USEPA also stipulated components of the index invalidating indexes currently in use in some states and freezing further refinement of the phosphorus index. **USEPA could better protect water quality by endorsing and embracing on-going state efforts to define the best phosphorus index tools and manure and soil sampling methods that reflect the unique land resources and water quality challenges in each state.**

Annual phosphorus limits are infeasible on many farms

USEPA proposed limiting manure application rate to the annual phosphorus need of the crop. Such an approach would require many farmers to purchase new equipment for manure application, particularly farmers who manage slurry manure and poultry litter. In contrast, phosphorus banking allows farmers to apply nitrogen-based rates of manure and then rotate manure applications to other fields until any excess phosphorus is removed. Phosphorus banking approaches meet the same water quality goals while concurrently maximizing the value of manure and minimizing the implementation cost of a phosphorus rule.

Water quality regulations address highly technical issues. The following comments are a summary of extensive written comments submitted to USEPA in response to the proposed rules published in the Jan. 12, 2001 Federal Register and a Notice of Data Availability published in the Nov. 21, 2001 Federal Register. The full text of the University of Missouri Commercial Agriculture Program comments is available at our web site **http://www.agebb.missouri.edu/commag/index.htm** or by contacting Dr. Raymond Massey at 573-884-6311 or masseyr@missouri.edu.

The Commercial Agriculture Extension Program is developed around multi-disciplinary teams. Faculty from the crop and swine teams who have brought a systems perspective to this interface between production agriculture and the environment include:

Dr. Raymond Massey (Agricultural Economist)
Dr. John Lory (Environmental Nutrient Management Specialist)
Dr. Joseph Zulovich (Livestock Housing Systems Engineer)
Ms. Amy Millmier (Manure Management Systems Engineer)
Dr. Marcia Carlson (Animal Nutritionist)
Dr. Tom Fangman (Veterinarian)
Dr. Rex Ricketts (Commercial Agriculture Program Coordinator)

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LINCOLN UNIVERSITY

COMMENTS ON THE EPA PROPOSED ANIMAL FEEDING OPERATIONS RULE

The University of Missouri supports efforts by Environmental Protection Agency (USEPA) to protect water quality. We provide the following information on our review of the proposed rules for concentrated animal feeding operations (CAFOs) to help policy makers and farmers better reach our shared goal of protecting water quality while having a productive and competitive farming community.

NUMBER OF ANIMAL FEEDING OPERATIONS REGULATED

The number of regulated animal feeding operations (AFOs) increases as the threshold for regulation drops from the current 1,000 animal units (AU) to the proposed 500 AU or 300 AU. The table below uses Department of Agriculture (USDA) data to estimate the number of Missouri swine, broiler and dairy AFOs that would be subject to regulations under each proposal.

USDA data for Missouri do not report poultry layers, turkey and beef operations by size. Available data indicate that the average size of the 338 Missouri turkey farms is 542 AU. Assuming the average represents Missouri turkey producers, few are currently regulated, most would be regulated at the 500 AU level and most would be unregulated at the 300 AU level.

	Swine	Broilers	Dairy
Total Animal Feeding Operations in Missouri	3,600	451	3,900
Operations above 1,000 AU (Current Regulation threshold)	197	61	5
Operations greater than 500 AU (Proposed 2-tier structure)	405	215	28
Operations greater than 300 AU (Proposed 3-tier structure)	475	255	50

ZERO DISCHARGE

The proposed rules require all existing and new swine, poultry and veal operations to meet a "zero" discharge requirement. These operations would have to demonstrate to USEPA that their manure storage and handling system *never* would experience an overflow.

Are current design standards deficient?

Lagoon overflows are a relatively uncommon event. Missouri Department of Natural Resources (DNR) records contain only 5 cases of lagoon overflows. In discussion with DNR personnel, no enforcement case of a lagoon overflow due only to rainfall could be recalled. Proper management of the lagoons likely would have prevented the documented overflows.

Zero discharge = covered manure collection and storage

Guaranteeing a manure storage system will never overflow under any conditions is equivalent to banning uncovered manure storage facilities. USEPA suggested that lagoon covers would be feasible method for retrofitting existing lagoons to meet the zero discharge requirement. We estimate that 80 to 90% of the 405 to 475 Missouri swine operations subject to this regulation currently use uncovered manure storage facilities.

Feasibility and effectiveness of lagoon covers and zero-discharge

The limited experience in Missouri of managing lagoon covers demonstrates that current lagoon cover systems are difficult to manage and likely to fail under Missouri weather conditions. Lagoon cover management issues include dealing with gasses trapped under the cover, rainfall, snow and dirt accumulation on the cover and stresses from high wind events.

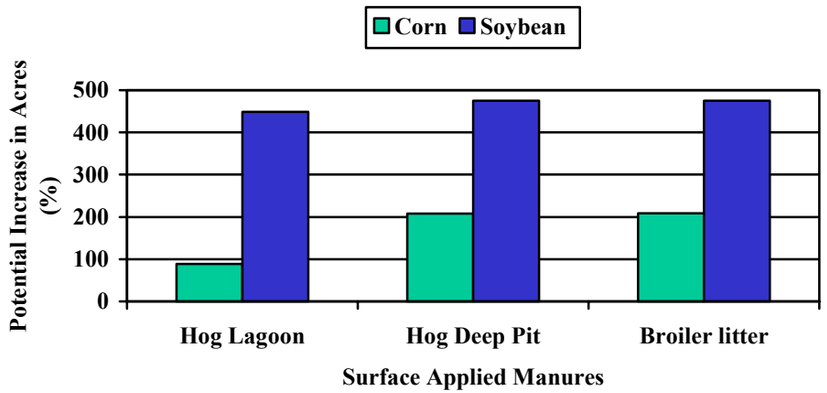
Costs of lagoon covers for existing operations

Using EPA cost estimates of lagoon covers, we determined that the median cost was $325 per animal unit for constructing a lagoon cover for animal feeding operations with more than 300 animal units in Missouri, Oklahoma and North Carolina. Initial costs to the 15 operations ranged from $159,732 to $1,279,160. Annual investment and application costs increase by $7 per hundredweight of hog produced for the Missouri finishing operations.

Imposing zero-discharge requirements on *existing* operations will result in high implementation costs to the farmer with little evidence that the required changes would increase protection of water quality. Overflow concerns of existing lagoons is addressed in Missouri through the monitoring requirements in the proposed rules.

PHOSPHORUS LIMITS

We commend and support USEPA's efforts to incorporate phosphorus into the management of land-applied manure. However, the methods USEPA has chosen to implement phosphorus rules are highly prescriptive and will result in infeasible limits on many operations. Under ideal conditions, the phosphorus rule will pose serious challenges for many farmers, particularly poultry growers. In some cases growers will need over 10 times more land for manure application and many will require double their current land needs.



USEPA proposed rules are incompatible with many state efforts

The Natural Resource Conservation Service (NRCS) has led a national effort on phosphorus management. A new NRCS standard allows nutrient management planners to select among 3 approaches to implement a phosphorus rule and allows each state to define the elements of its phosphorus index, the most robust method for implementing a phosphorus rule. USEPA proposed eliminating choices by the planner in favor of USEPA making the decision on the best method to be used statewide.