



Crop Dusting CCI **October 2, 2008**

On September 8, 2008, the Lieutenant Governor's office referred a resident to the Chemical Hazards Program (CHP) with concerns about a possible cancer cluster and crop dusting practices, and the potential for exposure to pesticides in water wells and fish. The resident lives in an agricultural area of Colquitt County, Georgia, where various crops grown on farms include food and non-food crops such as cotton, peanuts, corn, and hay. The resident is concerned about the number of cancer cases in his area, about the potential for exposure to pesticides, specifically cotton defoliant chemicals, through his private water well and from consuming locally caught fish.

To address these concerns, CHP conducted a review of available regulatory, public health, and general information on crop dusting. Crop dusting, or aerial pesticide application, is regulated by the Georgia Department of Agriculture (GDA). Those who apply pesticides are required to be certified by GDA. Those who apply pesticides using aircraft are also required to be certified by the Federal Aviation Administration.

Pesticides are regulated by the U.S. Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), and GDA. Pesticide chemicals are used, sold, and distributed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Federal Food, Drug, and Cosmetic Act (FFDCA), and Food Quality Protection Act (FQPA). FIFRA was passed in 1972, and requires that any pesticide product be registered prior to manufacture, sale, or distribution. FIFRA also requires that pesticides not pose a human dietary risk from residues that result from uses inconsistent with labeling standards under the FFDCA of 1938. Under FIFRA, pesticides are categorized as restricted or general use, and pesticide labels indicate uses that are lawful for that pesticide. EPA further regulates food crop pesticides under the Food Quality Protection Act (FQPA) of 1996, which amended FIFRA and FFDCA to set stricter safety standards for new and old pesticides, and to make uniform requirements for processed and unprocessed foods.

Pesticides used for food crops are more heavily regulated and have different criteria/standards than those used for non-food crops. In addition to applicable FIFRA laws, FFDCA provides laws about maximum residue levels for pesticides used on food crops known as "tolerances". Both FIFRA and FFDCA were amended in the last 15 years to establish additional restrictions on pesticides and their use.

All these federal laws must consider human and animal health, environmental quality, social and economic factors. Fishes are especially sensitive to pesticides, and may die if exposed. Pesticide spray drift is an incidental application of a pesticide in an area that is unintended for use; pesticides may be properly applied but carried by wind to an unapproved area and contaminate recreational waters used for fishing. Federal and state laws and regulatory activities ensure that pesticide application minimizes effects on wildlife.

CHP spoke with the GDA Commercial Pesticide Section which provided me with information about pesticide regulation and use in Georgia. In Georgia, agricultural activities have been regulated since the development of the GDA in 1874. Historically, chemical pesticides were applied more heavily, until many were banned in the 1970s under FIFRA. Since then, chemical pesticide use has decreased and many safer, more species-specific chemicals are applied. The University of Georgia Cooperative Extension county agent indicated that Colquitt County does not spray insecticides, but does spray herbicides. Among the herbicides used is Round Up®, which is registered and approved for use in the home as well as on farm crops. At this time of year, cotton defoliants are sprayed in preparation for the next year's planting season. Cotton defoliants are herbicides that facilitate leaves falling off of the cotton plants. Several different chemicals are used for defoliating cotton depending on the season. Different chemicals have different environmental fates and transports, effects on wildlife, and potential effects on humans, all of which are minimized by GDA through the enforcement of federal laws.



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More information about pesticides, pesticide regulation, and pesticide use in Georgia can be obtained from the Commercial Pesticide Section of GDA, and from the University of Georgia Cooperative Extension county office. The National Pesticide Information Center can also provide more information about national pesticide laws and regulations. The resident was referred to the University of Georgia Cooperative Extension to address any questions he may have about sampling for pesticides. CHP asked him to fax the results if he chose to conduct any sampling.

To address concerns about a possible cancer cluster in his community, CHP requested cancer data analyses from the Georgia Comprehensive Cancer Registry (GCCR). The resident reported that eight cancer cases he is concerned about are common types: breast, ovarian, prostate, and bladder cancer.

GCCR analyzed cancer data for Georgia, Colquitt County, and for Zip Code 31771. In summary, there are no cancer types that are found for the county or zip code that have significantly higher rates or numbers of cases than found across the state. Additionally, the top cancer sites found for Zip Code 31771 and Colquitt County are the most common types of cancers.

According to the American Cancer Society and other sources, one out of three Americans now living will

eventually develop cancer. Cancer is the second leading cause of death in the United States following heart disease. Given the frequency of cancer diagnosis among all Americans, it is not surprising to know that many people in a neighborhood or workplace have a cancer diagnosis.

Cancers may be caused by a variety of factors acting alone or together, usually over a period of many years. Scientists estimate that most cancers are due to factors related to how we live, or lifestyle factors which increase the risk for cancer including: smoking cigarettes, drinking heavily, and diet (for example, excess calories, high fat, and low fiber). Other important cancer risk factors include reproductive patterns, sexual behavior, and sunlight exposure. A family history of cancer may also increase a person's chances of developing cancer.

Public Health Recommendations

If the resident is still concerned about a possible cancer cluster, he can collect and send CHP additional information from people in the community with cancer:

- Name and address
- Length of residency in area
- Where diagnosed
- Types of cancer
- Year of onset