

Health Consultation

EXPOSURE INVESTIGATION

LANDIA CHEMICAL COMPANY
(a/k/a FLORIDA FAVORITE FERTILIZER)

LAKELAND, POLK COUNTY, FLORIDA

CERCLIS NO. FLD042110841

AUGUST 10, 2000

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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HEALTH CONSULTATION

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Prepared by:

Florida Department of Health
Bureau of Environmental Epidemiology
Under a Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

Summary and Statement of Issues

This health consultation evaluates the public health implications from eating pole beans and pinto beans grown from a vegetable garden on Wayman Street southwest of the Landia Chemical/Florida Favorite Fertilizer (FFF) hazardous waste site. A Polk county resident who lives near Kathleen, Florida, north of Lakeland requested the Florida Department of Health (FDOH) to sample beans from his freezer. The beans were given to him by a resident who lived on Wayman Street, southwest of the site.

FDOH developed this consultation under a cooperative agreement with the U.S. Agency for Toxic Substances and Disease Registry (ATSDR). The conclusions and recommendations of this consultation are only applicable to the individual and his family who requested the vegetable testing.

Background

Landia Chemical/Florida Favorite Fertilizer (Landia/FFF) is a 12-acre hazardous waste site in Lakeland, Polk County, Florida (Figures 1 and 2). Until 1987, Landia Chemical Company operated a pesticide storage, blending, and manufacturing business on half of the site. Florida Favorite Fertilizer continues to operate a fertilizer storage, mixing, and distribution business on the other half. In 1983 nearby residents complained that pesticide odors from the ditch that receives storm water runoff from the site were causing nausea, headaches, dizziness, and eye/respiratory irritation. As a result of a 1983 investigation by the Florida Department of Environmental Protection (FDEP), Landia removed contaminated sediment from the first 1,000 feet of the storm water ditch draining the site.

From 1984 to 1999, Landia contractors, DEP and EPA collected off-site surface soils and analyzed the soil samples for solvents, pesticides and metals. Off-site groundwater and drainage ditch sediment samples were also taken and analyzed.

On September 16, 1999, Randy Merchant, FDOH, attended a public meeting for this site. During the meeting, a Polk County citizen expressed concern about vegetables in his freezer that were grown at a property on Wayman Street near Kansas Avenue southwest of Landia/FFF. His mother-in-law lived on Wayman Street for 30 years and had a vegetable garden with corn and beans. The citizen had kept the beans in his freezer since summer of 1998. Since the garden was located near a hazardous waste site, the citizen requested the vegetables be tested to determine if vegetables from the garden were safe to eat.

In a February 2000 public health assessment, the FDOH determined that there is currently no apparent public health hazard for nearby residents. Site access is restricted and currently contaminated groundwater is not used. However, this site may be a public health hazard in the future if people are exposed to on-site surface soil or groundwater.

On March 20, 2000, Gene Jeffers, Polk County Health Department (PCHD), collected two quarts of pole and pinto beans from the household that requested the vegetable testing. Mr. Jeffers shipped the beans via Airborne Express overnight to ABC Research Corporation laboratory in Gainesville, FL.

Laboratory Methods and Analysis

On March 31, 2000 ABC Research Corporation in Gainesville, Florida analyzed one quart each of pinto beans and pole beans received from PCHD. The laboratory analyzed the beans for arsenic and lead using EPA methods SW 7061 and SW 6010 respectively. The bean samples were also analyzed for organochlorine and organophosphorus pesticides using EPA's Pesticide Analytical Method (PAM I 3rd 302). The organochlorine pesticides analyzed were aldrin, benzene hexachloride, DDD, DDE, DDT, diazinon, dieldrin, endrin, heptachlor, heptachlor epoxide, hexachlorobenzene and lindane. Organophosphorus pesticides analyzed were chlorpyrifos, diazinon, ethion, ethyl parathion, guthion, malathion, methoxychlor, mirex and trithion.

Discussion

Evaluation of the Test Results:

The concentrations of arsenic and lead in the beans were below detection limits of 0.25 parts per million (ppm) and 1.00 ppm respectively. All of the organochlorine and organophosphorus pesticides were non-detectable. The detection limit used for analyzing each of these pesticides was 0.01 ppm. Since arsenic, lead and pesticides were not detected, these chemicals are not likely to cause illness.

Other Health-Based Standards:

The Food and Drug Administration (FDA) Action Levels² for legume vegetables for aldrin/dieldrin and benzene hexachloride, is 0.05 ppm. The action levels for heptachlor epoxide, DDT and DDE are 0.01 ppm, 0.2ppm, 0.2 ppm. and 0.5 ppm respectively. These FDA Action Levels represent limits at or above which FDA will take legal action to remove products from the market. The concentrations of arsenic, lead and organochlorine/organophosphorus pesticides in the beans were below detection limits which are also less than the FDA action levels.

Children's Health Section

The concentrations of arsenic, lead and organochlorine/organophosphorus pesticides in pinto beans and pole beans from the garden on Wayman Street near Landia/FFF are not likely to cause illness in children.

Conclusions

Concentrations of arsenic, lead and organochlorine/organophosphorus pesticides in pinto beans and pole beans taken from Wayman Street near Landia Chemical/FFF are not likely to cause illness in children or adults. Based on current data, the vegetables grown in the Wayman Street garden pose a no apparent health hazard.

Recommendations

At this time, FDOH does not recommend evaluating additional vegetable samples near the Landia/FFF hazardous waste site.

Public Health Action Plan

FDOH will mail a copy of this consult to the citizen that requested vegetable sampling.

FDOH will evaluate additional information as it becomes available.

PREPARER OF REPORT

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ATSDR Technical Project Officer

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Division of Health Assessment and Consultation
Superfund Site Assessment Branch

Definitions

Detection Limit - the minimum concentrations that must be accurately and precisely measured by the laboratory and/or specified in the quality assurance plan.

organochlorine pesticides - chemicals containing chlorine used to kill pests.

organophosphorus pesticides - chemicals containing phosphorus used to kill pests.

Parts Per Million (ppm) - a common basis of reporting water analysis. One part per million (ppm) equals 1 pound per million pounds of water; 14.3 equals one grain per Imperial gallon.¹⁰

References

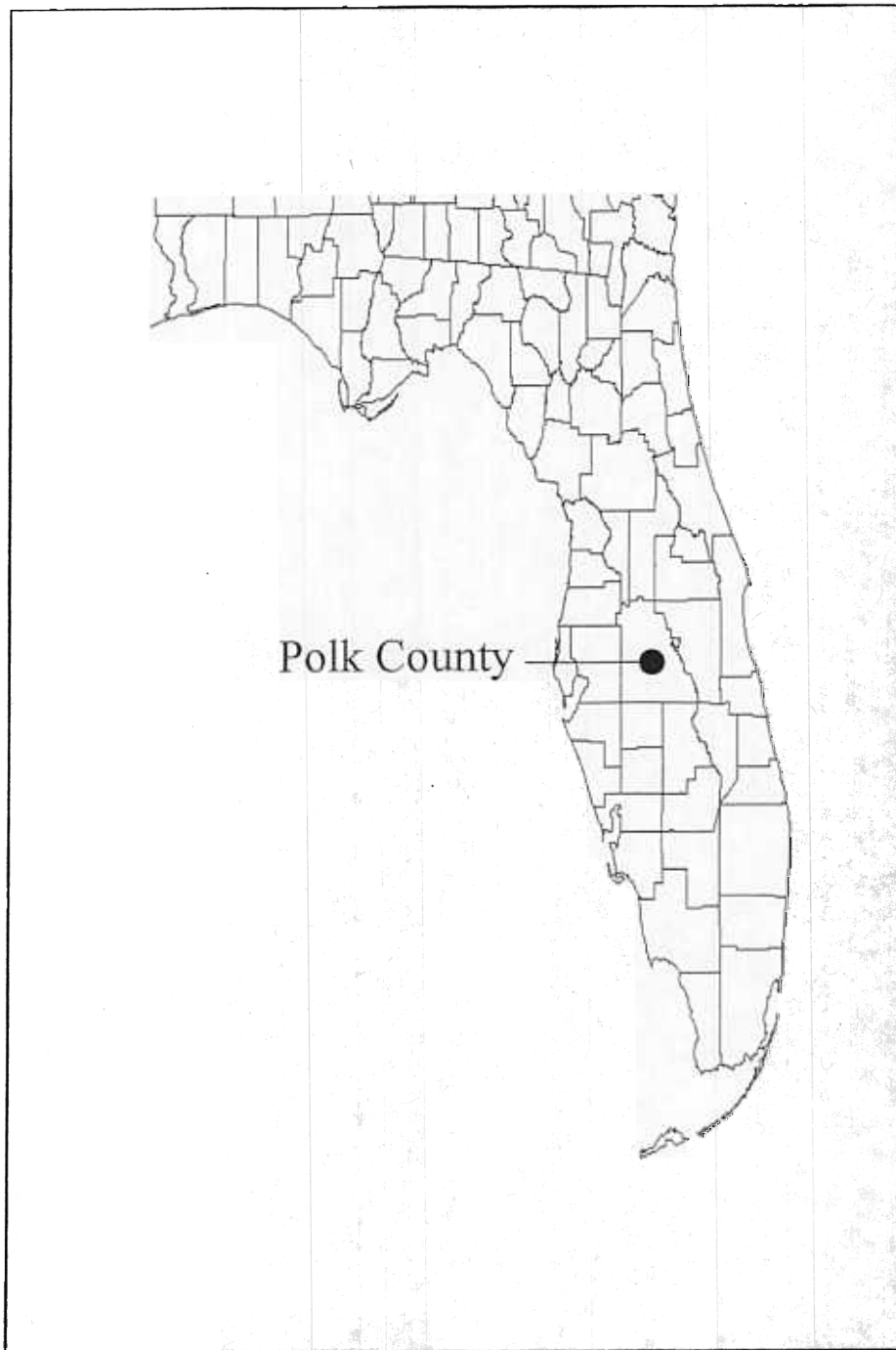
1. Department of Health and Human Services. 1998. Action Levels for Poisonous or Deleterious Substances in Human Food and Animal Feed. Washington, D.C.: Public Health Service, Food and Drug Administration
2. Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Public Health Assessment Guidance Manual. Lewis Publishers

APPENDIX A - FIGURES

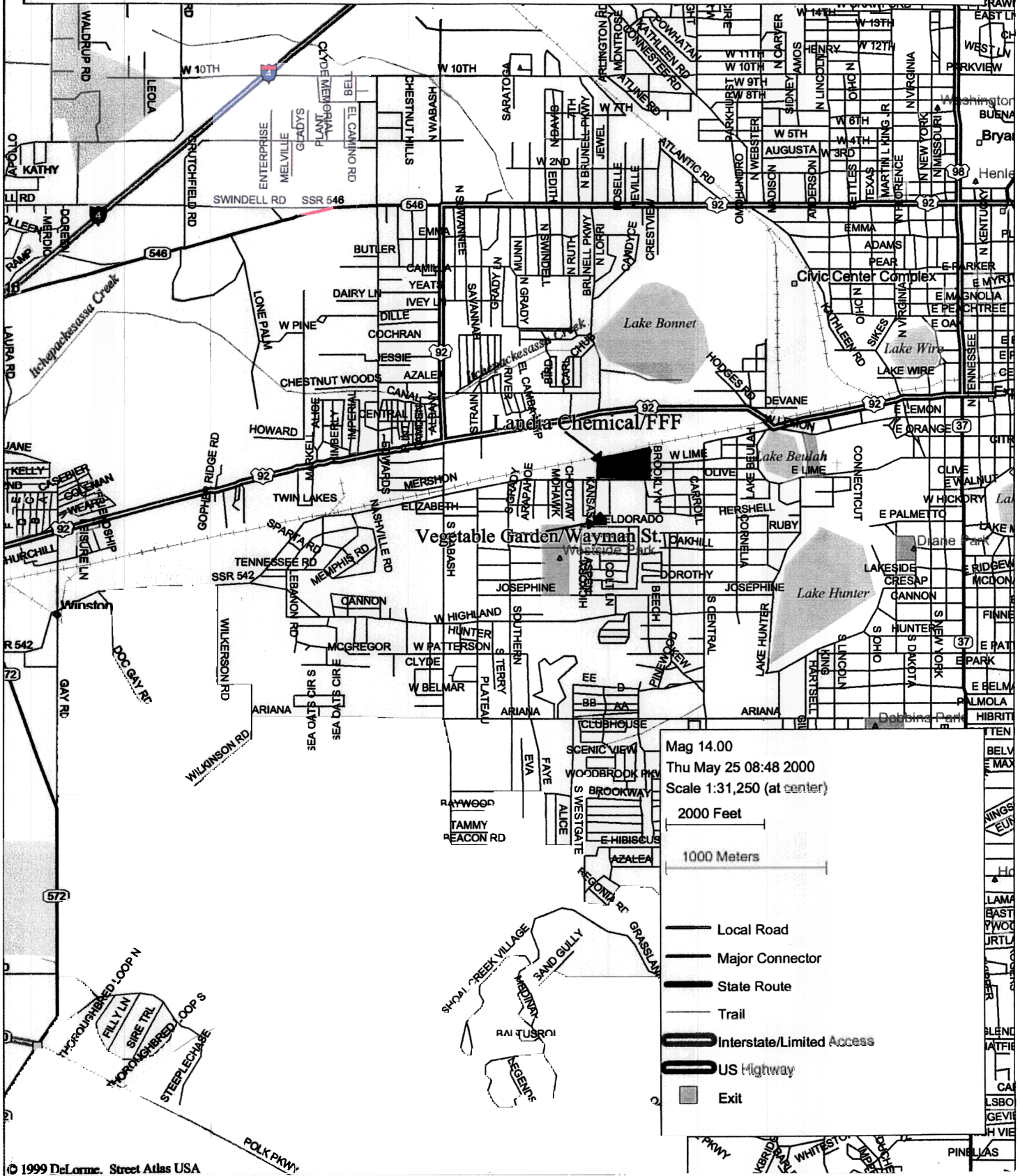
Figure 1: Site Location County Map

Figure 2. City Map including location of garden on Wayman Street

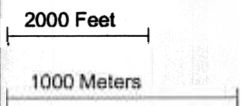
Location of Polk County in Florida



Site Location Map: Lakeland, FL



Mag 14.00
 Thu May 25 08:48 2000
 Scale 1:31,250 (at center)



- Local Road
- Major Connector
- State Route
- Trail
- Interstate/Limited Access
- US Highway
- Exit

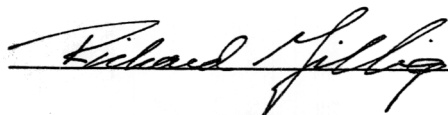
CERTIFICATION

The Landia Chemical/Florida Favorite Fertilizer Health Consultation was prepared by the Florida Department of Health, Bureau of Environmental Epidemiology, under a cooperative agreement with the Agency for Toxic Substances and Disease Registry. It is in accordance with approved methodology and procedures existing at the time the health consultation was begun.



Debra Gable
Technical Project Officer, SPS, SSAB, DHAC

The Division of Health Assessment and Consultation, ATSDR, has reviewed this health consultation, and concurs with its findings.



Richard Gillig
Branch Chief, SPS, SSAB, DHAC, ATSDR