

# **BIOSOLID USE IN KERN COUNTY**

## **PURPOSE OF INQUIRY:**

The Health, Education, and Social Services (HESS) Committee along with other members of the 2004-2005 Kern County Grand Jury, pursuant to Penal Code Section 925 has for the past five months investigated the use of “Biosolids” on land in Kern County. The investigation was initiated by the published concerns of many stakeholders regarding the close proximity of biosolid use over the Kern Water Bank and local aquifers. The source of the biosolids is also of concern to residents.

## **PROCESS:**

The Committee and other members of the 2004-2005 Kern County Grand Jury have conducted numerous interviews, examined Federal, State, and County laws, documents, and permits. Also reviewed were numerous web sites regarding the pros and cons of using biosolids for land application. Pictures have been taken onsite of the land application in process. Extensive research has been performed into the use of biosolids in Kern County, the United States, and around the world. The Committee also reviewed scientific studies into biosolid use with regard to plant uptake and the leeching into ground water of nitrates, salt, heavy metals, pharmaceuticals, and pathogens. The aforementioned by-products, except for some pathogens, are not removed by the current treatment of biosolids. Biosolids are comprised of human and industrial waste which is an unpredictable mixture of everything that enters the sewers. The Grand Jury has attempted to take an unemotional look at a controversial subject and issue a report.

## **BACKGROUND:**

The term biosolid(s) is a euphemistic term used to describe treated municipal sewage sludge (human and industrial waste) applied to agricultural land as a soil amendment. In 1948 the Water Pollution Control Act was passed and has been amended extensively. In 1977 the Clean Water Act provided further amendments. In 1988 the Federal Government banned ocean dumping of municipal waste and the State of California has mandated a reduction of waste deposited in landfills. The three events mentioned have complicated the issue of what is to be done with municipal waste, be it called municipal waste, sludge, or biosolids, in that two of the major sources of disposal are now gone.

## **FINDINGS:**

The County of Kern has grappled with the issue since 1996. The end result of the County’s efforts was to write an ordinance limiting the land application to Class A – Exceptional Quality (A-EQ) biosolids for the protection of the public health. The A-EQ standard requires additional processing of the sludge to reduce additional pathogens. Kern County has been sued for making the ordinance so strict and requiring only the “highest quality” sludge.

There are as many as 100,000 chemicals used in American industry and as many as a thousand new chemical compounds are placed into commercial use each year. The chemicals are entering the sewage stream daily.

In 1997 an opinion of the Federal Fifth Circuit Court of Appeals (Scalamandre et.al. v. Kaufman et. al.) stated, “The conclusion the evidence at trial suggests is that experts have yet to reach a consensus on the safety of land application of biosolids.”

The Environmental Protection Agency (EPA) statutory mandate is “to protect public health and the environment from any reasonably anticipated adverse effects.” The EPA Office of the Inspector General has completed two assessments of the sewer sludge program. In 2002 the report stated that the EPA did not have an “effective program for ensuring compliance with the land application requirements of the sludge rule.” Later in the same year, the EPA stated that “EPA cannot assure the public that current land application practices are protective of human health and the environment.”

In 2003, a court in Augusta, Georgia ruled that sewage sludge caused the deaths of 300 dairy cows on the Boyceland Dairy Farm. The cows died after eating hay grown with sludge that was in compliance with the Environmental Protection Agency rules (Boyceland Dairy v. City of Augusta, Richmand County Superior Court).

The Center for Food Safety reports that the EPA monitors only nine of the thousands of pathogens commonly found in sludge. The EPA rarely performs site inspections of sewage treatment plants or farms where sludge is used. The Centers for Disease Control, the National Research Council, and medical professionals have been critical of the regulations regarding the use and disposal of sludge.

Kern County has set up an ordinance (Chapter 8.05) for dealing with the land application of biosolids. The only biosolids that can be used in Kern County are Class A-EQ. This is the cleanest product that is produced today. The ordinance also lays out the rules under which biosolids can be applied to the land for agricultural use.

The ordinance tells the “Applier” the quantity of biosolid, which applied to each parcel of agricultural land, according to the amount of nitrogen each crop needs. The Applier is also regulated as to how close to roads, wells, out buildings, schools, homes, and businesses that an application can be made. The ordinance also states what and when tests are to be done by a certified laboratory and sent to the Kern County Environmental Health Department.

Kern’s ordinance states, “Any person violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor.”

#### **COMMENTS:**

The disposal of human waste is a global problem and has been since man first arrived. With the huge population now present it behooves Local, State, and Federal governmental bodies to find ways to afford long term protection to the environment and health of County citizens.

Each community is wrestling with the problem of waste and attempting to find a solution with the least cost involved. Accordingly, Los Angeles, Orange, and other counties have spent large sums of money to solve the challenge of sludge disposal. Several years ago outside counties began to haul sludge not treated to A-EQ standards (for removal of pathogens) to sites outside county boundaries. Kern County was one of the destinations.

The biosolid issue became a matter of concern to the Kern County Board of Supervisors and after considerable investigation by an ad-hoc committee held many meetings with expert and governmental witnesses. In January 2003 the County Board of Supervisors enacted an ordinance limiting the application of sludge to the Class A-EQ condition where most pathogens have been removed. Los Angeles and others objected to this most stringent requirement and have filed what has become an ongoing and expensive law suit against Kern County. Kern County has prevailed to date but the matter is now before the 5<sup>th</sup> District Appellate Court for review.

Los Angeles has purchased property in Kern County located over a ground water basin near the Kern County Water Banking area and on the 100 year flood plain. The sludge is applied as a soil nutrient and the "Farm" is growing a limited number of forage crops. The crops are being sold to the dairy farmers located near the "Farm." Kern County is currently accepting biosolids from City of Oxnard, Orange County, and the City of Los Angeles. The slightest possibility of pollution of the County's ground water and the water bank facility is a chance the County cannot afford to take.

#### **RECOMMENDATIONS:**

The Grand Jury makes the following recommendations to better serve the population of this County.

1. The Grand Jury recommends a complete and outright ban of all classes of biosolids until scientific testing proves that usage of biosolids poses no health threat to either animals or humans. Current regulations for the safe usage of biosolids have been established using a risk analysis method as opposed to actual testing.
2. In effect all County citizens are stewards of the land, the environment, and the abundant resources with which the County is blessed. Should it be determined that an outright ban on land applications of biosolids is not possible the Jury recommends the following:
  - a. A complete review of the ordinance and steps taken to ensure there is adequate oversight and monitoring with the use of a full time qualified County inspector.
  - b. An Agronomist must be used to ensure proper testing for leaching of nitrates and salts into the ground water and to check the agronomic load used on the crop growth. The use of biosolids adds to the total salt loads in valley soil and is an issue that must be addressed in the future.

- c. An increase in the permit fee from the current \$8,000.00 per permit to an annual \$20,000.00 per permit would provide enough monies to fund a new position created specifically to monitor biosolid usage in the County based upon the four permits active at this time.
- d. The Health Department should render an opinion in assessing the adequacy of the protection afforded by this ordinance.
- e. All biosolid application activities in the past, present, and future should be recorded on property deeds so that future potential buyers are aware of the prior use of the property.
- f. The definition of the term “Applier” is vague and needs to be clarified with a more specific definition.
- g. Permits must require the name of the “Generator” and the location of the source of the biosolids. Permittees must be responsible for all costs of testing by an independent laboratory. The Generator/Applier must be held responsible for all reporting as required.
- h. It is recommended that the problem of residual pharmaceuticals and new compounds be addressed in any future ordinance adopted.
- i. The departments involved should post a copy of this report where it would be available for public review.

Note: Present and past Kern County Grand Jury Final reports and responses can be accessed at the County Library and on the Kern County Grand Jury web-site:

[www.co.kern.ca.us/grandjury](http://www.co.kern.ca.us/grandjury)

**RESPONSE REQUIRED:**

**WITHIN 60 DAYS  
TO PRESIDING JUDGE  
KERN COUNTY SUPERIOR COURT  
1415 TRUXTUN AVENUE  
BAKERSFIELD, CALIFORNIA 93301**