

MINUTES OF THE HOUSE COMMITTEE ON ENVIRONMENT.

The meeting was called to order by Chairperson Joann Freeborn at 3:30 p.m. on March 8, 2001 in Room 231-N of the Capitol.

All members were present except:

Committee staff present: Emalene Correll, Kansas Legislative Research Department
Raney Gilliland, Kansas Legislative Research Department
Mary Torrence, Revisor of Statute's Office
Mary Ann Graham, Committee Secretary

Conferees appearing before the committee: Dr. Steven Graham, Agriculture Department, Waters Hall, Kansas State University, Manhattan, KS 66506
Dr. William Hargrove, Director (KCARE), 044 Waters Hall, Kansas State University,, Manhattan, KS 66506
Dr. Alan Schlegel, Professor and Agronomist,
Dr. Jay M. Ham, Professor, Department of Agronomy, Kansas State University, Manhattan, KS 66506
Mike Beam, Kansas Livestock Association 6031 SW 37th, Topeka, KS 66614-5129
Terry Leatherman, Kansas Chamber of Commerce and Industry, 835 SW Topeka Blvd., Topeka, KS 66612-1671
Greg Krissek, Director of Operations, Kansas Corn Growers Association, PO Box 446, Garnett, KS 66032-0446
Leslie Kaufman, Kansas Farm Bureau, 2627 KFB Plaza, Manhattan, KS 66505-8508
Francis Kelsey, Northwood Farms Inc., PO Box 127, Silver Lake, KS 66539-0127
Gary Blackburn, Director, Bureau of Environmental Remediation, Division of Environment, KDHE, Forbes Field 740, Topeka, KS 66620-0001
Tom Palace, Executive Director, Petroleum Marketers & Convenience Store Association, 201 NW Hwy 24, Suite 320, Topeka, KS 66608-0479
Joe Lieber, Kansas Cooperative Council, 816 SW Tyler, Ste 300, Topeka, KS 6612

Others attending: See Attached Sheet

Chairperson Joann Freeborn called the meeting to order at 3:30 p.m. She reviewed the committee agenda for Tuesday March 13. She announced there will be a meeting at 12:00 p.m. to 1:30 p.m. on that day, at the Dillon House for all House members, to review **Senate Substitute for SB204**. Lunch will be provided.

The Chairperson welcomed Dr. Steven Graham, Kansas State University, to the committee. He introduced the K-State staff that was briefing the committee on the Animal Waste Lagoon Research Project report, with the use of overhead slides.

Dr. William Hargrove, Director (KCARE) summarized highlights from the study of animal waste lagoons. Seepage rates have been measured for a total of 18 lagoons in Kansas, including beef cattle, dairy, and swine. In the past year, the focus has been on the Equus Beds Region; measured 2 swine and 2 cattle lagoons; all of these had seepage rates less than or equal to 0.03 in/day. There is no evidence that fecal coliform bacteria seep through the bottom of lagoons; there is evidence that large amounts of chloride seep through lagoons and moves to greater depths than ammonium; it is difficult to assess the environmental impact of chloride leaching. The risk of groundwater contamination is determined by the soil properties underneath the lagoon,

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the concentration of the waste, and the depth to groundwater; because these factors vary from location to location, site specific guidelines are needed for lagoon design, permitting, and closure; they have developed such guidelines and delivered them to KDHE. (See attachment 1) Questions and discussion followed.

Dr. Alan Schlegel, Professor and Agronomist reviewed the impact of land application of swine and beef cattle wastes on soil properties and crop growth. Animal wastes can be a valuable resource for crop production and can enhance soil chemical and biological properties. However, improper management of animal wastes can cause environmental concerns and have deleterious impact on soil physical properties. Recent legislation in Kansas requires monitoring of soil chemical properties on soils receiving application of wastes from larger swine facilities. Based on soil test phosphorus (P) levels, application of swine wastes may be restricted or even eliminated on particular fields. Best management practices (BMP's) have been established to minimize excessive buildup of soil test P. However, the impact of these BMP's has not been validated in field settings. Although only swine wastes are regulated by the Kansas legislation (HB2950), there are proposed national standards that would regulate land application of wastes from other animal types (including beef cattle). Since beef cattle produce the most waste in confined feeding operations in Kansas, this project includes application of both swine and beef cattle wastes. The objectives of this research are to determine the impact of application of swine and beef cattle wastes on soil properties (chemical, biological, and physical) and crop growth; and to evaluate and validate the effectiveness of current BPM's. (See attachment 2) Questions and discussion followed.

Dr. Jay Ham, Professor, Department of Agronomy, reviewed Animal Waste Lagoons and Water Quality results from a four year field investigation. He addressed questions as to: What is the seepage rate from lagoons; What materials are in lagoons that may pose a threat to groundwater quality; What happens to contaminants that do seep from lagoons; How is the risk of groundwater contamination affected by location, type of operation, soil type, etc.; and What are the best management strategies for lagoon design, construction, and management. He discussed key factors affecting risk of groundwater contamination; Depth to water table; Soil properties (% clay) between lagoon and water table; Concentration in waste (species); and Duration of lagoon use (lagoon age). Although their research has not explored every conceivable aspect of lagoon use, data from over 35 sites suggests that the risk of groundwater contamination from lagoons is minimal except in areas with vulnerable aquifers (30 feet deep, sandy soils). This statement is made assuming all abandoned lagoons are proper. (See attachment 3) Questions and discussion followed.

Chairperson Freeborn thanked the K-State presenters for their staff briefing. She opened hearing on **SCR 1605**.

SCR1605: A concurrent resolution urging the Bush administration to withdraw certain environmental protection agency regulations.

The Chairperson welcomed Mike Beam, Kansas Livestock Association to the committee. He provided testimony in support of the resolution and has concerns with two issues mentioned. KLA members are opposed to the July 3, 200 EPA regulations and are hoping EPA will make considerable changes in their proposed Confined Animal Feeding Operation (CAFO) guidelines. Two documents that outline analysis and views on these issues are attached. (See attachment 4)

Terry Leatherman, Vice President, Legislative Affairs, Kansas Chamber of Commerce and Industry, was welcomed and testified in support of the resolution. The Kansas Chamber has been very concerned about the actions of the federal Environmental Protection Agency (EPA) this past summer and fall regarding water quality issues in Kansas. In September, the EPA action prompted the KCCI Board of Directors to support a policy statement opposing this federal takeover of the state's responsibility to regulate the water quality in Kansas. The EPA's actions has certainly drawn the attention of citizens and trade associations in the state, as well as the Kansas Congressional delegation. Passage of the resolution adds the collective voice of the Kansas Legislature to this effort to retain the state's right to manage its water quality. (See attachment 5)

Greg Krissek, Kansas Corn Growers Association, was welcomed. He testified in support of the resolution and believes it sends an important message to the Bush Administration and the US Congress about Kansans'

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concerns about the water quality regulations proposed for the state last summer by the US Environmental Protection Agency. These proposed regulations have been highly visible the last nine months due to their potential far reaching impacts and expected effects upon every citizen of our state. With new leadership in the federal government and USEPA, their organizations hope that the opportunity exists for Kansas leadership to begin new discussions concerning these proposed regulations with the goal of resolving issues that remain in dispute. (See attachment 6)

Leslie Kaufman, Associate Director, Public Policy Division, Kansas Farm Bureau, was welcomed to the committee. She testified in support of the resolution on behalf of Farm Bureau. Farm Bureau's farmer and rancher members strongly support the authority of the state to properly, reasonably and appropriately regulate water quality in Kansas. EPA's proposed rule making that attempts to convert the state designated uses and potentially regulate farm ponds brought widespread opposition from Farm Bureau members. (See attachment 7) She introduced Francis Kelsey, Northwood Farms, Inc., to the committee.

Francis Kelsey, Northwood Farms, Inc., a farmer in the Kansas River Valley west of Topeka, was welcomed to the committee. He testified in support of the proposed resolution asking the federal government to withdraw some of the environmental regulations that were proposed by the Environmental Protection Agency during the past year. He outlined the reasons why he supports the resolution and is encouraged that a more common sense approach is being shown towards the regulation process in Washington, and would encourage the federal government to incorporate a sound scientific approach when writing environmental regulations. (See attachment 8) Questions and discussion followed.

Written only testimony was submitted by Jamie Clover Adams, Secretary, Kansas Department of Agriculture, in support of the resolution. (See attachment 9)

Written only testimony was submitted by Doug Wareham, Kansas Grain and Feed Association and the Kansas Fertilizer and Chemical Association, in support of the resolution. (See attachment 10)

There were no opponents to the resolution. Chairperson Freeborn closed the hearing on **SCR1605**. She asked if the committee wished to take action.

Rep. Sharon Schwartz made a motion SCR1605 be passed favorably. Rep. Ray Merrick seconded the motion. Motion carried. Rep. Sharon Schwartz will carry the resolution on the House Floor.

The Chairperson opened hearing on **SB183**.

SB183: An act concerning the Kansas storage tank act; relating to funds.

Gary Blackburn, Director, Bureau of Environmental Remediation, KDHE, was welcomed to the committee. He testified in support of the bill. The federal EPA passed regulations affecting underground storage tanks in December of 1988 which included the requirement for owners and operators of underground tanks to obtain pollution liability insurance. The Kansas Storage Tank Act created the reimbursement fund for underground tanks to satisfy that requirement. The provisions for the third party insurance coverage were assigned to a program within the Insurance Department. The act was amended in 1992 to include a reimbursement fund for aboveground tanks. Since the inception of the funds owners of about 1900 sites have participated in the underground and aboveground funds with an average of 9 new sites being added each month. Current projections indicate that the underground and aboveground funds will continue to add 9 to 10 sites per month. Extension of the sunset will save about \$100,000 per year in state general funds which would be needed after 2004 to replace underground funds which are currently being used to match a federal Leaking Underground Storage Tank grant. (See attachment 11)

Tom Palace, Executive Director, Petroleum Marketers and Convenience Store Association of Kansas, was welcomed and testified in support of the bill. PMCA of Kansas urges the committee to approve the extension of the underground and aboveground trust fund when it sunsets in 2004. He believes Kansas is very fortunate to have one of the best environmental trust funds in the country, not only as to how the fund was established

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but also by the management of the fund by the Kansas Department of Health and Environment. The trust fund provides the financial assurance to the people of Kansas that they will live in a clean and safe environment where any spill or leak from an underground or aboveground storage tank can be remediated quickly and successfully. (See attachment 12)

Joe Lieber, President of the Kansas Cooperative Council, was welcomed to the committee. He testified in support of the bill. The Council supports the bill because of the success of the State's storage tank program. This program has helped Kansas to clean up the environment and at the same time it has helped to keep the tank owners from going broke when there is a leak that they need to clean up. The Council also supports the amendment offered by the Petroleum Marketers. It is their understanding that this amendment will allow the unused premiums for the third party insurance, to be given back to the tank owners instead of being put into the Cleanup Fund. The tank owners are not getting off free when there is a leak, they must pay the deductible. (See attachment 13) Questions and discussion followed.

There were no opponents to the bill. The Chairperson closed the hearing on **SB183**. An amendment to the bill was distributed and the changes were explained by Mary Torrence, Revisor of Statutes.

Rep. Bruce Larkin made a motion the amendment on page 3 line 19 strike "transferred to such fund from the plan" insert "refunded from the plan to the insureds in proportion to the amount each has paid into the plan;" be adopted. Rep. Ray Merrick seconded the motion. Motion carried.

Rep. Bruce Larkin made a motion the bill be passed as amended. Rep. Becky Hutchins seconded the motion. Motion carried. Rep. Bill Light will carry the bill on the House Floor.

Chairperson Freeborn reviewed the committee agenda for next week, Tuesday, March 13 and Thursday, March 15. The meeting on March 13 will be on Gas Storage near the City of Hutchinson. The meeting on March 15 will have possible action on **SB237** and review of **Senate Substitute for SB204**.

The meeting adjourned at 6:10 p.m. The next meeting is scheduled for Tuesday, March 13, 2001.

HOUSE ENVIRONMENT COMMITTEE GUEST LIST

DATE: March 8, 2001

NAME	REPRESENTING
Terry Leatherman	KCCF
Steven Graham	K-State Research & Extension
Bill Hargrove	KCARE/K-State
Alan Schlegel	K-State Res. & Ext.
Jay M Ham	K-STATE, Agronomy
Gary Blackburn	Ks. Dept. of Health and Env.
Tom Winn	Ks. Dept. of Health & Env.
Tim Stroda	KS Pork Association
Rebecca Reed	KS Dept of Agriculture
Greg Kryssch	KS Corn Growers Assoc
Vin Kamp	City of Hays
Doug Smith	Pinegar-Smith Company
Hank Ernst	Kansas Water Office
Francis Kelsey	Shawnee Co. Farm Bureau
Kerri Ebert	Kansas Dairy Association
Leo Schwatz	Pork Producers
Mary Baxter	Day with Tom Sloan
Debra M Baxter	Day with Tom Sloan
David Miller	DOB

HOUSE ENVIRONMENT COMMITTEE GUEST LIST

DATE: 3-8-01

NAME	REPRESENTING
Bob Anderson	CASA's GEN. STORES
Joe Lieber	KS Co-op Council
Gene Brabill	LEAF

HIGHLIGHTS FROM THE K-STATE STUDY OF ANIMAL WASTE LAGOONS

Dr. Jay Ham, PI

**Summarized and Presented by:
W.L. Hargrove, Director, KCARE**

- ▶ Seepage rates have been measured for a total of 18 lagoons in Kansas, including beef cattle, dairy, and swine
- ▶ Seepage rates in KS ranged from 0.01 in/day to 0.10 in/day and averaged 0.05 in/day (Results from Iowa for 27 lagoons were in the same range and had the same average.)
- ▶ In the past year, the focus has been on the Equus Beds Region; measured 2 swine and 2 cattle lagoons; all of these had seepage rates less than or equal to 0.03 in/day
- ▶ Lagoon chemistry has been determined from 58 samples taken from 38 lagoons; the predominant form of N is ammonium and ranges in concentration from 10 to 3500 ppm; on average, swine lagoons are about 5 times higher in ammonium than cattle
- ▶ Coring has been done on 8 lagoons ranging in age from 12 to 25 years; results show that ammonium is held in clay beneath the lagoon; significant quantities of ammonium were not found at distances greater than about 10 ft from the bottom of the lagoon and in many cases not greater than about 3 ft below the bottom of the lagoon; quantities of ammonium were greater underneath swine lagoons compared to cattle lagoons
- ▶ There is no evidence that fecal coliform bacteria seep through the bottom of lagoons; there is evidence that large amounts of chloride seep through lagoons and moves to greater depths than ammonium; it is difficult to assess the environmental impact of chloride leaching
- ▶ Very large quantities of ammonium (tens to hundreds of tons) are stored in soil beneath lagoons; this presents a concern at lagoon closure
- ▶ The risk of groundwater contamination is determined by the soil properties underneath the lagoon, the concentration of the waste, and the depth to groundwater; because these factors vary from location to location, site specific guidelines are needed for lagoon design, permitting, and closure; we have developed such guidelines and delivered them to KDHE

*House Environment
3-8-01
Attachment 1*

Crop Growth in Soil Beneath Animal Waste Lagoons

Principal Investigators

M.B. Kirkham, Professor, Agronomy Department

Liansheng Zhu, Graduate student, Agronomy Department

Loyd R. Stone, Professor, Agronomy Department

Jay M. Ham, Professor, Agronomy Department

Funding

The Graduate Research Assistantship of master's degree student Liansheng Zhu, which for the Department of Agronomy is set at \$14,363 in 2000-2001. August 21, 2000 - August 20, 2001.

Introduction

When animal waste lagoons are closed, the effluent and sludge are removed, leaving the soil at the bottom of the lagoon. The soil consists of a clay liner that contains salts and high levels of ammonium-nitrogen. We want to see if we can grow plants in the soil, which can be used in a phytoremediation process to clean up the polluted soil.

Summary

Nine crop species were germinated under greenhouse conditions in soil taken at different locations beneath a closed animal waste lagoon in Manhattan, KS, to determine if plants would grow in the soil high in NH₄-N (ammonium-nitrogen) and salts. Concentrations of NH₄-N and salts were highest in the middle of the lagoon (921 mg/L NH₄-N; electrical conductivity = 2.49 dS/m). All species (barley, *Hordeum vulgare*; sunflower, *Helianthus annuus*; corn, *Zea mays*; winter wheat, *Triticum aestivum* '2137' and 'Turkey'; soybean, *Glycine max*; forage sorghum, *Sorghum vulgare*; grain sorghum, *S. bicolor*; and rapeseed, *Brassica* sp.) germinated and grew well in the sieved (2 mm) soil, except grain sorghum because an old seed lot was used. The wheat cultivar '2137' grew taller than 'Turkey.' Plants grew better in the lagoon soil than in a control agricultural soil, and this difference was attributed to the high levels of nitrogen in the lagoon soil. Soybean took up the most nitrogen, suggesting that it might be a good crop to grow in the lagoon soil to mine the nitrogen.

Recommendation for further investigation:

We currently are using organic amendments (oat straw; corn cobs) to tie up the excess nitrogen in the lagoon soil under greenhouse conditions. The goal is to prevent the nitrogen from leaching out of the soil. Under field conditions, leached nitrogen would end up in ground water and pollute it.

Publication:

Zhu, L., M.B. Kirkham, J.M. Ham, and L.R. Stone. 2000. Crop growth in soil beneath an animal waste lagoon. *Agronomy Abstracts*, p. 387. American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America, Madison, WI.

Animal Waste Lagoon Water Quality Study

Principal Investigators

J.M. Ham, Professor, Agronomy Department

L.N. Reddi, Professor, Civil Engineering Department

C.W. Rice, Professor, Agronomy Department

Funding: Kansas Department of Health and Environment, \$70,000

Duration: July 1, 2000 to June 30, 2001

Introduction

Anaerobic lagoons are used to collect, treat, and store animal waste at many confined animal feeding operations (CAFOs) in Kansas. Lagoons contain nutrients, salts, pathogens, and other chemicals that potentially could impact drinking water supplies. The purpose of this project is to study seepage losses from lagoons and determine under what circumstances these losses could affect groundwater quality. Specific objectives include: (1) measure the whole-lagoon seepage rates at existing CAFOs in Kansas; (2) survey the chemistry of lagoon effluent; (3) measure soil chemical properties and microbial populations beneath old animal waste lagoons; and (4) study the movement of lagoon effluent and microbes through different types of compacted clay or synthetic liners. Results from the research will provide information that can be used to optimize site selection for new lagoons, improve lagoon design criteria and construction methods, and develop best management practices for lagoon closure. This is the fourth and final year of the project.

Summary

Whole-lagoon seepage rates have been measured from 18 lagoons in Kansas. Study sites included cattle feedlots, swine facilities, and one dairy. Seepage rates ranged from 0.2 mm/day (<1/100 inch./day) to 2.4 mm/day (1/10 inch./day) with an overall average 1.23 mm per day (or 1/21 inch per day). Fifteen of the 18 lagoons tested had seepage rates less than 1/16th inch per day. Seepage rates from three lagoons in the Equus Beds region were 0.6, 0.7, and 0.8 mm/day (all less than 1/32 inch per day). Analysis of lagoon effluent (58 samples from 38 sites) indicated large differences in lagoon chemistry between locations. Ammonium nitrogen, which accounted for over 99% of the soluble nitrogen, ranged from 10 ppm to 3500 ppm. On average, nitrogen concentrations in swine lagoons were about five times higher than those at cattle feedlots. Soil cores were collected beneath eight lagoons that had been operated from 12 to 25 years. Results showed that ammonium nitrogen was strongly adsorbed by the soil clay particles and that nitrogen concentrations often decreased to background levels at 3 m (10 ft) beneath the lagoon. In most cases, about 75% of the ammonium nitrogen that had seeped from the lagoon was still within 1 m (3 ft) of the liner. Soil nitrogen under lagoons at cattle feedlots was lower than that observed at swine facilities. Other ions, such as chloride, penetrated to much lower depths at all locations. The reservoir of ammonium nitrogen that exists beneath older lagoons could convert to nitrate (a mobile form of nitrogen) and migrate to lower depths after lagoon closure. Data suggest that the properties in the soil beneath lagoons, the concentration of the waste, and the depth to groundwater are the crucial factors that affect the risk of groundwater contamination. Because all of these factors vary with location and the type of CAFO, decisions regarding lagoon design, permitting, and closure should be site specific. A logical framework and software tool were developed that allows for site-specific lagoon design. Results have been published in peer-reviewed scientific journals.

Recommendations for Further Study

Research topics that need further study include: (1) fate and transport of ammonium nitrogen trapped beneath lagoons, (2) best management practices for lagoon closure, and (3) development of improved software tools for lagoon siting and design.

Fecal Coliform in Kansas Surface Waters

Principal Investigators:

Charles W. Rice, Professor, Department of Agronomy

Funding:

\$133,044 State Conservation Commission Jan. 1998 - June 2001

\$100,000 Kansas Department of Agriculture Jan. 1999 - June 2001

\$10,000 Kansas Water Office (year one only - 1998)

Introduction

Bacterial contamination is one of the primary or secondary contaminants in the majority of the twelve major river basins in Kansas. Microbial contamination of water resources results in impaired use due to the increased risks to humans and the degradation of recreational and drinking water quality. Fecal Coliform (FC) limits in surface water vary depending on the intended use. For recreational primary contact, e.g. swimming, the maximal allowable standard for FCs is 200 colony forming units (CFU)/100 mL water. For secondary contact, e.g. fishing, the standard is 2000 CFU/100 mL water. For finished drinking water the standard for fecal coliforms (FC) is <1CFU/100 mL. Sources of coliform bacteria include runoff from animal feedlots, livestock grazing lands, and urban areas; wildlife, and waste handling systems including septic and treatment plants.

Summary

In 1998, Kansas State University developed a study in collaboration with state agencies to 1) assess water quality at several locations to determine: a) level and pattern of bacterial contamination in Kansas waters; and b) bacteria from on-site waste systems; and 2) determine effectiveness of best management practices, particularly vegetative filter strips for reducing bacteria in runoff.

Key results were:

Areas with minimal human impact, i.e., wildlife areas had low levels of fecal coliforms. Wetland areas decreased bacteria concentrations in the inflow.

Ponds in grazing lands were consistently less than 200 CFU/100 mL

Stream segments without significant livestock near streams and without community development did not have high levels of fecal bacteria.

For on-site wastes systems

Failing systems that had surface discharge: fecal bacteria in the soil surface traveled less than 300 ft. away from the discharge point

Downward movement under leach fields in the Equus Bed area was minimal unless the system was overloaded in which bacteria and nitrate moved to at least 8 ft.

Vegetative filter strips effectively reduce bacterial loading from feedlots. In only one runoff event out of 16 was fecal bacteria reduction less than 80%. Maintenance of the filter strip is extremely important.

We are currently collecting and storing bacteria from different fecal sources to build a database of techniques to determine source. We do not have sufficient information at this time to recommend which technique is best or identify sources. We also are conducting research on fecal bacteria survival in soil and sediments.

Soil Chemistry Under Swine Lagoons

Principal Investigator

Kang Xia, Graduate student, Agronomy Department

Funding

GRA support for one Ph.D student for 3 years

Scope of Activity

A batch study was conducted to investigate the sorption and desorption behaviors of NH_4^+ (ammonium cation) on soils under the lagoon liner. Most of the studies on ammonium adsorption and desorption by soils have been conducted using simple ammonium salt solutions. No research has been found in evaluating the ammonium adsorption and desorption kinetics using liquid animal waste. The chemical and biological components in the liquid animal waste may have a significant impact on the kinetics of ammonium adsorption and desorption by soil.

Summary

Two representative Kansas soils were collected for the sorption and desorption batch study. The two soils were Kennebec silt loam (fine-silty, mixed, mesic, Cumulic Hapludolls) and Haynie very fine sandy loam (coarse-silty, mixed, calcareous, messic, mollic Udufluents). Certain amounts of soil samples were mixed with swine lagoon effluent and $(\text{NH}_4)_2\text{SO}_4$ (ammonium sulfate) solution, respectively, at different concentration ratios, and these mixtures were allowed to equilibrate for a range of times. The amount of ammonium cation adsorbed by the soil was calculated from the reduction of ammonium cation in the solution. Once the adsorption of ammonium by the soil reached maximum, ammonium desorption kinetics were evaluated by extracting the adsorbed ammonium with 0.01 M KCl (potassium chloride) solution for various length of time. The ammonium desorption from soil was calculated from the increase of ammonium cation in the solution.

Figure 1 illustrates that ammonium adsorption is enhanced while desorption is retarded by swine waste compared with the ammonium salt solution matrix. Results from this research suggest that the multiple nutrients and organic matter in swine waste have a significant impact on NH_4^+ adsorption and desorption processes.

Recommendation for Future Investigation

The effects of competitive cations and organic matter in animal wastes on the adsorption/desorption behaviors of NH_4^+ on soil will be studied.

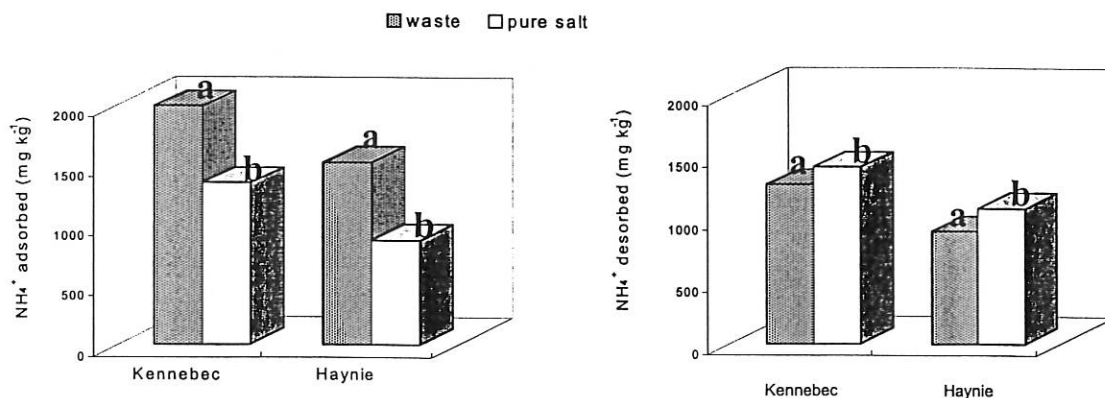


Figure 1. Adsorption and desorption of NH_4^+ on two Kansas soils (Kennebec and Haynie) mixed with liquid swine waste or $(\text{NH}_4)_2\text{SO}_4$ solution (Fernando and Xia 2000).

Relationship Between Soil Test Phosphorus Levels and Phosphorus in Surface Runoff in Manure Amended Soils: A Rainfall Simulator Study

Principal Investigators:

Gary M. Pierzynski, Professor, Agronomy Department

Gary Clark, Professor, Biological and Agricultural Engineering Department

Funding

\$133,213, March 1999 to February 2001

Introduction

Phosphorus represents a significant threat to surface water quality. Several notable examples include sensitive water bodies in the Atlantic Coastal Plain, western Oregon, the Great Lakes region, Florida, and Chesapeake Bay. Recent water quality data for Kansas and the Great Plains indicates that nearly all surface water bodies are severely impacted by phosphorus as determined by total phosphorus concentrations. The phosphorus comes primarily from surface runoff with a large proportion attributable to agricultural lands. Site characteristics related to potential offsite movement of phosphorus include soil erosion, soil runoff class, soil test phosphorus levels, and the rate and placement of phosphorus applied to soils. Several studies have shown significant relationships between soil test phosphorus levels and soluble phosphorus concentrations in surface runoff for soil receiving phosphorus as either inorganic commercial fertilizer or from poultry litter.

Summary

The objectives of this study were to construct a small-plot rainfall simulator and then to determine the relationship between soil test phosphorus levels and total, dissolved, and bioavailable phosphorus concentrations in surface runoff from two cattle manure-amended soils. Little information is in the literature on the relationship between soil phosphorus levels and phosphorus in surface runoff from soils amended with animal wastes. Such data is essential for Kansas and other states that are using or will be using soil test phosphorus levels to regulate phosphorus applications to soils. In this study, the influence of the addition of varying amounts of cattle manure on phosphorus levels in soils and in runoff was investigated by collecting 30 minutes of runoff and comparing the form and concentration of phosphorus in runoff to extractable phosphorus from soil samples (0 to 5 cm) taken immediately prior to rainfall simulation. Manure was applied at 0, 50, 100, 150, or 200 Mg/ha with three replications.

As the amount of manure added increased, soluble phosphorus concentrations in runoff increased; sediment concentrations increased; runoff volume decreased; and total phosphorus concentrations did not change. A significant linear relationship between Bray-1 extractable phosphorus in the soil and soluble phosphorus in the runoff was found. Manure additions apparently increased the infiltration capacity of the soil, which in turn decreased runoff volume and sediment concentrations in runoff. Total phosphorus concentrations in runoff were inversely related to sediment concentrations, producing the net effect of no significant increases in runoff total phosphorus concentrations as manure additions increased. The influence of time and surface runoff characteristics bears further investigation and the results from this work can be used to validate the phosphorus risk assessment tool under development by the National Resource Conservation Service for Kansas.

Manure Analyses from Kansas Swine Operations

Principal Investigators

DeRouchey, J. M, Ph.D student, Animal Sciences and Industry Department

R. D. Goodband, Professor, Animal Sciences and Industry Department

J. L. Nelssen, Professor, Animal Sciences and Industry Department

M. D. Tokach, Northeast Extension Area Office

S. S. Dritz, Assistant Professor, Food, Animal, Health and Management Center

Funding

FY 99 & 00 \$17,400

Scope of Research and Objectives

Little information is available to swine producers to compare their swine manure nutrient concentrations with other operations from other states, as well as within Kansas. Currently, there is a need for a database from samples of manure to determine the concentration of nutrients and minerals.

The objectives for this project are broken into retrospective and prospective areas. First, our retrospective approach focused on data currently available to the Kansas Department of Agriculture. Secondly, the prospective segment will pertain to the sampling of swine manure from various sites in Kansas. This will allow the determination of differences in manure composition between different phases of production and seasons of the year.

Retrospective Project

We summarized nutrient and mineral concentrations of manure storage facilities sampled from Kansas swine producers during 1999 that met the 1,000 AU level required by law. This information was published in the 1999 Kansas State University Swine Day report, and we concluded that high standard deviations between lagoons existed. Although means from some lagoons were lower, most producers had manure that analyzed higher than previously published values from other sources. This data reveals the importance for individual analysis of lagoons for proper application to cropland to maximize yield and environmental stewardship. Additional research needs to be completed to provide a more detailed understanding of nutrient concentrations from manure samples in Kansas. This recommendation for further research is addressed in the prospective research project.

Prospective Project

Manure samples from six different production systems within Kansas have been taken six times over the course of one year to help determine changes in nutrient and mineral concentrations in relation to the time of season. We will analyze each sample for 22 different minerals and properties. The months that will be sampled are February, April, June, August, October, and December. The different operations will include: 1) nursery 2) wean to finish 3) finisher 4) sow 5) farrow to finish and 6) hoop structures. For each segment of production, 6 to 10 different sites will be tested (Appendix 1).

The submission of the final report for the prospective experiment is projected for completion by April 1, 2001.

Appendix 1. Number of manure samples analyzed per phase of production in 2000.

Item	Month Sampled					
	Feb	Apr	Jun	Aug	Oct	Dec
Hoop barn	6	6	6	6	6	N/A
Lagoons						
Sow	9	9	9	9	9	N/A
Nursery	8	8	8	8	7	N/A
Wean to finish	7	7	7	7	7	N/A
Finish	10	10	10	10	9	N/A
Farrow to Finish	8	8	8	8	8	N/A

N/A, Data not available at this time.

Fiscal Year 2001 Expenditures - Animal Waste Salaries

Department	Total
Agronomy	
Assistant Scientists (2)	\$71,084
Graduate Students (4)	\$67,616
Animal Science	
Graduate Student (1)	\$8,700
Biological and Agricultural Engineering	
Research Assistant (1)	\$38,100
Extension Assistant (1)	\$47,248
Civil Engineering	
Graduate Student (1)	\$15,000
Northwest Research - Extension Center	
Undergraduate Student (1)	\$5,000
Total	\$252,748

Impact of Land Application of Swine and Beef Cattle Wastes on Soil Properties and Crop Growth

Principal Investigators

Alan Schlegel, Professor, Southwest Research-Extension Center

Loyd Stone, Professor, Agronomy Department

Chuck Rice, Professor, Agronomy Department

Mahbub Alam, Assistant Professor, Southwest Area Extension

Funding

\$17,500 on 28 Sept. 2000 for CY2000.

Introduction

Animal wastes can be a valuable resource for crop production and can enhance soil chemical and biological properties. However, improper management of animal wastes can cause environmental concerns and have deleterious impact on soil physical properties. Recent legislation in Kansas requires monitoring of soil chemical properties on soils receiving application of wastes from larger swine facilities. Based on soil test phosphorus (P) levels, application of swine wastes may be restricted or even eliminated on particular fields. Best management practices (BMP's) have been established to minimize excessive buildup of soil test P. However, the impact of these BMP's has not been validated in field settings. Although only swine wastes are regulated by the Kansas legislation (HB2950), there are proposed national standards that would regulate land application of wastes from other animal types (including beef cattle). Since beef cattle produce the most waste in confined feeding operations in Kansas, this project includes application of both swine and beef cattle wastes. The objectives of this research are to determine the impact of application of swine and beef cattle wastes on soil properties (chemical, biological, and physical) and crop growth; and to evaluate and validate the effectiveness of current BMP's.

Summary

Effluent water from a swine lagoon and solid manure from a beef cattle feedlot were applied at rates based on the 1. crop P requirement, 2. crop N requirement, and 3. twice (2x) the crop N requirement. Other treatments were three rates of commercial fertilizer and an untreated control. The available N:P₂O₅ ratio for cattle manure was 0.7 compared to 4.4 for swine effluent. Grain yields of irrigated corn were increased by all animal waste and fertilizer treatments. However, the type of animal waste or rate of application had little effect on corn yield. No yield measurements were obtained in 1999 in this study because of severe hail damage, which may have increased corn yields in the control treatment in 2000. Residual soil nitrate levels (spring of 2000) tended to be higher following application of swine than beef wastes (or the control) to a depth of 5 ft. Deeper than 5 ft, there was no differences in soil nitrate from manure applications compared to the control. Soil test P levels in the surface soil (0-6 inch depth) were higher following applications of cattle manure than swine effluent.

Recommendation

The intent of the investigators is to continue annual applications of swine and beef wastes for a total of 5 years (2000 was year 2), if funding is available. This 5-yr time frame will allow for evaluation of existing BMP's for land application of swine and beef wastes and determinations of the impact of animal waste applications on soil physical properties.

*House Environment
3-8-01
Attachment 2*

Determination of Nitrate Leaching following Land Application of Swine Lagoon Effluent and Beef Feedlot Manure

Principal Investigators

Alan Schlegel, Professor, Southwest Research-Extension Center

Loyd Stone, Professor, Agronomy Department

Funding

\$19,300 on 11 April 2000 for CY2000.

Introduction

A potential problem with land application of animal wastes is movement of nitrate-N through the soil profile (leaching) and into the groundwater. Two conditions are needed to have nitrate leaching, the presence of nitrates in the soil and downward movement of soil water. With spring applications of animal wastes for use by summer crops (e.g. corn), the time period prior to rapid plant uptake of N (May and June) generally coincides with high rainfall amounts and relatively high soil nitrate levels. After the corn plants have reached their maximum rooting depth (about tasseling), the increased transpiration rate and N uptake decreases water movement through the root zone and increased uptake decreases soil nitrate levels. Consequently, the potential for nitrate leaching is diminished. The objective of this research was to determine the amount of nitrate leaching from land application of various rates of animal wastes and commercial N fertilizer. An existing study with several rates of cattle and swine wastes for irrigated corn was used as the research site (see summary of Impact of Land Application of Swine and Beef Cattle Wastes on Soil Properties and Crop Growth for description of the study).

Summary of investigation and results.

Effluent from a swine lagoon and solid manure from a beef cattle feedlot were applied at three rates based on the 1. crop P requirement, 2. crop N requirement, and 3. twice (2x) the crop N requirement. Other treatments include three levels of commercial inorganic fertilizer (60, 120, and 180 lb N/acre) and a control treatment that receives no waste or fertilizer. Suction-cup lysimeters were used to collect soil water samples at 3 and 5 ft depths at four times (June 12 and 20, July 10 and 25) during the growing season of irrigated corn. The water samples were analyzed for nitrate-N and inorganic P content. To determine drainage rate at the 5-ft soil depth, water content and matric potential were measured at each sampling date by using tensiometers and neutron attenuation. The 5-ft depth is at the bottom of the effective rooting depth of corn, so any nutrient movement past this depth is assumed non-recoverable by the corn plant. The drainage rate (at the 5-ft depth) was much greater early in the season and decreased rapidly with crop growth. During the two June sampling times, drainage averaged 0.57 inches/day compared to about 0.05 inches/day during the two July sampling times. Application of animal wastes had no effect on drainage rate. Soil solution nitrate-N content (5 ft depth) was greatest following application of swine effluent at the 2xN rate with an average of about 125 ppm nitrate-N for all sampling periods compared to about 50 ppm or less for all other treatments. Soil nitrate concentrations generally did not decrease across the sampling periods. Consequently, nitrate leaching was greater during the two June sampling dates (more drainage) than the July sampling dates. Since swine effluent applied at twice the recommended rate (based on N requirements) produced the greatest soil nitrate concentrations, it also had the greatest amount of nitrate leaching (average of about 14 lb/acre/day for the four sampling dates compared to 5 lb/acre/day or less for all other treatments). Solution P content (5 ft depth) was greatest following application of cattle manure at the 2xN rate at 0.44 ppm P compared to less than 0.15 ppm for all other treatments (soil solution P content of 0.05 ppm is sufficient for maximum corn yield). Phosphorus movement at the 5 ft depth for all treatments was less than 0.2 lb/acre during the four sampling dates.

Recommendation for further investigation

The intent of the investigators is to continue monitoring nitrate movement for at least one more year if funding is available. Multiple-year determinations of nitrate movement will greatly enhance evaluation of existing BMP's for land application of swine and beef wastes.

Utilization of Livestock Wastewater with Subsurface Drip Irrigation

Principal Investigators

Freddie R. Lamm, Northwest Research-Extension Center

Todd P. Trooien, South Dakota State University

Loyd R. Stone, Professor, Agronomy Department

Mahbub Alam, Southwest Area Extension Office

Danny H. Rogers, Professor, Biological and Agricultural Engineering Department

Gary A. Clark, Professor, Biological and Agricultural Engineering Department

Alan J. Schlegel, Southwest Research Extension Center

Funding

\$15,000 in early spring 2000 to fund development of swine wastewater SDI site.

\$25,000 for FY 2001 to conduct swine wastewater study and to continue beef wastewater study.

Introduction

In response to increasing nationwide concern about problems associated with livestock wastewater generated by confined animal feeding operations, K-State Research and Extension initiated a project to address odor, seepage into groundwater and runoff into surface water supplies. Subsurface drip irrigation (SDI) is a potential tool that can alleviate all three problems, while still utilizing livestock wastewater as a valuable resource for crop production. A study was begun in 1998 on a commercial beef feedlot to answer the engineering question "*Can SDI be successfully used to apply livestock wastewater?*" Based on the continuing positive results of this study, a new study was initiated in 2000 with swine wastewater to answer the question "*What are appropriate amounts of swine wastewater to apply for corn production using SDI or LEPA center pivot sprinkler irrigation?*"

Summary

Beef wastewater study: Five driplines with different emitter flow rates were tested with beef feedlot lagoon wastewater for three growing seasons. The flow rates of the two smallest emitter sizes, 0.15 gal/hr/emitter and 0.24 gal/hr/emitter have decreased approximately 30% during the three seasons, indicating some emitter clogging. The three largest driplines (0.40, 0.60, and 0.92 gal/hr/emitters) have had less than 5% reduction in flow rate. These results show that SDI has potential for use with lagoon wastewater. However, the smaller emitter sizes normally used with groundwater sources in western Kansas may be risky for use with lagoon wastewater.

Swine wastewater study: This study was initiated in 2000. Analysis of extensive soil nutrient and redistribution data is still pending. However, corn yield data did indicate an advantage of SDI (256 bu/acre) over LEPA center pivot sprinkler irrigation (248 bu/acre) when using swine wastewater as the nutrient source.

More details can be found in the K-State Reports section of the K-State SDI web site:

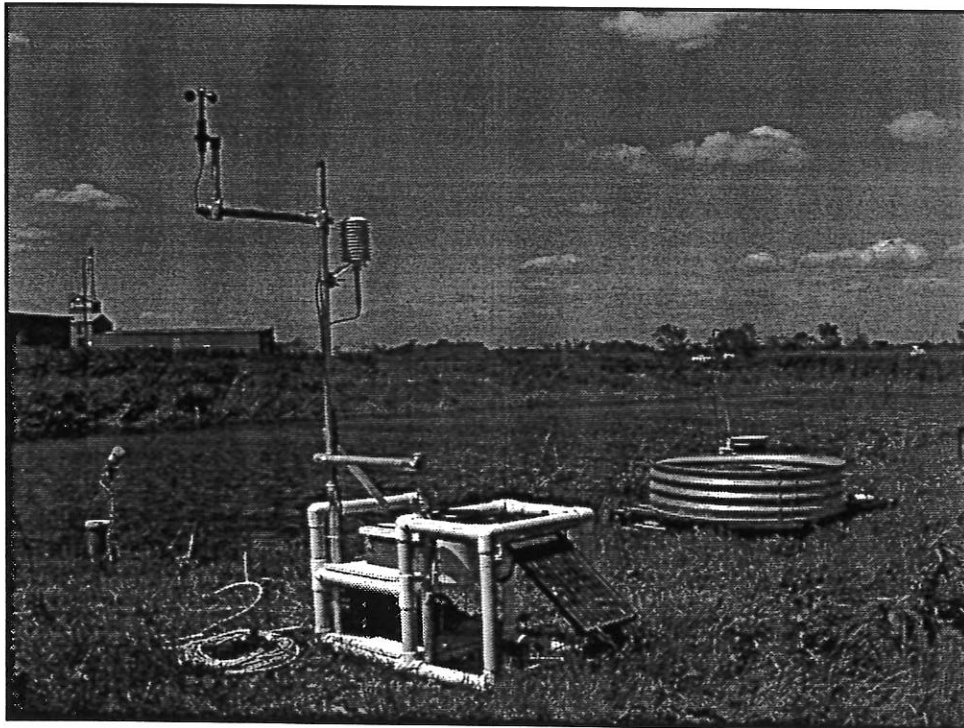
<http://www.oznet.ksu.edu/sdi>

Recommendations for further investigation

The beef wastewater study will be continued in 2001 because questions still remain about the long-term, multiseason performance of SDI systems using livestock wastewater. The swine wastewater study will be continued in 2001 to further examine corn production, nutrient use and redistribution in the soil.

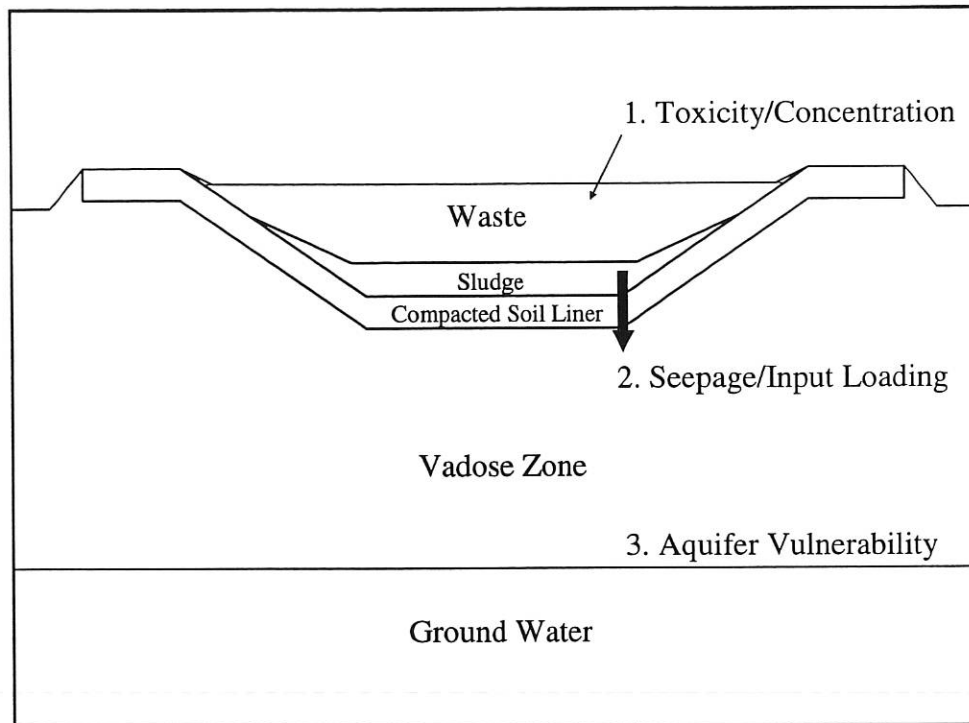
**Animal-Waste Lagoons and Water Quality:
Results From a Four-year Field Investigation**

Jay M. Ham
Professor
Department of Agronomy
Kansas State University



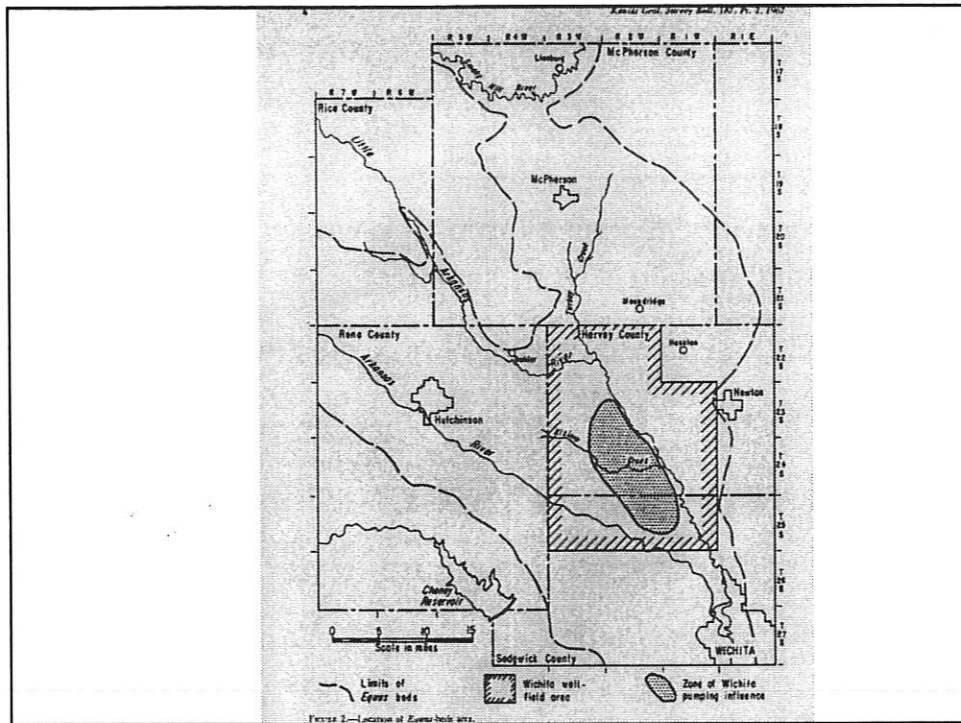
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*House Environment
3-8-01
Attachment 3*



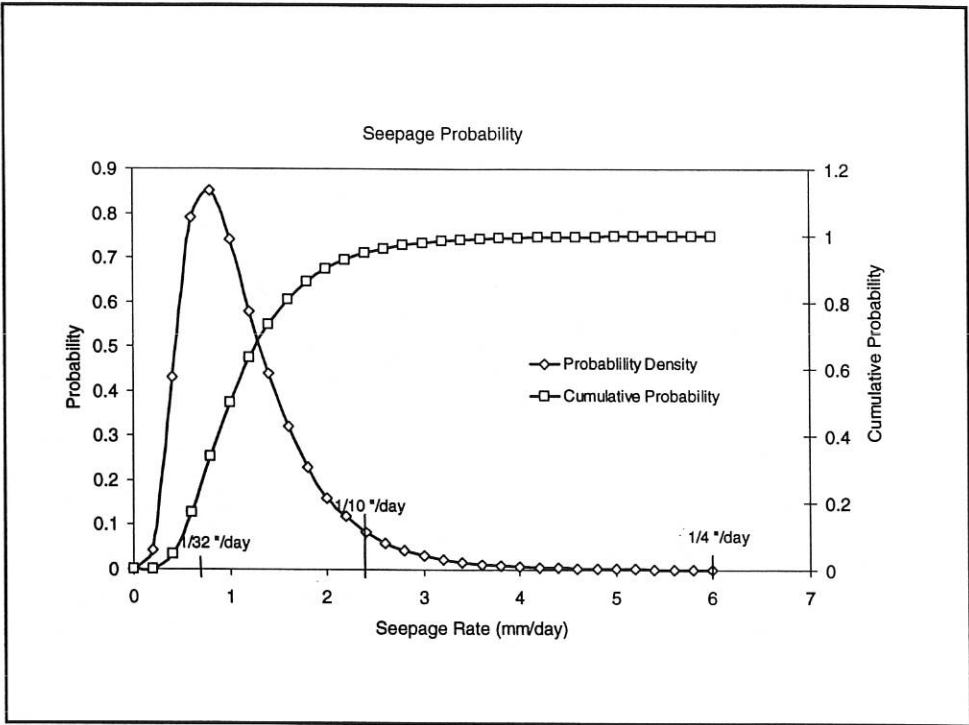
Questions

- What is the seepage rate from lagoons?
- What materials are in lagoons that may pose a threat to groundwater quality?
- What happens to contaminants that do seep from lagoons?
- How is the risk of groundwater contamination affected by location, type of operation, soil type, etc.?
- What are the best management strategies for lagoon design, construction, and management?



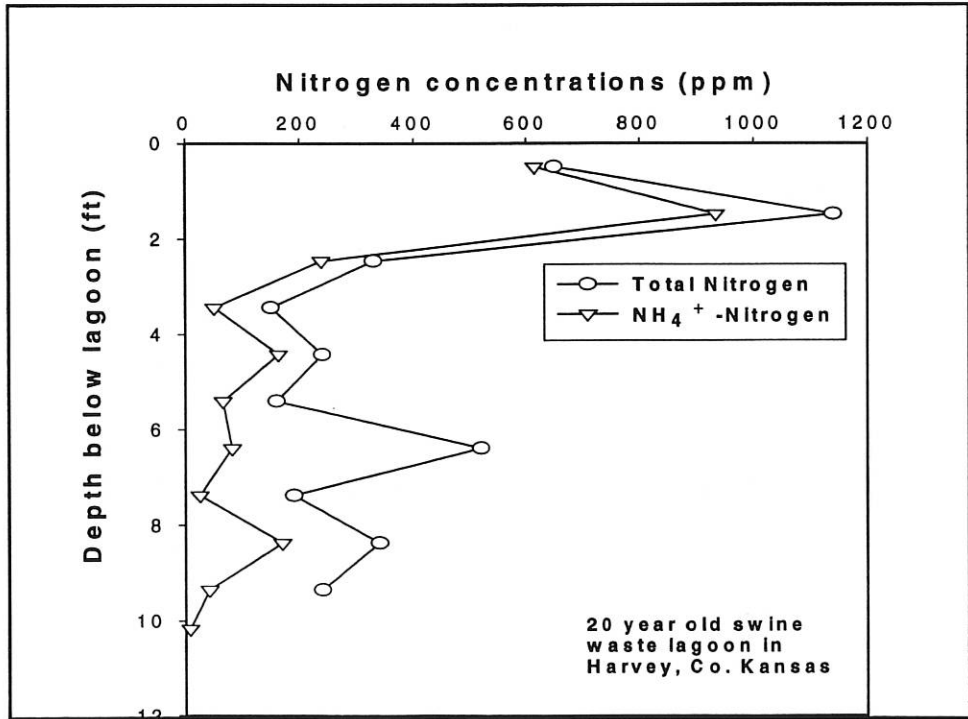
Seepage Measurements

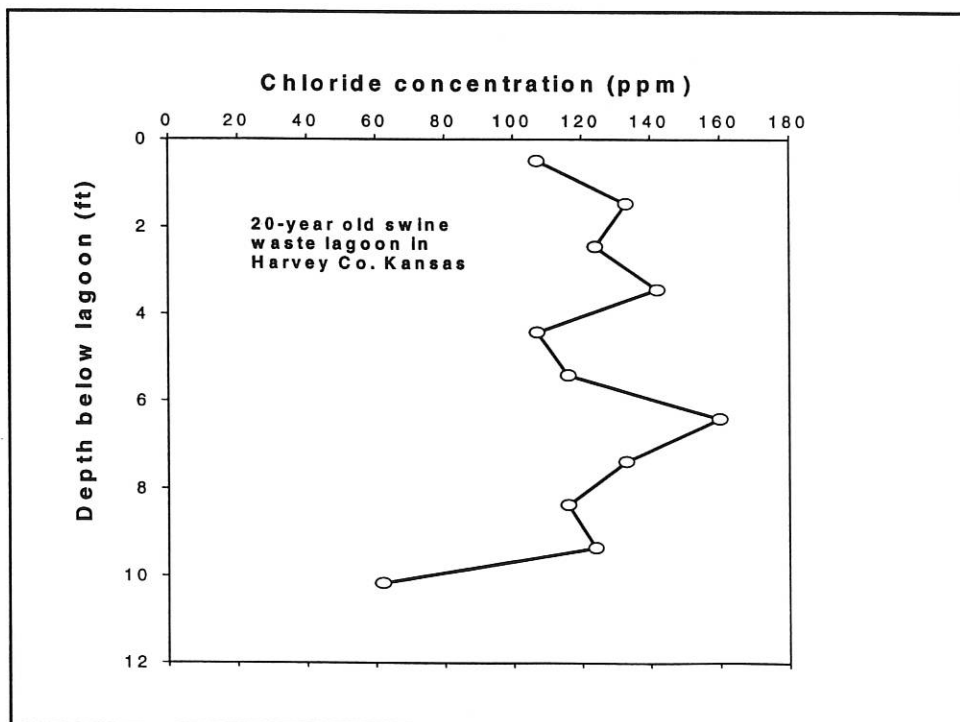
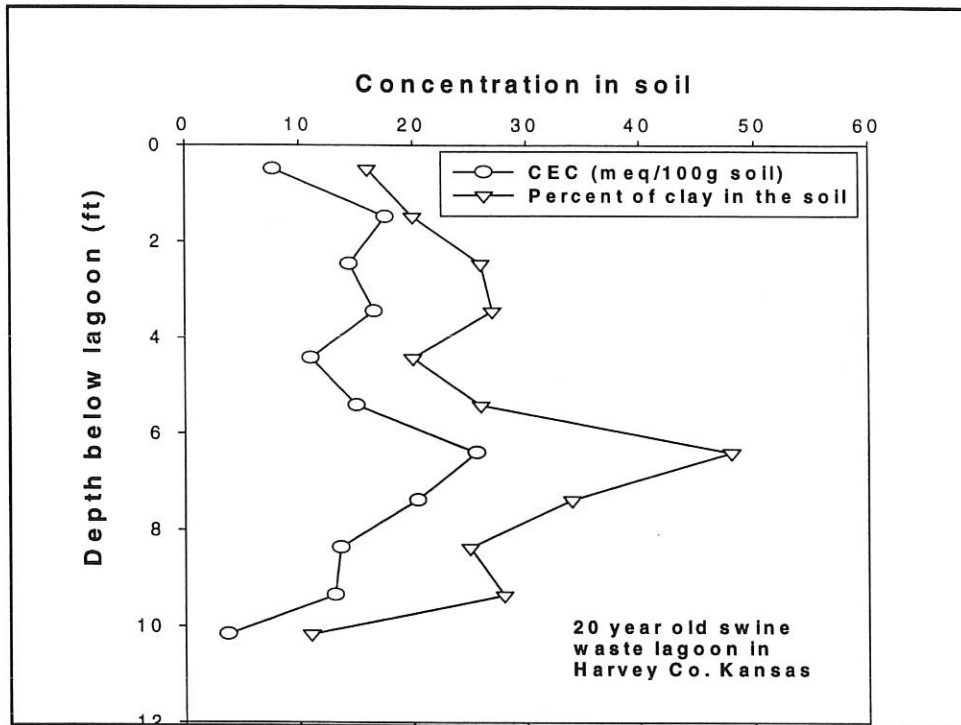
- The average seepage rate from 19 lagoons was 1.13 mm/day (1/22 inch/day). Measurements ranged between 0.2 (1/100th inch/day) and 2.4 mm/d (1/10th inch/day).
- The average seepage rate from four lagoons in the Equus Beds region was 0.75 mm/day (1/34 inch/day)
- Probability analysis indicates that if all lagoons in Kansas were sampled, 95% would seep less than 1/10th inch/day.

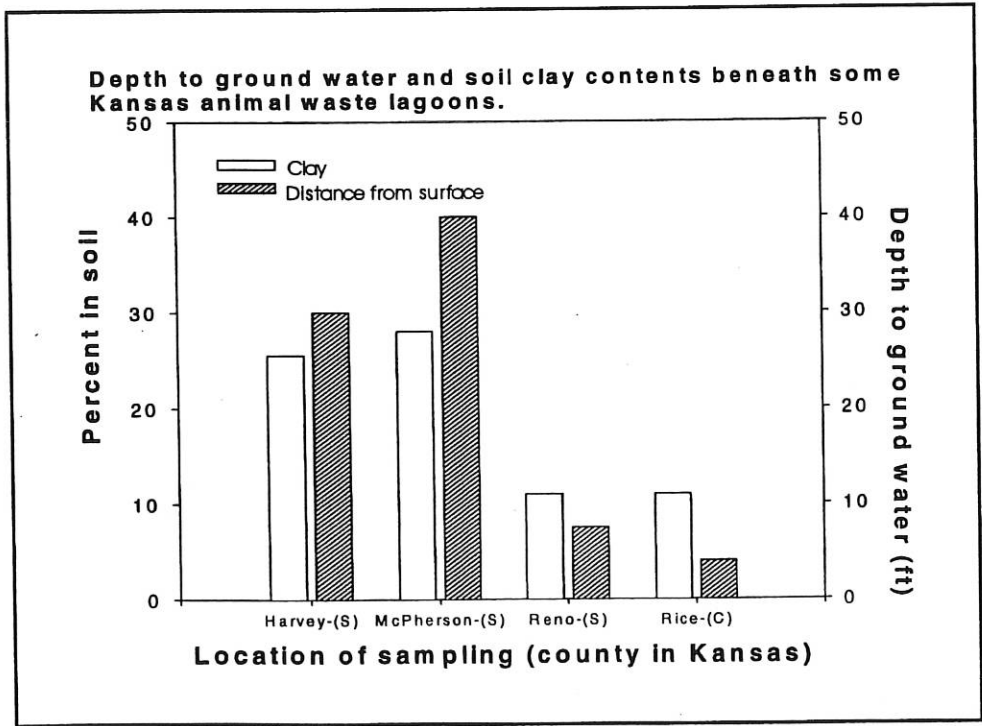
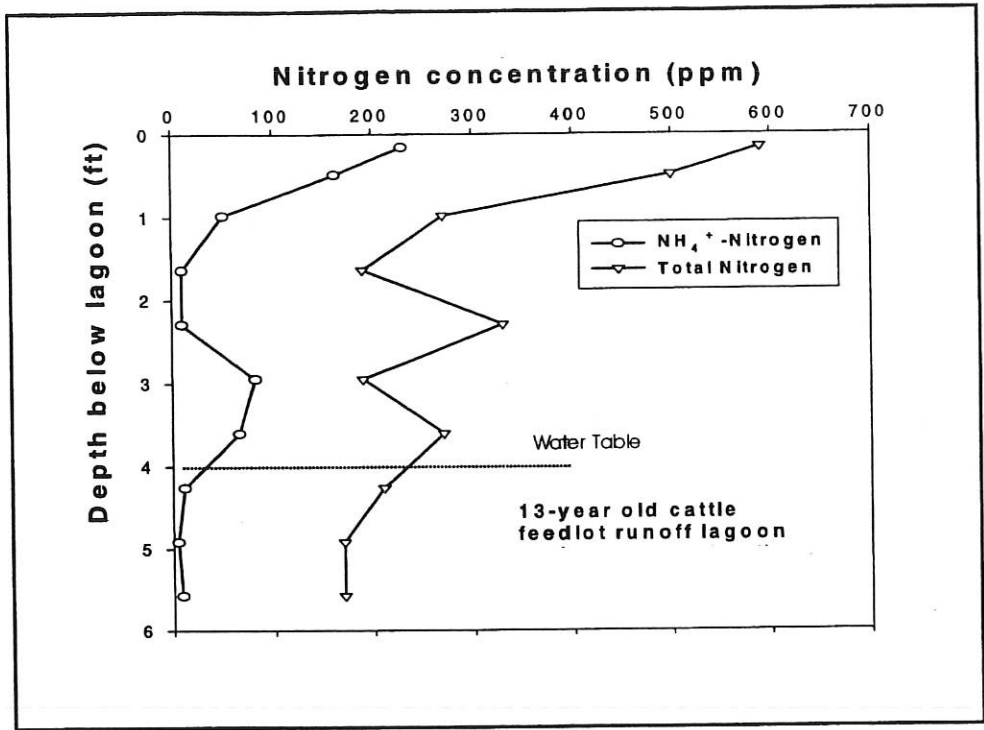


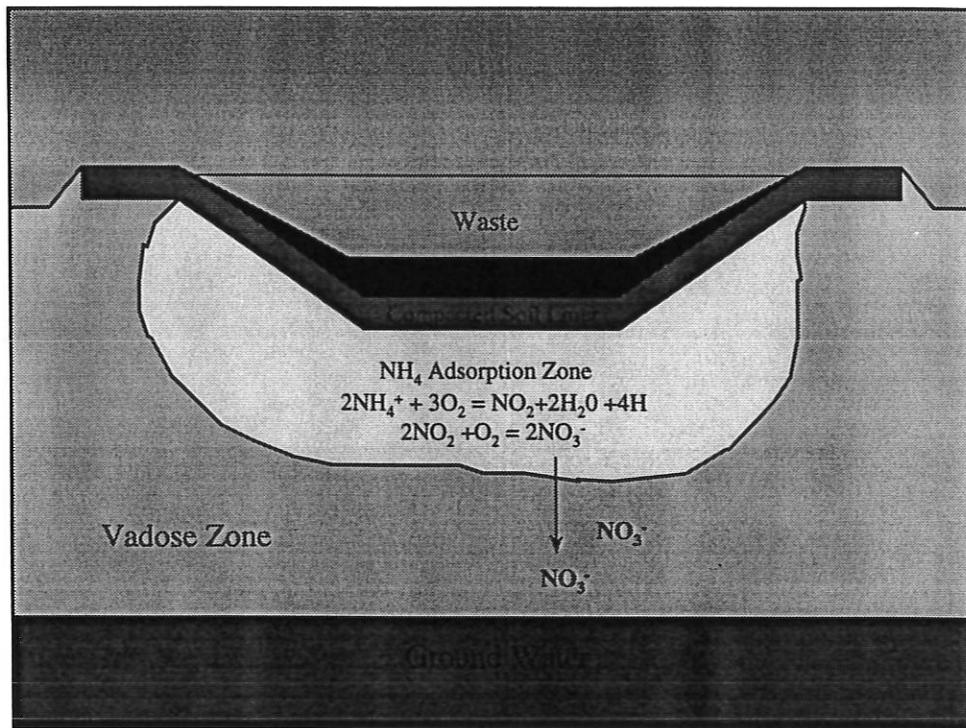
Average Lagoon Effluent Concentrations

	Swine	Cattle
	-----ppm-----	
Total Nitrogen	1080	304
Ammonium-N	910	171
Chloride	498	656
Phosphorus	150	60









Key Factors Affecting Risk of Groundwater Contamination

- Depth to water table
- Soil properties (% clay) between lagoon and water table
- Concentration in waste (species)
- Duration of lagoon use (lagoon age)

Site-Specific Lagoon Design Tool, V1.0
 J.M. Ham, Ph.D., Kansas State University

ID

Location

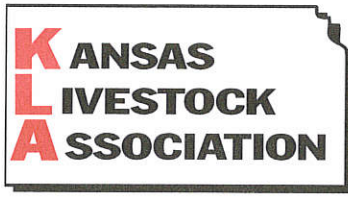
<p>Type of Operation</p> <p><input type="radio"/> Cattle Feedlot</p> <p><input type="radio"/> Dairy</p> <p><input type="radio"/> Municipal/Domestic</p> <p><input type="radio"/> Swine</p>	<p>Type of Lagoon</p> <p><input type="radio"/> Single Stage</p> <p><input type="radio"/> 1st Stage of 2</p> <p><input type="radio"/> 2nd Stage of 2</p>	<p>Ammonium Concentration in Waste</p> <p><input type="radio"/> Automatic <input type="radio"/> Manual</p>
<p>Desired Lagoon Characteristics</p> <p>Max. Permit Life (yr) <input type="text"/></p> <p>Liquid Capacity (cu. ft) <input type="text"/></p> <p>Depth at Capacity (ft) <input type="text"/></p> <p>Liner Thickness (ft) <input type="text"/></p>	<p>Results</p> <p>Ammonium Conc. (ppm) <input type="text"/></p> <p>TMAC (kg/m²) <input type="text"/></p> <p>Max. Seepage Rate (mm/d) <input type="text"/></p> <p>Max. Seepage Rate (inch/d) <input type="text"/></p> <p>Surface Area (acre)[*] <input type="text"/></p> <p>Liner Permeability (cm/s)[*] <input type="text"/> x10⁻⁷</p> <p>Min. Distance From Well (ft) <input type="text"/></p> <p><input type="text"/></p>	
<p>Soil and Aquifer Information</p> <p>Depth to Water Table (ft)[*] <input type="text"/></p> <p>CEC of Subsoil (cmol/g) <input type="text"/></p> <p>CEC of Liner (cmol/kg) <input type="text"/></p> <p><small>* from bottom of lagoon to water table</small></p>	<p><small>* Square Lagoon, 3:1 Side Slopes, See Ham (2000) Eq. 9</small></p>	

Lagoon Research Solutions !

- Logical Framework for Site-Specific Lagoon Design
- Performance Based Testing of Lagoons: Measuring whole-lagoon seepage after construction
- Lagoon Closure and Remediation

Conclusion

- Although our research has not explored every conceivable aspect of lagoon use, data from over 35 sites suggests that the risk of groundwater contamination from lagoons is minimal except in areas with vulnerable aquifers (e.g., < 30 ft deep, sandy soils). This statement is made assuming all abandoned lagoons are properly closed and remediated, regardless of location.



Since 1894

To: The House Environment Committee
Representative Joann Freeborn, Chairperson

From: Mike Beam, Executive Secretary, Cow-Calf/Stocker Division

Subj: Testimony in support of SCR 1605

Date: March 8, 2001

The Kansas Livestock Association supports Senate Concurrent Resolution No. 1605. We have genuine concerns with two issues mentioned in this resolution. Our members are opposed to the July 3, 2000 EPA regulations and are hoping EPA will make considerable changes in their proposed Confined Animal Feeding Operation (CAFO) guidelines.

I'm attaching two documents that outline our analysis and views on these issues. First is a copy of KLA Past President Alan Hess September 13, 2000 comments to EPA regarding their proposed changes to Kansas water quality standards. This committee has heard testimony from us on this issue earlier and we hope you will get the chance to review and consider a pending Senate bill, Substitute for SB 204, that will address a couple of our objections to the EPA regulations referenced in SCR 1605.

I'd like to make a few comments regarding EPA's proposed "guidelines" for confined animal feeding operations (CAFO's) that were published in the Federal Register on January 12, 2001. We are still analyzing the 400-page proposal, but it is obviously stacked with cumbersome record keeping requirements that will impact small and moderate sized operations throughout this state. For example, CAFO's, perhaps as small as 300 animal units, must maintain a Permit Nutrient Plan that documents the amount of manure generated annually, the nitrogen-phosphorus-potassium content of the waste, amount of other nutrients applied to fields, identify the crop rotation and expected crop yields on fields where the manure is applied, records of the calibration of manure application equipment, and numerous other documentations.

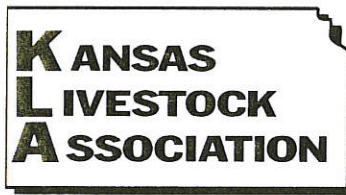
*House Environment
3-8-01
Attachment 4*

This will be a tremendous burden on small operations with limited labor resources and for larger confined feeding operations that provide animal waste to neighboring farmers as fertilizer.

Attached to my statement is a summary of this issue prepared by staff of the National Cattlemen's Beef Association. Submitting appropriate comments to EPA and negotiating an alternative with the new EPA administration is a top priority of our national affiliate.

We would appreciate any help this committee can give us in our efforts to address these two senseless and burdensome EPA initiatives. Therefore, we support SCR 1605 and urge this committee to give it your favorable consideration.

Thank you.



Since 1894

September 13, 2000

Ms. Ann Jacobs
EPA Region VII
Water Resources Protection Branch
901 North 5th Street
Kansas City, Kansas 66101

Dear Ms. Jacobs,

I am writing to express my opposition, and that of the Kansas Livestock Association, to the Kansas water quality standard regulations proposed by the United States Environmental Protection Agency (EPA) on July 3, 2000 (69 Fed. Reg. 41215). My opposition to the proposed regulations relates to three specific areas: 1) regulation of private waters, 2) designation of stream segments for primary contact recreation, and 3) the low estimate of costs these regulations will impose on Kansans.

I am a member and the current president of the Kansas Livestock Association. I also serve on the Mill Creek Watershed District board. I am also a member of the Kansas Farm Bureau. I support the legal analysis and arguments made by these agricultural organizations and incorporate their statements into mine. I would also like to take this opportunity to outline how this regulation would impact my operation and those similarly situated.

I am a rancher in Wabaunsee and Riley Counties, in Kansas. The ranch is mostly family owned with leased land that we have managed for many years. Some of the ranch property has been owned and operated by my family since 1858. This property has been used for grazing cattle since the area was settled in the 1850s. Simply put, this property is being used exactly the way it was over 140 years ago. We have made minor management changes over the years to include the recommendations of rangeland management specialists to assure the long-term viability of the land.

On this ranch we have over 60 farm ponds. Most of these ponds were built during the drought of the 1950's as sources for livestock watering. The sizes of these ponds vary greatly from very small covering about 800 square feet to the largest covering approximately 20,000 square feet. The depths of these ponds also vary greatly from 24 inches to 10 feet. I would like to direct your attention to photograph #1 which depicts the typical watershed on our ranch. All of the ponds are entirely surrounded by property held in common private ownership. Access to these ponds is by permission only. There is no public access to any of the ponds or land surrounding them. Our ponds do not receive

wastewater from any point sources. There is no discharge from these ponds with the exception of extended periods of extreme heavy rains.

It is my understanding that the proposed regulations of EPA would subject these ponds to water quality standards. I would like additional information as to what affect this regulation will have on private landowners like me. Please provide answers to the following questions.

1. Does this regulation require these ponds, regardless of size, to meet water quality standards?
2. It is my understanding that Kansas Water Quality Standards require that waters subject to the Clean Water Act regulation, including ponds, be free from foam and algae. Is this true? What other substances must I assure are not present in these facilities and at what levels? I would like to direct your attention to photographs #2, #3 and #4 which represent typical ponds with algae and plant growth present.
3. What other requirements apply to my ponds?
4. What steps does EPA expect me to take to meet Water Quality Standards and other requirements?
5. What will these steps cost?
6. What public health risk are you seeking to avoid by regulating these facilities?
7. Will EPA have the right to enter my land to inspect my ponds?
8. What will these inspections cost the taxpayer?
9. What happens if a pond on my property is found not in compliance with these water quality standards? It is my understanding that I may be subject to fines up to \$27,500.00 per day per violation. Is this true?
10. I do not have point source discharges into my ponds. If the water quality in my ponds does not satisfy EPA are my nonpoint sources going to be controlled? I understand that EPA does not have the authority to control nonpoint sources.

I request a detailed answer to each of the above questions.

If in fact this regulation will require these ponds to meet water quality standards, I believe I would need to fence each facility. This would assure that no livestock water in the ponds and limit the chance for pollution natural or otherwise. However, this would have the practical effect of rendering the property useless and be cost prohibitive. Fencing costs approximately \$1.00 per foot. We would have of miles of fence around the ponds. Second, we would have to fence the drainage area into the ponds. Again, this would mean building many more miles of fence. Fencing alone would cost us thousands of dollars. In addition, it would render much of the grazing area unusable, as most of the drainage area to the pond is covered with lush grass and the hillsides are historically the best grazing areas of the pasture. Besides the expense of fencing the ponds and their drainage areas, the cattle on the remaining usable grass would now have no water to drink. The expense of drilling wells or laying pipeline in the extremely rocky ground would be terrific. Pastures would be chopped into pieces making poor grazing patterns and leading to overgrazing of some areas. Erosion would be an additional problem, as cattle tend to walk along fences making paths in which water tends to run. It takes an average of 4 or more acres to sustain a yearling animal for full summer grazing. Dividing

the pastures in this manner makes the ranch unusable. Fencing would be very expensive. Even a small cost or expense causes great economic impact on my profitability because profit margins in leasing grass and grazing cattle are small.

These ponds were built as water supplies for livestock and a means to stop sedimentation into the streams. If I am unable to water livestock in these ponds, why would I need them? Perhaps I should drain them rather than run the risk of being fined or the expense and frustration of having to meet use restrictions imposed on my property.

This regulation flies in the face of the governmental policy promoted by conservation districts and the United States Department of Agriculture Natural Resource Conservation Service. For years programs such as the Watershed Dam Construction program, the non-point source pollution control program, and now EQUIP have been promoting the use of ponds as alternative water sites for livestock and a means to slow erosion. If we breach these ponds, in a heavy rain sedimentation and heavy erosion are likely to occur. The ponds were never intended to be pristine sources of water.

I contend that these waters are not "waters of the United States" or within the jurisdiction of the EPA. A simple reading of the Clean Water Act indicates that these were not the waters Congress intended to regulate. Finally, I support the legal arguments made by the Kansas Livestock Association and the agricultural organizations allied with the Kansas Livestock Association. I strongly support the Kansas law exempting ponds like these from the requirements of the water quality standards. Kansas's law provides a basis for public health protection, or protection of adjacent landowners, no other law or regulation is necessary (See K.S.A. 65-171d(d)). Please outline for me why the Kansas statute is contrary to the Clean Water Act. Specifically, K.S.A 65-171d(d) subjects to water quality standards private waters that discharge or seep to waters of the state and water for which public health considerations apply, how is this inconsistent with the Clean Water Act? The proposed rule would subject thousands of farm ponds to water quality standards and regulations and enforcement under the clean Water Act, yet the proposed rule discussion for this important topic does not even encompass an entire Federal Register page.

I am also opposed to EPA's designating certain streams for primary contact recreation when the state had previously classified these segments for secondary contact recreation. It is my understanding that in 1994 the state of Kansas classified all streams on the U.S. Geological Survey River Reach 2 maps as suitable for secondary contact recreation. It is my understanding that through this regulation, EPA is requiring that these same stream segments be designated for primary contact recreation until the state conducts a use attainability analysis illustrating why the streams are not suitable for primary contact. Kansas already has designated these stream segments for secondary contact recreation. If the people at the state level who know about these streams have made a valid determination why should they have to make it again, only at a much greater cost to the taxpayers of Kansas?

Although, I believe the state did not conduct enough fieldwork to justify the designation of secondary contact recreation, for many streams, a primary recreation designation, which assumes that there are opportunities for a human to fully immerse in the water and that ingestion of the water by a human is probable seems very far reaching and very far from reality. Proper evaluation of geography in Kansas would reveal the obvious, and what Kansans already know – most of the segments EPA is proposing for primary contact recreation will not support **any** type of recreation.

My ranch receives an average annual rainfall of approximately 34 inches. This year we have received less than half of that amount. Under normal conditions, many of the streams and tributaries on our property are dry except for a brief time after precipitation and few have over 6 inches of water in them. Under the proposed regulations Emmons Creek and Hendricks Creek, which are located on our ranch, would be designated for primary contact recreation. Attached are pictures of these streams taken September 2000. (See photographs #5, #6, and #7) Clearly, it is not possible for a human to immerse in these streams and ingest stream water. These pictures were taken during the period of the year during which this primary contact recreation is assumed to take place. I request an explanation for why EPA believes these streams are ones in which people can swim.

As a property owner I have a number of concerns about my property rights under the law and a number of questions for which I request an answer:

1. Would designating the streams within my ranch for primary contact recreation create an expectation of access to my property for recreational purposes?
2. There is no public access allowed to my private property. Does the regulation require that I provide public access?
3. My insurance policies do not protect me from any claims that would relate to use of my property by others for recreation. I do not know whether such a policy even exists and do not know what the cost of such a policy would be. Can you provide information about my duty to the people that would expect to be able to recreate in the streams on my land because of this regulation?
4. Does the regulation authorize a trespass for purposes of recreation?
5. How can EPA preempt specific Kansas's laws regarding the ownership of streambeds and deem these privately owned streambeds available for recreation?
6. By asserting in public documents that these streams are suitable for swimming, the EPA is creating a public health and safety risk. How has EPA determined that these waters are suitable for primary contact recreation, both from a water quality perspective and from a physical hazards perspective?
7. Are landowners required to provide for the primary contact recreation use? There are not any point source discharges into the streams on our ranch that EPA is proposing for primary contact recreation. We already have in place and abide by voluntary best management practices developed by Kansas State University, the United States Department of Agriculture, and other federal and state agencies. If the streams on our ranch do not meet primary contact

recreation water quality standards does that impose any obligation or liability on us as owners of the land?

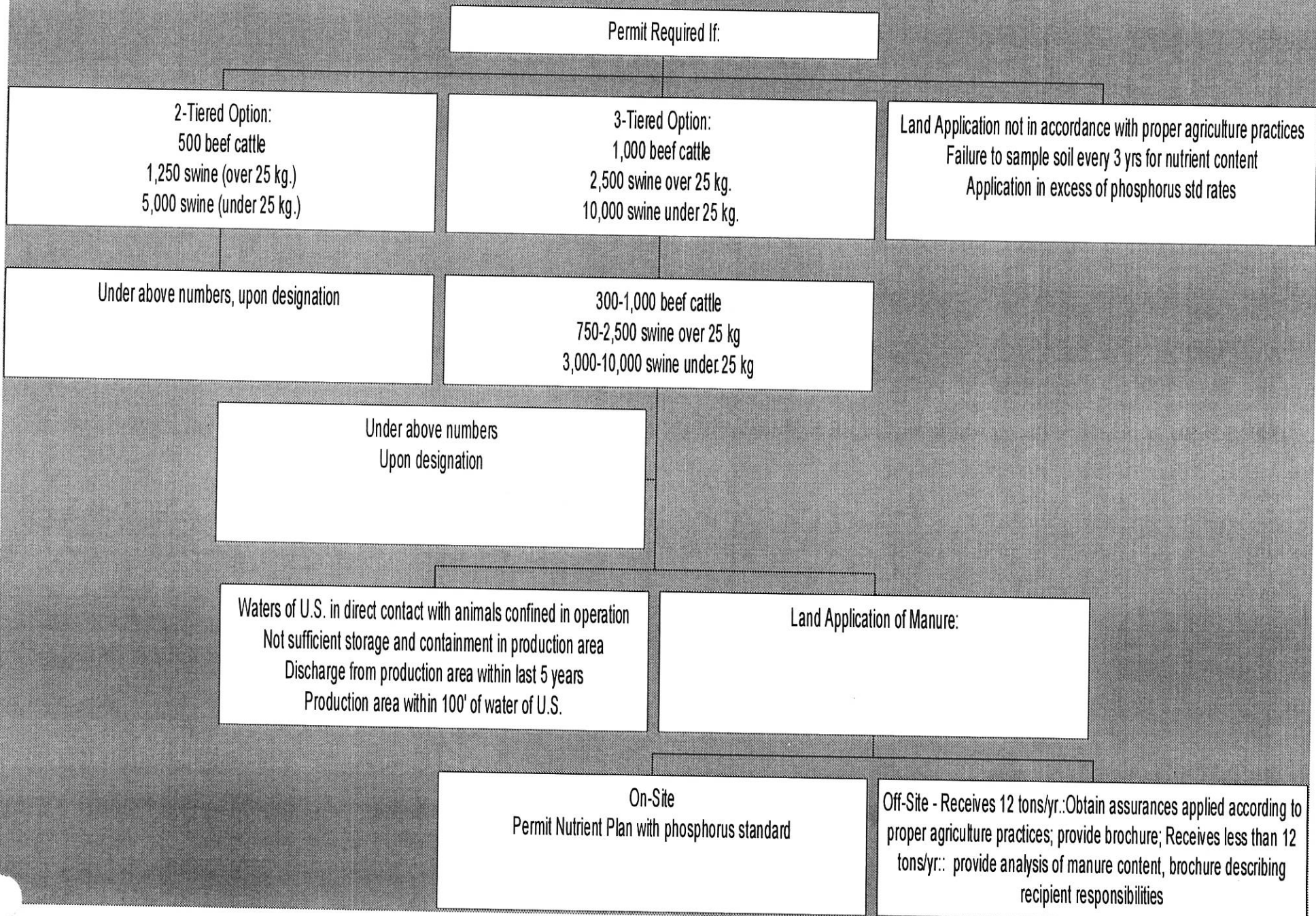
Again, I agree with the statements of the Kansas Livestock Association and the other agricultural organizations that have joined together to comment. This clearly is an area where EPA is regulating contrary to the law. The Clean Water Act allows STATES not the EPA to establish uses. EPA should not be able to circumvent the Clean Water Act with a regulation. Finally, what is the purpose of designating stream segments for primary contact recreation, when there is no water in the stream, and no access to it?

I look forward to a response to all of the questions I have posed. Further, I encourage EPA to withdraw this regulation and negotiate rational solutions with all stakeholders in Kansas.

Respectfully submitted,

Alan Hess, Rancher
Hess Ranch
Rural Route 2, Box 149
Alma, Kansas 66401-9670

CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFOs)



National Pollutant Discharge Elimination System (NPDES) Permit

6-9

Permit Conditions

Owner/Operator Exercises "substantial operational control"

Production Area: No discharge except in 25/yr-24/hr event (beef) IF:

Land Application Area:

Directs activity of persons at CAFO Owns animals at CAFO Specifies how animals are: Grown, fed, or medicated

Weekly stormwater diversion inspections Daily inspections water lines Deficiencies corrected and documented Depth marker indicating freeboard

Permit Nutrient Plan (PNP) Same inspections as production areas PLUS Records Documenting inspections

No application within 100' of: surface water tile line intake structure agriculture well head

Record Keeping: Retain PNP; maintain records 5 yrs. Make available for permitting authority and EPA Regional Administrator for review upon request

PNP Contains:

Name and location of CAFO

Name, title owner/operator

Name, title of person who prepared plan Date plan prepared, amended

Executive Summary including:

Avg. herd size manure handling, storage, treatment practices amt. manure generated annually planned crops; realistic yield goal

Field condition using phosphorus std. number of acres that will receive manure amt. manure transported off-site

Animal waste application rate (gallons/tons/acre)

Identification of watershed or nearest surface water body

Manure sampling once/yr for nitrogen, phosphorus, potassium

Soil sampling every 3 yrs for phosphorus Samples conducted in accordance with state nutrient management plan

Manure transported off-site: Sampled once/yr for nitrogen, phosphorus, potassium Results provided to manure recipient

Manure application equipment calibrated at least once/yr

FURTHER RECORDS DOCUMENTATION

CAFO Land Application Areas:

Tracking repairs on:
Drinking water lines
Feed storage and silos
Manure storage/treatment facilities

Manure Application and Crop Production:

Copy of Emergency Response Plan for CAFO
Records of how mortalities handled by CAFO
Name of state approved specialist that prepared/approved PNP or records documenting training and certification for owners/operators writing their own PNP

Expected crop yield based on historical data for CAFO or county average if no prior history of crop yields

Date manure applied
Weather conditions at time of application and for 24 hrs prior to and following application

Results of manure and soil sampling

Test methods used to sample and analyze manure and soil

Whether application rate limited to nitrogen, phosphorus, or some other parameter

Amount manure and manure nutrients applied

Amount other nutrients applied to field (including commercial fertilizer, legume credits, biosolids)

Calculations showing total nutrients applied to land

Calibration of manure equipment
Rate of manure application
Method used to apply - estimated nitrogen losses based on application method used and route of nitrogen loss

Field(s) to which manure applied and total acreage receiving manure
What crop planted
Date crops planted and crop yields obtained

Records of volume of manure and process wastewater generated by all animals at facility during each 12 month period. Amount may be determined through direct measurements or estimated value provided all factors are documented.

KEY POINTS
PROPOSED CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFO)
REGULATIONS

STATUS

- Signed December 15, 2000
- Published in Federal Register January 12, 2001
- Comment period extends to May 14, 2001
- **NOT** withdrawn as a result of Andrew Card Memo discussing regulations review
- Available on NCBA web site: www.hill.beef.org

BRIEF OUTLINE OF PROPOSAL¹

- Redefine who is a Concentrated Animal Feeding Operation (CAFO)
 - ▶ Depending on which "option" is chosen, could be 500 or 300
 - ▶ 25-year/24 hour storm event exemption removed from definition
(In other words, if the only time you discharge is in the event of the 25-year/24 hour event, and you have the requisite number of animals, you will be required to obtain a permit. You can still discharge during the 25-year/24 hour event **if** you comply with a number of maintenance and inspection requirements)
 - Co-Permitting

Persons who exercise "substantial operational control" over the CAFO may required to be permitted. Persons who:

 - ▶ direct the activity of persons working at the CAFO either through a contract or direct supervision of activities at the facility
 - ▶ own the animals
 - ▶ specify how the animals are grown, fed, or medicated
 - Permit will cover "land application" areas and will control manure application based on a "Permit Nutrient Plan" which will include a phosphorus standard.
-

- Off-site transfer of manure:
 - ▶ 1 Option would require CAFO operator to "obtain assurances" from recipient that manure will be applied in accordance with "proper agricultural practices" (nutrient plan and phosphorus standard). Adequate assurances may include certification from third party concerning application. CAFO owner also to provide recipient brochure describing recipient's responsibilities for appropriate manure management. Recipient does soil test every 3 years to determine nutrient content of his soil
 - ▶ 2nd Option would require CAFO owner to provide manure recipient analysis of manure content and brochure explaining recipient's responsibilities for appropriate manure management.
- Persons who receive manure from a CAFO may, in some instances, be required to obtain a permit. If the recipient does not land apply in accordance with "proper agriculture practices" a permit may be required.
- Permit required is National Pollutant Discharge Elimination System (NPDES) permit. All terms and conditions generally applicable to NPDES permits will be required, including application procedures, duration, and duties to maintain coverage. These requirements are found at 40 CFR Part 122. Duty to maintain coverage until CAFO is properly closed could mean the posting of a bond or other financial assurance instruments in order to assure appropriate compliance until closure.
- You may be required to obtain an individual permit if :
 - ▶ the CAFO is in an environmentally or ecologically sensitive area
 - ▶ the CAFO has a history or operational or compliance problems
 - ▶ the CAFO is "exceptionally large" as determined by the Director
 - ▶ the CAFO is significantly expanding

Prepared by the National Cattlemen's Beef Association

LEGISLATIVE TESTIMONY



The Unified Voice of Business

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SCR 1605

March 8, 2001

KANSAS CHAMBER OF COMMERCE AND INDUSTRY

Testimony Before the

House Committee on Environment

by

Terry Leatherman
Vice President -- Legislative Affairs

Madam Chairperson and members of the Committee:

My name is Terry Leatherman. I am the Vice President of Legislative Affairs for the Kansas Chamber of Commerce and Industry. On behalf of our 2,000 plus members in Kansas, KCCI supports the Resolution before you today and urges this Committee to approve SCR 1605.

The Kansas Chamber of Commerce and Industry (KCCI) is a statewide organization dedicated to the promotion of economic growth and job creation within Kansas, and to the protection and support of the private competitive enterprise system.

KCCI is comprised of more than 2,000 businesses which includes 200 local and regional chambers of commerce and trade organizations which represent over 161,000 business men and women. The organization represents both large and small employers in Kansas, with 48% of KCCI's members having less than 25 employees, and 78% having less than 100 employees. KCCI receives no government funding.

The KCCI Board of Directors establishes policies through the work of hundreds of the organization's members who make up its various committees. These policies are the guiding principles of the organization and translate into views such as those expressed here.

The Kansas Chamber has been very concerned about the actions of the federal Environmental Protection Agency (EPA) this past summer and fall regarding water quality issues in Kansas. Overall,

*House Environment
3-8-01
Attachment 5*

EPA efforts is an example of Washington D.C. at its worst, imposing sweeping changes in w regulation, with little positive environmental impact, and without the direction of Congress.

In September, the EPA action prompted the KCCI Board of Directors to support a policy statement opposing this federal takeover of the state's responsibility to regulate the water quality in Kansas. The business community's concern about this EPA initiative was also evident at KCCI's Kansas Business Congress last fall in Wichita. At that annual Kansas Chamber event, our members develop a list of major state legislative objectives. Supporting state initiatives to address the federal effort involving Kansas water quality became the 5th item on this year's list of major legislative objectives developed at the Business Congress.

The EPA's actions has certainly drawn the attention of citizens and trade associations in our state, as well as the Kansas Congressional delegation. Passage of SCR 1605 adds the collective voice of the Kansas Legislature to this effort to retain our state's right to manage its water quality. Thank you for this opportunity to express the Kansas Chamber's support for SCR 1605.



**Testimony Regarding Senate Concurrent Resolution No. 1605
Before the House Environment Committee
March 8, 2001**

Good afternoon Chairperson Freeborn and members of the House Environment Committee, my name is Greg Krissek. I am Director of Operations for the Kansas Corn Growers Association. I appreciate the opportunity to make brief comments in support of SCR 1605. My comments also reflect the position of the Kansas Grain Sorghum Producers Association.

SCR 1605 sends an important message to the Bush Administration and the U.S. Congress about Kansans' concerns about the water quality regulations proposed for our state last summer by the U.S. Environmental Protection Agency. These proposed regulations have been highly visible the last nine months due to their potential far-reaching impacts and expected effects upon every citizen of our state.

As we have analyzed, discussed, and commented upon these proposed regulations, it has become very clear that they will not provide true environmental benefits. Rather, the preparation and resources required to participate in this rulemaking process have seriously detracted from the programs that agricultural organizations like ours have in place to work with producers and others for water quality education and outreach. Staff members within the two organizations I work with have not been able to accomplish progress on important water quality issues such as TMDL implementation in the state while having to respond to these proposed regulations.

Further, the incredible miscalculation and underestimate by USEPA concerning the potential cost of the proposed regulations to Kansas is a travesty. The cost estimates being developed by the State Conservation Commission reflect the expected costs, which amounts to many millions of dollars, and must be taken into account for a realistic discussion of the projected impact upon Kansas landowners from the new requirements.

The importance of states' rights, long a bedrock belief among our social fabric, also should be a major factor in how Kansas approaches this situation. Fortunately, recent decisions by the U.S. Supreme Court concerning the Clean Water Act bolsters our belief that the message contained in SCR 1605 is both appropriate and legally sound.

With new leadership in the federal government and USEPA, our organizations hope that the opportunity exists for Kansas leadership to begin new discussions concerning these proposed regulations with the goal of resolving issues that remain in dispute. We want to be able to resume the good progress that was made on the state's water quality issues prior to the debacle that began with the proposal of these regulations.

Thank you for this opportunity to testify. I will certainly try to answer any questions.

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*House Environment
3-8-01
Attachment 6*



PUBLIC POLICY STATEMENT

HOUSE COMMITTEE ON THE ENVIRONMENT

RE: SCR 1605 – Urging the Bush administration to withdraw certain EPA regulations.

**March 8, 2001
Topeka, Kansas**

**Presented by:
Leslie J. Kaufman, Associate Director
Public Policy Division
Kansas Farm Bureau**

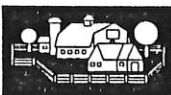
Chair Freeborn and members of the House Committee on the Environment, thank you for the opportunity to appear today in support of SCR 1605 calling on the Bush administration to withdraw certain U.S. Environmental Protection Agency (EPA) regulations.

Farm Bureau's farmer and rancher members strongly supports the authority of the state to properly, reasonably and appropriately regulate water quality in Kansas. EPA's proposed rule making that attempts to convert our state designated uses and potentially regulate farm ponds brought widespread opposition from our members. As a result, our members enacted new policy language supporting the state's authority to regulate water quality under the Federal Clean Water Act and the current state exemption of certain private waters from water quality standards.

Hundreds of farmers from all across the state packed hearing rooms. In Topeka, the overflow was so great chairs and speakers had to be placed outside so all in attendance could hear the comments presented. Landowner after landowner called for EPA to re-evaluate their rulemaking, or at a minimum, base their proposed rule on reliable scientific and factual data.

The Bush administration has implemented a self-imposed moratorium on new federal regulations. It is sound policy for the administration to have their own review of the proposals prior to publishing final rules and regulations. We believe the administration may find areas where regulations merit reexamination and reworking. We appreciate the review process they are pursuing. As such, we encourage the committee to look favorably on SCR 1605. Thank you.

*House Environment
3-8-01
Attachment 7*



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Testimony before the House Agriculture Committee
March 8, 2001

Mr. Chairman and members of the House Agriculture Committee:

My name is Francis Kelsey and I am a farmer in the Kansas River Valley west of Topeka. I am here this morning to testify in support of the proposed resolution to asking the federal government to withdraw some of the environmental regulations that were proposed by the Environmental Protection Agency during the past year. I wish to outline the reasons why I support this resolution:

- 1) The water quality regulations that were published in the Federal Register in July of 2000, were major rules in several ways: The cost to the taxpayers for upgrades to waste water treatment facilities; The cost to individual land owners for not having the ability to use their property in some instances; and finally to the state in having water quality regulations and designations that were developed by our own citizens being trashed by regulators in Washington.

The idea of publishing these regulations over a holiday weekend, with a 25-26 day period for public response and only one public hearing was offensive to me. It took me a few days to even discover that one of the streams that was listed as being designated as being for primary contact was running through some property that I farm. A proposal of this magnitude deserves a lot of thought and consideration by all of the stakeholders involved.

- 2) No one has shown that these regulations will make any significant improvement in water quality. If it will not improve the situation, why implement these rules? In our own farm, we do not make changes strictly

*House Environment
3-8-01
Attachment 8*

for the sake of change; we make it because it can be shown that it will make a quantifiable improvement to the operation.

3) I attended the EPA hearing in Topeka this past September, along with several hundred other Kansans. During the hearing, the officials from the Environmental Protection Agency said that they really didn't intend to enforce this rule. I understand that these comments are on videotape and was submitted to the Agency as part of the formal comment process. If they don't intend to enforce the rule, why even promulgate it? We have enough regulations now.

4) The Kansas Attorney General and the US Supreme Court have both determined that farm ponds should not be considered navigable waters, and therefore not subject to the regulation. At the very least, this part of the rule should be eliminated. The Supreme Court has also reinforced the rights of the individual states to regulate water quality. These rules should be rescinded based on that decision alone.

I am encouraged that a more common sense approach is being shown towards the regulation process in Washington, and would encourage the federal government to incorporate a sound scientific approach when writing environmental regulations. I thank the committee for allowing me to appear here today and would stand for any questions that they might have.

STATE OF KANSAS

BILL GRAVES, GOVERNOR

Jamie Clover Adams, Secretary of Agriculture
109 SW 9th Street
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KANSAS DEPARTMENT OF AGRICULTURE

**House Environment Committee
Written Testimony Regarding SCR 1605
March 8, 2001
Kansas Department of Agriculture**

Good afternoon Chairwoman Freeborn and members of the committee. Thank you for accepting the Kansas Department of Agriculture's written testimony as you consider Senate Concurrent Resolution 1605. No one in Kansas opposes cleaner water. However, fundamental flaws in the two proposals addressed by the resolution will hinder water quality improvements in Kansas and warrant the attention of the new Environmental Protection Agency (EPA) Administrator.

Confined Animal Feeding Operation Proposed Rule

A 186 page, Confined Animal Feeding Operation (CAFO) regulation was proposed on January 12, 2001 in the *Federal Register*. Also, a draft document was released to the public on or around December 15, 2000. An extension of the comment period is appropriate in this case for two reasons. First, the proposal outlines two options with multiple scenarios. Such a document is more appropriately published for public comment as an advance notice of proposed rulemaking (ANPR). If such a change were made, the public would have another opportunity to review a concrete proposal during comment on the proposed rule to offer more constructive and specific comments. Secondly, the scope of this proposed rule was misrepresented in the popular press. The public was lead to believe this rule only impacts "large factory farms" when in reality it could impact many small and mid-size family farm operations in Kansas with as few as 300 animal units.

EPA Proposed Water Quality Standards for Kansas

KDA also supports application of a moratorium to the EPA proposed water quality standards for Kansas published in the *Federal Register* on July 3, 2000. Since the EPA promulgation involves an interpretation of whether or not Kansas Water Quality Standards duly promulgated under state law conflict with provisions of the Clean Water Act, it is reasonable to allow Administrator Whittman to determine if prior interpretation – which took nearly four years to determine – coincides with her own.

Further, this proposal is a classic case of process over substance. It is contrary to the voluntary, incentive based approach Kansas has chosen to address nonpoint source pollution and will require the State, as well as Kansans to shift limited resources from activities to improve water quality to activities in paper pushing futility. I have attached for your review a compilation

of the major nonpoint source pollution prevention activities of the past eight years in Kansas to illustrate the depth and breadth of the Kansas commitment to addressing nonpoint source pollution.

In addition, the 60-day moratorium will address conflicting federal requirements coming down on the side of public participation and consideration of public comment. It could prevent the EPA from being pushed into following the provision of the Clean Water Act that requires them to promulgate such regulations within 90 days of proposal in favor of the public participation provisions of both the Clean Water Act and the federal Administrative Procedures Act.

Finally, the overall quality of Kansas waters is a source of much debate. Some claim Kansas has the dirtiest water in the nation. Further, citing statistics comparing 305(b) reports, claims are made that the percentage of impaired stream miles has increased despite the untold millions of dollars spent by the state and private sector to address water quality concerns. These claims are not valid and are not a true reflection of the quality of water in Kansas.

Kansas has an extensive statewide monitoring system unmatched by the majority of the other states.¹ While Kansas ranks 8th nationally in the number of assessed stream miles impaired, we rank 22nd on percentage of impaired stream miles to total classified stream miles. On the other hand, Missouri ranks 22nd nationally in the number of assessed stream miles impaired, but ranks 10th on percentage of impaired miles to total classified stream miles. Looking for problems will point them out while, conversely, not looking for problems will not point them out.

There are several reasons why comparisons between biennial 305(b) reports are not valid. They include: (1) data for the reports are collected on a rotational basis. Data for each year do not come from the same locations and, therefore, do not represent the same stream miles; (2) KDHE included monitoring data from 2616 more stream miles in the 2000 report than was included in the 1998 report; and, (3) the 2000 report was based on two-years of data while the 1998 report was based on five-years of data. Random fluctuations in climatological conditions, specifically rainfall and/or the number of rainfall events, may intensify nonpoint source impacts on water quality.

Conclusion

It is both appropriate and prudent for the Bush Administration management team to review all proposed regulations and determine whether such regulations are in the best interest of the nation. It is also appropriate for regulations that will have a great impact Kansas natural resources and Kansans to be a part of that review.

Thank you for the opportunity to submit written testimony to support SCR 1605.

¹Kansas has an extensive water quality monitoring network consisting of 265 ambient stream sites, 78 biological stations, 38 sites for fish tissue collection, and 291 lake and wetland monitoring sites. The Kansas surface water register designates beneficial uses for 31,243 stream miles, 175, 260 acres of publicly owned lakes and 35,597 acres of publicly owned freshwater wetlands.

EPA-CAFO Regulation Issues

March 8, 2001

The following seven points address significant issues that may impact CAFO's in Kansas.

1. Dropping the permit threshold from 1000 A.U.s to 500-300 and Significant Pollution Potential.

Kansas has a strong program and is already addressing this issue. Technically, anything that currently has a KDHE permit could be subject to the proposed rule.

2. Includes land application areas into the NPDES permit.

Identifies nonpoint source pollution as point source within the permit.

3. Co-Permitting - Addresses Vertical Integrators.

However, will create a nightmare for commercial feed yards with hundreds of individuals who retain ownership of their cattle in commercial facility.

4. 25 year-24 hour storm design.

Brings other states under NPDES requirements, clarifies definition. Removes possibility for alternative designs for cattle, dairy, equine, sheep, exotics which include:

- Wetlands
- Filter Strips
- New Technology

5. 25 year-24 hour storm design defined as Zero Discharge for Swine and Poultry.

Includes waste management structures (any event); as well as land application area*
*(Unless compliant with permit nutrient plan (PNP))

6. Production areas - hydro logic connection.

Includes feeding areas and requires groundwater monitoring (Up & down gradient)
Requires testing two times per year for Total Coliform, FCB, TDS, NO₃, NH₃, Cl

(20.9%

of Kansas could be subject via Corporation Commission designated Sensitive Groundwater areas.)

7. Permit Nutrient Plan (PNP)

- Extensive record keeping requirements
- Far-reaching inspection requirements
- Soil testing data, crop yield data
- Commercial fertilizer records and application Requirements on PNP lands
- Phosphorus-based land application



Headquarters Press Release

Washington, DC

Date: 12/15/2000

Published:

Title: EPA PROPOSES STRICT NEW CONTROLS TO REDUCE WATER POLLUTION FROM LARGE INDUSTRIAL FEEDLOT OPERATIONS

FOR RELEASE: FRIDAY, DEC. 15, 2000

EPA PROPOSES STRICT NEW CONTROLS TO REDUCE WATER POLLUTION FROM LARGE INDUSTRIAL FEEDLOT OPERATIONS

EPA today is proposing strict new controls to protect public health and the environment from one of the nation's leading causes of water pollution -- animal wastes from large, industrial feedlot operations.

EPA Assistant Administrator for Water, J. Charles Fox, said, "Wastes from large factory farms are among the greatest threats to our nation's waters and drinking water supplies. Today, EPA is taking action to protect public health and the environment by significantly controlling pollution from animal feeding operations."

The livestock industry has undergone dramatic changes in the past 20 years, consolidating scattered, smaller facilities into fewer but vastly larger feeding operations that result in greater and more concentrated generation of wastes. An estimated 376,000 large and small livestock operations that confine animals generate approximately 128 billion pounds of manure each year. Typically these facilities confine beef and dairy cattle, hogs, and chickens.

Nationwide, nearly 40 percent of surveyed waters are too polluted for fishing or swimming. Some 60 percent of river pollution comes from all kinds of agricultural runoff, including livestock operations. Pollution from livestock is associated with many types of waterborne disease, as well as problems like *pfisteria* outbreaks which have plagued the Chesapeake Bay, red tides, algae blooms, and the dead zone in the Gulf of Mexico.

The new requirements would apply to as many as 39,000 concentrated animal feeding operations (CAFOs) across the country. Today, only an estimated 2,500 large and small

<http://yosemite.epa.gov/opa/admpr.../274ed4f48827bcce852569b6006bac31?OpenDocumen> 01/30/2001

due to lack of federal funding and shortages of NRCS technical resource personnel. However, between 1997 and 2000, the NRCS provided to Kansas farmers and ranchers nearly \$17 million in federal cost-share dollars under EQIP. Further, between FY 1987 and FY 1994, 81,437 miles of terraces and waterways were installed in Kansas.

Kansas water quality stewardship priorities and efforts are reflected in the Kansas Unified Watershed Assessment, which was facilitated in 1998 by the Kansas Department of Health and Environment and USDA-NRCS. The Unified Watershed Assessment is a key action item of the federal Clean Water Action Plan. This plan was designed to bring the variety of water quality and natural resource condition assessment tools now used by federal and state agencies into a single, unified assessment to establish watershed restoration priorities. The Clean Water Action plan anticipates that additional federal funds will be made available to the states by the US Congress for implementing watershed restoration.

Since 1990, the US Environmental Protection Agency has been developing an initiative designed to prevent pesticide contamination of the nation's groundwater resources. The strategy calls for states to develop management plans for the pesticides identified by EPA as posing a threat to groundwater, including alluvial aquifers. The first step in the program is state development of a generic plan, which provides the basic framework of the program that would be refined and put into place for future designated pesticides. The Kansas generic plan has been prepared and EPA concurrence received. EPA indicates publication of the federal rule is likely to occur prior to January 1, 2001. Plans implemented under this rule will offer additional protection to groundwater and reduce potential discharge of pesticide-laden waters from the alluvium into streams.

(Documentation supporting this analysis is found in attachments 13, 14, 16, 17 and 51.)

Kansas Successes

A. Delaware River Basin Pesticide Management Area

In 1992, the Kansas Department of Agriculture created a Pesticide Management Area (PMA) in the Delaware River Basin of Northeast Kansas to limit the input of atrazine and other soil-applied herbicides into area surface water. Authority for this designation is contained within the Kansas Pesticide Law (K.S.A. 2-2438a et seq.). To our knowledge, it was the nation's first such management area to control pesticides in surface water. Following sunset review in 1998, the Delaware PMA was continued. No other areas have been formally designated.

Many agencies and entities, including the Department of Agriculture, the State Conservation Commission, U.S. Geological Survey, Kansas State University and Kansas Department of Health and Environment are gathering data and educating area residents. The PMA consists of several components — mandatory and voluntary management and conservation practices, education, monitoring, research, enforcement and evaluation. One goal was to bring the amount of the chemical atrazine to below three parts per billion in surface water from the area.

Any pesticide management area designated by the department can contain a different mix of voluntary and/or mandatory management practices. The Delaware PMA prohibited any use of atrazine

within 500 feet of public surface water supplies; banned application, mixing and loading of the chemical within 100 feet of public drinking water supply wells or within 50 feet of all wells, unless an impervious mixing/loading pad was in place; and, prohibited its use on non-cropland lands, such as railroad and highway right-of-ways. Also contained in the plan were recommendations for education, monitoring, enforcement and evaluation.

Voluntary recommendations were developed for agricultural uses according to the tillage practice being used by the farmer. Recommended atrazine rates range from 2.25 pounds of active ingredient per acre per year for mechanical incorporation within 24 hours, surface application before April 15, or no-till, to 1.25 pounds maximum per acre for pre-emerge broadcast application after April 15 and post-emerge treatments. After the PMA's inception, atrazine makers amended the federal pesticide label to lower recommended application rates and adopted other water quality protection practices developed for the Delaware PMA program. The proposal also suggested application methods, and encouraged using alternative weed control practices, stream buffer zones and vegetative buffer strips.

The water quality monitoring program in the Delaware Basin shows conditions have improved significantly since initial designation of the pesticide management area. All waters of the Kansas Lower Republican have been removed from the atrazine-impaired waters list except Tuttle Creek (which receives 80 percent of its pesticide load from Nebraska) and the Mission Lake area.³ Atrazine levels have decreased and continue to decline. Perry Lake, for instance, carried levels of atrazine in the four parts per billion and above range at the time the PMA was instituted. Atrazine concentrations in the Perry Dam outflow show annual average concentrations between 1993 and 1997 below the drinking water standard of 3ppb except in 1995 when it was 3.43ppb. Good water quality data allow identification of areas where chemical loading occurs and targeting of educational and cost-share incentives, or other efforts, to tributaries where they are needed most. Educational efforts continue in areas identified as having the greatest chemical loading problem.

Success in this endeavor revolved around three key areas: (1) implementation of an effective water quality monitoring program; (2) research into effective on-farm management practices designed to prevent herbicide runoff; and, (3) information and outreach to farmers and other property owners. The monitoring program was key, not only because it allowed us to measure water improvements, but it also showed that three of the 11 tributaries in the basin were responsible for 85 percent of the total pesticide load moving into the river. Kansas State University published recommendations in an atrazine Best Management Practices (BMP) guide which had been developed through work at the Foster Farm research site. The Kansas State Conservation Commission offered a pilot incentive program (\$5/acre) to farmers in one critical watershed (Mission Lake) to encourage adoption of KSU-recommended BMPs. Further, farmers were contacted on more than one occasion by both the SCC and a KSU extension employee dedicated to the project. Participation was nearly 100 percent. (Only one farmer did not participate because he grew soybeans only and did not use atrazine.) Outreach to farmers and property owners was the biggest challenge. The key appears to be to increase general awareness with follow-up by personal contact from a non-threatening source. Kansas has worked hard to make cost-share incentives available

³Mission Lake is on the 1998 303d list because water chemistry data utilized in the development of the list included data generated during calendar years 1993-1997. Current monitoring data show the average concentration of atrazine in Mission Lake below 2 ppb for 1996, 1997 and 1998.

to producers but, in point of fact, personal contact has been equally, if not more, important to the success of the Delaware PMA.

(Documentation supporting this analysis is found in attachments 1, 18, 19, 20, 29 and 31.)

B. Foster Farm Water Quality Research and Demonstration Site

During preliminary consideration leading to implementation of the Delaware Basin Pesticide Management Area in 1992, an awareness developed as to the need to examine current agricultural and conservation practices and their effect on surface water quality. As a result, an experimental field site was developed and instrumented for the purpose of evaluating land management practices and agricultural techniques in relation to mitigating or promoting runoff and herbicide movement. This site, which came to be known as the Foster Farm Site, was the first of a group of on-farm research facilities designed to screen, or field test, area-wide farming practices and measure the effectiveness of water quality best management practices. Once in operation, the Foster Farm also became an excellent demonstration tool to educate area farmers, chemical dealers and extension personnel.

Because of the success of the original Foster Farm site, the concept is being carried to other parts of the state. Similar sites have been developed in north central and east central Kansas, and more are planned for southeast and southwest areas of the state. Different sites are necessary because of climatic differences across the state. Work also has expanded to include nutrient best management practices. Principal cooperators — Kansas State University, the Kansas Department of Agriculture, the Kansas Corn, Grain Sorghum and Soybean Commissions and local farm owners — provide funding and assistance for site development and operations. Start-up assistance with the original Foster Farm site was also provided by EPA, CIBA-Geigy Corporation and the US Geological Survey.

(Documentation supporting this analysis is found in attachment 20.)

C. Big Blue River Basin Program

During 1993, the Kansas delegation to the Kansas-Nebraska Big Blue River Compact Administration raised the issue of pesticides and water quality in the Big Blue River Basin. After discussion, the Compact Administration formed a six-member joint water quality committee to oversee and find funding for water quality stewardship activities in the basin. The committee is made up of representatives from the Kansas and Nebraska Departments of Agriculture, the two land grant universities and the environmental agencies in each state. The Compact provides the legal vehicle for joint water quality work between the two states.

The work group, which is overseeing design and implementation of water quality protection measures in the Big Blue River basin is nearly a mirror image of the group that came together originally for implementation of the Delaware PMA. The core members of the Blue River work group are: the Kansas and Nebraska Departments of Agriculture, the Kansas and Nebraska Corn Growers and Grain Sorghum Producers Associations, Kansas State University and the University of Nebraska at Lincoln. More recently, Farm Bureau associations from both states have become active partners.

Activities in the Blue River basin to date include: (1) Development of a basinwide water quality monitoring program. Novartis Corporation provided the automatic samplers. Novartis and EPA Region VII provided funding to support the effort. KSU is analyzing samples for both states. (2) Direct mailings on atrazine management and BMPs to 9000 row crop producers. (3) Grower informational meetings and BMP workshops. Nebraska also conducted four BMP workshops for crop consultants working in the basin. (4) Conducting a basinwide farm practices survey. EPA provided funding and NASS analyzed the data. (5) Collection of agricultural waste pesticides. (6) Development of Educational and Research programs. KSU and University of Nebraska-Lincoln now hold periodic joint meetings to plan and conduct research and educational programs. Demonstration fields sites also have been developed in a number of locations. KSU and UNL jointly hold annual Big Blue River Basin water quality tours for elected officials and others in leadership positions to educate, showcase, and build support for the many water quality protection activities underway in the basin. (7) Both Kansas and Nebraska now have riparian buffer strip programs in place. The buffer strip programs appear to be gaining popularity rapidly among farmers. The key to selling the program to property owners appears to be personal contact, so the challenge we now face is to put a sufficient number of trained personnel on the ground in the local areas.

(Documentation supporting this analysis is found in attachments 11, 12, 20, 21 and 23.)

D. Governor's Water Quality Initiative

On October 19, 1995, Kansas Governor Bill Graves announced a statewide initiative to protect and restore the quality of Kansas surface waters. Governor Graves believes "[t]he quality of the state's water can be improved. By educating everyone from farmers, ranchers and business owners, to children, parents and outdoor enthusiasts, we're hopeful of achieving voluntary participation rather than more regulatory compliance." The basic framework around which the Governor wanted the effort to be developed included: (1) target prevention efforts to concentrate state resources on the three priority pollutants within a basin; (2) be incentive based, relying on local voluntary efforts, public awareness, appropriate water quality monitoring and periodic re-evaluation of programs, practices, participation and pollutants; (3) related industries, associations and property owners be made full partners in both planning and conducting programs; and, (4) the five state agricultural, environmental, water and wildlife agencies, and the land grant university, function as a team and pursue a common set of goals. The USDA's Natural Resources Conservation Service (NRCS) came on board as a partner and is not part of the agency leadership team.

The Kansas-Lower Republican Basin (KLR) of northeast Kansas was chosen to serve as the pilot basin for the initiative. It was selected because waters of the basin serve the needs of more than one-third of the state's population. Also, the KLR provides a diverse group of water quality challenges ranging from agricultural to urban to industrial sectors. The Delaware PMA and the Big Blue River Basin prevention programs were included as key components of the larger KLR Initiative.

To date, nearly \$15.6 million has been spent in the pilot basin to improve water quality. Activities include: cropland nonpoint source reduction; erosion and sediment control; pasture and rangeland management; construction of livestock waste systems; construction of on-site wastewater systems; environmental education; and, wellhead protection and abandoned well plugging. Further, the

KDA has invested \$200,000 in BMP research to give farmers and ranchers the tools they need to improve water quality. One particular noteworthy activity was the joint effort of KSU Research and Extension, KDA and KDHE to improve animal waste management by designing and implementing nutrient management planning for livestock producers, and educational programs on land application of animal manure.

(Documentation supporting this analysis is found in attachments 10, 18, 19, 20, 21, 22 and 23.)

E. Kansas Buffer Initiative

In 1998, Governor Bill Graves proposed the Kansas Buffer Initiative, which was passed and funded by the Kansas Legislature. It is a state incentive for landowners and operators who enroll in the continuous sign-up portion of the federal Conservation Reserve Program (CRP). To be eligible for incentives, landowners agree to establish either grass filter strips or riparian forest and maintain them for a period of 10 to 15 years in return for annual rental payments from the federal government. The state enhancement is based on a percentage of the federal payment.

Riparian forest buffers and grass filter strips play an important role in maintaining the natural resources on farms and improve water quality as well. Preliminary research conducted by KSU Research and Extension shows that buffers can reduce sediment load in runoff by up to 80 percent, pesticides and nutrients by up to ninety percent, and certain pathogens by up to 60 percent. Kansas has enrolled approximately 160 stream miles in target areas of the Kansas Lower Republican basin. Another 50 miles have been tentatively approved and are awaiting CRP contract approval. Of the 195 approved contracts, 10 landowners have established riparian forest buffers which protect approximately 20 stream miles.

(Documentation supporting this analysis is found in attachments 23, 30 and 31.)

F. Herington Reservoir Watershed Project

In 1991, a demonstration project of livestock pollution control practices was developed for the Herington watershed in east central Kansas. The primary objective of the project was to improve the water quality of the reservoir which supplies water to the town of Herington, Kansas. This project was developed and implemented because small-scale livestock feeding operations were identified as contributing to nutrient enrichment and algae blooms occurring in the reservoir.

Resources for the project came from EPA Section 319 funds and State Water Plan funds through a cooperative agreement with Kansas State University and the Kansas Department of Health and Environment. The State Conservation Commission also provided funding support to the County Conservation District and cost sharing to participating land owners.

Measures implemented were site-specific, livestock number-dependent, and ranged from construction of non-discharging (total containment holding ponds) systems to development of retention settling basins and discharging grass filter systems. The project also was designed to demonstrate to managers of operations the effectiveness of innovative livestock pollution control practices such as constructed wetlands. In five instances, producers also relocated their feeding operations away from

environmentally sensitive areas. The project not only reduced nutrient enrichment of the reservoir, but has served as a demonstration site for livestock educational meetings and field days.

(Documentation supporting this analysis is found in attachment 24.)

G. Hillsdale Reservoir Watershed Protection Project

In 1992, a project began to improve the water quality of the Hillsdale Reservoir Watershed located in a four-county area of east central Kansas. The reservoir is a major area water supply and recreation facility in the south urban Kansas City region with two public water supply treatment plants drawing water from the reservoir. In all, the reservoir impounds water from a watershed of 144 square miles in size. Principal water quality concerns were nutrient enrichment by phosphorus and sediments. Low levels of soil-applied herbicides were also detected in the reservoir. The overall objective of the watershed protection project was to implement NPS pollution control measures to improve or maintain lake water quality. Specific objectives were to implement minimum recommended NPS pollution control measures on every identified NPS pollution source in the watershed.

Project cooperators included the Kansas Department of Health and Environment, Lake Region RC&D, county conservation districts and property owners. Resources for the project came from an EPA Section 319 grant and State Water Plan funds. The State Conservation Commission also provided funding for county conservation districts and cost-share to property owners.

Significant progress has been made toward installing pollution control practices in the watershed. A comprehensive water quality monitoring program has been instituted and is continuing. Public relations, through information and education efforts, appears to be very effective in generating public awareness and support for the project.

(Documentation supporting this analysis is found in attachment 25.)

H. Cheney Reservoir Watershed Protection Project

Cheney Reservoir was constructed during the 1960s by the Bureau of Reclamation to serve as flood control and a water supply in south central Kansas. The reservoir has a contributing drainage area of about 933 square miles in five south central Kansas counties, and currently supplies water to the city of Wichita. Principal water quality concerns revolved around algal blooms, which occurred during the summer months and caused taste and odor problems in water withdrawn from the reservoir for use as a public supply. It is believed that excessive nutrient concentrations are principally responsible for the blooms. In addition, state water quality monitoring indicated that sedimentation was reducing lake volume and revealed low levels of herbicides present in the waters.

As a step toward maintaining suitable surface water quality, the Cheney Reservoir Task Force was formed in 1992 to prepare and implement a plan to manage documented and potential contamination within the watershed. Prevention was to be done through implementing watershed management practices. The task force was comprised of members from the City of Wichita, Reno and Sedgwick Counties, Kansas Department of Health and Environment, EPA, the US Department of Agriculture and a committee of landowners from within the watersheds. Recommendations from this partnership of private

and governmental entities included implementing watershed best management practices and establishing long-term water quality monitoring within the watershed. The effort is led by the committee of private landowners called the Cheney Reservoir Citizens Management Committee.

Most funding to support cost sharing and implementation of water quality protection measures has been provided by the City of Wichita, USDA, State Water Plan funds and EPA 319 program funds. The State Conservation Commission also has provided financial assistance to county conservation districts and USDA-NRCS has provided much technical assistance.

As with the Hillsdale Reservoir and other large-scale, long-term projects, the Cheney Watershed effort is still in its implementation phase. The voluntary Citizens Management Committee has played an extremely active role in both leadership and recruitment of participatory property owners.

(Documentation supporting this analysis is found in attachment 26.)

I. TMDL Watershed Specialist Initiative

An integral part of Kansas' voluntary efforts to improve water quality involves hiring a half dozen watershed specialists to serve as "ambassadors" to rural and urban stakeholders. Under the structure and financing of the Kansas State University Research and Extension system, the overall goal of these hands-on specialists is the abatement of nonpoint sources of fecal coliform contamination and improved water quality through adoption of best management practices by farmers, homeowners and other landowners in targeted watersheds in Kansas. This team of watershed specialists will have improved water quality as their specific charge and will develop education and awareness strategies, and work one-on-one with livestock producers and others to show them the value of best management practices and other techniques designed to protect and improve water.

Kansas learned through these activities that the only way to effectively tackle nonpoint source pollution is to obtain cooperation and buy-in, and change people's habits. These six watershed specialists will provide an enormous boost to our voluntary water quality improvement efforts.

(Documentation supporting this analysis is found in attachments 19, 22 and 27.)

J. Kansas Agriculture TMDL Working Group

The TMDL Agriculture Working Group, formed in July 1999, is a coalition of 14 agricultural organizations. The group's goal is to inform and assist farmers and ranchers in implementing the TMDLs that are being established to enhance water quality in Kansas. The working group membership represents a broad spectrum of both the livestock and field crop production segments of agriculture. One of the first challenges the state has to confront in implementing Total Daily Maximum Load programs is public education. Few farmers, ranchers or members of the general public really know what a TMDL is or what it is all about. The working group sought cooperation and assistance from the Kansas Department of Agriculture, Kansas State University and the State Conservation Commission, and we are seeking their help in education and implementation of TMDLs and various other state water quality improvement programs.

One of the first things that the associations involved are attempting to do is to educate their membership. The group prepared some core educational articles that can be personalized and these were included in newsletters published by the various associations. In addition, the group held a series of meetings with local leaders of their organizations at locations throughout the state to provide them with an overview of the TMDL program. In addition, the working group wanted to get area members thinking about strategies which could be used to inform and assist landowners in their area. Area conservation district, cooperative extension service and NRCS personnel were also invited. At this point, a number of meetings have been held and the working group plans to have more meetings, and is essentially following KDHE as that agency works its way around the state with TMDL development.

(Documentation supporting this analysis is found in attachments 27 and 28.)

K. Conservation Tillage

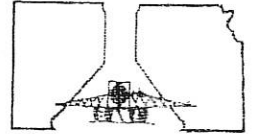
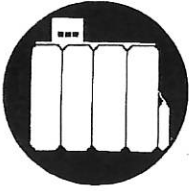
Adoption of conservation tillage practices by Kansas farmers has played an important role in improving water quality in Kansas. Conservation tillage is any tillage and planting system with 30 percent or more residue remaining on the soil surface after planting to reduce soil erosion by water. Residue protects the soil surface from erosion by absorbing the impact energy of raindrops, thus reducing soil particle detachment. Residue also reduces surface crusting and sealing, thereby enhancing infiltration and crop emergence. By creating small dams and obstructions along the flow path, residue slows the velocity of runoff water, reduces the amount of soil transported and reduces the amount of additional soil particles detached by flowing water. Also, when flow velocity is reduced, some of the soil particles and aggregates already in the runoff water are redeposited. Put simply, residue intercepts that small raindrop, absorbs its energy and reduces soil particle detachment and runoff.

Since 1980, Kansas farmers have increased substantially their use of conservation tillage. Today, nearly 61 percent of corn acres are under some type of conservation tillage. Further, approximately 37 percent of soybean acres, 25 percent of wheat acres and 44 percent of grain sorghum acres are under some type of conservation tillage. Wheat producers face the biggest challenge in trying to shift to conservation tillage because of weed and disease problems compounded by lack of alternative crops for semi-arid areas. Researchers at KSU are working on low-moisture corn and sorghum varieties to address this issue.

(Documentation supporting this analysis is found in attachments 29.)

What Has Been Learned From Nearly a Decade of Work on Nonpoint Source Challenges

Over the past decade, Kansas has devised and perfected the elements for successful voluntary, incentive-based nonpoint source programs to improve water quality. These include: (1) establishing intensive water quality monitoring programs to gain baseline data to locate specific areas where loading is occurring; (2) developing a range of Best Management Practices that are cognizant of producer financial considerations, cognizant of producer status as commercial or part time, and tested in a real-world environment before they are recommended to farmers and ranchers; (3) delivering water quality



STATEMENT OF THE
KANSAS GRAIN & FEED ASSOCIATION
AND THE
KANSAS FERTILIZER & CHEMICAL ASSOCIATION
SUBMITTED TO THE
HOUSE ENVIRONMENT COMMITTEE
REGARDING S.C.R. 1605
REP. JOANN FREEBORN, CHAIR
MARCH 8, 2001

KGFA & KFCA MEMBERS ADVOCATE PUBLIC POLICIES THAT ADVANCE A SOUND ECONOMIC CLIMATE FOR AGRIBUSINESS TO GROW AND PROSPER SO THEY MAY CONTINUE THEIR INTEGRAL ROLE IN PROVIDING KANSANS AND THE WORLD THE SAFEST, MOST ABUNDANT FOOD SUPPLY.

816 SW Tyler, Topeka KS 66612 - 785-234-0461 - Fax: 785-234-2930

*House Environment
3-8-01
Attachment 10*

This statement is submitted on behalf of both the Kansas Fertilizer and Chemical Association (KFCA) and the Kansas Grain and Feed Association (KGFA). KFCA's over 550 members are primarily plant nutrient and crop protection retail dealers with a proven record of supporting Kansas producers by providing the latest crop protection products and services. KGFA is comprised of more than 1100 member firms including country elevators -- both independent and cooperative -- terminal elevators, grain merchandisers, feed manufacturers and associated businesses. KGFA's membership represents 99% of the over 860 million bushels of commercially licensed grain storage space in the state of Kansas.

I want to express our support for Senate Concurrent Resolution 1605, which urges the Bush Administration to withdraw environmental regulations being proposed by the Environmental Protection Agency (EPA).

KGFA and KFCA have been very concerned by the U.S. Environmental Protection Agency's willingness to promulgate environmental rules and regulations with little or no regard for the significant financial burden their proposals will have on the Kansas crop and livestock production industries. This concern reached a new level this past summer as EPA proposed new surface water quality standards that would supercede existing Kansas water quality laws and establish the following:

- Unachievable affluent discharge standards for many rural Kansas communities.
- A federal mandate that would require an additional 1,292 streams and 164 lakes in Kansas fall under the most stringent recreational use designation.
- Stringent water quality standards that would apply to privately owned ponds and lakes.

While cost estimates associated with EPA's proposed water quality regulations for the state of Kansas range from several millions to literally hundreds of millions of dollars, the most disheartening part of EPA's latest attempt to impose new standards is that their action caused the majority of voluntary educational activities in the Kansas water quality arena by public and private sector alliances to come to an abrupt standstill. Significant efforts to educate both agricultural and urban stakeholders of the need to work together and voluntarily address non-point source pollution were being implemented when EPA's proposed water quality mandate was unveiled. It is unfortunate that so many resources, which were being dedicated to training and education, have been redirected to defend against proposed regulations that clearly lack merit from an environmental or economical standpoint.

While EPA's proposed water quality standards come with a tremendous price-tag, the agency's latest proposal regarding confined animal feeding operations raises a new challenge to Kansas agriculture that can not be ignored by agriculture stakeholders if we hope to remain competitive in today's world market. EPA's proposed regulations that would govern confined animal feeding operations will touch nearly every level of the livestock industry in Kansas and place a tremendous amount of new record-keeping requirements on the Kansas producer.

Both KGFA and KFCA believe it is vitally important that the new administration in Washington and in particular the members of the Kansas Congressional Delegation receive support and encouragement from the Kansas Legislature to protect and defend against the promulgation of unreasonable and unattainable regulations. We commend this committee for consideration of this resolution and hope the Legislature will act favorably on S.C.R. 1605.

For information please contact Doug Wareham, KGFA and KFCA Vice President, Government Affairs at (785) 234-0461 (office) or (785) 224-1848 (mobile).



KANSAS
DEPARTMENT OF HEALTH & ENVIRONMENT
BILL GRAVES, GOVERNOR
Clyde D. Graeber, Secretary

Testimony on The Kansas Storage Tank Act
to
House Environment Committee
Presented by Gary Blackburn

March 8, 2001

Chairperson Freeborn and members of the House Environment Committee, I am pleased to appear before you today to discuss the amendments to the Storage Tank Act which would extend the underground and aboveground funds.

The federal Environmental Protection Agency (EPA) passed regulations affecting underground storage tanks (USTs) in December of 1988 which included the requirement for owners and operators of underground tanks to obtain pollution liability insurance. The Kansas Storage Tank Act created the reimbursement fund for underground tanks to satisfy that requirement. The provisions for the third party insurance coverage were assigned to a program within the Insurance Department. The act was amended in 1992 to include a reimbursement fund for aboveground tanks.

In addition to satisfying insurance requirements the funds provide real financial relief to tank owners for the cost of corrective action at their sites. The funds reimburse applicants for approved costs of remedial action after payment of the appropriate deductible. Without this mechanism to comply with the insurance requirements, many UST owners would be forced out of business.

Since the inception of the funds owners of about 1900 sites have participated in the underground and aboveground funds with an average of 9 new sites being added each month. Current projections indicate that the underground and aboveground funds will continue to add 9 to 10 sites per month.

The funds as established required that competitive bidding be used as a cost control measure. Although those provisions were initially difficult to employ the results have been very effective. Over the years, other states have developed reimbursement funds without the cost control measures that the Kansas Legislature included in the Kansas Act. Many of those programs have suffered financial shortfalls. I would request that the underground and aboveground funds be extended with all of the current provisions in tact. I have had the pleasure of implementing the underground and aboveground funds for the department over the last 10 years and have experienced what I believed to be an overwhelming success due to the very well thought out design of the statutes. The credit for that

success goes to those who had the forethought to include adequate funding and provisions for cost control which allowed the agency to operate well within the established budget.

The funding for this assistance program is collected as a one cent per gallon fee on petroleum products sold within the state. The provisions of the statute prevent the program from collecting excessive fees. Without this assistance program many of the petroleum marketing facilities will be unable to remain in business. Although this program costs tax payers a penny per gallon at the pump, the program as established allows KDHE to take the actions necessary to protect the public. Our recent experience with MtBE provide a reminder of the advantage of the reimbursement funds over an insurance program. KDHE's motivation is to protect the public for the impact of a petroleum release, where an insurance provider must first determine if their insured is responsible for the incident.

Additionally, extension of the sunset will save about \$100,000 per year in state general funds which would be needed after 2004 to replace underground funds which are currently being used to match a federal Leaking Underground Storage Tank (LUST) grant.

In closing, KDHE urges support for S.B. 183.

I thank you for the opportunity to appear before the Environment Committee and will gladly stand for questions the committee may have on this topic.



MEMO TO: House Environment Committee
FROM: Thomas M. Palace, Executive Director of the Petroleum Marketers and
Convenience Store Association of Kansas
DATE: March 8, 2001
RE: SB 183

Madam Chairman and members of the House Environment Committee.

My name is Tom Palace and I am the Executive Director of the Petroleum Marketers and Convenience Store Association of Kansas (PMCA), a statewide trade association that represents over 360 independent petroleum marketers and convenience stores throughout Kansas.

I appreciate the opportunity to appear before you today in support of SB 183.

PMCA of Kansas urges the House Environment Committee to approve of the extension of the underground and aboveground trust fund when it sunsets in 2004. Kansas is very fortunate to have one of the best environmental trust funds in the country, not only as to how the fund was established but also by the management of the fund by the Kansas Department of Health and Environment. The trust fund provides the financial assurance to the people of Kansas that they will live in a clean and safe environment where any spill or leak from an underground or aboveground storage tank can be remediated quickly and successfully.

You will recall that the Environmental Protection Agency (EPA) required owners of underground storage tanks to upgrade their tanks by December 22, 1998. The expense to tank owners was tremendous; it even put some people out of business. Today, most underground tanks are new or have the proper safeguards to warn a tank owner of a potential leak. Having said that, we know that there are sites in Kansas that require remediation and believe that there will be sites in the future that need to be cleaned up due to system failures as well as human error.

The old saying, "if it ain't broke, don't fix it," speaks directly to the reason that the trust fund should be extended another 10 years.

In addition to requesting your support to extend the fund, PMCA would like to amend SB 183 to allow for a return of unused premium back to the tank owner, otherwise called a dividend.

Current Kansas law requires third party liability coverage to protect business owners, homeowners or land owners for incidences involving petroleum releases that may impact their property. The premiums for third party liability insurance are paid by the tank owners and the premiums usually range from \$250-\$350 per tank. The required coverages have been in place since 1991.

Petroleum Marketers and Convenience Store Association of Kansas
201 NW Highway 24 • Suite 320 • PO Box 8479
Topeka, KS 66608-0479
785-233-9655 Fax: 785-354-4374

*House Environment
3-8-01
Attachment 12*

The state established an advisory board - the Kansas Underground Storage Tank Liability Plan - comprised of a Board of Trustees appointed by the Commissioner of Insurance. The Board of Trustees is required to meet annually to review and prescribe operating rules of the plan, as well as review the financial stability of the plan.

From 1991 to 1999, the plan has received premiums totaling \$11,607,303. In 1999 premiums paid totaled \$1,015,605. Since the program's inception, there have been 73-claims with little or no indemnity paid to a third party. Total claims paid since the inception of the plan - \$146,000. As we note the large discrepancy between the premiums paid into the plan and the lack of claims paid out, we should applaud the efforts of the Kansas Department of Health and Environment and the tank owners for staying in federal and state compliance, keeping the Kansas environment clean and safe to live.

Under current statute, if there is any excess of losses and expenses over premiums earned, the difference is to be transferred to the trust fund. My amendment would refund or return the overpayment of premiums back to the tank owners who paid it originally.

Looking at the total premiums for 1999, (\$1,008,064), and deducting out losses, expenses and reserve levels for the same year, you will note that there is an overage of \$674,537 that will be transferred back to the trust fund.

To help you understand the funding of the trust fund: when the trust fund falls below \$2,000,000 in unencumbered reserves, a one-cent fee is added to every gallon of petroleum products that people buy in Kansas. When the reserve account balance reaches \$5,000,000, the one-cent fee is removed. The Kansas Department of Revenue notifies the marketers when this fee goes on and off.

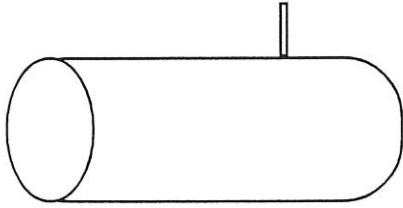
When we look back at the difference between the premiums paid and claims paid out of the Kansas Underground Storage Tank Liability Plan, it makes sense to return a portion of the overage of premium paid. By doing so, the integrity of the plan stays intact; whereas, if a major claim were to take place and the plan would need the money, there would be no dividend. On the other hand, if history continues to repeat itself and claims remain minimal, the overage of premiums should be paid back to the tank owner.

Compliance for underground and aboveground tanks does not come cheap. Minor changes in the petroleum laws are very expensive. With the current energy crunch, marketers are working on razor thin margins due to the high cost of regulations, credit card fees, gas theft, and competition selling below cost. It is unfair that tank owners, while acting in good faith and complying with the law, are being financially penalized due to the absence of claims. It is important to keep the integrity of the trust fund in tact without reducing premiums which could hurt the plan if a major loss did occur. However, if the history of little to no losses continues, tank owners should not be required to subsidize the state trust fund with overpayments of premiums for third party liability. They should follow other insurance trends and receive similar benefits (dividends) to reward their sound environmental practices and procedures.

Madam Chairman that concludes my remarks and I will stand for questions.

Kansas Storage Tank Trust Fund

Utilized to clean up contaminated sites



Funding Component #1

Funded by a one cent per gallon environmental assurance fee on all petroleum products manufactured in or imported into Kansas

Environmental assurance fee is in place until the fund reaches a maximum of \$5,000,000



Fee is resumed once the fund reaches a minimum of \$2,000,000

(The fee was last discontinued on Dec.1, 1999)

Funding Component #2

Deductibles by tank owners -

Tank owners contribute to the trust fund by paying set deductibles for clean-up at their site. The deductibles amounts are \$3000 per site plus \$500 for each tank at that site.

Note: the 1998 EPA tank upgrade requirements have greatly decreased the need for clean-up funds from the trust fund.

Kansas Storage Tank Trust Fund

Kansas UST 3rd Party Liability Plan

Utilized to protect 3rd parties from physical harm



Funded by premiums paid on the number of tanks owned (\$250 - \$300 per tank, per year)



Third Party Premiums



Agent



Servicing Contractor



KS UST 3rd Party Liability Plan



Overpayment of Premium

KANSAS UNDERGROUND STORAGE TANK LIABILITY PLAN
STATEMENTS OF INCOME (LOSS)
FOR THE YEARS ENDED JUNE 30

	1999	1998	1997	1996	1995	1994	1993	1992	1991	TOTAL
UNDERWRITING INCOME:										
Premiums written	Ⓢ 1,008,064	Ⓢ 1,231,062	Ⓢ 1,326,492	Ⓢ 1,414,797	Ⓢ 1,488,478	Ⓢ 1,500,182	Ⓢ 1,464,621	Ⓢ 1,566,576	Ⓢ 607,031	Ⓢ 11,607,303
Change in unearned premiums	124,014	53,538	43,802	25,728	7,241	35,155	88,412	(382,323)	(509,912)	(514,347)
Premiums earned	<u>1,132,078</u>	<u>1,284,598</u>	<u>1,370,294</u>	<u>1,440,525</u>	<u>1,495,719</u>	<u>1,535,337</u>	<u>1,553,033</u>	<u>1,184,253</u>	<u>97,119</u>	<u>11,092,956</u>
Loss payments	15,000	114,000	17,122	0	0	0	0	0	0	146,122
Change in unpaid losses	172,841	265,708	349,556	360,381	204,152	375,569	512,501	374,293	48,559	2,663,558
Losses Incurred	<u>187,841</u>	<u>379,706</u>	<u>366,678</u>	<u>360,381</u>	<u>204,152</u>	<u>375,569</u>	<u>512,501</u>	<u>374,293</u>	<u>48,559</u>	<u>2,809,680</u>
Allocated claim expenses paid	2,657	65,025	12,869	13,618	4,703	0	0	0	0	98,872
Change in unpaid loss expenses	51,853	79,711	104,867	108,114	61,246	112,671	153,751	112,288	14,568	799,069
Loss expenses Incurred	<u>54,510</u>	<u>144,738</u>	<u>117,736</u>	<u>121,732</u>	<u>65,949</u>	<u>112,671</u>	<u>153,751</u>	<u>112,288</u>	<u>14,568</u>	<u>897,941</u>
Total losses and loss expenses Incurred	<u>242,351</u>	<u>524,442</u>	<u>484,414</u>	<u>482,113</u>	<u>270,101</u>	<u>488,240</u>	<u>666,252</u>	<u>486,581</u>	<u>63,127</u>	<u>3,707,621</u>
Balance	<u>889,727</u>	<u>760,158</u>	<u>885,880</u>	<u>958,412</u>	<u>1,225,618</u>	<u>1,047,097</u>	<u>886,781</u>	<u>697,672</u>	<u>33,992</u>	<u>7,385,335</u>
Underwriting expenses -										
Commissions	100,806	123,106	132,649	141,480	148,848	150,018	146,462	156,658	60,703	1,160,730
Servicing carrier fees	304,090	335,570	347,239	361,368	373,157	375,029	383,986	344,647	133,547	2,958,633
Taxes, licenses and fees	20,161	24,621	26,530	28,296	29,770	30,004	29,292	31,332	12,141	232,147
Other underwriting expenses	7,916	7,494	8,742	8,342	7,079	8,007	8,774	9,054	19,358	84,766
Total underwriting expenses	<u>432,973</u>	<u>490,791</u>	<u>515,160</u>	<u>539,486</u>	<u>558,854</u>	<u>563,058</u>	<u>568,514</u>	<u>541,691</u>	<u>225,749</u>	<u>4,436,276</u>
Net underwriting Income (loss)	<u>456,754</u>	<u>269,365</u>	<u>370,720</u>	<u>418,928</u>	<u>666,764</u>	<u>484,039</u>	<u>318,267</u>	<u>155,981</u>	<u>(191,757)</u>	<u>2,949,059</u>
INVESTMENT INCOME:										
Interest Income earned	217,783	212,774	202,896	192,778	157,901	89,597	68,346	40,370	3,063	1,185,506
Net Income (loss)	Ⓢ <u>674,537</u>	Ⓢ <u>482,139</u>	Ⓢ <u>573,616</u>	Ⓢ <u>611,702</u>	Ⓢ <u>824,665</u>	Ⓢ <u>573,636</u>	Ⓢ <u>386,613</u>	Ⓢ <u>196,351</u>	Ⓢ <u>(188,694)</u>	Ⓢ <u>4,134,565</u>
RATIOS:										
Earned to Incurred loss ratio	16.6%	29.6%	26.8%	25.0%	13.6%	24.5%	33.0%	31.6%	50.0%	25.3%
Written to paid loss ratio	1.5%	9.3%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%
Loss expense payments to losses paid	17.7%	57.0%	75.2%	N/A	N/A	N/A	N/A	N/A	N/A	67.7%
Loss expenses Incurred to										
Incurred losses	29.0%	38.1%	32.1%	33.8%	32.3%	30.0%	30.0%	30.0%	30.0%	32.0%
Commissions to written premiums	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Servicing carrier fees to written premiums	30.2%	27.3%	26.2%	25.5%	25.1%	25.0%	26.2%	22.0%	22.0%	25.5%
Combined ratio (earned to Incurred)	59.7%	79.0%	72.9%	70.9%	55.4%	68.5%	79.5%	86.8%	297.4%	73.4%

12-4



915 SW Harrison St.
Topeka KS 66625-2007
Internet Address: www.ink.org/public/kdor

Toll Free: 877-526-7738
Topeka Area Phone: 785-368-8222
FAX: 785-296-4993
Hearing Impaired TTY: 782-296-6461

NOTICE

TO: All Kansas Environmental Assurance Fee Filers

DATE: November 17, 1999

This is to advise that effective December 1, 1999 the Environmental Assurance Fee of \$.01 per gallon on all petroleum products shall cease until further notice.

Should you have any questions regarding this matter or require additional information, please contact this office at our toll free number, (877) 526-7738 or write the Motor Fuel Tax Section, Kansas Department of Revenue, 915 SW Harrison St, Topeka, Kansas 66625-8100.

Testimony on SB 183

House Environment Committee

March 8, 2001

Prepared by Joe Lieber

Kansas Cooperative Council

Madam Chair and members of the committee, I'm Joe Lieber, President of the Kansas Cooperative Council. The Council has a membership of nearly 200 cooperative businesses, who have a combined membership of nearly 200,000 Kansans. Approximately 120 of our members are farm supply cooperatives and most of them sell petroleum products and own either above ground or below ground storage tanks.

The Council supports SB 183 because of the success of the State's storage tank program. This program has helped Kansas to clean up the environment and at the same time it has help to keep the tank owners from going broke when there is a leak that they need to clean up.

The Council also supports the amendment offered by the Petroleum Marketers. It is our understanding that this amendment will allow the unused premiums for the third party insurance, to be given back to the tank owners instead of being put into the Cleanup Fund. Again, it is our understanding that the provision to put the excess premiums into the Fund was to entice insurance companies to provide the third party insurance. Since this was a new program no body knew for sure what type of claims would be made. You've heard in earlier testimony that there has not been as many claims as expected and therefore there is an

*House Environment
3-8-01
Attachment 13*

excess of premiums paid. The Council feels the funds should be given back to the owners who paid it.

Remember the tank owners are not getting off free when there is a leak. They must pay the deductible.

We ask you support for SB183 and the proposed Petroleum Marketers amendment.

Thank you for your time and I will attempt to answer questions at the appropriate time.