility must have a capacity of 30 gallons or greater.	3	1%	0	0%	0	0%
19	Signs are posted indicating that the water is for handwash purposes.	6	2%	222	15%	26	8%
20	Potable drinking water is provided and readily accessible to all employees.	1	0%	48	3%	0	0%
21	The water is fresh, pure, cool and in sufficient amounts.	0	0%	12	1%	0	0%
22	The water is dispensed in single use, drinking cups or by fountains.	0	0%	14	1%	0	0%
<b>Total</b>	Total violations requiring timely correction	202	83%	1258	84%	307	97%
	Total violations requiring immediate correction	42	17%	244	16%	8	3%
	<b>Grand total of All Violations</b>	244	100%	1502	100%	315	100%

Note: Violations appearing in **black** require correction within five days. Violations in **red** are California Health and Safety Code violations that require immediate correction.

Source: Monterey County Field Toilet Inspection Program.

Prepared by Monterey County Health Department, Epidemiology and Evaluation Unit

**Sample compliance Seal**

